COPYRIGHT

AND PATENTS FOR INVENTIONS:

PLEAS AND PLANS

FOR CHEAPER BOOKS AND GREATER INDUSTRIAL FREEDOM,
WITH DUE REGARD TO INTERNATIONAL RELATIONS,
THE CLAIMS OF TALENT, THE DEMANDS OF TRADE,
AND THE WANTS OF THE PEOPLE.

VOLUME II.

PATENTS:

EXPOSURE OF THE PATENT SYSTEM BY M. M. CHEVALIER;
EVIDENCE FROM BLUE-BOOKS, 1829, 1851, 1864, 1865, 1871, 1872;
EXTRACTS & NOTES ILLUSTRATING PATENTS AND COPYRIGHT,
MADE BY

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A MEMBER OF THE 1871-2 PARLIAMENTARY COMMITTEE ON PATENTS.

BEING A SEQUEL TO "RECENT DISCUSSIONS ON THE ABOLITION OF PATENTS FOR INVENTIONS, WITH SUGGESTIONS AS TO INTERNATIONAL ARRANGEMENTS REGARDING INVENTIONS AND COPYRIGHT, 1869."

EDINBURGH: T. & T. CLARK.
LONDON: HAMILTON, ADAMS, & CO.—PARIS: GUILLAUMIN ET Cie.
NEW YORK: SCRIBNER AND WELFORD.
PHILADELPHIA: HENRY CAREY BAIRD & CO.
1883.

EDINBURGH: T. AND A. CONSTABLE,
PRINTERS TO THE QUEEN, AND TO THE UNIVERSITY.

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The acknowledgments, explanations, and apologies prefacing Volume First are renewed. Thanks are cordially offered to reviewers for the honourable and indulgent character of their notices and criticisms of that moiety of the Work. The courteous Reader will please remember that much of what is here collected was in type some years ago.

At the close of this Volume will be found a Supplement containing additional information on questions of COPYRIGHT *and the Book-trade. Reference is made to "Recent Discussions on the Abolition of Patents," 1869, whereto the present collection of material is a sequel.*

ΠΟΝΕΙ, ΜΗ ΩΣ ΑΘΛΙΟΣ; . . . ΑΛΛΑ ΜΟΝΟΝ ΕΤ ΘΕΛΕ, ΚΙΝΕΙΣΘΑΙ ΚΑΙ ΙΣΧΕΣΘΑΙ ΩΣ Ο ΠΟΛΙΤΙΚΟΣ ΛΟΓΟΣ ΑΞΙΟΤ.

ΕΙΤΕ ΤΗΝ ΧΑΡΙΝ ΔΙΔΟΤΣ, ΜΗ ΚΑΤΑΛΗΚΤΙΚΩΣ ΕΔΩΚΑΣ, ΜΗΔΕ ΩΣΤΕ ΕΞ ΑΤΤΗΣ ΤΗΣ ΣΗΣ ΠΡΑΞΕΩΣ ΕΤΘΤΣ ΑΠΕΙΛΗΦΕΝΑΙ ΠΑΝΤΑ ΤΟΝ ΚΑΡΠΟΝ: ΤΙ ΓΑΡ ΠΛΕΟΝ ΘΕΛΕΙΣ, ΕΤ ΠΟΙΗΣΑΣ ΑΝΘΡΩΠΟΝ; ΟΤΚ ΑΡΚΕΙ ΣΟΙ; ΚΑΤΑ ΦΤΣΙΝ ΤΗΝ ΣΗΝ ΤΙ ΕΠΡΑΞΑΣ ΤΟΤΤΟΤ ΜΙΣΘΟΝ ΖΗΤΕΙΣ; ΩΣ ΕΙ Ο ΟΦΘΑΛΜΟΣ ΑΜΟΙΒΗΝ ΑΠΗΤΕΙ, ΟΤΙ ΒΛΕΠΕΙ. Η ΟΙ ΠΟΔΕΣ, ΟΤΙ ΒΑΔΙΖΟΤΣΙΝ . . . ΟΤΤΩΣ ΚΑΙ Ο ΑΝΘΡΩΠΟΣ Ο ΕΤΕΡΓΕΤΙΚΟΣ ΠΕΦΤΚΩΣ, ΟΠΟΤΑΝ ΤΙ ΕΤΕΡΓΕΤΙΚΟΝ, Η ΑΛΛΩΣ ΕΙΣ ΤΑ ΜΕΣΑ ΣΤΝΕΡΓΕΤΙΚΟΝ ΠΡΑΞΗ, ΠΕΠΟΙΗΚΕ ΠΡΟΣ Ο ΚΑΤΕΣΚΕΤΑΣΤΑΙ, ΚΑΙ ΕΧΕΙ ΤΟ ΕΑΤΤΟΤ.—Aurelius.

QUÆSO VOS, CUM DIGITIS INVENISSE ILLOS, NON ET CONFITEMINI PRIUS FUISSE QUÆ INVENIRENTUR? CUR ERGO NON AUCTOREM POTIUS HONORATIS, CUJUS HÆC DONA SUNT? SED AUCTOREM TRANSFERTIS IN REPERTORES . . . MINISTERIUM INSTITUTORIS, A QUO ET IPSE INSTITUTUS EST QUI INVENIT ET ILLUD IPSUM QUOD INVENIRETUR . . . QUIBUS SI COMPARENTUR NOSTRÆ ÆTATIS ARTIFICES, MULTO DIGNIUS POSTERIS QUAM PRIORIBUS CONSECRATIO COMPETISSET, QUANDOQUIDEM IN OMNIBUS JAM ARTIFICIIS ANTIQUITAS EXOLEVIT, USU QUOTIDIANO . . . . .* INSTRUENTE NOVITATEM, ATQUE ADEO QUOS OB ARTES SANCTIFICATIS IN IPSIS ARTIBUS ET PROVOCATIS IN ÆMULIS INSUPERATOS.—Tertullian.

* MS. defective: perhaps ÆQUE.

PREFACE.

A PATENT BILL intimated in the Queen's speech having been introduced, and two others read a second time (without the usual discussion that is especially desirable when reference to a Grand Committee is intended), this volume, which has long been in type and sheets, is sent forth as a repository of opinions, in the hope that it will prove useful. Much recent matter might be added, but the number of pages is already excessive. The compiler, who can look back to Evidence he gave nearly a third of a century ago, is sorry that during three decades the advocates of what he believes to be highly pernicious have been far more active in promulgating their increased and increasing demands than the defenders of Public rights and interests, in spite of the significant Report of the Royal Commission on Patent Law in 1865, and in face of the Report of the Commons Committee in 1870. We do not contend that in no case whatever should there be the protection and stimulus of a patent. On the contrary, there are, even in modern times, exceptional cases in which, were there no such protection, improvements of importance would not be at any rate so promptly tried and proved and brought into practice; but these cases are rare. The condemnation of the present law is, that it favours the preservation of monopolies when they are unnecessary and injurious. It is likewise faulty, in that the stimulus it

provides is entirely and only pecuniary, and the emoluments it permits are uncertain and remote, and attainable in the coarsest and most troublesome form. Nevertheless, the law might well be endured,—some persons might even applaud it,—if it were duly modified. In particular :—

I. Every person should be at liberty to use any invention on payment of rates of royalty or licence, such as will not hinder the successful prosecution of the business affected, and (to use the terse words of the Report of 1871) "due regard being had to the exigencies of foreign competition."

II. In every patent there should be a condition that the State, from public moneys, or moneys supplied by individuals, shall be entitled to demand that the value of the invention be estimated, and, on this value being paid (with a liberal percentage added in consideration of "compulsory sale"), the use of the invention should become free to all the Queen's subjects (even in the Colonies, so far as privileges granted there do not clash).

III. Where persons engaged in a business specially affected by a patent produce *prima facie* proof that their payments for licences have largely exceeded such a fair value, they may demand the extinction of the patent.

IV. There ought to be an officer independent of the administrators of the patent system, whose function it shall be to vigilantly and vigorously defend and promote public interests in the matter of granting and working patents, acting on his own initiative, and whether persons in trade make, or do not make, a demand for a vindication of public rights and liberties.

These amendments proceed on the principle whose soundness can hardly be disputed seriously, that a patent is not an acknowledgment of proprietary right, but is a concession of *privilege* which the State is justified in granting only for public benefit, and therefore only with due limitation. At present the sole limitation is as to the number of years for which a patent may be granted!

Concede the amendments, and the extreme friction with which the "Patent system" has been worked, and the repugnance with which it has been viewed, would (such is their reasonableness) disappear, while almost every objection would be so attenuated as to cause little complaint.

It would be a fatal mistake in these days of unrestricted foreign competition, to confidently and proudly assume that without some such amelioration Free Trade is fairly administered, or manufactures and shipping can successfully contend with foreign rivals who may carry on business in, or hail from, Holland or Switzerland, where there are no patent systems, or other countries where, although there is a patent system, the incapacitating privilege or monopoly may not have been conceded.

Advocates of the patent system seldom mention the incompatibility of heavy royalties with the reduced ratio of profits that now prevails under the greatly enlarged magnitude and number of operations in manufactures and the arts. This consideration cannot be safely kept out of view on the eve of legislation which threatens to give patentees a tighter grip and greater power to exact their own terms,—terms which, there is reason to fear, now-a-days are usually or often too high, being in no manner of way subject to appeal or control. The defect is among the most heinous that can be alleged against any law.

Recent resolutions of the Association of Chambers of Commerce pronounce in favour of Compulsory Licences,

although not quite satisfactorily, for the language used seems to leave it open to patentees to decline the granting these where themselves "manufacture the subjects of their patent within the United Kingdom." The Association also judiciously demands examination as to Novelty. (See extracts on p. xxxv.)

But, without alleging that the fourteen years' term is insufficient to remunerate inventors, it declares that "the duration of patents should not exceed seventeen years." This may merely mean that, in spite of the Royal Commission's disapproval of a longer term than fourteen in any case, there may be occasions in which so many as seventeen years might be allowed.

It is a pity that a body so important did not appoint a Special Committee to watch over the public interest when the New Bills come under consideration of a Grand Committee. This seeming omission is another proof how little attention has of late been given to one of the most important of all commercial subjects, and how greatly more information regarding it is needed.

The days are unfortunately passed when Monopolies, in their character of monopolies, were vehemently reprobated. Happily, the Associated Chambers, by their demand for Compulsory Licensing, take away the worst feature of monopoly—want of control and want of limit upon price, and thus open the door for a healthier and safer mode of dealing with inventions at a future time. That demand is virtually for substitution of a right of *taxation* for absolute monopoly right. Now, taxation, when levied by a State, has always definiteness of character and amount. Much more is such definiteness required where private individuals are invested with a power to tax which really ought to belong wholly to the State. Where is it?

In calling the proposed modification of Patent Law

a right or power to *tax*, it is necessary to remember that the alternative presented to manufacturers, shipowners, etc., is endurance of the great disadvantage of being unable to use, when competing with foreigners, inventions which may be practically essential for competition. These inventions may, by means of British patents held by foreigners, be worked to the ruin of British industries. How will our shipping stand affected if an economical motive power be discovered, and be charged for at exorbitant rates, while, *e.g.* Dutch ships, subject as they are to no patent law burden or restraint, may use it to the utmost extent free of all payment?

The wonder is, how the nation has stumbled into our so very exceptional and objectionable unique way of rewarding inventors. Direct payment in money, proportionate to the *value* of the *service rendered* to, or the *invention bought* by, the nation, things that can be approximatively estimated, is a far more natural and expedient, as well as more just, manner of promoting the end. It would at once emancipate our imperilled industries, and supply them with a multitude of improvements from which, at present, they derive little advantage, and always, when they do, at an unnecessarily heavy cost. But for this amelioration we must wait a while. At present, all that can be done is to open the door and prepare the way.

We conclude by asking if there is any analogous transaction, in any department of business, whether conducted by the State or by individuals, in which services are accepted, or purchases are made, without the payment being regulated by some regard to the value receivable, and without *estimation* of what is reasonable as the *price* to be paid? Copyright law likewise wants this characteristic, but it in the main affects a single line of business, and there it is not so clearly objectionable.

The notes which follow may be useful.

THE SOCIETY OF ARTS NEW BILL (No. 2 BILL).

Another Patent Bill, promoted by the Society of Arts, has been printed. Nobody who knows the ascendency which pro-patentist proclivities have acquired in that institution will be surprised that its provisions are, with few or no exceptions, so framed as to build up the monopoly system with little apparent concern for the interest of British industries. Several of its defects, which may not be the most serious ones, will be seen as we take a cursory, and by no means an expert's, view of some of the clauses.

Sect. 3. *An invention is deemed new . . . if it has not been published . . .* [*i.e.*] *unless a description sufficient to enable a person . . . to carry the invention into effect is published,* [This ignores the fact, that though no public mention is likely to be so precise as, yet it may be *suggestive* enough, to enable a person to set his wits a-working, and to devise or seek what will serve the purpose], *or publicly used, in the United Kingdom* [What means "publicly used?" Are manufactories *public* places?], *within the* THIRTY *years immediately preceding.* [Not used within this brief period perhaps only because no longer or until now not wanted, though known: how difficult and expensive, by the way, to prove this knowledge,—almost as preposterous as to ask the other side to prove its non-existence!]

Sect. 4. *All patents . . . shall not be affected by anything* (*in the Statute of Monopolies*). [Whatever more these words do, they subvert the following extremely important condition in the charter of our industrial liberties, that no patents shall be granted that are "mischievous to the State by raising prices of commodities at home, or hurt of trade, or generally inconvenient." While this famous clause 6 stands in the Statute-book, it pro-

claims loudly in the ears of statesmen the nullity of all grants that raise the price of commodities, or hurt trade, which not a few patents are allowed to do. We are all familiar with the fact that as soon as a patent expires, articles made under its monopoly fall in price, which is a sufficient proof that for some time at least the patent has been raising the price and hurting trade. No doubt for many years this salutary and essential provision of the Statute has been ignored; but there it still remains, ready to be used by future patriotic and intelligent statesmen and upright judges. Further observations on this point will be made when we reach section 10.]

Sect. 5. *A patent may be granted . . . for . . . any process or method of producing any . . . result.* [The happiest discoveries of new medicines or medical treatment included!

It has been disputed whether under the Statute a *process* can be patented legally. Its exception is in favour of monopolies for any new *manufacture*, the object obviously being to encourage new businesses, not to interfere with existing ones by preventing improvement of their processes.]

Sect. 6. *A patent may be granted to any person . . . or* FOREIGN *subject declaring himself to be the inventor.* [Well, this is one step in the right direction, that the person so gratuitously favoured is not the mere *importer* of other people's ideas.]

Yet in sect. 7 the *foreign or colonial* "GRANTEE" is allowed.

The patent . . . shall not be affected by the publication in the United Kingdom . . . within eighteen months. [But people *will* be "affected" very unfairly who have, whether as equally original inventors, or as legitimate adopters, spent, it may be, large sums in adapting their works to the still unpatented invention.]

The patent shall not be affected as to duration . . . by the expiration or determination (*of the foreign or colonial patent*). [This new provision will keep British industries burdened after their rivals are set free.]

Sect. 8. There shall be *a Board of Commissioners, . . . three persons, . . . one . . . experienced in engineering, one . . . chemistry, one . . . law.* [Surely there are other qualifications, knowledge of trade for instance. But why not reserve to the Government power to add to the number of the Board, which may be required not merely for the dispatch of business, but as a safeguard in conceivable or probable eventualities?]

The Lord Chancellor can *remove,* but only for *inability or misbehaviour,* neither easily proveable.

Sect. 10. There are in this clause peculiar provisions for "secrecy," regarding which the following observations are hazarded:—

As a general rule, publicity benefits the public; it would do so here, but the object is to secure that, whoever gets the benefit, for years the *public* shall *not.*

The true and only legitimate ground for granting a patent at all is, either a desire to reward and stimulate invention, or to induce publication and introduction of something useful. One might have expected that, for the former of these ends, some mode would be presented in a Bill promoted by an old society, for making the pecuniary element in the stimulus and reward bear some relation to the outlays for experiments made by the inventor, or the time and experience he has brought into requisition; and with regard to the second end, recognise that if there are persons willing to introduce the manufacture without the protection of a patent, there is no need to grant a patent, the end being attained. Evidently we ought to encourage to the utmost the very reverse of secrecy, and, where persons

assure the Government that the invention will be published and introduced and practised without a patent, not to grant one, but in such a case to compensate the applicants justly after open investigation.

Sect. 12 does not include novelty among the matters whereon the examiners shall report. (See further on.)

Sect. 15 likewise passes over that essential point.

Sect. 17 refers to "*opposition.*" *The Commissioners shall publish notice of the time appointed by them for considering the grant* [but there is no distinct leave given to oppose, except on the ground of the applicant having obtained the invention improperly. It is true that the Commissioners may refuse to grant a patent for an invention of which the use would, in their opinion, be "*contrary to law or to morality.*" Of what value is this reference to *law*, if the guiding clause of the Statute of Monopolies is taken out of the way ?]

Sect. 19. *In the event of more than one application . . . each patent may be sealed* [that is, a buccaneer and privateer are to be let loose to trouble our British industrials, who are to find out for themselves which of the two bears rightfully the cruel letter of marque under Britain's flag !]

Sect. 20. "*The term . . . shall be seventeen years.* [A strange provision when the Statute of Monoplies, probably got quit of for this purpose *inter alia*, limits the period to fourteen ; and after a Royal Commission, presided over by Lord Derby, pronounced emphatically against a longer term in any case.]

Sect. 22 provides means for restoring lapsed patents after the fourth and eighth years, on a request to the Commissioners, without any opportunity being afforded the industrial interests affected to remonstrate.

Sect. 23 ends with these remarkable words, *Where leave to amend . . . is granted, any person who . . . was*

practising so much of the invention as is comprised in the further claims shall be entitled to a licence from the Patentee, on terms to be settled in the event of difference by the Commissioners. [Why should not like power be entrusted to competent adjudicators with regard to the whole of every patent?]

Sect. 24. *Prolongation.* The *Commissioners shall publish notice of the application.* [The notice should be so published as to reach manufacturers already engaged in the business affected, say at any rate all who have been paying royalties, or who are otherwise known to be using, or intending to use the invention.] *Any person interested* (*including a representative of the Crown if interested, but not otherwise*) *may . . . oppose.* [Why should not such a security against a wrong be provided before the first granting? and why should the private opposer require to be "interested" in a special manner? And why should the Crown not be allowed to intervene on behalf of its subjects? Rather one would expect the Crown should be called on so to do.]

Sect. 25. *The Commissioners . . . may order the prolongation of . . . eleven years.* [There is here no discouragement of prolongations, and a monstrous power of prolonging beyond what used to be the longest term.]

The Commissioners shall have regard to all the circumstances. [If it stopped here, the clause might pass muster; but, while it goes on to particularise "*merit and utility*," "*expenditure of labour and money*," and "*the amount of his profits as patentee*" (observe not as monopoly worker), "*considered in relation to the benefit derived by the public*," it affixes no limit except as to time, and makes no mention of the late Patent Committee's sensible requirement of compulsory licences "at rates of royalty having due regard to the exigencies of foreign competition." On the contrary, we read, *it shall not be competent in the Com-*

missioners to impose any conditions—that is, to mitigate public injuries.]

Sect. 27. *A patent shall have to all intents the like effect as against Her Majesty as against a subject.* [Surely Her Majesty should have power to buy up by compensating, or to fix for herself a sum sufficient for the service the subject or foreigner renders her.]

For purposes of the naval or military service of the Crown, one of Her Majesty's principal Secretaries of State, or the Lords Commissioners of the Admiralty, may at any time after the application for a patent use the invention on terms to be . . . agreed on . . . or in default of such agreement, to be settled by the Commissioners. [Why should this provision apply only to the two services? and are the Commissioners a safe and sufficient tribunal? Can they avoid leaning towards the side of patentees in most things?]

Sect. 28. *A patentee may assign his patent for England, or for Scotland, or for Ireland.* [There is surely something here more than meets the eye. It has been habitual to assign, or at any rate give licences, over large areas, but so far from the practice being commendable, it ought to be denounced as long as there is no provision for uniformity of charge. The framers of the Bill appear to be conscious that something like injustice is done at present, for

Sect. 29 ends thus: *The Commissioners . . . may themselves grant licences . . . but in doing so, they shall have due regard to the rights of any existing licencees.*

This clause is one of the most important in the Bill, in point of suggestiveness. The Commissioners, *on proof . . . that the patentee is unable or unwilling to supply the reasonable requirements of the public . . . or that any person in possession of an important improvement is prevented . . . by reason of the patentee refusing to grant him a licence on reasonable terms, . . . may . . . grant licences on such terms as to amount*

of royalties, . . . leave to the patentee to use any improvement, and otherwise as to them . . . may appear just. [Why not plainly specify, among "the reasonable requirements of the *public*," the expectation of manufacturers that they will obtain the use of improvements that are practically *requirements* of their individual businesses?]

Sect. 30. *There shall be kept at the Patent Office a book . . . wherein shall be recorded . . . matters concerning patents.* [Why not say concerning *inventions*, especially with a view to introducing a wholesome and philanthropic habit of recording new ones without patenting them? The nation will do well to resort to the old practice of the Society of Arts, who used to reward only inventions for which patents were *not* taken; and, as a piece of public policy, nationalise the system well introduced by Messrs. Denny of Dumbarton, of giving small rewards for inventions brought under their notice by employés.]

Sect. 31. *There shall be kept . . . a book or books called the Register of Proprietors.* [Why not also a Register of Proprietors' Addresses, on the understanding that, where proprietors cannot be found with whom to negotiate for licences, any person may use the patent?]

Sect. 35. *A patent may be revoked by the Commissioners* (not a Court of Law) *. . . if the invention is not new.* [Why not say it shall not be *granted*, if not new?]

Sect. 37. *A patent shall not prevent the use of an invention for the purposes of the navigation of a foreign vessel . . . provided it is not used therein for . . . the manufacture of anything intended to be . . . exported.* [Under this clause foreign ships, and in particular all Dutch ones, may be using, even for our coasting trade, motive power, etc., indispensable for competition, which British ships are paying smartly for.]

It is added—*This section does not extend to vessels of any*

foreign State in whose territories British subjects do not enjoy equal benefits. [Words significant and suggestive.]

Sect. 44. Expressly forbids the Commissioners "*to direct the costs of opposition to an application for prolongation to be paid by the patentee, etc.*"

Sect. 64. A portion of Part II., *Infringement of patents*, which I do not feel competent to discuss, says, *Any action . . . may be referred to the Commissioners.* [Is that satisfactory?]

Sect. 73. Part IV. *Every patent granted before the commencement of this Act . . . shall . . . be subject to stamp duties* on the new scale. [This is a very unnecessary concession.]

Sec. 84. The Queen may still "*direct the insertion in any patent of any restrictions, conditions, or provisoes.*"[1] [The best thing in the Bill.]

The first Appendix cancels 15 and 16 Vict., c. 83, and thereby removes the following provision:—"Patents shall be transmitted to the Director of Chancery in *Scotland*, and be recorded in the Records of Chancery in *Scotland*," and the following clause, 25, under which Letters-Patent obtained in the United Kingdom for patented foreign inventions expire at the same time as the earliest foreign patent, and in a sense clause 29, which enjoined that copies of specifications shall be open for inspection at offices in *Edinburgh* and *Dublin*. We see here another step towards denationalising centralisation.

A simple and serviceable substitute for this reasonable and complimentary regard for Scottish and Irish interests and feelings had indeed been provided by the Act 16 and 17 Vict., c. 115, but it also is swept away.

[1] Does Parliament supervise public interests as it was wont to do? A reasonable limit on dividends to result from their monopoly used to be assigned in Acts constituting gas, water, and railway companies. I think, as to water, six or seven per cent. was an orthodox rate. The Grand Committee should adopt this *principle*.

Novelty.

When so little thought is given to the subject we have in hand, and so thoroughly do people in general assume, without investigation, that what is cried for by a few loud voices, and is cuphemistically called "*reform* of the Patent Laws," is really amelioration or improvement, and that it is in accordance with the wish of the nation, and with the dictates of experience, there need be no great wonder if the desired granting of patents without any official inquiry whether the so-called inventions for which they are sought are new, does not excite abhorrence or even much attention. Some words, therefore, should be added, in order to exhibit nakedly what is meant or threatened.

If this extremely bold proposition of the Society of Arts were to become law, it would tend to produce a vast multiplication of Patents—of blocks or toll-bars on the paths of industry,—that is, of liabilities to be turned out of the direct or best way, or, if allowed to move onward, of demands to pay dues for leave to do so. This multiplication is to be encouraged by reducing the cost at which patents can be obtained, and by increasing the facilities for obtaining them. At present the need to make searches, in order to ascertain whether an invention to be patented is new, involving, as these do, the expenditure of time and labour and money, as well as of travelling, and the new light and reflection to which the procedure gives rise, tend to restrain impulses to take patents for trivialities, and to squeeze out what are not novelties,—as well as to secure greater definiteness of claim, we may believe. An influx of honestly taken patents is therefore to be anticipated. Will there not also be an influx of patents not taken honestly, but taken for the sake of advertisement, or else on the chance of fishing in the turbid waters, and even on

a cool calculation that, somehow or other, money may be made by means of a worthless privilege, seeing its nullity must be unknown to some of the persons who are to be preyed upon, or seeing where its nullity is known, the time and trouble, and distraction from more important engagements, which must be incurred to establish the case (and still more, after due inquiry is made, to carry on a contest that will overthrow the patent), warrant expectation that the evil design will not be frustrated? Here let me in the most pointed terms charge the Society of Arts with scant sympathy with industrials. It is no trifling matter to disturb people in a small business who are attending to its details personally, it may be in the west of Ireland or the north of Scotland, by requiring them to leave their homes, and trust their affairs, perhaps, to be conducted during their absence by incompetent parties, in order to collect conclusive evidence against legalised perpetrators of wrong. Undoubtedly, as a general rule, the injured persons rather submit to be wronged than encounter the formidable array of risks and difficulties to which the vindication by individuals of what are really public rights, exposes. Cruel is the legislation that goes forward unmoved in subjecting trade to such evils, without the safeguard of providing that there shall be an officer whose high function it is to defend these rights when assailed, the public domain when immorally enclosed, and even, in default of such a requisite officer, without indicating that it is the duty of the proposed Commissioners to watch carefully against these malpractices, and I should rather say, without investing them with power so to do. Fifty years ago, when *couleur de rose* hopes were bright, it might have been contended that interests which are liable to be assailed will combine together for defence. Modern experience shows (and can there be a severer condemnation of patents than to say that, so radically ill-

constituted is the system, now, though inventions are liked, patentees are dreaded) that interests, even after assault, are with difficulty, and therefore too seldom, stirred up to combine in order to repel it. The assault, though in the first instance made on individuals, is ultimately and essentially one on the community. Now take the case of a large manufacturer. He will probably be exposed to annoyance less frequently, but when what is to him the evil day comes, the demands made upon him will be immeasurably more serious in their effect on him and his establishment, whether they be to refrain from using the invention, or, when graciously permitted, to pay for its use an exorbitant sum (a third of the apparent advantage is commonly spoken of). People talk lightly of such a burden. With pseudo-political-economy, they assert that he can charge the burden of royalties on to his customers. According to their consolatory doctrine, it is the consumer who has to bear it. This, which is no nice way of putting things, were it better grounded, is at variance with Clause 6 of the Statute of Monopolies, already appealed to, which prohibits patents that make prices dearer than would be current without them; but the fact is that the price of the commodity cannot be augmented and the burden thrown upon the consumer, for competition by foreigners having no royalties to pay prevents it. May we not fear that, if a Patent Bill is passed on these dangerous lines, some of our industries, none of which we are wise to endanger, will be transferred to other countries? I am aware that an attempt has been made to strangle unfair competition of this character, by discriminating at the place of importation, and stopping or subjecting to patentee demands commodities made abroad according to patents secured for the United Kingdom; but it is questionable whether the officers of Customs can be allowed or trusted to do this questionable and, indeed, preposterous work. One thing is surely clear, viz., that there can be no hindrance to

the bringing to this country, for *exportation* to other countries, articles unmistakably manufactured where they are exempt from the operation of British Patent Laws. I commend this point of view to the earnest attention of Free-traders and Fair-traders.

A Glasgow Bill (No. 3 Bill).

Patents for Inventions No. 3 Bill, brought in by Mr. Anderson and others, under Glasgow auspices,[1] has the following with regard to Novelty:—"*On receiving a petition for grant of Letters Patent, they* [the three paid Commissioners] *shall cause the registers to be searched for prior inventions on the same subject, and if any are found that seem to bar the claim to novelty, the petitioner shall be referred to these for consideration before any further fee is demanded; and if the petitioner asks to be heard, the Commissioners, or one of them, shall hear him, and may advise him as to further procedure.*" [There are no more directions. An outsider will find it difficult to understand what is intended, and to foresee what will follow. I only note that there are many inventions, probably nine out of ten, which are not to be found in the "registers" to be searched.]

Sect. 5. *Letters Patent for inventions shall be granted for the period of twenty-one years.* [No reason is given, either here or in the preamble, *why* "it is desirable to amend," which it is said to be. Observations made in the foregoing pages against a seventeen years' term, and against setting aside the Statute of Monopolies, apply here with even more force.]

[1] To these *prolegomena* I hope to append part of a letter from one of the body who favour this bill, which I value as another of many evidences that the complacency wherewith inventors' aims are accepted arises in a very great degree from the question of policy not having been considered, and in some degree because in matters civic we do not, as in matters ecclesiastical, contemplate "beneficence and communication" such as is held forth in Heb. xiii. 16. *See* Alford.

Sect. 6. *Letters Patent . . . granted prior to . . . this Act . . . shall thereafter be liable only to the payments prescribed in . . . this Act, and . . . may be extended to twenty-one years.* [Already this gratuitous cancelling of a bargain in favour of patentees, and elongation of terms, have been animadverted on.]

Sect. 7. *Failure to pay the stipulated duty . . . when due, shall not invalidate the patent, provided . . . twelve calendar months after such due date the duty shall have been paid.* [Again I ask, what is to be the position of persons who, during the eleven months, have invested capital in works because the privilege had lapsed ?]

Sect. 9. *Provisional protection shall henceforth be extended to twelve months.*

Sect. 11, like section 27 of the Bill No. 2, is prejudicial to the national interest, by subjecting the State to the danger of having extortionate royalties to pay.

Sect. 12. *Employment in the public service shall not preclude any person from taking out or owning a patent . . . not employed in the Office of Patents.* [I do not like this encouragement to employés to bottle up improvements acquired at their employers' (in this case the nation's) cost, for their own exclusive advantage.]

The Intentions of the Government.

The Government Patent Bill is not yet printed. It cannot therefore be subjected to comment here. The following casual observations on a speech of the Right Honourable the President of the Board of Trade, delivered in June 1881, as reported in *Hansard* and republished by the Glasgow Inventors' Committee, are respectfully submitted, however.

Sir William Thomson, in name of this Committee, of which he is chairman, in a prefatory note speaks of "practical men who may hope to benefit their country and *reap a*

fair reward, for . . . the working and development of inventions." All sensible people will be at one with the philosopher in the object he *thus* states. The evil of the law is, that its rewards are *not* "fair," and are not fairly distributed.

The preface concludes with an allusion to "the capitalist who can only be induced . . . by having a longer patent right." He must be a *rara avis*. Is there one a year?

Our volume contains *ad nauseam* answers to this, we believe, practically unfounded complaint. One remark only is introduced here, that no opponent of the present patent system would object to granting a suitable patent in any particular case, where it is ascertained that without it capitalists in abundance will not come forward to work or apply the invention.

The President of the Board says, "*the present state of the law is felt an injustice, especially by the working class inventors.*"

Note, first, working-men have a certain superficial ground of complaint about the charge made for a patent at the initial stage. Still, the weightiest of the engineering periodicals of our day has denounced *too* cheap patents as likely to cause injurious multiplications; but the objection, which, if this change of law were to stand by itself, is a just one, can easily be removed by adopting two *sine qua nons*—rigid examination as to novelty before granting a patent, and a reasonable limit to the exactions that are possible in the form of patent charges.

Note, second, the objection of operatives to the law it would be dangerous to construe into favour for the monopoly form of reward.

The President is inclined to believe that "*the chief objections to the Patent Law are two;*" but those which he mentions are not the objections of opponents of the law, but of its defenders. Opponents would urge at least other

three: viz., the preposterously large amounts which are often exacted or demanded, and the aggravating circumstance that these large amounts are often drawn for inventions that have little merit, though, under the monopoly, great power to unduly tax manufacturers, and through them the people; second, the consequent impossibility of competing fairly with foreigners, under the weight of exactions so empowered; and, third, the absence of encouragement to present new inventions to the nation gratuitously, and equally of methods to acquire inventions for the nation out of State or private funds.

The following words of the Right Hon. gentleman are *à propos.* "*To reduce what he must call exaggerated claims. The existence of patents was to be defended, in his opinion, not on the ground so much of the rights of inventors, as on the ground of public utility. . . . They desired, if that could be done, to secure fair remuneration to the inventor. If there were no Patent Law, . . . inventions would be concealed.*" Answer: the Patent Law itself induces many, perhaps more, to be concealed.

"*Capital would not be invested.*" This is answered in a previous sentence.

"*The term of fourteen years was a fair concession.*" This is well led up to, after showing that in continental countries there are different lengths of terms,—these being regulated perhaps with some regard to the character of the invention.

"*When the honourable member for Glasgow said that, in consequence of the differences in the Patent Laws the Americans were beating us hollow in inventions, he must state his opinion that his honourable friend was mistaken.*" The speech deals well with this point, yet special reference might have been called to the altogether different circumstances of the United States, where the otherwise crushing incidence of the burden of Patent Royalties is neutralised by a

protective tariff; and where manufactures, not to say export trade, are not so highly developed as in Britain.

"*It had been suggested that there should be a preliminary inquiry into the novelty of inventions; but he thought that the decisions of any tribunal appointed to deal with such delicate matters would give rise to the greatest dissatisfaction.*" Yes, but the want of it will cause *wrongs* of the utmost gravity. The matter was explained later in the debate by the Solicitor-General, Sir Farrer Herschell, thus: —"His Right Hon. friend had merely stated that a new commission with such limited powers would be of no great advantage to the public. Whether or not it would be desirable to have a more extensive preliminary investigation was quite a different matter."

It will be seen with satisfaction that there is much soundness in the views expressed by the Right Hon. gentleman, who is personally acquainted with the subject, although perhaps his attention had not been sufficiently directed to the change in the modern mode of conducting certain great manufacturing concerns, or in large-scale businesses, where huge outputs at a very small margin are relied on, and where royalties, which may appear small in ratio, would amount to a total at the year's end inconsistent with their successful prosecution.

When I here speak of royalties, I have in my eye those that are levied proportionately to the *quantum* of work done by a machine or according to a process, which gives me opportunity to remark that if the "performances" of agricultural machines had been taxed on this principle, so common and so costly in manufactures, our most important industry—farming—would not only be in a more backward condition than it is, but there would have been raised in this country, as there has been in the Western States of

the Union, a loud outcry, for which "trade" would have been grateful. But landlords and farmers know not what is locked up in the future: any day some improvement may be devised, by a chemist, let us suppose, which will revolutionise the system of cultivation, or a new seed or root discovered which will be much more productive than those presently known, or a splendid fertiliser. What then will be the position of the land interests under a vicious patent law? They may, and probably would, be subjected to a heavy and harassing charge, perhaps (in harmony with the pretension advanced by patentees when they deal with other industries) amounting to a third of the estimated benefit! No doubt the demand would properly be resented as preposterous, for the magnitude of the tax might be millions of pounds sterling. But what of that? A patent has been granted; and the "reformed" law, like the old one, will provide no remedy, for it is not proposed to introduce any clause limiting the rate of charge, nor one limiting the total amount to be received, nor one permitting the substitution of an adequate reward whereby to extinguish the injurious privilege. Like and incalculable mischief might, as we have elsewhere shown, be inflicted on shipping and fisheries.

Our ancestors were wiser than the statesmen of the nineteenth century's last quarter, for the Statute of Monopolies, —that noblest of our Acts, which some would thoughtlessly tamper with,—secures, in set words, that patents shall be granted only "FOR THE WORKING AND MAKING"—whereas our modern system allows patents that are to prevent working and making in the kingdom—"OF NEW MANUFACTURES,"—*i.e. articles* of commerce, or perhaps *trades*, whereas our system seizes on *processes* in industries already established, "NOT MISCHIEVOUS TO THE STATE"—as so many patents now are,—"BY RAISING PRICES OF COMMODITIES AT HOME,"—*i.e.* rendering prices dearer than they would be, if there was not

the monopoly, which they virtually do (though importation under free trade counteracts the effect),—"OR HURT OF TRADE, OR GENERALLY INCONVENIENT,"—a result which, viewing the matter broadly, patents frequently bring about now, and will continue to do until the law is reformed in the right direction, and until some office or officer of State exists to guard the interests, rights, and liberties of the people, a want which the printed Bills utterly ignore.

OPINIONS OF THE "ENGINEER."

This highly respectable periodical, on 23d February, in a leading article on Patent Law Amendment, writes fairly and candidly. Its incidental admissions are of value; for instance, "*Inventors do, in nine cases out of ten, require the assistance of manufacturers and capitalists to bring their ideas to a good end,*"—a statement which gives great force to several contentions in this volume, favourable to the nation's adapting its system to the case of actual inventors by giving rewards in money, a change which should be hailed with a welcome by the often-talked-of personage, the poor inventor, and by the working-class inventor.

"*After a year of provisional protection the patent should hold good for thirteen years, . . . liable to forfeiture at the end of every year, unless a certain renewal fee were paid. These fees should increase progressively, . . . say £200 to £250 for the fourteen years' patent.*" There is not a word in favour of a longer term than this, nor of (taking the whole period into the reckoning) cheap patents.

The writer sensibly adds:—

"*At present the inventor . . . has no motive whatever for publicly abandoning his patent; but, if he were called on to pay this annual licence fee, he would, by refusing to do so, declare that the patent no longer existed. Whatever was*

really good in it would then be immediately available for public use, and it would be left open for other, possibly more skilful, inventors, without hindrance to improve upon it.

Then as to Novelty :—

"*It is quite out of the question that anything like a proper examination should be made by Government officials; . . . the inventor may be trusted to make his own search. We fail to see indeed that any valid objection can be raised to the practice of letting an inventor take out a patent at his own risk. The utmost that we have heard urged* [from the monopoly side] *is that the inventor, if anticipated, loses his patent fees, etc. . . . Let us take the case of the United States. Their examination is carried out to the fullest extent. . . . Not a week elapses in which the examiners do not pass old inventions as though they were new. A very clever American writer some time since devoted a paper to a single subject, viz., the incompetence of the examiners in one department alone,—clock- and watch-making; and he published a stupendous list of American patents, every one of which had been anticipated.*"

Remark, *first*, even an imperfect examination by Government officials is much better than none at all, for it must needs prevent a multitude of noxious and troublesome patents; *second*, the writer of the article appears to see only the inventor, and to forget how great an evil and facilitation of fraud it is to have the labour of searching thrown upon the several industrials who are to be affected by the patent; for a large proportion of patents will, if there be no examination as to novelty, be taken out with a very careless and perfunctory and incomplete search, unless indeed some penalty be attached to the gross offence against the public, and grievous abuse of the patent systems, which such negligence, be it intentional or unintentional, implies. Patentees should also be prohibited

from inserting in licences any obligation not to question the validity of the patent. As to the working of the Washington Patent Office, I trust that it will be many a day before such slovenliness can be charged against the high-class officials who in this country will be selected to do the work of examining. An observation, however, may be permitted: If the American examiners fail in the exercise of their duty, the blame may be chargeable on the extreme multiplication of patents in that country (which has to learn important lessons, possibly as much as to give them). Any way, their failure shows how heartless is the demand to throw this expense of search, not on the applicant who claims a patent, but on innumerable individuals, from whom he will, when he gets it, claim royalties.

He has some sort of search to make or get made: it is only logical that what he has to do at any rate, for his own interest, he should be required to do or get done well and thoroughly before he makes his formal demand for a patent, and throws labour on the establishment, and, particularly, before he is allowed to disturb respectable people in their legitimate operations, and to impose on them the necessity of visits to and stays in London, far from home, to advise their agents and investigators.

In respect to SEARCHES, the following appears to be the course which Parliament should enact:—The applicant ought to be required to make, or get made, due preliminary searches, and to accompany his application with a certificate or declaration that they have been made, and have not elicited anything that deprives the invention of its character of novelty; and at some stage previous to the sealing of the patent, the Examiners should do their work of making searches in the interest of the public (a fee

might fairly be charged for this), on the satisfactory nature of whose report the sealing should depend. There need be no objection to both of the searches being made by the same, and these the official, examiners.

Can that be a politic any more than it is a righteous, or at any rate a considerate, law, which makes it the interest, and does or may make it the habit, of traders in general to submit to what are, or appear to be, unwarrantable exactions rather than, each for himself, face the severe penalty, for such it is really in money and time, of expensive searches, and of the subsequent costly and laborious away-from-home litigation that must follow in order to reap, not fruit, but mere escape from law-created and law-fostered, though in truth illegal and wrongous, demands? The evil to which we call attention—inasmuch as it chiefly affects severed individuals, and these for the most part not the great and wealthy, and inasmuch as it might excite a deteriorating and immoral influence — is even more harassing and worthy to be deprecated than the requirement to carry on contests at St. Stephen's under existing Private Bill Parliamentary procedure, which is so just a subject of complaint.

It is not known and considered sufficiently that there are now-a-days a much more wide-spread and highly organised and systematised machinery and appliances for "exploiting" patents and inventions, such as may render continuance of the present law, if not intolerable, extremely hard to bear.

The originators of invention patents did not contemplate licences and their concomitants, and especially the farming, and subletting, of the monopoly rights and power. They expected that the one business concern which the patentee would set up could supply the whole demand. Times have changed!

"*A very important matter to consider is, whether a patentee should not be bound to grant licences to users upon fairly reasonable terms. We see that the Associated Chambers of Commerce this very week demand this power. The difficulty is to discover how 'reasonable terms' could be satisfactorily settled. It is altogether a very difficult question, which seems to infringe very suspiciously the principle of freedom of contract.*" Remark, *first*, as to freedom of contract: the freedom at present is, "If you don't like it, you may lump it." Let the cry rather be for freedom of the public domain and industrial freedom (*le libre travail*), which it is of the essence of a patent to extinguish. *Second*, the Patent Committee of 1872, and persons of weight, notably the late Mr. Webster, Q.C., the eminent authority on Patent Law, have strongly favoured compulsory licensing. And, *third*, as it is altogether a *boon* the State is conferring, there will be no *wrong* perpetrated if the referees, in some few cases, award too little. There is more reason to fear that they will lean towards patentees, with whom and whose agents they, or those who appoint them, are in frequent and friendly communication. We must not reject a good thing because it falls short of ideal perfection.

The Enunciations of the "Economist."

The *Economist* of Feb. 3d has an article on "The Patent Law:"—

It conceives that there has been a change in public opinion. This is partially true. Many who would formerly have gladly seen inventors ignored, except in rare exceptional cases (as to which the evidence of the eminent Mr. Schneider, on page 389, may be consulted), now think, adopting the words of the *Economist*, "that upon the proper encouragement and development of the inventive talent of

our nation a good deal of our industrial prosperity depends. With foreign competition ever growing in intensity, cheapness as well as excellence of manufacture is essential; . . . and upon the improvement of our mechanical appliances, and the discovery and *application* of new processes, our ability to reduce the cost and improve the quality of our productions must be largely contingent. . . . It has become apparent that, instead of an encouragement, the present Patent Law is in many respects a hindrance to invention." I would add, "and, in place of being an encouragement and facilitation of introducing into use the inventions that are patented, it is a hindrance thereto, and by reason of this effect, as well of the actual pecuniary burdens it imposes, tends to prevent the desired reduction of cost and improvement of quality." These evils are in substantial accord with the anticipations and the observation of such authorities as Mr. Wilson, who established the *Economist*, for he, in one of his vigorous articles, characterised the Patent Monopoly as an incarnation of selfishness (or in some such strong terms), and Mr. Cobden,[1] who, in writing to and in conversation with me, expressed himself utterly opposed to Patents, a view consistent with, or rather a necessary complement of, the great Free-trader's principles.

The *Economist* does not write with its usual sobriety when it says "it is *infinitely* more costly to take out a patent here than it is in America." Still, the assistance of so great a commercial authority, in efforts to reform our faulty system in a manner promotive of industrial progress, the community ought to be grateful for.

The article says: "Our patent fees are so extremely onerous as to be practically prohibitive to poor inventors. For such persons the assistance of some monied man is a necessity. . . . The middle-man will appropriate to himself the lion's

[1] Mr. Cobden told me he was likewise opposed to copyright.

share. . . . There is thus little inducement for our working men to apply their minds." I repeat that moderate promptly paid money rewards are the best for such inventors, and indeed for most others. The expense to the nation of a direct money system (which indeed might go *pari passu* with the monopoly one), especially if made international, would be a trifle compared with the vast expense now paid in innumerable directions by the community, and the system would be far more practical and far more beneficial.

Most satisfactory it is to find the *Economist* writing thus:—"When an inventor asks that the authority of the State shall be used to secure him in the possession of his idea [which is very frequently merely an idea he is the first among several to stumble on and work out, in the natural course of business], it is then only reasonable to stipulate that the desired protection shall be granted only on condition that the public are permitted to participate on reasonable terms. . . . It has been suggested that under the new law patentees should be compelled to grant licences to use their invention to all who may apply for them. . . . It seems essential, therefore, for the law to have something to say as to the terms as well as the conditions."

Here follows a scheme which I reproduce on account of its suggestiveness:—"That every invention should, when patented, become a species of Crown property, that every one who chose should be permitted to use it on payment of a certain fixed royalty, to be assessed on the profits earned by its employment, and that this royalty should be collected by the Government, and paid over to the inventor after deducting the cost of the administration. That this scheme involves a large amount of Government intervention in trade affairs is no doubt a serious objection to it; but it is an objection which applies to the whole system of patents. . . . Another, and a very formidable objection,

is the enormous difficulty that would certainly be experienced in determining the amount of profits. A manufacturer is very likely to be using in the course of a single process [observe this word] several patented appliances. . . . Still it is obvious that under a new Patent Law some restrictions upon the exclusive property of patentees in their inventions must be imposed." Note, *first*, the just end wisely sought appears to be more easily attainable in the forms elsewhere presented in these pages; *second*, the measure of remuneration ought to be, not the *profit* derived from the invention, because that is nowise proportionate to merits or cost, and we know that the patentee is often only one of several persons who could about as reasonably claim the reward, for it is generally but a question of time, *i.e.* of who first goes in; *third*, the principle of compulsory licensing is now almost universally admitted to be equitable and expedient.

Wonder there well may be that there is not in this leader or elsewhere any earnest recognition of the extreme and undue liberty now being taken with the Statute of Monopolies, which does not permit the patenting of *processes* that *do not develop* in some new "manufacture," be this a new line of business, or a new article, or a new kind of stuff.

I conclude with an actual illustrative case :—

An engineer firm patented the *hydro-extractor*, which was an entire novelty, and they charged only a fair profit of manufacture, or, at anyrate, no royalty for its after use.

Some years after, several persons, unconnected with the original inventors (whose patent gave no claim to any share of the money), and ignorant of what each other had done, took out patents for the *application* of this machine to the expulsion of sirups from sugar. There was about this idea little novelty. Experiments involved no great cost.

But what did one, not the foremost of them to patent, but the foremost to introduce this mere application? He proposed to have a progressive royalty on *use*, which would bring him in several tens of thousands sterling per annum,—a royalty to be charged, be it observed, on his brethren in trade who, once the idea was broached, could *de facto* not abstain from its use without injuring their businesses. The further history I have traced elsewhere. I hold that his patent was not consistent with the Statute, seeing it was hardly a new "manufacture" in the one sense of the word, and it was not introducing a new "manufacture" in the other sense.

Surely a State reward of £500, *or* a patent lasting three years, that would have given my friend a start in the race and compensation for the trouble had in leading the way, would have been ample, particularly as the manufacture affected is one of those in which the "margination" is small, and profits, when any, are derived from multiplicity of operations; circumstances which, under the régime of free importation and abounding competition abroad as well as at home, do not permit of royalties being paid without endangering trades, which it is the nation's great interest to conserve.

Manifesto of our most important Industrial Body.
(A Series of Extracts.)

The Society of Chemical Industry last year addressed the Board of Trade, in regard to the President's Bill, as follows,—in the spirit of conciliation members opposed to patents not pressing their opinions on the larger question.

"Our Society, already consisting of over seven hundred members, comprises the large majority of the chemical manufacturers of this country, representing interests which are second to none in national importance.

. . . The peculiarities of chemical patents ought to receive special consideration in any alteration of the present law, in order to prevent undue interference with the prosperity and development of our industry. . . . We would urge, . . . 1st, That the patentee should be bound to grant licences on equitable terms. . . . 2d, That the duration of the patent should be limited to the present term of fourteen years . . . with power . . . to grant the prolongation of the patent for a further term of seven years. . . . 3d, That the provisional specification . . . should specify the points which the applicant claims as new, and that these claims should be published in the 'Patent Journal' simultaneously with the title. . . . 4th, That opposition to the grant of the patent should be competent to everybody. . . . 5th, That the renewal of the patent after four years should only be granted if the patent is worked in the United Kingdom on a manufacturing scale. . . .

"We consider compulsory licences an absolute necessity for the protection of our industries, because chemical patents usually have so wide a scope and effect that they are specially prone to be abused by the setting up of monopolies, which may bring ruin to a large number of manufacturers, and to whole districts depending upon them, and which may even drive a trade entirely out of the country, if the patentee should prefer to work his patent abroad, and import the product.

"To cite an instance: we would suggest that if Neilson, who obtained a patent for applying hot instead of cold air to blast furnaces, had formed a company, with the object of monopolising the whole of the iron trade, he could, if he had been specially interested in continental coal and iron mines, have annihilated the immense capital at that time embarked in that industry in this country, and might have ruined large and important manufacturing districts.

"Again, there are at this moment numerous patents for the obtaining of artificial colours, which patents are held by large continental manufacturers, who, not being compelled to grant licences, continue to send their products into this country, and thus prevent their manufacture here.

"These are only two instances of the abuse to which chemical patents are especially liable, and such abuses become more dangerous from year to year, by reason of the formation of large and powerful limited companies for the exploitation of patents.

". . . The science of chemistry shows us clearly where our present methods are defective, and in what direction we are to look for improvements; the consequence is that many men are working at the same time in the same direction, and often arrive within very short intervals at practically the same results. . . .

"It would be dangerous to our national industries if English patents should outlast continental ones; the English manufacturer might thus be subject to the payment of a royalty for many years after his continental competitor had free use of the invention.

". . . Greater facilities for opposing the grant of a patent on the plea of want of novelty should be given to everybody, in order to prevent, as far as possible, the grant of such an important privilege to a person not entitled to it.

". . . The original inventor of a process may not succeed, and sometimes does not go to the trouble to overcome the practical difficulties which prevent his invention from becoming of any public use. Others are naturally unwilling to spend time and capital on accomplishing the most laborious and expensive part of the work required to develop a new invention as long as the lion's share of the fruits of their exertions will fall to another. . . . The renewal of a patent should not be granted at the end of the four years from the date of the application, unless the patentee brings proof to the Commissioners that his invention has been applied on a manufacturing scale. In the case of inventions offering exceptional difficulties in their practical application, an exception might be made, which should, however, be subject to opposition by the public.

". . . The alterations we propose will prove equally beneficial to all industries, and will be unobjectionable from every point of view. . . .

"London, 31*st March* 1882."

ASSOCIATED CHAMBERS OF COMMERCE.

10*th March* 1883.

The compiler received to-day the official "Report of the Association of Chambers of Commerce," and makes the following brief extracts that show how shakily the body, or at anyrate its leadership on this question, proceeds in respect of advocacy or toleration of patents, and how, after muttered avowal of natural apprehensions, Examination was discussed with seemingly exclusive regard to the convenience or inconvenience of *inventors*, whereas the far grosser and more grievous inconveniences occasioned to *industrials* are unaccountably passed over.

Mr. Firth (Heckmondwike), brought forward resolutions, and said :—

". . . A foreigner coming to England had the power of communicating an invention and patenting it ; then, going abroad again, he could manufacture under the patent and prevent the manufacture from being carried on in Great Britain ; not only so, but he could send his patent productions into this country, and monopolise the market to that extent at least. This had the effect of defeating the object of the law."

Mr. R. H. Marten (Bristol), moved to amend the resolution so that it might read as follows :—

"That anyone shall be at liberty to manufacture in Great Britain the subject of a patent granted to a foreigner, subject to private agreement with the patentee, or failing such agreement, the patentee's right to recover royalties shall be limited to one payment of a fixed definite sum (say £500 or £1000) in respect of each separate works in which the subject of such patent shall be manufactured."

". . . Without this amendment, a foreign patentee might monopolise an invention."

Mr. Sampson S. Lloyd :—". . . It was very hard if other men, who had capital, and were engaged in the same trade as the patentee, were not allowed to pay a royalty, and as a consequence were liable to be thrown out of employment."

Mr. Brittain (Sheffield):—". . . Although a free trader, to be consistent, must oppose the granting of a patent, there were many such men who were in favour of some patent law."

Mr. Frith :—". . . It was quite permissible for two to take out patents for the same thing, and it was a hardship to a poor man, after being put to considerable expense, to find that some one else had taken out a patent for a similar invention, for then all his labour was lost."

Mr. Carbutt, M.P.:—" . . . It was quite right and just to demand that the Government should provide experts—scientific men—capable of examining the patent and advising the inventor."

Mr. Marten (Bristol) spoke of the difficulties of patentees in getting an advance on their inventions, because of their apprehension of litigation.

Mr. Firth :—". . . If the examiners reported adversely, and if it were endorsed on the patent that the examiners had found the patent not to be original, what capitalist would be willing to advance money to a patentee upon a patent having that endorsement ? One argument in favour of the resolution was that it enabled a poor inventor to go to the capitalist with that in his hand which was of value."

Mr. Burnard (Plymouth) had thought that the resolution was to give a sort of implied security to the inventor that no person had previously taken out a patent for his invention.

Mr. Morley, M.P. (Bristol), said that, in the Patent Office at Washington, there were examiners who made the most searching investigation into every case.

Mr. S. Lloyd:—"The object of the resolution is to get rid of sham patents. . . . If the man infringing was an adventurer, without a shilling in his pocket, you defied him ; but if he were a rich man, the patentee of the original process would be involved in expensive litigation, while the patent had not a leg to stand upon in a court of law."

Mr. Marshall (Leeds):—". . . As an illustration of the American system, 40 per cent. of the applications made under it were rejected by the Patent Office, showing how useful an institution was a Board of Examiners."

A NOTABLE ACKNOWLEDGMENT.

The same post brought a letter from one of the most eminent engineer-manufacturers in Scotland, a leader in Liberal politics, to an extract from which, subjoined, attention is invited :—

"As regards patents, I have taken out seven during my business life, in connection with my business, and have had therefrom two actions at law, one of them a six-days' jury trial—verdict in both cases in my favour; but what a loss of time incurred, so much so I gave up taking out patents. Up to receiving your volume I naturally took an inventor's view of the matter (I am a member of the Inventors' Institute). It has given me much new light thereon ; and, when I judge in respect of equity, I can take no other course but, like you, condemn patents."

The volume referred to is "The Abolition of Patents," 1869 (sent him a few days ago), to which the present one is a sequel.

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INTRODUCTION.

THIS second volume is, like the first, a thing of shreds, many of whose parts, such as the late M. Michel Chevalier's handsome contribution, deserve a worthier setting. The extracts from Blue Books wherein lie out of reach, out of sight, and out of mind, most of the other good materials that we present, will be read with interest. Regard must, of course, be had in doing so to the serious change which the Patent Act of 1852 has caused. Incomplete and partial as these extracts are, they show on the one hand the inveteracy of the evils with which the actual patent system is rife, and, on the other, the tendency of the persons who profit by it to advance, and of those who frame or administer law to acquiesce in, pretensions such as were until our day either unheard of or reprobated. The inventive spirit is, at the same time, we gratefully admit, active. Its claim to admiration is conceded.

A short time ago, in an appreciative article *à propos* of the wonderful development of discoveries in the regions of electricity and phonetics, the leading journal well said:—

"A very important element in the whole matter will be the question of charge, and it will be imperatively necessary that this should be vigilantly guarded by Parliament. Like gas and water companies, telephone companies will be compelled to ask for the powers necessary for the conduct of their business; and it will be the duty of the Legislature to see that these powers are not given without due precautions against the creation of injurious monopolies, nor without due heed to the interests of customers. The experience of many years has taught us that such monopolies are far more easily guarded against than overthrown, and that the pecuniary interests of the companies themselves furnish very little

protection to the public. A company with a monopoly is always tempted to do a comparatively small business at high rates, rather than to earn the same income by the increased trouble incidental to a larger business at lower rates. It would also be desirable, in view of the experience obtained by the bargains made with the telegraph companies, that powers of purchase should be reserved to the Government from the beginning, and at a cost which should throw no exorbitant burden upon taxpayers."

These sentiments and observations are true and wise. They are, *mutatis mutandis*, applicable to patents for all inventions. Their principle is that which is contended for throughout this compilation. If acted on, patents manifestly would become very much less objectionable than they are. In any country wherein prohibitive import duties prevail, they would almost be justifiable.

The principle implies,—

1. That the true idea of what a PATENT is should be restored to public view, viz., that it is an optional concession of *privilege* and not a recognition or defence of *property*.

2. That this privilege is not strictly a reward of merit, nor is it a remuneration for volunteered work, given by the State, within whose province it does not lie to recompense virtue, whether abstract or concrete, but is a means which happens to have been adopted to stimulate inventive persons and to secure experimental trial, on the great scale, of new articles and mechanisms, as well as to initiate the public into the new methods of operating which shall have been so proved and established as successful.

3. That regard for public interests must dominate every grant of privilege in respect to its duration and conditions; and therefore,

4. That some examination and an approximate estimation, at some stage either before the grant is made or after experience of the invention and enjoyment of the privilege, are highly to be desired, or, wherever attainable, are necessary.

The practical reforms that are demanded on the supposition that the patent system is to be for a while maintained (and not *simpliciter* abolished—an eventuality to which the public might look forward without fear of any bad effects that will counterbalance the good ones) are principally these:—

1. Every application should at some stage be made known to chosen persons engaged in the trade it primarily affects, in order that, if its matter be not novel, there may be no patent granted.

2. Competent examiners should investigate and adjudicate: by whom, if satisfied,

3. A duration should be assigned proportionate to the requirements of the particular case.

4. As soon as the trade or persons who are directly affected, or the Government, will undertake to buy the invention, the examiners should get it valued, and, on the money being paid, expropriate it.

5. Whenever credible or presumptive evidence is adduced to satisfy that such a sum has been paid or earned as amply compensates the inventor and the practical introducer of the invention, an inquiry should be made, and the patent should be cancelled.

6. Meanwhile, all persons whose businesses are directly affected should be entitled to demand licences on equitable terms, "with due regard to the exigencies of foreign competition."

7. An endeavour should be made to form an international or omni-national system of dealing with inventions on the principle of doing justice to inventors while mainly seeking to promote the good of mankind in general, and, if possible, of

8. Purchasing inventions by contributions from the united nations, and securing early and full liberty to adopt them, upon the basis of estimations to be made after practical proof of value.

9. Honours and prizes should be awarded to meritorious inventors by a board so constituted that its decisions would command the utmost confidence.

(As to LITERATURE, to which we parenthetically refer,—

1. Non-registration of any book should be held equivalent to declinature of privilege.

2. Registration should, *ad interim* and tentatively, be permitted either quite as at present, but with a term not longer than forty-two years, *or*, at the author's and the publisher's option, on the royalty principle:—that is, with an understanding that any publisher may reprint who has paid a royalty of five per cent. on

the retail price, as shown on page 51 of our first volume. The scheme to which we have referred adapts itself with ease to the case of encyclopædias and books of a laborious character. Otherwise we would except them from its operation, even if its conditions were made compulsory.

3. Communications, with a view to international copyright on this royalty system, should be entered on with foreign nations, especially the United States, and with the colonies.

4. All customs and post-office espionage and detention, and the exclusion of reprints from the British market, should cease. Moderate customs duties for behoof of the state may fairly be exigible.

5. In return for the valuable privilege conceded to authors and publishers, they should be required to supply a copy to a reasonable number of state libraries in the three kingdoms, and likewise to sell to a limited number of other institutions copies at a price regulated on the principle exhibited on p. 138 of our first volume.

6. Although the press ought to be kept free from the control (and perhaps even from the patronage) of Government, when it does not impugn or tend to subvert the great principles of morality or of duty to the commonwealth, some independent academy might be instituted which from the membership whereof it consists is qualified and authorised to speak and to act for the republic of letters, to confer honours on citizens whose writings are of distinguished excellence, especially if these have been published on such terms as to bring them speedily within reach of all classes of the population. The favour and esteem of the Crown and the people made palpable by such honours would be a wholesome counteractive of the influence, tending downwards, of the mercenary spirit which in some less noble minds the present system of publishing is seen to engender.)

Whether or not these suggestions deserve and will receive acceptance let others better entitled judge. This seems clear: that the cognate subjects of literature and invention, in their relations to statesmanship and legislation, are not generally understood; consequently, while certain interests are actively at work, and proclaim loudly their aims (and expectations of success in

them), scarcely anywhere is there seen a preacher, still less a champion, of the interest of the public.

But there is no sufficient ground to despair of "causes" which in Government circles and among the greatest statesmen of our country count advocates and supporters so eminent as those whose names and opinions are but too imperfectly presented in this book. Unfortunately, men in office are too ready to yield when they should resist.

The question of inventions, which forms the subject of this volume, is misconceived in many quarters because of strong assertions that are confidently made as to the effect of a patent system in the United States. We do not credit these. A system may have done little harm, and even might do good, in a country which had its industries to create, and in which every avenue to fair foreign competition is rigidly closed by a quaquaversal protective and defensive tariff, and yet might have an altogether opposite effect in a country which, like ours, has a complete circle of diversified industries, not only already developed, but daily more and more exposed to imminent danger in all markets at home and abroad. The qualities most requisite in British goods are cheapness and excellence. Patents now-a-days are so skilfully, by practical professionals, exploited, as to hinder the natural lessening of the cost of producing, and prevent the use of improvements which would ensure and maintain the desiderated superiority of quality. It is, we must here remark, a notable fact that the acute Western States farmers, and railway companies in those regions, are *opposed* to patents.

Hazardous assumptions characteristic of patentist advocacy, alluded to at page 96, are innumerable. Let us specify briefly a few more. It is assumed that the future will be just the past over again, and that there can be no vehement competition from abroad, notwithstanding what we know to the contrary; or, that if there be, British superiority will secure its being harmless; or, at the worst, we can do nothing in the sphere of inventions towards removing, and very little towards lightening, the burden that patents impose on commerce and industry, seeing that there is something of the nature of right divine, on the part of the first

presenter, of a plan or contrivance, to so make it his own exclusive property as to incontestably claim and obtain power to debar everybody else, not from inventing it—that is impossible—but from using and profiting by it! It is assumed that, because some exceptional inventions would not be made, or would not become known, or would not be introduced into practice, without the stimulus and security of a patent, therefore any invention whatever should be thus invested with privilege! It is assumed that, since some inventions are characterised by distinguished merit, or have cost large outlays of money and much time to elaborate, or render remarkable service to the nation, therefore all others must be treated as if they too possessed a claim! It is assumed that, because a large revenue is required in order to duly recompense this inventor or that other, therefore everybody ought to be allowed to tax his fellow-subjects (or, for that matter, those who are not his fellow-subjects, for he may be an alien or a foreigner) with absolutely no limit to the emoluments, however obvious to all is what he first "discovers," or is his "application" of a previous discovery, and however trivial the work and service he has done for the public! It is assumed that, because fourteen years is occasionally not too long a term, and cases can be adduced in which even twenty-one years would not be excessive, therefore no patent should endure for a shorter period! It is assumed that, because there is a margin for profit in the case of some very small articles, sufficient to render a royalty of one, or two, or much more per cent. *ad valorem* tolerable, therefore, in the case of bulky and important commodities, a royalty at as high a ratio could be borne by the manufacturers of these as well! It is assumed that, because several machines have been largely sold though burdened with monopoly profits, therefore all processes can in like manner bear a heavy charge! It is assumed that, because some quite new article of commerce can be the subject of a patent without existing industries being disturbed, therefore it is a matter of indifference,—there is nothing to fear,—no wrong is done,—if these latter are hampered and taxed by new inventions being monopolised to their prejudice![1] It is assumed that there is a patent-system in every competing country, and that a patent for

[1] See note on page lv.

every invention is obtained in each, the use of which is similarly charged for in each country, and the duration of which is as long in each!

This matter of duration illustrates a temptation of modern legislators. Discrimination they regard as invidious, or troublesome. "Why attempt it? Better in forty-nine cases out of fifty incur the blame or run a great risk of extravagance, than in the fiftieth fall short!" Of course, such a preposterous conclusion could not be entertained, it would be simply laughable, if there did not lurk in many quarters a virus of the false tenet that there is some peculiar and heaven-sprung endowment and mission to invent which it would be doing amiss not to recognise in the form of confirming inherent rights, and this in face of greater wisdom on the part of our ancestors who held, and of every day's present observation that shows, the worshipped inventor is really but one, sometimes not the first nor the best, of a multitude of contemporaneous thinkers and workers. The same complaisant logic finds it the easiest thing in the world, when confronted with that fact, and with the other fact that assignees and capitalists more largely share the advantage than do the actual inventors, to argue, not quite consistently, that after all it is the practical embarker in the enterprise who is entitled to the benefit of the patent, and that if somebody gains all or most thereof who is neither the originating genius nor the plodding foundation-layer and builder-up, yet, so far as the nation is concerned, what is that to us?

Another conviction will probably be deepened by reading the Evidence, viz., that shrewd anticipations there recorded as to the bad effect of cheapening and multiplying patent-monopolies have been verified in to-day's experience.

It is much to the credit of our public departments that, not only in respect to copyright, but still more in respect to the effect of our patent system, they have vigorously remonstrated against abuse, and that, while many complaints are heard of *shabbiness* in their awards of money for the use of inventions by the Queen's service, not a word has been said against them on the score of

undue *liberality.* Within these few days a fellow-citizen of remarkable merit, who had been paid £5000 by the Crown, raised an action on the ground that this remuneration is inadequate. Perhaps it is; but at one time, and that not very long ago, it would have been spoken of as handsome. Are not expectations now generally pitched too high? Have not accustomed charges been excessive? I ask these questions without at all applying them to Mr. Henry's case, which I am unacquainted with both as to its foundation and its strength.[1] A word, however, about the sewing-machine. For that invention, or combination of inventions, the highest claim may be admitted. Yet surely the fabulous fortune brought to at least one coalition in the United States, whether from royalties or monopoly profits—representing as it does moneys extracted from sempstresses and many persons not well able to pay a monopoly price, but nothing from a far greater number of persons who for long years were by that monopoly price kept from possessing and benefiting by the instrument!—is a reproach to patents. Surely a reward of £20,000 or £50,000 would have been ample. But how many, or rather how few months', or shall we say weeks' profits would either of these sums stand for? This instance is adduced as an illustration of the expediency and greater equity of the principle of contingent valuation or estimability of inventions, with a view either to direct purchase by the State (or by States unitedly), or else to extinction of the privilege whenever the amount realised by the monopoly reaches a just and liberal limit or maximum. Taxes paid to patentees differ from taxes paid to Government in these two respects:—1. They are imposed without control and are payable whether profits are or are not made in the business which is subject to them. 2. Once granted they cannot be revoked, however inconvenient, but must last out the fourteen years' term. Let this consideration be kept in mind when considering how liability to patent-dues will affect shipping if the circumstances shall occur that are predicted on page 187.

When this congeries began to be thrown together its dimensions were intended to be moderate. Delays and interruptions extended

[1] See note B, page lix.

the printing over a long period; hence bulkiness and a manner of presentation which the compiler much regrets for the sake of readers, and because the subjects and the honoured co-workers whom he quotes deserve better treatment.

The foremost place belongs of right to M. MICHEL CHEVALIER, whose important words of counsel and warning in a volume he lately issued are by his kind permission reproduced with little abridgment at the beginning. The clippings from five Evidence Blue Books are unique, and will be instructive to persons who peruse them with requisite discrimination.

NOTE A.—See page lii.

Illustrations and confirmation might be adduced here from the trade in sugar. Much, however, has been said about it elsewhere, as the index shows. One remark is permissible. British application of free trade principles, in that trade as in every other, is not only imperfect, but it is, in the particular respect adverted to above, so absolutely rigid as to produce inequality, and therefore is become unjust, not to any great extent, it is true, yet through not recognising matters of notorious fact—especially the infirmity of our nature which is never absent, and ought to be taken into account as a constant quantity in business calculations—practically far enough to turn the beam in favour of foreigners. The matter of fact and the infirmity is this, that no master-manufacturer has *perfection* of scientific and executive skill, of mechanical and financial appliances, of administrative staff, of local position, of concurrent circumstances. All of them fall short in one or other or most of these respects. The majority fall considerably short. The result is that these latter, the main body, may be losing money by their operations in the face of competition, while some of the most skilful and best supplied with capital and most favourably situated are keeping the boat's head to the wind, or even are moving forward, although perhaps only in certain goods or departments of the industry they are engaged in. It does not appear to be a sufficient answer to allege that, if that imperfection exists in our country, it exists likewise in others; for 1*st*, our competition is not with average foreign rivals, but with those who are *above* the average in qualities and advantages; and 2*d*, for argument's sake, grant that it is otherwise, and suppose that the competitors, British and foreign, are quite equally matched against one another, still allowance must be made for the contingency, which is rather a probability, that some nation, or some part of it, has, or occasionally has, advantages that give it dominant superiority. Frequently that advantage is in the rate of wages, which we have neither the wish nor the power to reduce at home. In the case of France there is superadded the opportunity secured it by treaty (see page 113), of choosing the creamiest markets and times of selling. Under the modern régime of large manufactories and very large operations with marginations attenuated, even a slight superiority or

economy carries the day and extrudes rivals. Among the burdens imposed on British industrials, and not borne by foreigners, is the liability to pay the State a proportion of profits, in some years a twentieth, under the name of income-tax.

In connection with the subject of this note, there are some minor points that deserve to be considered. It is an indubitable fact that for the economical supply of certain portions of the British market commercial houses located at certain continental centres of business (and, now that telegraphic communication by cable has been, with the help of codes, made cheap as well as rapid, at certain transatlantic centres likewise) are better situated than if they were located within the United Kingdom. In other words (*e.g.*), a French house at Havre, or a German one at Hamburg, by means of steam-ships, can at less cost of carriage frequently, or generally, if not always, deliver goods in London, Hull, Newcastle, Leith, etc., than can houses that are located at Bristol, Liverpool, Belfast, etc., for these last are either dependent on railways who charge high rates (we may aver, rates unduly high, through mistakes in our original railway legislation) or have, if a sea-route is preferred, a long and expensive voyage to pay for. Foreign houses have similar advantages in being able to choose and destine to whatever port the commodity supplied is scarce and wanted at. The establishment among us of very many foreign houses—attracted towards a great opening made them by our insular indifference to the mastering of continental languages, and our defective commercial schooling—facilitates such operations. The mere comparatively fractional difference which may subsist between the costs of sale or agency in the case of the foreign as compared with those of the native houses is sufficient, under the narrow marginations now, as we have already mentioned, currently accepted, to divert trade from the one channel to the other—that is, in plain terms, to lose it to our country, much more so in transactions the ultimate sphere of which lies in the wide field of external, or, as we used to call it, "export" trade. The theme is saddening, yet inviting to an earnest patriot. The compiler is convinced that for the removal of uneasiness as to the prospects of British commerce a judicially minded Royal Commission, composed of political economists and weighty mercantile men, should at once be appointed, and charged to institute thorough inquiries, and render an impartial report, along with any suggestions or recommendations which may be called for. Such a Commission should not be numerous, and should visit several of the most important seats of industry. There is reason to expect considerable benefit from such an investigation, if entered upon without strong prepossessions, and especially without party spirit, and with a desire to ascertain the true situation of matters and apply practical remedies and rectifications. Among the matters to which the Commission's attention might profitably be directed is the disparity occasioned by the greater number of hours of easy labour or attendance at work in competing countries, and by the restraints to which sanitary and humane laws subject home industries. The grievance of shipowners adverted to on page 187 would legitimately come under review. The aroused agricultural interest too would no doubt seek a hearing. If they have wrongs, by all means let these be brought to the light of day and ventilated in the fresh air. It is an encouraging fact that the question of free-trade is no longer the battle-ground for party conflicts. It can at present be discussed with the same dispassionateness as, *e.g.*, the question whether the youths of the present day are not being deteriorated in mental and moral muscle by undue absorption of time and of physical and intellectual vigour in elaborated pastimes which tend to misdirect and lower what may be laudable ambition, and in reading that does not strengthen the mind nor elevate the soul to conscientious plodding performance of DUTY in the

fear and love of God, *or* as the question whether the mastership in modern places of education is itself so trained and so selected that the next generation will, under its care, be, in respect to actions and aims, an improvement on the preceding one. In all matters which this note concerns, our wisdom is fearlessly to seek, fully to know, and vividly to realise whatever is true, and not to be ashamed to supplement deficiencies, and even to retrace steps, if there be proved occasion, which we do not say there is. Proper inquiries, made with authority, will ascertain whether there is or is not. Only, let us be candidly open to conviction.

There is observable in many quarters an optimist view of foreign tariffs in respect to their effect on British commerce. Even Journals of the greatest weight and eminence make light of the protective duties, or elements in these duties, to which commodities from Great Britain are still subject in most countries, on the ground, forsooth, that the burden is not so heavy, the exclusion not so absolute, as before the French treaty. Practical experience leads the compiler to the conviction that even *one* per cent. levied on the products of our more important industries is sufficient to turn the scale against British industries—to interrupt and gradually divert the stream of trade—although, of course, not at once to stop operations and close the inlet. That is the certain ultimate result of these tariffs, but their full and fatal effect will be seen only after the lapse of years. In point of fact, as is painfully felt, their protective element is much greater than the ratio we have hypothetically indicated. Foreign governments do not seek immediate cessation of imports from the United Kingdom. The establishing and building up of trading concerns in their own territories is of necessity the work of time. These have passed their stage of nursing in a good many cases. In other cases the go-cart stage has been reached, from which they will in due course be ready to emerge: indeed some have already done so with the vigour of an infant Hercules.

These volumes contain allusions to the dangers from abroad that beset trade, printed in the early part of 1877. Seeing that public attention was aroused to the subject, no recent information has been added. To do so seemed unnecessary. The following suffices:—

"Foreign Competition—Consular Reports.—We find Consul-General Cowper stating that our share in the commerce of Cuba is becoming less year by year. He says that the import of machinery and hardware, in which we were once unapproachable, is falling into the hands of our rivals, the only remnants being a limited import of cutlery and large pieces of machinery, such as steam-ploughs, sugar engines, etc.; and even these, from various causes, are now coming from other countries, notably the beautiful machinery from France, such as centrifugal machines, vacuum pans, and those connected with distilling. One of the largest imports from England was the large cane-knife or machete; but though some of these are still imported from England, the fact cannot be, and it not, disguised from the buyers that these knives are inferior to those made in the United States and in Germany, at equal prices, the only advantage possessed by the English article being superiority of polish. Consul Colnaghi, reporting from Florence, states that in steel rails and locomotives, and in Sheffield tools, and in machinery (turning-lathes, etc.), German enterprise is gradually pushing us out of the Italian market, and the manufacturers of the United States are also endeavouring to push their goods in Italy, and to this end a newspaper called

The Scientific American [At whose expense and by what agency? *Public* or private? Probably *both.* This is suggestive of lessons.] chiefly devoted to the hardware interest, is widely distributed throughout the country."

The reader will remember that similar underselling and ousting go forward likewise in our *home* markets. Let us not aggravate evils by persisting in a bad system of dealing with inventions, even though tolerated still in a great part of the United States.

If so many pages had not been occupied with miscellaneous matter, and the compiler had leisure, he would give reasons in definite propositions for disbelief in the popular assumption that a patent system helps a nation to compete with other nations. He believes the very reverse is the case. Those who contend for patents should try to demonstrate HOW but in rare exceptional instances and peculiar circumstances their fond contention *can* be true. The depths of the Patent question too few have taken care to sound.

The words bracketed in a preceding paragraph receive, to all parties, a creditable illustration in the passage we present from a letter of Messrs. Munn and Co., editors and proprietors of *The Scientific American*, 37 Park Row, New York:—

"The terms of subscription are $5 a year, including the postage, which we pay here.

"*The Hon. U. S. Consul will receive and forward to us your subscriptions, unless you prefer to remit to us direct* by Postal Order or draft, which may be drawn either on New York, London, or Paris.

"We shall esteem it a particular favour if you be so kind as to use your influence in favour of subscriptions to *The Scientific American* by any library, college, reading-room, café, or individual within your acquaintance."

This is the periodical spoken of on page xi of Volume I. as loudly extolling United States commercial progress and products. Its so favoured circulation in all markets without, as far as appears, any like counteracting agency hailing from the United Kingdom to modestly tell what can be done here, must tend to help our trade rivals.

Dr. Matile, an authority who may be considered dispassionate, besides having had good opportunities for judging, long ago wrote thus from the United States to the *Revue de Droit International*:—

"A patent, is it a monopoly or not, which carries a compromise of liberty of third parties? is a question often agitated among us. Let this idea of monopoly become more general, and our system of patents will vanish away, for on no consideration will we consent to remain in the rear of other nations in a matter of liberty; and if foreign States advance beyond us on this point, we will follow them soon."

In a communication —

"People there speak of the American system, but don't know it better than we know nebulæ. You say the U. S. surprise British economists by their pro-

tectionism shown as to patents and Customs-duties. . . . We are, I think, more consistent than you: we keep them both, whilst you advocate free-trade and keep patents."

NOTE B.—See p. liv.

The *Edinburgh Courant* of 12th June has a leader on the Henry case, from which the following passages are extracted. They do not need any comment:—

"Mr. Henry's co-inventor, Martini, was more fortunate in his financial advisers, and we may add, without impropriety, in his official patrons. When he saw that he had an economising War Minister to deal with, he sold his invention to a powerful company, which firmly but respectfully declined Mr. Cardwell's tender of five thousand pounds in full of all demands. It submitted its claims to a court of justice, and the verdict being in its favour, the Government in 1877 compromised the claim for the sum of £50,000. . . . The glaring and flagrant inequality of the two rewards—£5000 from the War Minister and £50,000 paid in consequence of the verdict of a competent legal tribunal—should have been regarded as involving the credit both of the Government and of the country.

"But the two inventions were far from being of equal merit. . . . In February 1869 it was officially acknowledged by a committee of experts that Mr. Henry had produced the best military small-arm then, or still, in existence as regards both barrel and ammunition. It is clear from the official records that the ammunition, though it had contributed materially to the success of the rifle, was always treated as a distinct invention."

Dreghorn Castle, Colinton,
1879.

The compiler congratulates not only Sir Henry Bessemer on the title of honour which has been so deservedly bestowed on him by the Crown, but the commercial community on what is in no small degree a hopeful new departure in a right direction.

Since despatching the foregoing note to the printers, a copy of the *Times* has reached us, in which is a highly complimentary leader on this great inventor, whence we extract the following:—

"The name of Sir Henry Bessemer, which will be as inseparably associated with the development of the steel industry of this and other countries as that of Watt with the steam-engine, would add dignity to any title with which it might be adorned; and the recognition of his merits by his own Government, tardy although it must be admitted to be, will be regarded with satisfaction wherever there is an adequate appreciation of the value of applied science as a means of increasing the wealth, the comfort, and the happiness of mankind. The knighthood now conferred upon him has been preceded by honours of many other kinds, derived from many and various sources. . . . In addition to these various tributes, Mr. Bessemer received also the unmistakable reward of commercial appreciation in the form of royalties, which, to use his own words, 'amounted to no less than 1,057,748 of the beautiful little gold medals which are issued by the Royal Mint with the benign features of Her Most Gracious Majesty duly stamped upon them;' and he has probably good ground for declaring that this array of figures must be regarded as the most genuine expression of approval which his labours are ever likely to call forth. . . . He has more than once, and on one remarkable occasion in our own columns, brought his old grievance against the Stamp Office to the notice of the public; and the title now conferred upon him may perhaps be regarded as an admission of the value of the service which he then rendered to the public. An improvement in the process of steel manufacture, notwithstanding its vast industrial importance, is not a matter which in this country is supposed to require such a kind of recognition. To increase the production and reduce the price of a material of almost universal application is an achievement which, rightly or wrongly, is held to be of a purely commercial character, and to call only for commercial rewards. Great as it undoubtedly is, this achievement, and the improvement in the method of stamping, have been only two among the inventions of a busy life, which is still actively employed in pursuits of a kindred nature, and which may yet accomplish great things."

Patents for Inventions examined in their relations to the Principle of Freedom of Industry, and that of equality among citizens, by Michel Chevalier, Membre de l'Institut, Professor of Political Economy in the Collège de France.

This essay on patents is almost literally the reproduction of three lectures by which the author began his course of Political Economy in the Collège de France, in the academic year 1877-1878 :—

Freedom of industry (*la liberté du travail*) is one of the principal forces which produce general and private prosperity in modern times. It is second to none among those public liberties that most energise the countless classes who devote themselves to the manufacturing arts, to agriculture, to merchandise, from the great manufacturer, the great merchant, and the great landed proprietor, down to the simple mechanic and modest labourer. It does not less concern lateral and accessory industries, such as those of every kind of transport, and those whose object it is to extract mineral riches from the bowels of the earth. It interests the liberal professions in an equal degree. In a word, it is a spring of which the efficacious action is applied with success to the greater part of the developments of human activity. On account of this, it deserves to enjoy exceptional favour with men who exert influence in the State, and we are compelled to remark with respect to this, that it is far from being treated as well as it deserves.

There is reason then for studying existing laws, with the object of knowing how they may be rendered more consonant with free industry, and of disengaging them from such provisions, bequeathed by times when liberty was little understood, as tend to deaden or paralyse it. Placing myself at this point of view, I propose now to consider what must be thought of laws concerning patents in the most civilised countries, and particularly our own. It is a subject of immediate interest and concern, for it has for some years excited the solicitude of the most enlightened Governments. All agree in acknowledging that the different legislations which regulate the matter in different nations, and whose tone is uniform notwithstanding variety in detail, all leave much to be desired, and nowhere is it clearly seen how to modify. Let us first point out the number of inventors or persons desirous to pass as such, who ask for patents in order to compel society to remunerate by privileges to be exercised over their fellow-citizens, specifically by dues which they reserve to themselves the

power to fix at will, the services which they have, or believe they have rendered. The development of this system has in our day attained proportions which were very far from being suspected when England, France, and the grand Republic of the New World began to legislate as to inventions. . . . There is in each country quite a multitude, of which each individual aspires to receive for his private profit a premium paid by manufacturers who use his real or supposed discovery. As the *tout ensemble* of our various industries, agriculture, manufacture, mining, merchandise, transport, present a vast aggregate of interests, it may at once be seen that the persons concerned in the patent question form a very important part of society, and certainly the numerical majority, while the importance of an equitable solution becomes always more apparent.

Under the old *régime* which came to an end in 1789, after having lasted for centuries, there was no patent system in France, though, no doubt, there was something that occupied its place, but in a manner arbitrary and high-handed, such as could not be thought of now-a-days. . . .

It is easy to see, and I will try to prove it here, that the patent is a privilege and an industrial monopoly of the same family as those of the middle ages abolished immediately after 1789. In the same way there is great analogy between it and the supremely unjust prerogative with which protectionist manufacturers seek to invest themselves. The patent, indeed, is a right conferred on an individual over the work of his fellow-citizens, an offensive power which gives rise to annoyances, persecutions, and sacrifices of money, a power which cannot be maintained since it fetters liberty and equality within the domain of industry. . . .

Whoever wishes a patent has only to ask to obtain it, and to be consequently invested with excessive powers over manufacturers and trades-people, and through them, over the public. This is, according to M. de Boufflers, the beau-ideal of free industry. Is it not rather the ideal of imposition?

To this assertion, hazarded by M. de Boufflers, a peremptory answer has been furnished by M. Philippe Dupin, who was in his character as reporter to the Chamber of Deputies charged with examining the project which became in 1844 the new law on patents. He remarked that what M. de Boufflers and others called inventor's liberty, was, by means of a patent, the power of monopolising during fifteen years an invention of which nothing proved that the pretended inventor was the author, and which, in any case, another might have made the next day, if it really was an invention; that it was similarly the right to levy on these of his fellow-citizens who wished to make use of it an arbitrary tax, or to prevent them absolutely from using, even by payment, if the affair was worth the trouble, in order to reserve the use to himself.

"The inventor requires" says M. Philippe Dupin, "not only that his liberty be secured, but that they yield up to him the liberty of others; that there be secured to him a preventive power over means of production lying out of his own legitimate sphere; and that there

be created in his favour an exception to the rule of independence in industrial operations which is one of the finest and most useful conquests of the Revolution."

These observations of M. Philippe Dupin are completely warranted. M. de Boufflers, and with him the National Assembly, when they thought that in instituting patents they were enlarging the circle of national liberty, were quite deceived. A patent is, for those devoted to industry, a restriction on liberty; and by the manner in which it is understood by a certain class of patentees, this restriction is often exercised in a fraudulent manner, and becomes more and more an instrument of vexation and plunder. The last words of the above extract from M. Philippe Dupin deserve particular attention. The patent is an infringement of free industry, that independence or liberty which is the most precious, necessary, and salutary result of the Revolution of 1789. Nothing more is needed to show that patents not only call for the most complete modification, but for abolition; that is to say, that they may not burden the future except by allowing the terms assigned to each of those which now exist to expire; and experience proves that the working of this institution is not such as would cause the abolition to be regretted. . . .

The Assembly, doubtless distracted by politics, then in an agitated position, accepted the project, and voted it, although it was a counter-revolutionary act, and an absolute aggression on the principle of equality among citizens.

We may remark here a connection between the Custom-house system called protection and that of patents. In reality, both set out from the same starting-point, and reveal themselves by the same abuses; both suppose that it is lawful in our free communities to confer on individuals the power of intermeddling in the industrial activity of their fellow-citizens; both tamper with freedom of industry and the principle of equality; both give birth to grave abuses, which they contrive to get consecrated by law; both are paid by imposts on the public, or a portion of the manufacturing class.

In the case of patents the tax is direct, since the manufacturer pays it into the hand of the patentee; the manufacturer recoups himself if he can from the public.

Before 1860, when the country was under the yoke of prohibition, the Custom-house had monstrous rights conferred on it by law,—domiciliary visits, confiscation, paid informers, and body-searching, an outrage on modesty and public morality. Nothing of the kind exists now. The patentee, on the contrary, has over the manufacturer, whom it suits him to call an infringer, a power analogous to these deplorable practices, which were effaced in 1860 from our protective legislation.

The patentee can, without form of process, seize or sequestrate, at another person's house, the machine or products which he asserts to be infringements, without consulting an expert. He can thus close workshops; he enjoys the right to confiscate.

I abridge the list of annoyances to which a patentee can cause his fellow-citizens, engaged in manufacturing industries or commerce, to

submit. And—what we believe to be an overwhelming argument—he, the patentee who practises the ill-usage, is not bound to prove that he has invented anything of consequence, or indeed anything at all. If then the prohibitory system is condemned and repudiated, it is not possible to respect patents, and the law of 1844 ought to be completely abolished.

What precedes is a number of disconnected extracts from Chapters I. II. and III. of this valuable Treatise: what follows is, with a single exception, reproduced in full, with the distinguished author's obliging permission.

CHAPTER IV.

FALSE IDEA REGARDING INVENTOR'S RIGHT OF PROPERTY.

We will pass to another point of great importance. Is it true, as we are told in the first article of the law of the 7th January 1791, that an industrial discovery *is property*, acquired by him who believes and calls himself the author of it, even if his assertion is well founded? Nothing is more doubtful. Property supposes perpetuity; now, according to all the laws relating to patents, the rights attached to them are essentially temporary and conditional. For anything to be property, it is necessary that it belong to some one individually, or, which comes to the same thing, that it be possessed in common by a group whose members have or may have each a distinct part. A discovery or invention, on the contrary, may belong to several persons, each of whom may possess it in its entirety. It belongs to everyone, from the moment it has been divulged, unless an authoritative decision, legitimate or not, declare it the property of some one for a certain time. And if this authoritative decision or legislative arrangement be an abuse and wrong, it ought to be abolished. The *rapporteur* of the law of 1844, M. Philippe Dupin, has rejected for very good reasons the word *property* applied to an invention.

"What is," says he "a property which does not last even for life, which may last but five or ten years, which cannot be appropriated or may vanish altogether in default of paying a tax or for want of a parchment, which will perish because it has not been made use of during one or two years, and whose precarious existence will be continually menaced by negligence? It must be acknowledged, either that it is not property, or that it is wrong to refuse it proprietorial rights and guarantees. For society, civilisation, and law rest on the right of property, and one cannot assault anything comprehended in it without shaking the social edifice.

"So long as the idea, the conception of a discovery, is not given to the public, it is incontestably the exclusive property of him who has produced it. He may preserve it or divulge it, keep it for himself

or communicate it to others. This right does not require the law's protection; no one can usurp or attack it. Such a property, if the word may be applied to it, is inaccessible as conscience, impenetrable as thought.

"But once given forth, once thrown into the vast common fund of human knowledge, an idea is not susceptible of that exclusive and jealous enjoyment which is called property; no one can be prevented from acquiring it in the book in which it is written, in the lecture where it is taught. He who acquires it does not rob him who previously had it. In opposition to material things, which property concentrates in the hand of one alone, an idea remains with each one; although shared by a great number, it is like the air we breathe, like the light which shines for all."

The opinion introduced by Philippe Dupin in his *Rapport sur le projet de loi de* 1844, namely, that when a useful idea has been launched upon the public, it is contrary to the natural order of things, in countries where liberty reigns, that the citizens should be debarred from using it, or should have to buy the privilege from any one, is also found in the writings and speeches of several eminent persons. One of the most illustrious statesmen of modern England, Lord Granville, said some years ago in the house of Peers:—"I maintain that it is impossible to determine property when it consists in an idea. He who has an idea and who wishes to reserve to himself the advantage arising from it, has but one means, that of not divulging it and of retaining the use for himself alone. By the silence he preserves he makes it property." This mode of action is often applicable to inventions, and it is not proved that in many cases it would not be worth more for the inventors than a patent. *L'exposé des motifs de loi de* 1844 itself gives expression to a doubt difficult to refute as to the legality in principle of patents for invention, which the object of this law was to establish. "Must we not allow," it says, "that thought is the property of him who conceives it only so long as it is not brought forth in any other quarter; that once brought to light and given to the world, to the world it belongs; that material substance alone can be taken possession of and held; that invention, the produce of a general fermentation of ideas, the fruit or work of successive generations, is never the production of a single man, and can only become his exclusive property by the consent of the community in whose bosom he has found the germ which his genius has fertilised."

In other terms, the *Exposé des motifs* acknowledged that it is in the very essence of ideas that they cannot be monopolised, and society, if it gives consent to this monopoly, ignores and violates its own rights.

After having fired off at patents this shot, so difficult to escape, the *Exposé des motifs* concludes by saying that all this is metaphysics on which it will not enter. An unhappy way of refuting itself; it is to fly from a discussion which the reporters had opened of their own accord. Should the legislator be ashamed of metaphysics? On the contrary, he ought to be a metaphysician, for what would laws be in the absence of what they call metaphysics; that is to say, recourse to

first principles. If the legislator does not consent to be a metaphysician in this sense, he is likely to do his work badly. Talleyrand went further. In the last discourse which he pronounced at the Institute, in 1838, he had taken this subject: that it was necessary for a statesman to have studied theology; that is to say, the general theory of the connection of man with God and with the world, and he gave remarkable reasons for it. Thus the objection brought forward in the lines which I cite from the *Exposé des motifs*, that it has a metaphysical character, is quite available, and I may appropriate it.

CHAPTER V.

GREAT UNCERTAINTY AS TO THE ORIGINATORS OF INDUSTRIAL INVENTIONS.

Every industrial discovery is the product of the general fermentation of ideas, the fruit of an internal labour which is completed with participation of a great number of successive or simultaneous collaborators in the womb of society, often during centuries. An industrial discovery is far from offering in the same degree as the greater part of other mental productions, an impress of individuality which obliges us to connect it with him who calls himself the author, and it is this which renders his pretension to its paternity very equivocal. The fact of the generation even is very uncertain. You say that it is you who are the father, and you believe it. But these same germs which floated in the air where successive generations have diffused them, and which you have appropriated to form the discovery in question, another than you, ten others, might also have netted at the same time as yourself. In this way the child may legitimately have several fathers. Why prefer one to others? Multiple paternity is not pure chance,—it results from the natural order of things.

It is quite otherwise with a volume of history or philosophy, with a tragedy, a lyric poem, or a treatise on geometry. These belong incontestably to some one. It is absolutely impossible that another should in his study give birth to the *Phèdre* of Racine, and also to that of Pradon, and even extract from his brain ten lines in succession. Impossible also to whoever it be, a man of talent or an inferior mind to write a fragment of the "*Esprit des Lois*," or even of the most vulgar political lucubrations. Thus, though by the force of things, the paternity in other mental productions is, or can be at the author's will, rendered authentic, the scene changes suddenly when we pass to the category of industrial inventions. The paternity becomes immediately very problematical. We see this plainly by the embarrassment which tribunals experience when they have to judge in trials for infringement; whatever attention they give to it, and however upright they may be, they award, in the best faith in the world, contradictory judgments. In 1877, a tribunal or court of appeal will pronounce:

"Yes, the infringement exists." In 1878, the same tribunal or the same court will say, in an identical case: "No, the infringement does not exist." In the same way "savants" themselves, or engineers, who are authorities, selected as experts, have much hesitation whom to identify as the true inventors. M. Arthur Legrand gives instances in which there have been five or six judgments in favour of one pretender, and quite as many against.

Daguerre and Niepce have been rewarded as inventors of daguerreotype. God keep me from contesting the reward they received! for it certainly was not excessive. But there are good reasons for believing that at the same time other persons were occupying themselves, not without success, in resolving the same problem. The same can also be said of electroplating, and many other justly renowned discoveries. It is worthy of observation, too, that Daguerre and Niepce worked separately, each on his side, and when it became a question of remunerating by a national recompense the discovery they gave to the public, the legislator, if he had been called upon to reward one only, would not have known what to do. He took a wise and generous course; he awarded a pension for life to each of them,—6000 francs to Daguerre, 4000 to Niepce. Without intending it, he nevertheless thus created an argument against the individuality of industrial discoveries, and consequently against the very principle of patents. The national recompense in this affair dispensed with the intervention of a patent; but if it had been necessary to award one, how would they have settled it between the two inventors? The question of the inventor of the steam-engine is still discussed. English authors say that it was the Marquis of Worcester. M. Arago, in a long and learned treatise, maintains that it was Salomon de Caus; and many persons are of his opinion. A certain number, however, firmly believe that it was Papin, a man of eminence in many respects.

M. Bessemer, whose patents for making iron and steel have procured him returns valued at a million sterling (twenty-five millions of francs), and who, from a natural feeling of gratitude, is a warm partisan of patents, urging that they be maintained for all discoveries, great, small, and microscopic,—M. Bessemer himself furnishes a proof of the extreme uncertainty of paternity in the matter of inventions. This proof was given in detail, in the inquiry made by a Committee of the House of Commons in 1871. The fundamental idea of the Bessemer process consists in this: if a current of air is caused to pass through the liquid charge, the oxygen of the air burns all or part of the carbon combined with the iron. Under the influence of this combustion the temperature of the *bain de fonte* rises considerably, which redoubles the chances of the success of the operation, and allows of its continuing satisfactorily to the proposed point. All the other patents of M. Bessemer have for their object mechanical arrangements, which nineteen out of twenty engineers could have contrived, or for which they might very easily have found equivalents.

Now, the idea of passing through the *bain de fonte* a current strong enough to decarbonate it by burning the carbon it contains, by means of the oxygen in this current, is not at all M. Bessemer's. He has

acknowledged this himself in a conversation with an English engineer, to whom the idea had occurred previously, and who had made trial of it before a certain number of persons, among whom was M. Bessemer. This engineer related the conversation to the Commission of inquiry. "You are," said M. Bessemer to him, "the first person who should be witness of my success, *for my process is founded on an idea which belongs to you*, and which you had made the object of your patent for puddling iron by the intervention of steam." The attempt of this engineer was to burn the carbon, which makes an integral part of the melted charge, by injecting steam into it. We know that water, composed of oxygen and hydrogen, readily yields its oxygen to other bodies. M. Bessemer had simply substituted for steam another body rich in oxygen, the atmospheric air. The engineer in question recalled to the Committee what had passed between M. Bessemer and himself, a well-known incident, and one gratifying to his *amour-propre*.

Still further, in science itself, when discoveries are made, it is not rare to see the honour disputed of having been the first to conceive an idea, whether small or great. By a method which does him the highest honour, M. Leverrier discovers in the wide expanse of the heavens a new planet. Immediately an Englishman appears, who proves that he was occupying himself with the same problem, and was on the high road to success. While he is showing his reasons, an American astronomer arrives who gives himself out as the true discoverer, and produces his titles. But the uncertainty is much greater in industrial than in scientific discoveries.

A peculiar characteristic of industrial discoveries, and one which is not found in literary productions, consists in this, that if at a given moment the want of an invention makes itself felt, it can be confidently predicted that it will be produced. Ingenious men set to work; they search in the indefinite mass of ideas useful in art which are disseminated through the atmosphere, and find one solution to the problem, and sometimes several. On the contrary, ask writers to produce either a beautiful tragedy, the representation of which will revive stricken hearts, or a poem which will excite the imagination, or a history which will enlighten a nation on its duties and lead it to walk in a good way instead of a bad, it is much to be feared that your appeal would produce no result: the *Cid* and *Athalie* are not made to order—we see too often the proof of this—nor the *Iliad*, nor the *Æneid*, nor the *Discours sur l'histoire Universelle*, nor the *Oraison funèbre du grand Condé* nor the *Mécanique Céleste*. There is no assimilation possible between industrial and literary discoveries, philosophical and scientific mental productions. The difference is to the disadvantage of industrial discoveries. It follows that the protection accorded to literary, philosophic, or scientific work, and which has been extended to musical compositions, to designs, engravings, sculpture, and paintings, does not prove that the patent for invention is an institution that is useful, reasonable, and equitable. In the speech, alluded to some pages back, of Lord Granville to the English House of Peers, he cleverly said: "If any of your Lordships write a book, that would but add to

the intellectual wealth of the world; every one will immediately be able to make use of the ideas he will draw from it. In the case of a patent, the manufacturer is prevented from making use of the patented invention, and even of anything that resembles it."

It is nevertheless curious that, for the protection of industrial discoveries, with regard to which it is very often impossible to establish with certainty the paternity, they should have gone much further, and have established against the so-called plagiarists penalties more rigorous than for violations of copyright, where the paternity is clear as daylight, and artistic productions, in which it is almost equally evident. Thus in the question of an industrial infringement, the law adjudges imprisonment for a second offence; there is nothing similar to this for literary or artistic piracy. The article 43 of our law on patents is thus conceived: "In the case of a repetition of offence, besides the fine, an imprisonment of from one month to six will be adjudged," and, it is said, at article 41: "Those who shall knowingly have received, sold, or exposed for sale, or introduced on French territory, one or several of the pirated objects, will be punished with the same penalties as the infringers themselves." The harshness of article 41, and the coolness with which it places individuals, who might be in indefinite number, under the penalty of imprisonment, cannot fail to strike right-minded persons and excite distrust of Patent Laws.

Since legislation showed so much consideration for thought as manifested by industrial discovery, one asks one's-self why it refused to show its respect and sympathy for manifestations, quite as respectable, of the human mind—scientific discoveries. The former stand to the latter in the relation of cause to effect. It is because scientists, geometricians, mechanicians, chemists, physicians, have proved that such and such properties exist in different substances, that these properties have been utilised in useful arts. The most difficult part of the problem is resolved when the *savant* has made his discovery and put forth a new idea. The electric telegraph is a very beautiful thing; but after the works of MM. Ampère and Œrsted, it was evident that it would be invented, and under many and varied forms. Genius, fertile thought is much more on the side of *savants* than on the side of those who, walking at their heels, have established different apparatus which they use for the transmission of despatches. That which is rewarded is a fact of detail, and that which is neglected is the culminating and general fact. *Savants* publish books in which we meet with valuable indications. The terms of the law which excludes that which is theoretic, do not allow them a patent. Besides, for the most part, they would never claim it. Then other men come who possess themselves of these indications, muffle them up in arrangements where, for the most part, there is no special novelty, often none whatever. These are the patentees.

Let us notice a detail here. One sees no reason why pharmaceutic preparations should be excluded from patentable objects, as French law wills it. It would be, on the contrary, of public utility if they were admitted, on the hypothesis that I take the liberty of combating, in which the legitimacy of patents should remain acknowledged by the legislator. From the moment that they are patented, their composition

and the manner of preparing them become known. One would thus be sheltered from secret remedies which make the only danger in vending such substances.

This is the place in which to cite a change which has taken place in the language of patent defenders. Originally they said: "Industrial discovery is worthy of great encouragement, for it is human thought disengaging itself for the benefit of society." Then what they recommended to the solicitude of the legislator was the *idea*. Since this they have perceived that, if the idea enjoyed so great a favour, the consequence would be to give patents to the *savants* for the revelations they make in their publications. Since then the *idea* has been withdrawn from the platform to which it had been elevated, not without solemnity. What they patent now, say the partisans of patents, is not the idea but the means of realising it. But, in truth, the means of realising an idea is an idea itself. If it were not an idea, a conception of the mind, what would it be then? A vapour, a shadow, nothing at all.

CHAPTER VI.

NUMBER OF PATENTS RAPIDLY INCREASING—INCONVENIENCES THEREFROM.

If M. de Boufflers had been asked to give the number of persons to whom, in France, the qualification of a man of genius might be applied, in regard to industrial discoveries, he would have been obliged to reply, notwithstanding all his optimism, that this number was very small—much less than a hundred—perhaps a dozen, a score at most. He would never have suspected that in our days, less than a century after him, the number of individuals who adorn themselves with the aureole of genius, or who are complacently decorated with it, and for whom, on this account, the benefit of an exceptional legislation is claimed, would amount, in France alone, each year to the number of six thousand; so that by adding all those who may have a patent in full work, and who would have it, if they had not renounced it, we reach the number of 90,000. There would be about treble the amount of these in the United States, without speaking of the rest of the civilised world. What an avalanche of genius!

This avalanche supposes that each patent should be maintained in the rights that the law assigns it during the space of fifteen years, which is far from being realised. In fact, a large number of patentees relinquish their privilege long before the patentable term. But we will confine ourselves to the six thousand patents taken out each year in France, and which remain valid at least for the first year, and commonly more: it is already frightful.

In France the number of patents has attained its present figure by a continual progression which, at the beginning, was very slow. From 1791, the date of the first law, the number of a hundred was

exceeded for the first time in 1815. In this long interval, fifteen times it was below fifty, and five times below ten. In the United States, where the number of patents is kept down, because the demands are subject to a preliminary examination which reduces them sensibly, during the decennial period from 1843 to 1852 the patents given out were 7340; during a period of the same duration, from 1863 to 1872, they increased to 105,509. There are reasons why it was so, and why the rate of progression should become increasingly rapid, if the Patent Laws remain as they are in the different States. It is the effect of a want of foresight in this legislation, that they have neglected to modify in proportion to the indications of experience, which have made visible both faults and imperfections. It is also the result of the energy with which industry, under aspects so different, is cultivated more and more among modern nations. Mechanical forces having been introduced in very large proportions in the organised development of industry, and increasingly extending, in substitution for the physical strength of man, the number of modifications or accessory additions introduced into apparatus and engines employed in industrial operations cannot but be indefinitely multiplied. A like observation may be applied to the utilisation of chemical forces and agents. There are thus produced endless innovations, good or bad, important or trifling, really new or old ones renewed, originals or simple copies of what is passing in a neighbour's *atelier*. If each of them becomes the object of a patent, there is no reason why the number of patents should be arrested. If, as has been seen, the insertion in gloves of an indian-rubber thread, so that they fit more closely to the wrist, obtain the favour of a patent; if simply for the undulating form given to thin bars of iron on which successive rows of bottles are laid in the cellar, a patent is given; if such arrangements, that might occur to the first comer are the object of the same protection with the same severity against imitators as the invention of the steam-engine, or the Jacquard loom, no one can say to what point the deluge of patents may rise. If we take the list of patents, we find there pretended discoveries more paltry than the two examples I have just cited.

If this progression continue, the course of industry will become very dangerous, from the existence of patents. The head of an establishment who buys a machine, of which he recognises the advantages, will be more and more exposed to all or a part of the annoyances, interruptions, even occasions of ruin, that the French law accumulates on the head of supposed infringers, because it is very possible that there may be, in one or several of the parts of the machine, some arrangement already patented, without the constructor being aware of it, and still more likely without the head of the establishment, the possessor of the machine, even suspecting it.

Patents will cross each other and come into collision, because under the pressure of the same need, to avoid the same difficulty which they encountered in their operations, it might happen that several manufacturers, or several engineers in connection with them, may have conceived and worked out similar expedients, and have furnished themselves with a patent in order to secure the advantage to themselves.

It is not impossible that, in a certain number of years, each artisan, however insignificant, may be in possession of a patent belonging to himself, and that then the industrial system will begin to resemble that of the old *régime*, when each corporation had its exclusive monopoly, and would not allow any other corporation, or an isolated individual, to settle on its domain. It would be individuals instead of companies which would enjoy the exclusive privilege, not in perpetuity it is true, but for a notable lapse of time, such as fifteen, twenty, or twenty-one years. The half of the industrial world would be at war with the other half. It seems, nevertheless, that this is the situation towards which we are allowing ourselves to drift. According to this, we may hold it as established, that one of the great practical inconveniences of patent legislation as practised, whether in France or in those countries where the system exists, consists in the indefinite multiplicity of patents which they evoke. It is an incoherent mass which it is impossible to become acquainted with,—a chaos before which the Administration, and still more the courts, on whom is imposed the impracticable task of introducing equity and order, experience extreme embarrassment.

CHAPTER VII.

THE SMALL PROPORTION OF USEFUL INVENTIONS REPRESENTED BY PATENTS.

The truth is, that of a hundred inventions or pretended discoveries which are patented as if they were new, there is scarcely one which deserves that authority should, for its sake, depart from its accustomed rules and invest it with peculiar advantages very unsatisfactory to society at large. I do not mean to say that patentees in general are men who designedly trick the public. On the contrary, the great majority are honest men. But for the most part they are played upon by their vanity and ignorance. They dreamed that their assumed discovery would give a lively impetus to the progressive march of public prosperity, and in addition to that make their own fortune. They unconsciously mislead themselves. By far the greatest number of patented inventions are meritless, and are often abandoned by their authors in disappointment. In those that remain, a very large proportion bear only on details and accessories. It would then be a serious error to suppose that these patents, accorded in immense numbers, protect genius, as was believed in 1791 and 1844. It is only by chance that genius has anything to do with patents. It is only here and there that we see in the patented invention a gleam of the sacred fire to which the flattering name is given.

On the subject of the amount of genius revealed by patentees, we find curious information in the deposition of one of the witnesses, an enlightened and competent man, who appeared in the inquiry made in

England on Patent Laws, from 1862 to 1864, by a Royal Commission presided over by Lord Stanley, now Lord Derby. This witness (Mr. Woodcroft) was asked to specify in what proportion he thought might be found among the discoveries, for which a patent has been demanded, those which really were worthy, by marked characteristics, of this favour. This is his answer :—

"I have taken by chance, three years previous to the inquiry, 1855, 1858, 1862. I have attentively examined, and with an examination rendered easy, by the time which has elapsed since the application for a patent, the first hundred discoveries inscribed in each of these years, the result is :—

"In 1855, in the hundred there was not one which appeared to be of any considerable value; four had a mediocre value. The remainder were worth almost nothing.

"In 1858, there was one that might be considered as really distinguished, and three of some merit.

"In 1862, one had a high value, and a second some merit."

In supposing, which is not unlikely, that the first hundred demands addressed to the Administration represented, from the merit point of view, the average of the year, the conclusion to be drawn from the table furnished by Mr. Woodcroft to the Commission of Inquiry is, that in a hundred pretended discoveries there is but one alone which really has great significance.

Now those alone which have this character deserve to be, on the part of the legislator, the object of extraordinary advantages; and it remains to be seen in what these consist, for those which are inscribed in the law of 1844 are abuses, and more or less intolerable. Thus, to do the right thing, it would be fitting that the prior examination should have the effect of setting aside ninety-nine demands in one hundred. Now, in England, the committee whose duty it is to examine these demands, thinks it does a great deal in curtailing the third. It would be impossible to entrust a committee with the ungrateful task of disentangling from a mountain of demands the very rare specimens, one in a hundred, which would justify an exception. The execution in general, to which all the rest would be condemned, would be a painful task, and it would be very difficult to find competent men who would undertake it. Frankly, it is more simple and practical to abolish patents entirely, a reform which recommends itself also in many other ways.

As to good faith, if the great majority of inventors are freely allowed to plume themselves on this quality, it is not less true that by means of patents there are committed a great number of frauds, whence proceed for the industrial world annoyances and sacrifices of time and money.

It is not enough to be an honest man to obtain favours which run counter to common rights, and the principles on which, in 1789, the organisation of labour was established. However honest one may be, one is not entitled to claim privileges repudiated by law. The authorities, when they consent to give prerogatives to patentees, such as those contained in the law of 1844, act in a manner entirely opposed to good administration and good policy.

CHAPTER VIII.

SYSTEM OF PRELIMINARY EXAMINATION, IN ORDER TO LIMIT THE NUMBER OF PATENTS.

In order to diminish this cloud of patents that descends each year on the industrial world, an expedient has been recommended, which indeed is practised by several foreign Governments—that of a preliminary examination made by a competent authority before the patent is granted, so that all useless and ridiculous demands may be set aside, and even those which, concerning accessories only, are of little or very little moment. With us the system of a preliminary examination was discussed when the law of 1791 and that of 1844 were passed. It was rejected in 1791 for bad reasons. At that time there was great distrust of the authorities, and it was thought that they used their hands only to disseminate abuses. In 1844 the public was influenced by another thought, and a rather selfish prudence on the part of the Administration, which would not take the responsibility of the refusals, and feared to be the object of the complaints, recriminations, and even the accusations of the refused, not to speak of the bitter representations of the *députés*. Consequently, it obstinately rejected the system of preliminary examination, and threw the heavy task of distinguishing between valuable and valueless patents on the shoulders of the courts of law. The administration grants all patents demanded, with a few exceptions explicitly reserved, such as those of inventions injurious to good morals, or the safety of the State, pharmaceutical compositions, and financial plans. If the patent consequently presents causes sufficient for its nullification, it is for the courts to declare this if so requested by interested parties. Unhappily the law only acknowledges as interested parties those persons with whom the patentee contemplates a lawsuit, and whom he sues as infringers, so that the public interest is defended as little as possible. With us, as in other civilised countries, the courts do not like having to judge on special technical questions, for which education has not prepared them. Except in Paris, and two or three very large towns, it is difficult to find experts who are perfectly trustworthy in all respects, including experience. As to the documents and means of instruction, and the necessary appreciation for elucidating patent matters, they are far from existing in sufficient numbers in the greater part of our towns where lawsuits of this kind may arise; indeed, I may say that Paris alone is suitably provided. We are thus led, by reasoning and a just appreciation of facts, to take refuge in preliminary examination as an indispensable precaution; but here experience shows that preliminary examination, practised in ordinary courts of justice, is of no use. We are none the less inundated with patents, the greater part of which have no value, or one of little significance. The experience of both England and the United States proves this. If we

must have recourse to preliminary examination, it would be necessary, in order that it might prove a dyke against a deluge of patents, that the examination should be confided to a meeting of influential men, enjoying incontestably high authority, and consecrating to the task all the necessary time, which is saying a great deal. The meeting of such men, in numbers sufficient for so distasteful a work, would be extremely difficult to organise. We remember what happened a few years ago in England in railway litigations among the companies themselves, or of private persons with the companies. The Judges of the High Courts of Westminster, that is to say the highest tribunals of England, were little familiar with the technical questions to which the establishment of railways gives rise. Notwithstanding, their erudition is justly celebrated; it was very unwillingly that they judged such suits as these. The situation of the French *Magistrature* with regard to patent suits resembles that of the High Courts of England in railway litigation. Parliament, respecting the Judges' scruples, put things right by an energetic procedure. It created a special court which, as a last resort, judged railway suits, and it took care to stipulate that the majority of the members of this court should have, by their antecedents, the qualifications to decide these disputes. Some persons have thought that in France we might have recourse to a similar expedient, in order to render the preliminary examination of patents thorough and conclusive, by instituting a supreme commission which would legislate without appeal on the validity of patents;—it would be composed of eminent men, offering all the guarantees of knowledge and experience, and devoting themselves entirely to this troublesome work, because much time is necessary to disentangle patent cases. They would have the annoyance of being harassed by incessant and ardent solicitations. For the use of this commission, official and private publications from all parts of the world where industrial inventions are enumerated and described would be collected. Such a library is now much less difficult to collect than formerly, although the number of the countries for which there is reason to desire exact information on their inventions and patents is become considerable. A library like that of which I speak is necessary, in order to be able to ascertain if such or such an invention has not been previously offered for a patent, in which case it is universally admitted that the invention cannot be patented. As a consequence of what appeared in the English inquiries, a library of this kind exists in London in the Patent Law Offices, and is open to the public; but we do not see that it has been of use in confining within reasonable proportions the multitude of patents. Without entering into fuller details on the organisation of this high commission, which should be charged with the duty of a preliminary examination, I must repeat that I regard its formation as all but impossible. Without salaries such as we in France are not at all accustomed to, we should not find among great scientific notabilities men who would consent to take part in it. And then it would be necessary to give up their liberty, their special work, a surrender to which superior men would never consent to at any price.

CHAPTER IX.

SERIOUS FAULTS OF THE FRENCH LEGISLATION OF 1844.

I am now going to try rapidly to exhibit the unprecedented, oppressive, and annoying character of the principles now in vogue, in the measures which the French law prescribes, or allows in regard to patents, for the protection of the rights attributed to patentees.

One of these measures is the seizure or sequestration, at the request of the patentee, of the apparatus, machine, or utensil which in his opinion or word presents the appearance of infringement. We need not reflect long to see the serious and offensive nature of such an act. If you seize or sequestrate the engines of a certain model existing in a manufactory, or even a single important machine, you condemn the work to stop; and probably at one blow, if the suspension last, you ruin the manufacturer. Seizure and sequestration are, by their very nature, extreme proceedings, from which it is necessary to abstain in regard to industries, unless in case of the most reprehensible acts. The State has the right to seize contraband goods for example, and yet it often thinks well not to practise this right too rigorously, and allows proceedings. But this is the State, whose rights are sovereign. Justice, when a thief is denounced, may seize the stolen goods, and yet it examines carefully before acting, and requires proofs. Then if it seizes, it is only provisionally, and with a view of restoring these objects to the proprietor. A landed proprietor who does not pay his creditors is liable to the seizure of his land for sale; but how many legal procedures are necessary before the creditors can obtain the ejectment! First, there is the formal judgment, and then the appeal, then the *cour de cassation*. On the contrary, it is almost without any form of process that the patentee can obtain the seizure. The law says that the seizure shall take place at the patentee's simple request. He who sues has no need to obtain a judgment from the court of the district where the establishment of the supposed infringer, or that of the possessor of the machine or apparatus represented as counterfeit is situated. The permission of the president alone is sufficient. Why such summary proceedings? It would seem, indeed, that it is a slight thing to throw trouble and disorganisation into a manufactory, partially or totally to close its doors, and to throw the workmen out of employment? These are nevertheless the enormities to which the legislator has consented out of respect to the genius so lightly attributed to patentees.

To this power of seizure or sequestration, which we think should not be maintained, the French patent law adds for the inventor a decidedly exorbitant right, that of confiscation. The machine represented as infringed will in all cases be confiscated to the profit of the sueing patentee, and also the objects it may have served to fabricate. Confiscation, which consists in possessing one's-self of the

goods belonging to men who have committed certain crimes, such as that of high-treason under the Roman emperors, belongs to the penal code of backward nations, barbarous people, or those abased by despotism.

The philosophers of modern civilisation, as well as the greatest jurisconsults of the present time, are unanimous in branding it as an odious penalty. In France the legislation of the old régime employed their violent and despoiling system. The French revolutionaries practised it on a great scale with the *émigrés*, to whom they inexorably applied it. The new revised penal code under the first Empire pronounced confiscation in certain cases. The Charter of 1814 abolished it, and of all the provisions it contains, this is assuredly the most remarkable, the most useful, the most conformable to the spirit of progress. The Charter of 1814 perished in one of the political wrecks of which the modern history of our country offers so many examples. But this wise and precious innovation has survived. It is henceforward a sacred principle. Fiscal legislation sometimes conflicts with it, but it is in cases well indicated by the law; and the question then is not of the general confiscation of property, but of certain objects used for the perpetration of crimes or flagrant offences. These cases are such that neither morality nor humanity can regret the penalty attached to them. If a sum of money has been given to an unscrupulous official, we do not see why we need commiserate him who seduces, or the seduced official, if this sum is acquired by the Treasury. If wines have been mixed with substances that make a deleterious beverage, what objection can be made to their being confiscated with a view to their destruction? If a shopkeeper uses false weights and measures, what more legitimate than to confiscate them also for the same end? We may here remark that the value of confiscated objects hardly ever amounts to any considerable sum.

Another observation of great importance is, that except with patents it is always the State which confiscates, and takes possession of different objects with the view of appropriating or destroying them. French law carefully avoids pronouncing confiscation in behalf of a private interest. The only exception I know to this rule is that made in articles 427 and 429 of the penal code, in favour of writers, musical composers, and artists, whose works have been imitated. And indeed the objects confiscated in these cases can only be valued at a very modest sum.

But in the eagerness to protect patents under the unwarranted pretext of respect due to genius, to patentees this privilege has been given, that the infringing machines and apparatus, and the objects manufactured by their means, shall be confiscated to their personal profit. It is not a power possessed by the tribunal; the confiscation is a right. It is worthy of notice that the value of the objects represented by the accusing patentee as counterfeit, added to that of the instruments or utensils employed in their fabrication, which will be also confiscated, may rise to a very large sum.

But here is a clause which cannot have been accepted by the two Chambers of 1844, otherwise than as the effect of an inattention of

which we should not have thought them capable. The confiscation takes place even when the pretended infringer, instead of being acknowledged as such, is acquitted by the court. Thus a man declared by the judges not guilty of infringement will be treated as an infringer, and suffer a penalty that may occasion him considerable injury, and might be his ruin.

We ask how such a regulation, so contrary to justice, can have been law for the third part of a century without question of abrogating it. Nothing similar is found in the code of any civilised nation.

We have not, however, yet exhausted the enumeration of the errors which characterise French patent law. Such outrageous favours to the authors of real or imaginary discoveries were granted with so much ardour that it has been impossible to maintain them. People have had their vision obscured by the enthusiasm with which they had themselves inflamed it. In this state of blindness they forgot . . . what? A very essential thing: to be assured that the patentee to whom they thus adjudged exorbitant rights over his fellow-citizens was an inventor in truth. I have already mentioned this omission, but I think it right to return to it, because I have other troublesome results to point out. They conjure up reasons in order to persuade themselves that this would be superfluous trouble. The man who presents himself to procure a patent has nothing at all to prove. They do not even take the trouble to ask if he really is the inventor. He asks for a patent; they give it him, with all the advantages reserved by the law. The law in this is a masterpiece of inconsequence. From the moment that he has his patent in his pocket, this man can make a seizure, which may be followed by confiscation, in the house of another who may be the true inventor. To escape a perhaps very heavy condemnation, this last has to prove that the discovery is his own; and even after this proof, the patentee will keep his patent and continue to work it. I do not abuse freedom of expression when I ask if legislation with such effects deserves to be supported.

I was led further back to point out a lamentable exaggeration existing in French law, which consists in pronouncing imprisonment in case of a second infringement not only against one person, but against a multitude of supposed accomplices.

CHAPTER X.

THE SMALL PROPORTION OF PATENTS WHICH PAY THE PATENTEES WELL.

It must not be thought that the abolition of patents would occasion great loss to the inventors. It is a fact that, notwithstanding the privileges lavished upon them, there are extremely few who have made a fortune. The larger number of patentees are without capital, and when they have obtained a patent, they do not know what to do with it. Their patent does not procure for them the credit which would

supply them with means, because, in the general opinion, a man given to patenting (*coureur de brevets*) is a chimerical spirit. A multitude of men of mediocre or no instruction exhaust their resources and consume their time by hunting for patents for inventions, substantial or insignificant. With respect to this, there is much instruction in the proportion of patents which the inventors have renounced long before they reached their term. In France, of 2755 patents taken out in 1844, there were not more than 248 in 1854 which were not extinguished for non-payment of the tax, that is to say, by the voluntary renunciation of the patentee. Of 2008 delivered in 1846, 108 alone still existed in 1854.

Analogous facts are observed in all countries. In Belgium, the number of patents annually delivered has been about 1600 on an average in the decennial period comprised between 1854 and 1863; the number of patents for which the tax was paid the third year was 325; the number of those for which the tax was paid the seventh year was 36. Of 1028 and 1788 patents given out in 1854 and 1855 respectively, the tax in the sixteenth year was only paid for three, and for none at all in the seventeenth.

How many deceived hopes, how many good men disappointed, with the feeling too of having lost their time and their money, and often filled with resentment against society for not having been appreciated at the value they put upon themselves! Should we injure them, on the contrary, should we not render them a service by the abolition of patents? Influential persons have expressed the opinion that for poor inventors the abolition of patents would be a benefit.

In the English inquiries on the patent system, many men of high consideration in the practice of useful arts, and to whom we owe many fine inventions, have declared themselves against it. In this number we may cite the elder Brunel, so fertile as an inventor, and Hermann Brunel, his worthy son, who had an opportunity of expressing himself long after the death of his father; Sir W. Armstrong, so well known for his machines and artillery; Cubitt, the civil engineer, who occupied a high position in London; and Scott Russell, one of England's boldest and most ingenious minds. Another witness, to whom it was interesting to listen, was Mr. Platt, an eminent mechanical engineer, very familiar with patents, both from having taken them out himself, and from being tormented by patentees or their assignees. These have all shown the inconvenience and perils of patents for the inventors themselves, or the people who pass for such, as well as for industry in general. According to these authorities, the inventors, or those supposed to be such, and who have patented, are almost all reduced to sell their patents to some capitalist who can make the little there is in them go a great way,—part with them for *a morsel of bread*. It will be useful to consult as to transactions of this kind, and those which follow, a volume in which Mr. Macfie, then a member of the British Parliament, has collected the principal evidence taken in the inquiry of 1862 and 1864.

CHAPTER XI.

INDUSTRY MAKES FREE WITH INVALID PATENTS. THE AUDACIOUS USE OF INVALID PATENTS, KNOWN AS SUCH BY THE EXPLOITANTS.

The patent system has given birth to a species of smuggling which renders no service, but is, on the contrary, prejudicial to society, for it lives on usurpations and exactions. The provisions of our law, which authorise and even prescribe seizure and confiscation, are, in the hands of those who are so disposed, formidable weapons sometimes against true inventors, sometimes against manufacturers and dealers. These contrabandists are on the watch, like a hunter lying in wait. As soon as an interesting invention is produced, they at once pounce on it and try to secure to themselves its advantages and exploitation by a patent not badly conceived, before the inventor can have taken any steps to obtain one. If they have been forestalled, and the patent is already given out, they will not allow that they are defeated; by additions which practice indicates to the least eminent engineer, or by modifications artistically arranged, they take out a patent themselves, interpose like birds of prey between the patentee and the public, and exact tribute on both sides.

The French patent law, without absolutely desiring to do so, suits them exactly. They make use of it with the greatest dexterity, in presenting to view the laws threatening penalties. The manufacturers who dread lawsuits as annoyances and loss of time, frequently capitulate for the sake of peace. The true inventor, if a man of small means, as is most frequently the case, contents himself with a share of the fruits. A certain number of these poachers, with unheard of audacity, with the greatest effrontery, obtain patents for objects which were already, as they perfectly well knew, public property. Here is an example: In the war of 1870-71, the German artillery, which formed part of the invading army, was furnished with very simple screw-drivers. One of these was forgotten in the passage of a battery through one of our towns. It was shown to an ironmonger in the locality, who hastened to obtain a patent for this instrument. Some one observed to him that his patent was invalid because in Germany the article was known and very much used. "I know it very well," answered he, "but no matter, I will not sue any one for infringement; but my patent will alarm many people, and during some time I shall, thanks to it, have a monopoly of the article that I shall manufacture." Every one knows by name M. Schneider, whose skilful direction has given to the metallurgic and mechanical establishment of Creusot a development so vast, accompanied by so great a prosperity. It is he who during some years occupied so high a position as President of the Legislative Assembly. He told me that it often happened in his workshops that the workmen, or foremen, or perhaps one of the engineers, would imagine an improvement in some one of the numer-

ous machines in actual use, or in one in the course of construction. Several times he obtained patents for these changes, not with the view of hindering manufacturers who might desire to appropriate them, and to oblige them to pay him a subsidy, but really to be sheltered from the attacks that some speculator might direct against him, who might have appropriated the discovery to himself exclusively by means of a patent, having become possessed of the knowledge by some indiscretion. He added that he had good reason, judging from constant facts, to consider as serious this danger from unprincipled manœuvres, and the proof of this is that he has conformed to the habit of certain others in respect to patenting. M. Arthur Legrand, Member of the Chamber of Deputies, is the author of several notices full of interest on the subject of patents. Among other facts that he has collected, here is one which leads to the same conclusion as the patent taken by M. Schneider as a precautionary measure:—M. Pasteur, of the Academy of Science, an eminent chemist, known by several happy discoveries applicable to agriculture and its kindred industries, had discovered a new process for the manufacture of vinegar. He immediately caused it to be patented, not with a view of deriving personal profit, but indeed to make the invention public property. He did so in order to prevent the greed of any artful person who, while the process was new, and before it was generally known, might patent it.

The abuse of trumpery patents taken out by persons who have invented nothing, and who nevertheless find means of profiting by it, is still more extended in England than in France, and occasions there more injury. The larger number of the authorities I have already named in connection with patent inquiries—the two Brunels, Sir W. Armstrong, Scott Russell, and Platt—are very explicit on this subject. The inference from their depositions is that the exploitation of patents without foundation, or at best with only apparent foundation, is in England sometimes in the hands of great manufacturers, oftener with capitalists who have adopted the profession of patent exploitants, and exert it in such a manner as to render it lucrative, after having acquired for a trifling consideration patents obtained by poor inventors. Mr. Scott Russell frankly expressed himself before the different commissions of inquiry in his own country on exactions of this kind; he declared that to guard himself against the pretensions of patent jobbers, who would have it in their power to extort money from him by securing the privilege for improvements discovered in his own workshops, he had been obliged to have recourse to the same expedient as M. Schneider, as we have already seen, to get these improvements patented, not to derive any profit from the patent himself, but solely to prevent others acquiring it to turn against him. Mr. Platt has explained the process frequently employed by unscrupulous men to get patents right and left. "I think," says he, "that scarcely a week passes, certainly not a month, but what we have a notice of some kind or other, of things that we have never heard of in any way, and do not know of in the least, that we are infringing upon them, and the difficulty is to get at any knowledge. We may be now infringing,

and may have been infringing for years, and a person may have been watching us all the time, and when he thinks that we have made a sufficient number he may come down upon us, and there is no record. A very large number of patents are now taken out for what is termed a combination of known things, and known things for the same purpose, and the descriptions of those patents are generally so bad that it is impossible to tell the parts that are actually patented, for in matters of that kind it has become a very serious question as to conducting a large business."

Outraged by the scandals under his eyes, and of which he had more than once been the victim, Mr. Platt has from time to time opened a campaign with the perpetrators of those frauds which has been crowned with brilliant success. He related to the Royal Commission of Inquiry, in 1864, how on one occasion he heard of the effrontery shown by an ex-patentee who, five years after the expiration of the term, attacked several persons for having counterfeited the patented machine, or for using it without his permission. He was very artful, and addressed himself especially to manufacturers of small fortune, as more sure of intimidating them. He thus taxed each victim up to £2000. Indignant at this piracy, Mr. Platt, who was not concerned, offered a manufacturer upon whom an attempt had been made, to share with him the expenses of a lawsuit if he might be allowed to direct it. Through his numerous relations, he was able to discover one of the machines in question, which bore the proof, corroborated by solid testimony, of having been constructed previously to the date of the said patent. The tribunal declared that such was the case, and pronounced the patent invalid from the first day of its existence. Sir William Armstrong also expressed himself energetically before this Commission. His great objection against patents is, that it is not possible to make an improvement which does not meet on its way with some patent which presents as inventions clumsy arrangements which it is absolutely impossible to put in practice, but which, notwithstanding, are sufficient for skilful intriguers, assisted by unprincipled lawyers, of whom there are many in England, to gain a suit. "In my opinion," said he, "there is nothing more monstrous than to give a monopoly to some one without being perfectly assured that he has discovered something. The consequence of this excessive facility in the delivery of patents is, that the majority of them are valueless; and yet such is the terror which these suits inspire, that manufacturers yield and pay tribute. With a patent of no value whatever, as much money is often made as with another of very positive value."

Sir W. Armstrong has made great use of the expedient employed by M. Schneider and Mr. Platt, and which consists in taking out patents, to protect themselves from people who patent inventions made by themselves. According to these English authorities I have just quoted, the threat of a lawsuit is a great means for extorting money from peaceable manufacturers. It is well known that in England law expenses are very high. It must be noticed also that manufacturers, absorbed in their business, and wishing to consecrate themselves entirely to it, have a lively repugnance to litigation. The tactics,

therefore, of these holders of rotten patents often succeed. The greater number of manufacturers knock under. It is not without venting bad language; but what does that matter to those who wished to extort money, and who succeeded in it?

The English naval and military administration have not thought it beneath them to lay bare their griefs at the Inquiry against the patent system. The Duke of Somerset, First Lord of the Admiralty, went in person before the Royal Commission sitting in 1862 and 1864. He was accompanied by Admiral Robinson, one of the highest officials in that department. Two high officials of the War department also appeared in the name of their minister. Both parties complained in indignant terms of the sharpness, we would rather say the unbridled cupidity, with which those who call themselves patentees, without having invented anything, obstinately harass them, with the sole purpose of extracting money from these two great branches of the public administration. In order to get rid of them, these two departments bought the patents which had been used to annoy them, but the same thing was constantly recurring.

For England, we have mentioned the names of persons in the highest positions in industrial arts and engineering, who had condemned patents. We have just seen the ministers of the War and Naval departments rank themselves on the same side. This is not all. Men placed in the highest positions, as magistrates or politicians, have expressed a similar opinion. In this number we may cite Richard Cobden and Lord Granville; to them must be added the members of the Royal Commission of Inquiry, whose report terminates with the reprobation of patents. Among these men, all eminent, may be noticed Lord Stanley, now Lord Derby; Lord Overstone, one of the greatest financiers of the country; Lord Cairns and Lord Hatherley, who are or have been Lord Chancellors of England, that is to say, the heads of British Law. At the moment when Lord Granville was making, in the House of Lords, the speech from which I have borrowed some extracts, the Presidents of two High Courts of Westminster, the Queen's Bench and the Court of Common Pleas, expressed themselves in the same manner for the abolition of patents, and a great judicial dignitary, Lord Campbell, who was sitting in the House of Peers, when Lord Granville was speaking, rose after him to say in that august assembly that he was of the opinion of the speaker.

Here is the final paragraph of the Report of the Royal Commission of Inquiry:—

"While, in the judgment of the Commissioners, the changes above suggested will do something to mitigate the inconvenience now generally complained of by the public as incident to the working of the patent law, it is their opinion that these inconveniences cannot be wholly removed. They are in their belief adherent in the nature of a patent law, and must be considered as the price which the public consents to pay for the existence of such a law."

This last line can only be understood as an ironical formula of a decision against patents, and it is thus that it was interpreted at the time.

M. Schneider, whom the Committee of Inquiry appointed by the English House of Commons in 1871, asked to appear before them to give his opinion. . . .

[*Here follows an illustration from the history of the steam hammer.*]

M. Schneider related, as an example of the annoyances to which peaceable manufacturers are exposed on the part of patent-jobbers, what happened to himself with regard to a pretended patent for the screw employed as a propeller for steamboats. He had constructed for the French navy some vessels furnished with screws, when he was sued as an infringer by an individual who had bought for a nominal price a patent for an apparatus of this kind. In order to defend himself, M. Schneider was obliged to send agents into several countries, to make researches as to the origin of the screw utilised as a propeller. He found that 150 years ago its use for this purpose had been pointed out. The aggressor making M. Schneider his prey, caused him to pass through the Police Court, Court of Appeal, and the Cour de Cassation, hereby occasioning an interval of five years full of annoyances. The pursuer lost his suit in all the Courts, and the damages were fixed at 10,000 francs; but the suit with his researches had cost M. Schneider 50,000 francs. A picturesque circumstance connected with the suit was that while M. Schneider was detained on the bench of the Police Court, he received a note from the President of the Republic, then Louis Napoleon, offering him office in the Ministry.

Malpractices such as these I have pointed out, once proved, it may be asked how it happens that nothing has been inserted in the Patent Law tending to repress them. Every time that proof is given that the patentee, when he took a new patent or was exploiting it, knew that it was invalid, and that he was guilty of an imposition on the public, he ought to be severely treated, and if, in the repression of patent offences, imprisonment finds a place, it surely should be in such a case.

But at the time when the law was altered in 1844, it was resolved to subordinate everything to the patentee's real or supposed rights. The law regarded him as a being of a peculiar species, a sort of demi-god. Public interest could only be studied after his. The scandalous frauds committed with premeditation which I have just related, remain absolutely unpunished. The patentee though knowingly fraudulent, is free to ascend to the Capitol.

There is a case, more frequent than is believed, in which the inaction of the Legislature, in presence of patent delinquencies, is surprising, because here it has to do with precise facts and easy proof, such as that when a patentee or the purchaser of a patent continues to exact tribute from the public, when he knows that the patent has become invalid, because he or its authors have neglected to pay the annual tax to the Treasury fixed by law; various examples of such frauds have come to my knowledge. These people attempted to extort money from some of our departments of the public service, which thought proper to examine before paying, and which, thanks to this precaution, finished by having nothing to pay at all.

In France, we can recall a special instance of this devotion to patentees. We meet with it in the manner in which a prescription of the law of 1844 was executed, intended to prevent the credulous public from being the dupe of prospectuses. It frequently happens that individuals, who indeed possess a patent, advertise it in post-bills, on sign-posts, and newspapers, always using the word *breveté* after their names. Simple people conclude that Government has awarded a patent which guarantees the quality of the goods. It was decreed that after the word *breveté* should be added these :—*sans garantie du gouvernement.* Almost immediately the patentees abridged this addition thus :—*s. g. d. g.*, making an incomprehensible hieroglyphic. But what did they care? The password is eluded and the administrators are satisfied.

CHAPTER XII.

OBJECTIONS TO THE ABOLITION OF PATENTS.

One of the assertions of those who defend patents is, that they have the effect of exciting invention. This is at least doubtful. That which patents have excited is, with many people, the wish to possess one, persuaded as they are, though wrongfully, that it is a sure means of enriching themselves. They torture themselves to find some pretext for a patent. God knows how often these pretexts are vain! They thus lose, in pursuing chimeras, time which they might employ usefully for themselves and society. In the larger number of cases the true authors of inventions worthy of the name are *savants*, and among *savants* it is the exception to ask for patents. They have in such case for their reward the renown, the satisfaction of having been useful, and of leaving to their fellows a beneficent imprint of their passage through the world. They content themselves with this, without, however, despising the indirect advantages which high reputation brings with it.

It has been asserted also that men of great merit have left their country because the national legislation not recognising patents, it was impossible for them to obtain any remuneration whatever for the discoveries they might make. This is a fanciful argument. Men of science and enterprise only expatriate themselves in order to settle in countries where there is more security and liberty for exercising some branch of industry or commerce. Sometimes it is to enjoy personal advantages offered to them in consequence of their probity and recognised talent. It is in this way that a certain number of Swiss emigrate, not without intending to return, and disperse themselves in all latitudes. But there is reason to doubt that they ever left home to seek a climate where patents were cultivated. On the contrary, I can point out a striking instance with respect to aniline, where some important manufacturers went to establish themselves in a

country where patents did not exist, and fled from their own country, where patents raised insurmountable obstacles to their lawful enterprises.

Besides, it is an assertion without any foundation to say that there is no remuneration possible for an industrial discovery, except by a patent, by means of which the inventor exacts a premium from any one wishing to utilise it. Unpatented discoveries may be mentioned, which have been none the less very profitable to their authors. In certain cases, the secret has been kept and the fruit gathered, sometimes in large quantities. This is what happened with ultramarine, a very rich blue colour. There is also a very beautiful green, of which the inventor has reserved the monopoly, instead of proclaiming it by a patent, and which is manufactured by a house at Lyons. All inventions are not susceptible of being kept in the dark so easily as a chemical process for obtaining a colour; but there are means of reaping advantage from them applicable in all cases. Such is the cession which a poor inventor may make of his discovery to a manufacturer, who would have time to make much money before competitors are awake and seek to imitate him, and he would share with the inventor. In the speech already quoted, Lord Granville mentioned an instance where it was so. The inventor was an intelligent workman, and the reward he received from his patron to whom he revealed his idea, made his fortune. And indeed, it cannot be allowed in our days to resuscitate and maintain in activity usages which bear deeply the impress of the feudal spirit, since they confer on some, with the view of securing to them an unjustifiable and unprecedented gain, privileges which limit the legitimate liberty of others. It is not permissible to go back, in the real or supposed interest of inventors, to proceedings of this kind, because it is forbidden to violate the fundamental rules of industrial and social order, in the interests of any one whatever. For the same reason which interdicts the re-establishment of slavery in our colonies, under any pretext whatever, and of mortmain and the ancient trade guilds in our chief cities, makes it illegitimate to perpetuate an institution so offensive to free industry as that of patents. The middle ages and despotic times which followed could accommodate themselves to restrictive measures, identical or analogous, applicable to the pursuits of industry, because they had but a very rough idea of the general liberty of the citizen, as well as of civil equality, or common rights; but modern civilisation repudiates them, because it is liberal, and has just and practical ideas in regard to the characteristics and conditions of liberty.

At the present time, Governments are much occupied with designs to stimulate the exportation of the products of national industry. During the fifteen or twenty years that they have been negotiating more intelligent commercial treaties, *i.e.* more liberal or less restrictive than formerly, progress in this respect has been rapid. In great States, and even in those of small extent, but of widely-diffused industries, such as Belgium, the amount of the exports is figured by thousands of millions. Before the commercial crisis, which for some years has been injuriously felt over the entire world, in England it amounted to

£195,700,000. In France, the ordinary figure was about 3,750,000,000 francs.

It is not out of place here to inquire whether the patent system serve to increase or restrain commerce, which marches at equal pace with exportation. For him who will take the trouble to study the question, the answer is not doubtful; patents diminish the country's ability to export, for the simple reason that they enhance the value of patented goods; and consequently, there is more difficulty in the competition with foreigners. Look at Switzerland and France, for example. Switzerland has no practical acquaintance with patents. For that reason she manufactures at a much lower price than we, and would beat us in neutral markets, unless we compensate ourselves by the superiority of our productions or by natural circumstances, for the extra cost which patents impose on our produce.

CHAPTER XIII.

PATENTS SOMETIMES ACT IN THE SAME MANNER AS THE REVOCATION OF THE EDICT OF NANTES.

Patents absolutely lessen the productive powers of the nations which recognise them, a proposition evident to those who believe that liberty, free competition, is the great lever of industrial progress. If I am not free to carry out in my workshop the best known process, or if I can only do so by paying a burdensome premium to some one whom legislation has on a false principle favoured, in contempt for the rights of his fellow-citizens, I am no longer in the best position for producing cheaply. It may thus happen that a disastrous blow is given to an important branch of national industry. We have seen this with reference to aniline and its kindred productions. This substance, from whence are derived a great number of colours of incomparable brilliancy, was in France, fifteen or twenty years ago, the object of a patent belonging to a person who had no pretext for possessing it, since it was well known that the colouring power of the combinations from aniline had been discovered by an English chemist, Mr. Perkins, and the French patentee, by the imperfection of his process, could only obtain and sell inferior productions. The French article, from the moment it was patented, excluded from the national market colours of foreign origin derived from aniline; consequently, inferior as it was, it was sold extremely dear. The kilogram, which out of France was valued of good quality at 300 francs, in France was sold of bad quality at 1000 francs. The point of the story is that Mr. Hoffmann, the learned London chemist, in whose laboratory Mr. Perkins, his pupil, had made the discovery, wished to give the invention gratis to the public, and had acted accordingly. He sent to our Academy of Science a paper, in which he explained in full detail the process of manufac-

ture of the shade which had the greatest success. If you take the trouble to read the French Report on the London Universal Exhibition of 1862, you will find the question of aniline-red treated in a masterly manner by M. Würtz, who was long distinguished as Dean of the Faculty of Medicine in Paris. The process adopted by the French patentee was founded, says M. Würtz, on the treatment of aniline with chlorure of tin, which yields an inferior production to that obtained by the nitrate of mercury, nitric acid, and especially arsenic acid. M. Würtz shall speak for himself:—

"The authors of these new processes, which constitute important improvements, have a real merit, without possessing other rights than those the inventor can hold. Their efforts, therefore, have been in a great measure paralysed, and whilst in England and Germany we see new patents and new houses appearing, and industry extending and prospering, we see in France this branch of industry, aniline-red, concentrated almost solely in the hands of a single manufacturer; we see perfectionations remaining sterile,—ingenious manufacturers hesitating to profit by the discovery of erythrobenzine, lest this product which is obtained by a new and interesting process should be identical with fuchsine; finally, we see other manufacturers desert our country, and found establishments in Switzerland, where there is no patent law."

For it is a fact that so embarrassing was the situation that several large houses, particularly of Alsace, who purposed to manufacture aniline and its combinations, whether for sale, or to use in dyeing cotton fabrics, were obliged to transport their establishments to Switzerland.

Take this as a last word regarding French legislation on patents; there are cases where it acts on national industry in the same way as the Revocation of the Edict of Nantes—it compels expatriation.

M. Schneider, of whom I have spoken, having been called to give his opinion in the inquiry made by the English House of Commons in 1871, suggested a system. It was to grant patents only in entirely exceptional cases, for very important discoveries, and to award each of them by a special law. The formality of law proceedings would put aside the immense majority of demands: a severity much to the purpose, according to M. Schneider, since almost all patents bear on insignificant and unimportant details, and are of such a nature that nine hundred and ninety-nine persons out of a thousand might make the discovery if put in a position to do so. They are often even absurd arrangements. By this system probably, in France, not more than one patent a year would be granted. Besides which, the Draconian penalties, adjudged by the French law, would disappear. In a word, it would mean the abolition of patents themselves; for from the moment that the Legislature becomes the rewarder of inventors by a special law, it would be more simple to do so by a life-long pension, as in the case of MM. Daguerre and Niepce. If freedom of industry is a sacred principle, no one henceforward could be reasonably invested with inquisitorial powers over his industrious fellow-citizens, nor authorised to impose taxes on them; no one has the right to trouble them in their honest operations.

I think I have said enough to prove that patent legislation is an aberration on the part of the legislator.

The harsh proceedings, of which, contrary to this rule, the law has made use with regard to pretended infringers, have only resulted in troubling the conscience of eminent men, engineers, jurisconsults, or law-authors, who have co-operated with Patent Law or taken up its defence. Anxious to justify the violence and strangeness of this legislation, some have answered :—"All that may be extreme, perhaps even unjust; but it was impossible to act differently, if the object was to secure a remuneration to inventors under the form of an exclusive privilege for the exploitation of the invention." We may remark here that such an acknowledgment condemns the system in itself. There is something like what in philosophy is called *reductio ad absurdum*. When we wish to prove that a proposition is false, we show that its direct and necessary consequences clash with incontestable principles, and nothing more is necessary to judge and condemn the proposition. Consequently from the moment when the patent can only be rendered effective by means of inquisitorial and violent expedients, destructive to freedom of industry, there is proof that the system must be abolished. There is reason also to ask, up to what point it is suitable, as they pretend, to remunerate inventors, or those so-called, by an exclusive privilege? Privileges are forbidden by the general spirit of modern civilisation, because if they favour some, with regard to whom the favour is scarcely ever justified, they are contrary to the interests of society, and can only be made respected by annoying and oppressing the public.

When we find ourselves in presence of a system so radically defective, the first impulse of moderate and circumspect minds is to propose to themselves to correct its vices and abuses. The French Government, since 1844, has thought several times of thoroughly revising the Patent Law; but, notwithstanding all its researches, it has found nothing which satisfies it, so that one is obliged to bring forward the question of the abolition of patents; just as instead of seeking to reform trade guilds, they abolished them; just as instead of seeking to diminish the monstrous wrongs of the prohibitive system in 1860, they effaced it from the tariff; just as with regard to the coloured race, instead of seeking to moderate the horrors of servitude, while maintaining it in principle, they gave it unconditional freedom.

The author of the present essay does not conceal from himself the fact that his conclusion will shock a certain number of persons. "What!" will they say, "abolish patents! What will become then of inventors, and how will they cover the expenses they have incurred?" Inventors, and among patentees there are very few who may seriously claim the title, will become what we all are. They will live and work under the fundamental law of common right and liberty for all. They will realise from their discoveries, if discoveries they be, what advantage they can. In this respect they are not so unprotected as will be thought. There are a crowd of persons who risk in enterprises useful to the public, as for example the working of a mine, capital more considerable than that employed by patentees in using

their patent. It often happens that success does not crown their efforts, and they neither ask the Government to indemnify them, nor the Legislature to make burdensome and annoying laws to secure to them the profit. On the ground on which we propose that inventors or those so called should be placed, they will have what we all have; the protection of general laws, public order secured by Government, upright and enlightened judges to defend them from violence and roguery, and above all, their own vigilance, their own activity and fertility of resource. They have no right to claim for themselves an exceptional legislation which places them outside and above common law.

I will finish by what appears to me a very conclusive extract from a work dated 1834, the *Traité de la propriété*, of M. Charles Comte, in the subject of which he undertakes to examine the patent system. The passage quoted appears to me to answer victoriously several objections that may be made to the abolition of patents.

"They say, to justify these monopolies, that every new invention is profitable to society, and that society ought to indemnify those of its members who make sacrifices for her; that it would be difficult and often impossible to estimate in an equitable manner the advantages that society derives from certain inventions, and that the surest manner of rewarding an inventor, is to guarantee to him during a determined time the exclusive exploitation of his invention.

"A nation ought certainly to indemnify every individual for special sacrifices which it exacts of him, when it has attached a recompense to a service, and that service has been rendered, it is evident that it owes the recompense. But is it bound to indemnify citizens for sacrifices made in the management of their own private interests, when it happens that these sacrifices turn indirectly to the advantage of the public? If we admit such a doctrine, there will be no nation rich enough to pay all the services rendered to it. There are many people who ruin themselves by enterprises not without use to the public; it never occurs to them, however, to ask for indemnities.

"They say also, to justify the privileges granted to inventors, that the imitators of an invention have an immense advantage over him who is the author; they have no trials to make, and are not subject to the expenses incurred in feeling their way.

"But they forget to bring forward the advantages that there always are, in the exercise of an industry, in being the first to present one's-self; and in acquiring a reputation by means of a useful discovery. It must be added that men are educated for the practice of a profession, and not to be inventors; inventions are, in general, only made in the practice of the arts. Often they are only happy accidents in the life of people devoted to practical industry. If there are some which cannot be brought into play without considerable expense, the greater number require little expenditure, and are sometimes the result of chance.

"If the laws gave no privileges to inventors, the men who thought they had found the means of producing a useful thing, till then unknown, would not be in a different position from those who

propose to establish an art or a business long known, in a spot where they had not previously existed.

"But these parties have to incur expenses more or less considerable, and the chances of loss; the first, like the second, judge of the value of their enterprise by the profits attending it, and not by the advantages the public may derive. There are perhaps more people who ruin themselves in trying to build a new business, or by establishing a new manufacture of products long known, than by making efforts to obtain products of a new kind. It is for each to make his calculations before entering on expensive experience."[1]

EXTRACTS FROM *De la propriété intellectuelle industrielle, par* CH. M. LIMOUSIN. 1873.

"When we speak of property for the inventor, many believe that it means establishing in perpetuity such a right as is now conferred by patent laws. This is a mistake, as I shall show further on; the right as it is now understood is greater than that which naturally results from being originator. It constitutes a privilege which society concedes to the inventor as a compensation for future expropriation.

". . . If the idea of the exercise of an absolute right of property is set aside, no system can be conceived but that of concession, voluntary or obligatory, of the invention to the public; that is to say, of expropriation. Of course, it is well understood that this voluntary concession, or this expropriation to the profit of the public, involves an indemnity, and an indemnity proportional to the ascertained value of the property.

". . . The inconveniences which the new system must avoid, and which result from the present practice of the temporary privilege of *exploitation*, are:—1*st*, Denial to the public, during a longer or shorter time, of the use and benefit of the invention; 2*d*, the impossibility the inventor too often finds of profiting by the privilege conceded to him; 3*d*, the oblivion whereinto useful discoveries often fall, which implies a loss to the first inventor of all his efforts and a double loss for the public, who derive the benefit so much the later, and whom the work of the second inventor would have been able to enrich still more, if it had for its object a new discovery, *i.e.* had for its field of operations ground unoccupied and unencumbered.

". . . This system exists; it is employed in another variety of intellectual property with the best results. All that is necessary is to make an almost servile imitation. I speak of the mode of exploitation practised by the authors of plays, songs, and musical compositions; in a word, the system of author's right. It consists in this, all the '*spectacle*' managers who have treated, and often have not treated, with the Society of authors and compositors, have the right to use the

[1] *Traité de la Propriété*, Ch. Comte, t. ii. p. 51, *et seq.*

works belonging to the society, in return for a sum or royalty paid to that society.

"The system is, as we see, of the simplest, and could easily be applied to industrial property of the kind in question.

". . . Every proprietor of an invention placed under the *régime* of the temporary privilege will be able to cede all or a part of his property, *i.e.* to authorise as many persons as he will judge suitable to use his invention, during the duration of his privilege.

". . . In the case of an amicable arrangement between the inventor and the exploiteur, the inventor not to be allowed to make conditions more or less onerous to some than to others. All shall enjoy a full right to the conditions accorded to the most favoured.

". . . Foreigners who have taken out a patent in their country, shall enjoy in France all the rights conferred on inventors who have chosen the system of immediate concession to the public.

"It is a reproach to statesmen that internationality of protection has not been accorded to inventors.

(*A hard, but not infrequent case.*)

"An inventor one day sent an officer of justice to a man whom he believed to be an infringer, and who in reality was a *perfectionator*. This 'perfectionator,' believing that the principle common to the two inventions belonged to the public, had acted quite openly and with perfect confidence. The changes besides had been so considerable that the first inventor retired without continuing the prosecution. In consequence of this step, the 'perfectionator,' feeling completely reassured, extended his operations. Thirteen months after the first visit, the first inventor returned and instituted law proceedings. The case was tried, and the 'perfectionator' condemned to pay an indemnity proportionate to the length of time during which he had worked!"

National and International Rewards to Inventors.

The compiler has much pleasure in reproducing the extracts below from No. 57 of *The Scots Magazine*. The "plan" resembles one he has presented elsewhere. How great benefit might the civilised world have been long enjoying if our enlightened countryman's ideas had taken root and borne their natural fruit! Better late than never.

Clips from the Plan of an Agreement

Among the Powers in Europe, and the United States of America, for the purpose of Rewarding Discoveries of general benefit to society, by Sir John Sinclair, Bart., President of the Board of Agriculture.

There are many objects, of equal importance to all countries, and in the improvement of which every nation is equally interested.

No individual, or even nation, can carry any art or new invention to its ultimate state of perfection. It must be improved upon for that purpose by the investigation and the experience of others.

Deeply impressed with the justness and importance of these ideas, I take the liberty of submitting to the consideration of those intrusted with the government of this, and of other States, the propriety of a general agreement among the powers of Europe, and of the United States of America, for the purpose of rewarding those who make any useful discovery, interesting to the species at large.

Such an agreement would be attended with but little expense to the different powers who entered into it, whilst the credit, the satisfaction, and the benefit which each Government would ultimately derive from such an understanding would be of infinite value.

If each power would agree to pay a sum, call it from £50 to £500 or £1000, according to the amount of its revenue and to the advantage it would be likely to obtain from any new invention of the nature above alluded to, it would be of little consequence to each, whilst the total would be of considerable value to the fortunate discoverer.

The desire for fame and emolument, and the emulation of many nations, rivalling each other in such arts, would soon produce discoveries, the importance of which can hardly be estimated at present.

I was led to bring forward such reflections sooner than otherwise I had intended, in consequence of having lately succeeded in obtaining from Parliament the grant of £1000 to Mr Joseph Elkington, so celebrated for his skill in draining and knowledge of springs.

It would be desirable to have a Board of Agriculture and Internal Improvement established in every country, for the purpose of carrying on a correspondence and intercourse between the different States of Europe and America, on subjects of general moment; and to the examination of such a body, any discovery of a doubtful nature might be referred.

If the measures above hinted at were adopted, a new scene in politics might be the happy consequence, and the rulers of nations might in future boast . . . that within their respective dominions, a great number of human beings enjoyed all the blessings of political society in greater perfection than ever they had been able to attain in any former period of history.

London, *July* 1, 1795.

The following is from the evidence of Sir David Brewster, given on 30th May 1851, to a Committee of the House of Lords :—

"I have heard the idea from intelligent and practical men that there should be a public Board which should consider every proposal for a patent for an invention, and should purchase the patent-right [the invention?] for the benefit of the nation, and thus give the patentee a suitable compensation.

"I think it would be possible. Justice might not always be done under such a plan, but it would stimulate invention, and remove the objections to which the present system is liable. . . . If it could be carried into effect, it seems to me it would be a very happy arrangement both for the inventor and the public. A Board at once scientific and practical, containing men of practical sagacity, and scientific men

at the same time . . . might in my opinion come to a very sound decision on the value of a patent-right.

"Now when we can in a very short time become acquainted with every invention used at Vienna or at St. Petersburg, it would be quite absurd to protect an imported invention. There is no part of the present law more obnoxious than this; and its injustice has been well displayed in the patent for the Daguerreotype, now protected in England, after the French Government had purchased the invention from Daguerre for the benefit of all the world."

J. HORATIO LLOYD, likewise a high authority, gave evidence thus on 17th June:—

"It has sometimes occurred to my mind whether a tribunal might not be suggested which should give, in a less objectionable shape, bounties to those who are meritorious inventors. . . .

"It has occurred to me at one time that there might be a Council or a Board, . . . and that inventors might be encouraged to submit their pretensions to such a Board, who might report on them and recommend them for State bounty."

The idea of remunerating by Government grants of money is viewed with favour in the following Extracts from a Review in the *Law Magazine*, No. XXXIV., August 1864, of M. Vermeire's *Libre Travail*: first edition.

"Our readers may remember an illustration of the boldness with which monopoly of inventions is contested abroad, in the prominent place given to denunciations of the system as an interference with manufacture and trade, in the French official reports upon the Great Exhibition of 1862. Mr. Macfie gave extracts from these in an appendix to the paper which he read at the Edinburgh Meeting of the Association for the Promotion of Social Science, which he has since published. A more striking proof of the advance of what we must characterise as sound and sensible opinions, is afforded in the circumstance mentioned by M. Vermeire, that thirty-one out of forty-seven chambers of commerce existing in Prussia have declared in favour of abolishing patents. . . . He contends, it will be seen, not only against patents, but against all recognition of intellectual property of whatsoever sort.

"With regard to ideas, we declare ourselves, therefore, radically communists, and we say, not only that the property of ideas is theft, but also that it is barbarism, the annihilation of progress and the deterioration of mankind.

"The propagators of the property of ideas, do they do any less? No! they do much more, for with one stroke of their pen they would snap at once all the links of man's perfectibility, by forcing back in the mind of all thinkers any intellectual spark likely to enlighten, animate, or to excite minds on the road of progress.

"Everything in this indirect service is gratuitous, because Providence has willed it so, and makes use of His creatures to finish His work of redemption.

"To find a means at once efficacious and natural, to pay in a substantial form and in a sufficient measure, the type-products of intellect called manuscripts, machines, models, designs, without checking the course of progress, without casting trouble and disturbance into business occupations—that is the great social problem which has to be solved.

"Why then could not those national and international societies, so powerful because of the number of their adherents, so indefatigable by reason of the desire of proselytism,—why could not those numerous associations which have lately been constituted everywhere for the propagation of faith, of science, of art, why could they not substitute themselves, with advantage to writers worthy of encouragement, for trading publishers who absorb the rights of authors and enrich themselves at their expense? . . . Inventors might address themselves to industrial associations with better luck than that furnished by the legal guarantee, which is always, as we have said already, a source of lawsuits, torment, and ruin.

"We rather incline in the case of inventions to the plan of public grants, surrounded with difficulties and objections as we know it to be, while as a substitute for copyright—or as a modification of it, we should rather say—the following may appear to our readers worthy of consideration, viz., to limit the exclusive privilege of publication to a period of one year, and thereafter to allow every publisher to issue editions on paying the author a fair percentage on the selling price of such a number of copies as might be printed. Thus, if this royalty were ten per cent., the author would receive from the publisher of 1000 copies of a guinea volume £105; if the price were half-a-guinea, £52, 10s.; if half-a-crown, £12, 10s.; if a shilling, £5. A glance at these figures shows in a moment what great inducement the abolition of monopoly and the substitution of royalties in its stead would present to sell books cheap. How beneficial, therefore, would the action of such a system be to the bulk of the population, and especially to the poor, who, as things are now, seldom or never get a new book into their hands—for as a general rule, the so-called "popular" editions or issues that are small in price, suitable to their means, come forth, if at all, only after the lapse of too often many long years, when freshness is gone, and the stimulus and pleasure are to a great extent evaporated. What with paper freed from duty, and competition for the first time introduced into the supply of new books, we should not despair of seeing editions of fifty-fold the magnitude that is now current, and new books at prices so comparatively small that everybody in easy circumstances may ungrudgingly buy, in place of borrowing, and, after perusal, give away or tear to pieces instead of hoarding them. In that future happy time the labouring man may, almost equally with his master, enjoy what is now the expensive luxury of fresh cotemporary literature."

As bearing on the part of the subject which the foregoing scraps illustrate, we here give extracts from an address to the *Royal Scottish Society of Arts*, by the President, [the late] R. W. THOMSON, C.E. 1871.

"It is within my own knowledge, that almost every important invention has involved a large outlay, which never would have been made unless under the expectation of its being reimbursed from future profits. It is possible that in some chemical discoveries patents may have been granted of great value, of which the money outlay may not have been very large; but in all mechanical patents the outlay almost invariably is something incredible. . . . It is hopeless to look for any principle on which a patent law could be founded. There is no other guide except an enlightened expediency. . . . There cannot, however, be a doubt that the ideas of property have vastly changed in times past, and are destined to still greater changes in the not very distant future. . . . New comers, in the shape of fresh forms of property, are apt to be supposed of ricketty constitution, and to need a good deal of guidance and guardianship. Therefore the creation of a new species of property by the patent law has been attended with a good deal of agitation and concern.

"It has been proposed by some of the most conspicuous and active opponents of the patent laws to substitute a system of rewards for inventions. . . . It would be very easy for a scientific tribunal sitting now to determine the value of inventions which have been in use for a number of years, but the task the commission would have to fulfil would be to judge of the value of an invention before it is developed. . . . If the inventor is simply to *register* his invention and send it out into the world, letting all who wish bring it into use and work what improvements they please upon it, postponing the reward to the inventor until time has been given to ascertain the value of his invention, then the difficulty arises which, to all practical men acquainted with the growth and change which all inventions undergo, is at once evident, how would it be possible to ascertain how much is due to the original inventor, and how much to those who have added successive improvements, and, in fact, turned what is very often a crude idea into a successful invention? . . . The community—on condition, firstly, of his describing these discoveries accurately, and setting to work to cultivate, as it were, the lands he has discovered—grants to him a right of property therein. . . . What I would propose would be the erection of a patent tribunal composed of scientific men, whose duty it would be to examine all applications for patents; and on this tribunal would be thrown the task of ascertaining whether the invention for which a patent was applied had been anticipated by any previous patentee, or whether it was in use already without being patented. As soon as the petition for a patent was lodged, along with a description of the invention, this inquiry would be made, and the result communicated to the applicant for a patent.

"A mere tithe of the enormous fees now exacted from inventors

who apply for patents, would suffice to make these inquiries in the most thorough manner, and thereby save an enormous amount of useless labour in attempting to carry out inventions which have been anticipated, and are therefore not patentable, and inventions which have been tested and found to be valueless. . . . Very much might be done by the mode I have suggested of lessening the risk of litigation by preliminary inquiry, thus rendering patents very much less numerous and very much safer.

"Some people have proposed that no patents should be granted to inventors. . . . It is probable that not so many discoveries would be made if the discoverers knew beforehand they were to have no ownership in them. On the other hand, the mass of 'ideas' that would be presented to the public gratis would be so enormous, that the chances of detecting the grain of wheat in the bushel of chaff would be poor indeed."

We insert the above on account of the admissions it contains. That we dissent from the argument and conclusion need not be said.

Reports of the Association for the Promotion of Social Science.

We present a few clips from some of the yearly volumes of the Social Science Association, which abound in papers and discussions regarding patents.

By Thomas Webster, M.A., F.R.S., *Barrister-at-Law.* 1859.

The Act of 1835, the first legislation in modern times in favour of inventors.

Most recent inventions are improvements on some prior invention, and most frequently on an existing patent. Such patent may be used for the purpose of obstruction, and experience shows this to be a real grievance, for which the application of some remedy analogous to that of compulsory purchase under the Lands Clauses Consolidation Act should be applied.

The multiplication of patents under the present system, as adverted to in the Report of the Committee of the British Association to the meeting at Aberdeen, is one great source of litigation, encouraging speculative actions and introducing a species of uncertainty to an extent which can hardly be believed by persons not conversant with the operation of the system.

The rendering the Commissioners of Patents an efficient body, would afford the means of checking the present unreasonable multiplication of legal rights, and of producing some consistency in the granting of patents.

Report of the Special Committee on the Patent Laws. 1861.

In the opinion of the Committee, a preliminary examination is essential, in order to check the present practice of granting patents

indiscriminately. Since the Patent Law Amendment Act of 1852, the cost of obtaining patents has become so small, and the facility so great, that claims of all kinds, however frivolous or absurd, and without even the merit of novelty, are made the subjects of patent privilege.

There is a very general notion that an inventor has a right to a patent grant.

This notion is founded upon very erroneous views of the principle upon which letters-patent for the exclusive enjoyment of certain inventions of new manufactures are allowed to be granted.

It should be borne in mind that the object of the Legislature, in excepting from the law against monopolies inventions of new manufactures, was to benefit the public. . . . It is only in consideration of some advantage to be conferred upon the public that such restraint can be imposed.

A limitation of their rights must be an injury.

The public has a right to demand that where an invention is worthless, either for want of novelty or utility, no grant of patent privilege shall be made in respect of it.

A special tribunal must be appointed for the purpose.

1862.

MR. J. SKIRROW WRIGHT.—When manufacturers had to pay thousands per annum in royalties, it was certain that they made profits fully equivalent. [How often not so!]

MR. CHARLES COWAN, of Edinburgh.—The law should now be further improved, in order that inventors might be rewarded according to the merits of their inventions. We had now established free trade, and we must run a race with all other nations.

MR. CORYTON said it was somewhat singular that we should now submit to a restriction on trade which a few years ago would have been thought intolerable, and which was nothing more than an engine of pressure upon the rich, and delusion of the poor. . . . He would appeal to every one who knew anything of improvements in manufactures, whether, with one invention following so close upon another, fourteen years was a reasonable time to allow for the development of an idea? Why, there was not half an hour between two discoveries. . . . There were numbers of patents by which a great deal of money had been made, and not one of which would have held if it had been investigated by a competent tribunal.

MR. RINGWORTH said:—I must enter my protest against the whole theory laid down. . . . We only say, "Do as everybody else does. If I propound something novel, I don't claim a patent. I don't require that I should be protected. . . . Why go and ask Government to do what is injurious to society at large, and to yourself ultimately?" Out of so many patents there were really very few from which the public derived any benefit.

MR. WEBSTER said, in reply to Mr. Coryton's observation that no patent was worth anything, he (Mr. Webster) thought they were worth too much. This was a case in which people reasoned for the abuse against the use. Nobody now contended for the abstract right.

By WILLIAM HAWES. 1863.

Our patent law is based on an erroneous principle; is inadequate to accomplish the end it professes to attain; and is prejudicial to the country. It fails to reward where reward is due, but rewards where it is not due. It fails in the protection it contracts to give. It induces the circulation all over the world of the best possible descriptions of our most recent improvements and discoveries to the benefit of our rivals. It imposes an arbitrary and unfair tax on our industry, which the honest man pays, and the dishonest man evades. It checks rather than stimulates improvements; it encourages litigation. It gives a false and injurious direction to industry, and encourages secrecy and distrust. It oppresses the rich and deludes the poor inventor. It teaches an unsound dependence on the law, instead of encouraging individual inquiry and self-reliance. It is almost the only remnant in our Statute-book of protection to individual interests, in opposition to those of the public, and of the maintenance in its entirety of the principle of monopoly.

"IS THE GRANTING OF PATENTS FOR INVENTIONS CONDUCIVE TO THE INTERESTS OF TRADE?"

Discussion. 1864.

MR. EDGAR.—The Patent Law Amendment Act was passed. The provisions of that Act, as we all know, were entirely in favour of inventors; it reduced the fees, and gave very considerable advantages to patentees. . . . In consequence of these facilities patents have been multiplied to an enormous degree, and the question therefore is, whether any remedy can be applied, or whether the whole system ought not to be swept away.

MR. R. A. MACFIE.—Mr. Webster stated that the interests of British trade might be identified with four things, the cheapening of production, the saving of labour, the discovery of new markets, and the reduction of prices. . . . I fail to agree with him that the patent system has, on the whole, had these effects. My belief is that the same invention often occurs to many minds, and I think it is not obviously just that any one of those minds should get an advantage over the others. Undoubtedly the patenting of an invention in one country has a tendency to make the goods manufactured dearer in that country than in countries where the invention is not patented. . . . Nowadays, the hindrance of fourteen years is very serious, so rapid is now the race of competition. . . . While we British manufacturers stand with our arms folded, waiting till the expiration of the fourteen years, our rivals abroad do or may at once step in, use the inventions, and compete with us in our own markets; at any rate, they get too frequently the use of inventions free, for which we alone pay, or are expected to pay, the inventors' rewards. Until a small number of years ago, British manufactures were protected by high customs and excise duties. These have been equalised, and there is now no protection. There is no discrimi-

nating duty on articles, whether imported from abroad or manufactured in this country. But in steps the patentee, and he says, "I charge you 1s. per hundred, or 5 per cent. *ad valorem* for the use of my patent." The British manufacturer has to pay this 5 per cent. It is a duty paid by him, call it by what name you will. It is a tax or duty levied by the authority of the Crown. Now, say that the manufacturer in Hamburg or Havre manufactures the same article without being subject to any such charge for the use of the patent, he sends it through the British ports, and it is passed through the British Custom House, without any countervailing duty being levied upon it. Is that royalty not a 5 per cent. duty which the British manufacturer has to pay, and from which the foreign manufacturer is entirely exempted? It is a protective duty to foreigners. It is a differential duty clearly adverse to British interests. When this argument was brought forward at the International Association Meeting at Ghent last year, after the discussion an influential member of the Financial Reform Association of Liverpool said, "I think I see how we can manage it—let the Customs discriminate between articles which are subject to patent duty and those which are not." Now I would ask you what a labour that would be to impose upon the Custom House. Mr. Gladstone, as we all know, in his admirable reforms has been reducing the number of articles subject to duty from 1300 to now about 40; here would be a restoration of the whole to the category of goods examinable, and subject, it might be, to a variety of duties. But the thing is not only so vast a labour as to be impracticable—it is in its very nature impossible. Who can tell, by looking at a candle, or a piece of soap, or a piece of sugar, or a piece of paper, by what patent process they had been made? It is impossible to do so; therefore, as long as you maintain patents, and pay for them by royalties, you must continue to subject British manufacturers to duties to which their foreign rivals, in many cases, are not subjected. . . . When a manufacturer invents something for the promotion of his business, he has the reward in the improvement of his business. If an engineer invents a new engine for the supply of his customers, the business he does in the engines, and the prestige he acquires, are an ample and a large reward. But we need not depend even upon that. If manufacturers in any particular line of business feel that there is a desideratum, will they not, if the patent laws are abolished—as I have done myself—go to some engineer and say, "Will you be good enough to try and invent something that will serve this purpose?" The man of brain will then apply his head to the work; he will develop his plan, and the manufacturers will combine and give him a *honorarium*, or promise him a business that will be as good to him as a handsome fee. But I have never hesitated to say that I think the rewarding of inventors —the fostering of inventions—is a matter of national concern. The burden of paying for inventions ought not to lie on the manufacturers, whom you expose to unrestricted foreign competition, but on the State, at whose request, and not at the request of the manufacturers, the patent system is maintained. The institution of the patent system is a matter of 250 years ago. At that time trades were few, and those few trades were not highly developed. It was, therefore, at that time a right thing for the Government to give a promise of a long monopoly

to any person that should introduce a new business. But patents now are very seldom indeed the introducing of a new business—they are generally the perfecting of an existing business. Again, if the inventor is a working man, it is exceedingly difficult for him to go through the very first stages of obtaining and introducing a patent. He is obliged to associate with himself some capitalist, and how large a share of the spoil that capitalist carries off is well known. The present tendency of patents is to restrain the working man from publishing his patent. Such a man says: "I have seen something while engaged in my master's employment that I may be able to work out by-and-by;" and locks it up in his breast. He waits an indefinite number of years for a period when he shall be able to set up some little business for himself, and work out his invention. Thus too often the invention is lost. Much better for the working man would be a system by which he might be able to obtain for his invention some comparatively small but instantly paid reward—some £10, £100, or £1000, that he would receive when he goes and tells his invention to the Government officer. But more than that; this is a working man's question in a very much more important sense than has yet been brought before you. If there were no patent laws, the working man, from the necessity of the case, introduced by his master into a knowledge of the new invention, would acquire the mastery of its principles—the mastery of its working. That knowledge and that mastery would be capital to him; it would be as much capital to him as money or manufactory is the capital of the master. It is better to him than money—this knowledge which he has acquired. Armed with this valuable possession he could go to any other manufactory, secure of high wages. His employer would rather retain him, however, by an augmentation of wages. But by the invention of patent laws we deprive him of that advantage. So that if there is any particular class that ought to desire release from the thraldom of the patent laws more than another, it is that of working men.

Mr. R. D. Urlin.—I was very much disposed at one time to think that patents were advantageous to the public; but a great impression was made upon my mind by the opinions against the system expressed by Lord Granville and M. Chevalier; and I cannot imagine that in England or France two names can be quoted carrying more weight than those I have just named. . . . If an invention is a valuable or useful one, the inventor should be recompensed by the State. And I venture to think that although any remuneration to be given by the State to an inventor could not be fixed at first as to its amount, it could be fixed after a short time had been allowed to elapse, during which time the value of the invention could be fully and satisfactorily tested. . . . In my opinion it is clear that, by getting rid of the patent laws altogether, you would at once get rid of a source of great inconvenience to poor inventors, and at the same time develop a system of freedom of trade which would be found, in the long-run, to be greatly conducive to the interests of the whole country.

Mr. Fisher.—The proper legitimate object of an invention is a reduction in the cost of production.

Mr. Webster.—I would like to say one word as to a proposal which has been made by Mr. Macfie to compensate patentees. Mr. Macfie

proposes that the patentee should have an absolute right of property in his invention for three years, and that after that time it should be competent for the manufacturer to call upon the patentee to have his patent valued, it being understood that the valuation should take into account the utility of the invention, the cost of preliminary trials, and originality. I think that this proposal of Mr. Macfie's is a practical one.

After some further discussion, the following resolution was put and carried unanimously:—

"To recommend to the Council to consider whether any and what alterations may be made in the mode of remunerating meritorious inventors so as to promote the advancement of practical science, and the relief of manufactures and trade from inequalities alleged to arise from the present system in cases of competition with manufactures carried on in other countries."

By WILLIAM SPENCE.

As a patent is granted on the simple allegation of the applicant, it is reasonable that he should be required to answer any objections that might be urged against the validity of the grant, either as to want of novelty or insufficiency of specification.

SOME OF THE OBJECTIONS TO PATENTS FOR INVENTIONS.

By R. A. MACFIE, M.P. [then.] 1869.

It will not be amiss to begin consideration of this important and generally misunderstood question with a definition of some words we use.

A *discovery* is newly-acquired knowledge, obtained either by accident or after investigation, of principles or qualities which may, by being put in practice, serve some useful purpose.

An *invention* is a method or idea, by acting on which a discovery may be turned to account for the making or doing a thing. Sometimes the line of demarcation between a discovery and an invention—the addition to the former which constitutes the latter—is very narrow. For instance, a patent was granted for the use of alpaca in umbrella-covering. That idea went a very little way beyond the idea that alpaca, like any of the accustomed textile fabrics, might serve the purpose. The one was as meritorious, *i.e.* as destitute of merit, as the other. The invention of a method of perforating paper to make it easily parted asunder on certain desired lines, went but a little way beyond the idea of the thing, that is, beyond what is mere discovery. I say discovery, because in the eye of the law, according to certain advocates of patents, in this matter discovery counts for nothing. If the discoverer is also inventor, well for him. On the other hand, no matter to the inventor whether he is discoverer or not. Again, take the centrifugal machine. Under the name of *hydro extractor* this simple and beautiful instrument was for years familiar to many as a valuable patented appliance in the washing and drying of clothes. The mode of applying it for the expulsion of liquor of crystallisation from a

magma of sugar was a very short step beyond the idea or principle of doing the thing. Patents were granted to other parties for this "application," which the patentees of the machine itself had overlooked.

Patents, or *Letters Patent for inventions*, are grants or documents by which the Queen invests favoured persons, whether foreigners or subjects, with a portion of her royal prerogatives, and in truth with powers more than the nation allows the Sovereign or the Government to exert. In virtue of these a patentee (who may not be the first discoverer, nor the first inventor, but only the first importer or the first applicant at the patent office), or the assignee of a patent (which he may have obtained from the patentee for a comparatively small sum) is able to prevent every resident in the kingdom from making the kind of thing, or making it in the particular way, that is patented, and I believe also from vending such if imported from abroad, but not (and here a great grievance is seen at first sight) vending things made abroad according to the particular way. Yet our greatest and most lucrative inventions are of the latter character. They effect processes in existing manufactures; as examples—take the vacuum pan, the use of charcoal, the centrifugal machine in the sugar trade, the hot blast, the Bessemer plans in the iron trade, the great improvements in grinding flour, in the manufacture of carpets, etc. The patent system is an institution that has grown up in contravention (as I read it) of the Statute of Monopolies, and in opposition to the mind of Parliament and of the nation, which found expression in that noble declaration of what is the common law of the realm of England, an institution that enables any inventor or acquirer of the knowledge of an invention, who has money at command, to possess himself for fourteen years, or till dispossessed by law, of these exclusive privileges. Under this system authority and opportunity are given for tyrannical and cruel acts, exorbitant demands, unfounded pretensions, and severe wrongs, detrimental to British manufacturers and other home producers, as well as all consumers.

"Rights of inventors" and "property in inventions," proclaimed by their opponents, the advocates of free industry denounce. That inventors have "rights" we contend, but it is all inventors and not merely the limited number who wish to secure for themselves exclusive privileges. These rights are, according to their pleasure, to work their inventions or not to work them, either to teach others their art in consideration of pecuniary or other personal benefits in return, or to communicate it gratuitously, or to keep it secret if they like and can, without interference with or from the State. Abolitionists of patents dismiss, as an attempt to take unfair advantage, the claim, founded on mere priority of invention or of application, to shut out all others. So with regard to "property in inventions," they contend for that too, but it must be, so far as our laws go, potentially common, and not exclusive property; except possibly in some few very special cases determined on at the option of and after inquiries instituted by the State, and then only on the ground of expediency. As to property in land or commodities, it is based on right as well as on expediency. The proper course is to say—"Let new inventions be kept secret by those who will, as long as they can without compulsion by law and police.

The time during which public interests will want the benefit it is their part to convey must, at the worst, in general be short." If such was a cogent argument in communities and in ages where and when manufactories are or were conducted on the small or domestic scale, how much greater the improbabilities of any secret being kept in modern Europe, where manufactories are large, and every workman is in a position to acquire it and carry it off! How much less the inducement for the State to step in and prevent the people from enjoying advantages which, in the natural course of events, would soon come within their reach! Patentees may allege that this view is not a generous one. My reply will be, Is your course more generous? Are you not calling on the State to neutralise the order of nature—to limit for your sake the rights of society? As to these rights, I wish very briefly to remind you that they are in accord with the order and, therefore, the dictates of nature.

The State does not by its laws constitute these rights or establish what legitimately is property. It only legislates for the protection of rights or property already constituted, established, and recognised. Before law, therefore, these existed. Was it so with regard to exclusive property in inventions? No. That property could not exist independently of the State. See how ownership of a house, or lands, or commodities, has for its subject something tangible, visible, localised, limited, or contained within certain definite bounds; something which the proprietor may use, or occupy, or surround, or guard, and drive appropriators and intruders from without the State's help—in fact, even if there were no State and no law; and all this with the unequivocal approval and good-will of every honest man. It is the very reverse with regard to the subject-matter of patents. These grant property in something intangible, invisible, unlocalised, infinite; something of which the hypothetical proprietor can himself occupy or enjoy only an infinitesimal part, and the rest of which it is impossible for him to keep others from occupying or enjoying, except by the State making it a penal offence for a man to do what it is his right and duty to do, *i.e.* to use his knowledge, and help himself, his family, and mankind, by adopting in all his workings every known or possible improvement. The inventor, who asks Government to interfere then in his behalf, and the Government that interferes, are, by enforcing sole proprietorship or exclusive occupation within the field of knowledge, that is, by infliction and exaction of these penalties, acting against the public good, much as if they restricted the number of acres allowed to be under cultivation, or the number of ships allowed to plough the high seas. The difference between things which are both material and limited in quantity, and things immaterial, which are in their nature inexhaustible, may be illustrated by another contrast. If a piece of land is cultivated, or an agricultural implement is used, and produces a crop for one owner, no multiplication of owners would increase the addition so yielded to the food of mankind; but if an invention is worked by many persons, there will be increase of production corresponding to the numbers of separate workers. The reason is plain enough. In the one case we are dealing with a single thing, which is only a portion of the whole land on the globe or whole number of

implements that may be made; in the other case, we are dealing not with a thing but with a universal idea, or principle, or mode, or capability of making any desired number of single things. There is no true analogy. There is perfect contrast.

The foregoing observations are directed against the attempt which many advocates of patents nowadays make, to gain favour for the idea of "property in inventions," by alleging that it is demanded by "justice to inventors." According to my view, justice to inventors (some of whom we know do not wish patents, which they think unnecessary or a hindrance, though this is not a universal feeling, and indeed very far from it) allows no such demand. Dismissing that as a political and commercial heresy, let us meet opponents who rest their defence on the ground of expediency. The best of the appeals made to us are based on that ground. Indeed, most defenders of the system of patent laws urge them in order to elicit fresh inventions for public benefit. But, strange to say, all this proceeds not from the miners, and manufacturers, and users of new inventions, who are the parties in the nation most able, by their position, to speak with weight, but chiefly from the few hundreds of persons who take out patents; not from the many who, it is alleged, would be benefited, but from the few for whom the patent system secures the abstraction which they covet from the public domain. These last are organised and banded together for the maintenance of the institution around which they rally. Why, if patents are indeed so advantageous, this contrast—the coolness of the one, and the ardour of the other? The rejoinder of the defenders through their mouthpieces is a charge against manufacturers and other master industrials, that they dislike and grudge to adopt improvements, because of the trouble and expense of introducing new machinery. Who will believe that this prejudice, this folly, prevails extensively, who knows the lavish expenditure on works, and the powerful stimulus to outlays, which competition to produce the best and cheapest articles effectively presents? But even if the reply were satisfactory with regard to costly machinery, would it tell with regard to cheap machinery, and with regard to chemical processes that require little machinery? These are equally, and, as a matter of fact, much more frequently, patented than the other. The real state of the case is, that heads of establishments, as a general rule, value and hail improvements; but they begin pretty extensively to object to the principle and practice of patents. That principle and practice is absolute monopoly, leading sometimes to refusal of "licences," and oftener to intolerable, and in most cases to smart and stiff, exactions for these participations in the monopoly. Some opponents complain of this word "monopoly." The abolitionists object to the thing which they cannot deny is of the essence of every patent. As to licences, if they are granted, and as to royalties, if they are not intolerably high, no thanks to the law. The law cruelly—though I know from inconsideration only—exposes British industry to the risk of extortionate charges. But, be these charges high or low, they are amenable to this arraignment, that they are from their very nature, even when there is no abuse, unequal, as all must allow, and unjust, as some of us call out; for what patentee holds himself bound to subject all his licences to the same rates of royalty?

And, though he were to do so, does his own rivalry, having no royalties to pay, with others who have these to pay, not put a difference between him and others? What is worse, more odious, and more anti-British, our industry is continually exposed to competition, not merely in the markets of the outer world, but in those of the United Kingdom itself, with foreigners who are paying no royalties at all, their exemption from royalties amounting in some cases to a splendid profit. By way of illustration, take the following case:—In Prussia there are no Bessemer patents, hence Prussian iron manufacturers triumph in tendering against ours. Again, in Holland, where patents are to cease on the 1st of January next, there is a keen and formidable contest with British refiners of sugar for the supply of foreign and British markets. Now, with the small percentage of profit usual in that business, can these our fellow-subjects stand the heavy exactions to which they were in my experience accustomed, and are daily becoming more and more exposed? Let this ill-treatment cease. It never was intended. It results from the cessation of commercial protection being accidentally, and not designedly, left without the rectification of release from taxes to patentees. It would be the infatuation of vain pride to act as if our British skill and dwindling superior advantages could contend with success under advantages none the less galling because artificial and removable. There is no need to weight ourselves thus in the race of the industrial arts. It is not chivalry but Quixotism to do so. The State will do well, as such, to endeavour to obtain for her industries early and complete knowledge of every improvement, but also, and at the same time, its free use. This she can hopefully do by other and more effectual stimuli. In money rewards and marks of honour she has a vast reserve of power wherewith to call forth inventions. Let it be brought into exercise. That will be policy, not only patriotic but also philanthropic. It will be national economy. The price at present paid is nationally most profligate extravagance, excusable only because perpetrated in ignorance. This extravagance is two-fold; it respects money and distraction from business. As to money, an authority which, if I were to name it, would command the utmost attention, lately represented in my hearing that of every hundred pounds that the patent system, by its royalties and augmentations of price, cost the country, not more than one pound reaches inventors. Add to this the value of trades and employments which Britons miss or lose, and how dearly do we pay for this whistle! As to the other mischief of magnitude just spoken of—distractions from business,—realise if you can the excessive demands on time and thought which the theory and operation of this coddled patent institution imply and require.

I invite this Association to consider whether it is fair, or sensible, or safe, to subject industry, along with the heavy pecuniary burden of royalties, to the necessity of undergoing the formidable amount of work and trouble which I will now very feebly and inadequately set forth, as encountered by some master who is a man in easy circumstances, but which would be insuperable obstructions when encountered (the supposition carries absurdity on its very forefront) by a working man or any humble toiler on the small scale. Such an inventor as this would be baffled at the outset, and be tempted to conceal his improvement.

Thus, the patent system, alleged to have the merit of securing divulgence and publication, would have the exactly opposite effect. Reduction of the price of patents would not, it will be seen, touch the objections I proceed to illustrate, which I must do incompletely and only suggestively, for I must be brief. Persons familiar with patent procedure can easily make the picture I proceed to draw in outline vivid. A manufacturer makes a discovery, suppose it is of a new process, and would at once introduce it in practice. But what if it is already patented? You say, he would know by what is going on in his trade. How should he? The patentee's or his licencee's works may be hundreds of miles away, or, if near, may be closed against him —a thing rather habitual than otherwise. But what if patented, yet not anywhere worked? It may be objected that the patent office prints all specifications. Yes; but how is the manufacturer to get access to these valuable storehouses or lumber-rooms? Is he to buy the whole series in order to learn whether the coast is clear? No; he may go to some place where specifications of patents are kept for public inspection. He may, that is, journey to London, Liverpool, Edinburgh, or some other town which he may learn about. But that is only the beginning of his work. When there he ransacks vigorously hundreds of specifications, very tedious and very mystical documents, and is sorely puzzled to understand them. At length he lights on some that seem to touch his subject of search, but, unable to settle to his own satisfaction whether these really do stop the way, he calls in a patent agent to advise him. The professional eye detects danger in one or more of them. The matter is still not clear. A case is made out and submitted to counsel. The opinion obtained is adverse. Our manufacturing friend, determined to give himself and the public the benefit of the improved process, declares himself ready to treat for a new licence. Where, however, is the patentee to be found? He has emigrated perhaps. Correspond with him if you can get his address. The address is got and a letter is written; after long delay the answer comes. He has sold his patent rights. The assignee, however, by good chance, has not emigrated, but he lives very far off. Personal communications are wanted. The parties meet. "What is the extent of the intended operations?" This and other information is furnished. Then comes the assignee's demand. It is exorbitant. "If you don't like it you may leave it." The manufacturer feels aggrieved. He cannot afford so much; but what is he to do? He yields. Perhaps though, as often happens, the discoverer saves himself the trouble of making investigations. Not knowing any reason to doubt his priority any more than his originality, he summarily introduces the process. Time passes on; a large trade is done. By and by a patentee, or, much more likely, the assignee of some patent which he has purchased for a comparative trifle, raises two actions; one to declare this honest man an infringer, the other to obtain compensation out of his profits, and this whether there were profits or no.

But our manufacturer may be one of those keen men who secure patents for the sake of shutting up the road against every neighbour who will not pay them royalties, or, without any such propensity, he may be wide enough awake to see that, if he himself do not take out

a patent somebody else—a plagiarist—may secure the monopoly over his head, and make him liable to pay for the use of this, his own invention! He is tempted, therefore, to apply for a patent. The steps he has to take show us how unsatisfactory, as a system, patenting is. He has to begin, in secret, and therefore under manifold disadvantages, to make an indefinite number of experiments, and trials, and alterations, and observations, for which he finds it most desirable to call in help, and take advice from other persons. Fear of exposing what he is about disenables him to do this freely and satisfactorily. He feels sorely the hurtful pressure of haste to complete his investigations and operations speedily lest he be intercepted. He completes them. Putting himself into the hands of a patent agent, he incurs the cost and trouble of preliminary searches and opinions, much as represented in an earlier part of this detailed illustration. That he will do if he acts fairly to the public (which there are too strong grounds to believe is very often not the case, and sad are the wrongs and misdeeds that are thus cloaked and perpetrated). Whatever be his course in this respect, he becomes duly a patentee. He hopes he has steered clear of obstructions, and got all secure. But wait—he is attacked from two sides. He has to face actions against himself as an infringer, and against his patent as invalid. After much anxiety, much labour, much expense, and many absences from home and from his own proper business, he is, let us suppose it, so uncommonly lucky as to be victorious. How is he to reap the advantages which the patent, now established as valid, somewhat delusively promises him? Is he to hawk his invention, and puff it all over the kingdom? How can he? His legitimate occupations already absorb his whole time; and even were it otherwise, he has as little aptitude as taste for such work.

Grant now that all these difficulties disappear under pressure, will the puffing and hawking suffice? He has a deal more to undergo. He must exhibit, must teach licencees, must help them, may even, in order to set them right when they go wrong, or before they go wrong, require to visit their premises, perhaps at a great distance from him and from one another. But that is not nearly all; self-interest, even more than regard for his licencees, bids him take patents in a number of other countries. Similar, and from difference of language and habits, more irksome, is the ordeal there. When all privileges are fully obtained (suppose him again perfectly successful), the result no doubt generally is that he finds the tasks he has undertaken are too much for him. He neglects them, or perhaps, by attending to them is ruined. For he finds he must give up in despair some part, probably the greater part, of his prize and his expected emoluments. So he transfers them, if he can, to some speculator for a trifle; but no trifle do the licencees pay. When I speak of licencees it will be understood that I regard them as intermediates, or channels, through which, on the one hand, the benefits of the improvement are conveyed, and, on the other hand, the burden of the royalties is transferred to the nation. It is not entirely so, for, in the growing number of instances where foreign competitors escape the burden of paying for inventions, though they use them and benefit by them, licencees cannot pass that burden off from their own shoulders on to those of consumers—the nation.

This consideration brings into view the changed aspect of the patent question since protective duties on imported manufactures, and in favour of home-raised or home-made productions, have ceased. While these lasted, the domestic markets at any rate were preserved from the unequal and, let us acknowledge it, the unjust competition. Let another fact be remembered, too, by well-meaning defenders of the *status quo nunc*, namely, that concurrently with the development of our free-trade policy, and continuously since, continental nations have made rapid and remarkable progress in ability to compete. Fourteen years' postponement of the free use of inventions, which was before that change an evil comparatively light, is so no longer. The struggle is becoming one for existence. Every unnecessary restriction, therefore, that hinders free use and presents to British manufacturers the alternative of being wounded by the one horn of his dilemma—subjection to the patent tax, or by the other horn—inferior goods and too costly operations, must be regarded as a wrong done to them and an injury to the nation.

Under difficulties which legislation does not create, and impartial legislation cannot remove, British sufferers will bear up cheerfully, saying not a word. But why should they, or we, be silent if the difficulties against which this paper is a protest are entirely factitious and removable? What would be the multiplied and manifold mischief if the patentee interest were successful in simply cheapening patents, and thereby doubling the number of these forbiddings of knowledge! Surely, it may be asked of my opponents—Are you aware of these evils? Do you deny their existence or their force? You cannot. Then are you indifferent? Rather, I trust, you sympathise and are patriotic. Feeling and acting thus, estimable inventors, we will honour you and deal well toward you. At the least I claim from any such who are now present, upright and earnest resolution to do no harm to other interests in maintaining their own, to relinquish the present system if it is, as I contend, incompatible with free-trade (an essential condition for which is freedom of industry, *le libre travail*) and join with me in trying whether we cannot devise and secure a better system.

If time and space permitted, I should like to review the effect of the patent system on the great body of inventors, to whose progress its obstructions are hindersome; on the many poor inventors, and on working men, a portion of the community whose well-being is closely connected with absence from every restraint upon the demand for, and the remuneration of, labour, and to adduce reasons for concluding that to abolish the system would render all these important service. This would be especially the case if any other system—one of direct and equitable Government rewards—were substituted, which would stimulate and promptly recompense inventing, and publishing of inventions. To merit and receive the lowest of the rewards and acknowledgments which I have elsewhere exhibited in the form of a scheme ready to be considered, would of itself be more than pleasing; it would be a testimonial and recommendation permanently valuable and useful.

As for myself, I am not unfriendly to inventors, but I claim on behalf of the body of the people that, if the State continues to take under its charge the remuneration of invention, this shall be done in some way

that will not conflict with national rights and interests. Justice before generosity. It may be generous to the few, but it is injustice to the many, to grant patents if these on the whole do more harm than good to the public, which the abolitionists maintain is the case. The whole question of harm or good is one of degree, a balancing the arguments and advantages in favour of reforming the invention monopoly system against those in favour of abolishing it. I contend that the latter preponderate.

MR. FREDERIC HILL.—Two committees appointed by the Society had recommended as an experiment that inventors should have the option of leaving their remuneration to be awarded by the State, on proof of the value of the invention, and he believed many of them would adopt such a course. The result would probably be so satisfactory that the plan might gradually be made the rule, and patents be altogether abolished. The hardship urged by Mr. Macfie of British manufacturers having to pay a royalty for the use of inventions, while foreigners could use it gratuitously, might be removed by the introduction of international patents analogous to international copyright.

MR. DIRCKS, in reply, remarked on the importance of discrimination between inventors and improvers. The latter should be allowed patents for only three years, with power of extending them in exceptional cases. [Yet the Attorney-General would give at once twenty-one.]

MR. MACFIE, in reply, admitted that there should be a stimulus to inventions, but contended that it ought not to take the shape of restrictive privileges, hindering their free use by our own manufacturers, while foreigners used them freely. Mr. Bovill, for instance, charged 6d. a quarter on wheat ground by his process, whereas foreign millers used it without payment. . . . He had understood that Mr. Bessemer, whose patent was impracticable and unprofitable except in combination with Mr. Muchet's, refused a licence to a house which would have extensively practised it.

By SIR WILLIAM ARMSTRONG, C.B., LL.D., D.C.L., F.R.S. 1870.

My own opinion is, and always has been, adverse to patent laws. Not that I think that the authors of valuable inventions should go unrewarded, but because I believe that in the great majority of cases a successful inventor makes for himself a position which, in its pecuniary consequences, carries a sufficient reward, and because I maintain that the State could well afford to be liberal in special cases of hardship, in consideration of the vast saving that would accrue to the public if relieved from the burdens of the present system. Whatever question there may be as to the policy of abolishing patents, it must be admitted that the law of patents as it now stands is disgraceful to legislation. If we are to have patents, they should at all events be granted without discrimination. The transaction should be in the nature of a bargain, in which the public, in consideration of submitting to the disadvantages of a monopoly, are to acquire the use of a valuable invention which would otherwise be lost to them. Before such a bargain is concluded, an investigation should be made, to ascertain whether the offered invention is worth its price.

PATENTS AND INVENTIONS.

WE read of "intellectual property." Whatever else is comprehended under this name, it extends to *invention*, which may fairly be regarded in some of the aspects in which, jerkily enough, the preceding pages regard and present *literature*. Patent-right is, like copyright, a State grant of permission for a limited period to intrude on the public domain, given as a security for the worker-out of an invention, to warrant his incurring of expense and to compensate him liberally, but given with a condition or conditions and a limitation. Hitherto these have been of the very smallest, viz., the patentee must specify clearly the nature of his invention and be content with a monopoly of at the longest fourteen years. The Patent Bills of the Government (for which thanks are due, as an attempt to begin a much needed reform in the interest of the public) aim, *inter alia*, at introducing another limitation,[1] viz., they wisely would compel him to give licenses allowing all other persons to at once use the invention on fair terms. I hope, also, a patentee will be required to practise his art, himself or vicariously, in our own country. If the arguments so awkwardly presented in this brochure are well founded, seeing patent-right is not an acknowledgment of inherent rights but a concession of privileges, and seeing an invention is not property but *power* (*i.e.* power to debar others from doing or using a particular thing, and to tax other people who do it or use it), the State ought not to diminish the people's liberty, and give such power without an adequate compensation; there ought to be an *equivalent*. It is convenient and necessary to regard this equivalent as estimable in *money*. If it were possible, every invention, and the labours, losses, and risks of perfecting, practicalising, and introducing it, should be valued, and a price be put on the service it renders to the public, after the realising of which price in profits or royalties, by means of the monopoly or its revenues the patent should be terminable, sufficient payment for the service presumably having been by that time received. Or else, there should be some regulation of the price of the articles made under the patent.

The extent to which copyright interferes with British trade is infinitesimal compared with the extent to which patents do.

[1] This was in type before the Bill for the present session was read a first time.

This consideration deserves to be well weighed in a period when foreign competition is so keen, and is advancing so threateningly. How can British artisans and producers stand their ground if their hands are tied, by being debarred from the use of inventions which their rivals get the benefit of free of all charge, or if they enjoy the use of them only on payment of fees and royalties so excessive that they amount to a discriminative duty, protective not of our own industry but the industry of foreigners? My conviction is that Britain could thrive without patents, but if they are to be continued, the adroit pretension that an invention is property must be dismissed summarily and the true idea be laid hold of, that it is a *service* rendered by quasi-state functionaries, who, like the gentlemen of other State departments, voluntarily engage themselves, and should be content with fair and reasonable emoluments. One thing is clear, that independent of State recognition (and that means *State powers*) an invention would be no *property*, except as a secret is such. The State, as a party to an arrangement deeply affecting the general welfare, is entitled to claim and participate in the advantages,—indeed as trustee, or agent for public interests, is bound to negotiate a sufficient *quid pro quo;* or, to put the case otherwise, it *leases* the use of a certain range of its territory, and grants rights and powers there, and in doing so must prescribe and fix proper terms, must see that the transaction is equitable and useful—that the rights and powers on the one hand are not injurious, on the other hand are positively advantageous, to the interests it is called on to promote. We cannot complain that these views are denied as erroneous, but they are not made the basis and guiding principle of legislation. Their application is no doubt somewhat difficult, but why fold our arms, shut our eyes, and let things take a destructive course?

A word may be added as to *trade marks.* These rest on a different ground from both copyright and patent-right. The object of our legislation there is to prevent the criminal use of a name or distinguishing indication, in fact to counteract falsification or forgery, which would not only deprive traders of a reputation they have laboured for, but would mislead the public.

THE GOVERNMENT PATENT BILL.

To the Editor of the DAILY REVIEW.

SIR,—I have read with interest the Attorney-General's speech delivered in introducing his Patent Bill, and though the time has not come for entering on an examination of the measure itself (a task I leave to others), I hope you will allow me space for a few observations.

The learned gentleman told the House that "the Royal Commission of 1863 . . . arrived at a conclusion favourable to the maintenance of the Patent Laws." A very high authority (an ex-Cabinet Minister) declared the very reverse. The Commission's report, however, is what we must rely on. It closes thus:—"While in the judgment of the Commissioners the changes above suggested will do something to mitigate the inconveniences now generally complained of as incident to the working of the Patent Laws, it is their opinion that these inconveniences cannot be wholly removed. They are, in their belief, inherent in the nature of a Patent Law, and must be considered as the price which the public consent to pay for the existence of such a law." In accord with these words, more than half condemnatory, the chairman of the Commission—the present Earl of Derby—on my motion for the abolition of patents, concluded a remarkable and forcible speech thus:—"He was convinced that the Patent Laws did more harm than good. . . . He should be content to leave the question in the hands of the Government, and he thought it was well worth consideration whether they could not, starting on the ground that the abolition of the Patent Laws, wholly or partially, was desirable, institute some inquiry with the view of discovering, if possible, the best substitute for them in certain cases." As to the House of Commons' Committee of 1871, to which also the learned knight refers, it was so constituted as to preclude any serious expectation of a verdict against patents. The motion for its appointment was made by a favourer of patents, who also presided over it. Only two members of the opposite way of thinking sat in it, for the Right Hon. Robert Lowe, who would have been a tower of strength to their side, was by his engrossing engagements as Chancellor of the Exchequer unable to attend a single meeting. I am surprised that the learned gentleman attaches importance to the Vienna Congress of 1873. It was an imposing muster of pro-patentists.

Every one who feels keenly, because of seeing clearly, the danger to British commercial pre-eminence threatened by patents, will view with the greatest alarm the Government's unexpected proposition to grant patents for *twenty-one years*. I have looked over the Blue-books beside me to see if they encourage this portentous aggravation of universally (even by its supporters) admitted evils of our patent system. The index to the House of Lords Report 1851, contains an enumeration of the "defects of present system," thirteen in number. Among these undue shortness of the term does not find a place, nor is it touched by any of the several "remedies proposed." One witness appears in favour of extension. However he, when asked (Q. 1741), "Would not that be a question that the Privy Council could determine, if in the first case a patent were granted for a short term, it would always be in the discretion of the Privy Council to grant it for a further term, when it appeared that the circumstances of the case required it?" made this answer, "Yes, but how would you decide in the first place?" Again, to a question substantially the same as before, he answered, "Yes, the Privy Council do determine that." Further pressed, he only said, "The expense of the Privy Council is so great; they are not liberal enough in their extensions."

The next inquiry was that by Royal Commission, whose report, made in 1865, is before me. Prefixed to it is an elaborate analysis of oral and written evidence. The only opinion favourable to a longer term than fourteen years is Mr. E. A. Cowper's, who "would have patents granted for twenty-one years;" until we come to the heading or question, "Is it expedient to make any, and, if so, what alterations in the law relating to prolongations and confirmations?" Hereon there is evidence from Mr. Reeve of the Privy Council, Mr. Leonard Edmunds, Mr. Woodcroft (whose evidence in 1851 I have already quoted), Justice Grove, Mr. M. E. Smith, the late lamented Mr. Webster, Mr. Curtis, Sir F. Crossley, myself, Lord Chelmsford, Lord Selborne, Lord Romilly, Mr. H. Blair Mr. M. Henry, and from the Chambers of Commerce of Leeds, Huddersfield, Nottingham, Birmingham, Bristol, and Belfast, as well as from fifteen persons and firms selected by the Chambers of Commerce of Birmingham, Bradford, Manchester, Halifax, and Liverpool, from the Patent Law Reform Association, the Inventors' Institute, the Institute of Civil Engineers, and the Glasgow Philosophical Society, and from Mr. Cowper already quoted. Excluding the evidence of the last gentleman, and the opinion of an unnamed Scotch engineer in favour of an enlargement "to seventeen to twenty-one years," there is not a word visible in support of a longer term, but the

following witnesses allude to prolongations :—Mr. Reeve (the enlightened editor, he was or is, I believe, of the *Edinburgh Review*), Mr. Edmunds, Mr. J. S. Russell, Mr. Platt (the majority of whom are notable opponents of patents), and the Inventors' Institute, the last of whom think "prolongations should be granted more freely." I pass over the indications in favour of a shorter term, but call special attention to the decision of the Commission—"That in no case ought the term for which a patent granted to be extended beyond the original period of fourteen years." To the report containing this emphatic deliverance, the names are adhibited of Lord Derby, Lord Overstone, Lord Hatherley, Lord Cairns, Justice Grove, the Right Hon. W. E. Forster, the late Sir W. Fairbairn, and Mr. Waddington. Mr. Hindmarch dissented, and Sir W. Fairbairn, both of whom, though thinking "fourteen years amply sufficient in the greater number of cases," would admit of occasional prolongation.

Coming to the House of Commons Committee of 1871, I find in the index to the evidence nothing that bears on the duration or term of patents except what I now quote :—"Suggestions in favour of different periods instead of a uniform."—*Justice Grove.* "Very rare occasions on which a longer period than fourteen years might be required."—*Ibid.* "A limited period of three years sufficient in many cases."—*Ibid.* Even *Mr. Webster's* "concurrence" is stated. *Lord Selborne.*—"The shorter the time the better." *Crittenden* (American) saw "difficulty in varying periods." *Sir W. Armstrong* contemplated "extension of protection when the patentee has proved he deserved it, but arbitration would be much better."

I have not the evidence taken on the following session within reach, but the Committee's final report, which gives nineteen recommendations, is silent as to extension of term, ignoring the question entirely. (See p. 33.)

In conclusion, as to the Vienna Patent Congress, 1873, its resolutions contain this :—"A patent should be granted either for fifteen years, or be permitted to be extended to such a term."

Mr. Webster, in his official report, remarks on this :—"Upon this resolution little discussion took place. Reference was made to the powers which exist for the extension of the prolongation of patents for the United Kingdom by the grant of new patents for a term of seven, or even fourteen years in extreme cases ; also to the abandonment of the power of extensions in America contemporaneous with the extension to the term of seventeen years in all cases, but the foregoing was adopted without amendment. The

term of patent in other countries varies from two to fifteen or twenty years."

It must strike the uninitiated as passing strange that a Government that comprehends among its leading spirits Lords Derby and Cairns, whose enlightened views we have seen in the foregoing, should, through its Attorney-General, present a bill containing such an unwarranted and dangerous aggression on public rights as the proposed elongation to twenty-one years. Sir John Holker must surely have got infected with the purblind modern heretical theory that an invention, which at best is the subject for a grant of privilege, is property; else why does he burden trade and the people with a tax to inventors for seven years beyond the term which satisfies the desires of the parties immediately concerned?

Compulsory licensing, happily, is provided for by the bill, but only after three years!

It, however, contains a clause, to which only I will at present advert, viz., No. 26:—"A patentee may assign his patent for England, or for Scotland, or for Ireland as effectually as if the patent were originally granted to extend to England, or to Scotland, or to Ireland only." Under this provision may not Scotland have to pay different royalties from those of the sister countries, to her disadvantage or theirs?—I am, etc., R. A. Macfie.

Sir,—You did me the honour to insert, etc. . . .

Engineering, in an article on the New Patent Bill, has the following passage:—

"The authorities will select their own standard of 'novelty,' and will adjudicate accordingly. This is precisely what is done in Prussia. We all know the result. *Almost every application for a patent there is refused. They even refused patents for the Bessemer process and the Siemens regenerative furnace.* The rejections are not because the things specified are identical with what have gone before, but because the authorities are pleased to consider that the inventions sought to be patented are not novelties, that is, not new in a sufficiently striking degree. On this point it may be well to remember that there is nothing new under the sun. Our readers would be startled were we to give a list of the many prominent inventions of recent times for which, under the proposed system of examination, patents would undoubtedly have been refused, to the serious loss of the community."

Observe the admission made in the words we italicise. The object of the editor is to prevent the same thing being done here. But we cannot prevent it being still done in Prussia. In effect, therefore, he avows apprehension that our manufacturers will under the bill enjoy the comparative immunity which wiser, if not more patriotic, and I hope not less honest, statesmanship secures to their rivals in Prussia. He knows the complete immunity which the statesmen of Holland, with no uncommon amount of good sense, have secured there, and which the statesmen even of little-regarded Switzerland have jealously preserved for the advantage of Helvetic industry. One cannot but marvel that the editor does not see that our *non*-immunity is really the imposition upon ourselves of chains, burdens, adverse differential taxation. In the article quoted from, the word *interest* occurs more than once, but it is that of *inventors*, not of the public. Why not show pity for those who have to bear the burden? His answer no doubt would be,—exemption from patents is a "serious loss to the community." This loss it is impossible to prove. If a few inventions *should* be bottled up, and even lost, set against that the certainty of crippling our industries, and the loss is a matter of comparatively no moment at all. How can it be good for our industries to be exposed for fourteen, not to say twenty-one years to competition in all markets with rivals who have nothing to pay for the use of inventions, which use they will obtain (free) three years before Britons will even on payment of royalties, —rivals too, who have the shelter and enjoyment, for it is shelter and enjoyment, of protective duties in their own countries? *Engineering* may plead in extenuation of the wrong (not in justification surely!) that after the three monopoly years royalties may be accepted or the use of the patented inventions on paying royalties can be demanded. Our reply is,—this is not yet the law, and even if under the bill it becomes law, there is discretion left to the Lord Chancellor, who is to judge what the rate of charge should be. He can hardly allow less than one per cent. *ad valorem;* but take the sugar-refining trade as an illustrative case, and suppose it subjected simultaneously to three or four royalties, that would be to burdens or discriminating duties of a shilling per cwt. Now how can that be afforded out of profits which probably for some years have not reached a half or a quarter of a shilling? It does not follow that the same burden will be laid on the sugar trade abroad, for, first, the sugar-houses of Holland are no longer subject to patents; secondly, even in countries where a patent system exists, the inventions paid for in Britain may not have been

patented; but even were the case otherwise these countries by their protectionism make subjection to patentee-taxes immaterial. Patents, in fact, are incompatible with free trade. They are a deadly anachronism.

The same editorial article complains vehemently of the publishing which the bill will require; and adds, "It is not for the authorities to force upon the outside public their opinions about the inventions patented. Let the inventor have his patent, however trivial his invention may seem." . . . "Practically, frivolous things would be voluntarily abandoned by the inventors either at once or in due time." "The granting of a patent for a thing which is trifling can injure no one."

The fallacy of the last two *dicta* is palpable. As to the first I remark that it is very difficult for industrials,—the parties immediately concerned on the side of the public,—however good the method of publishing that shall be adopted, to keep themselves abreast of the information a patent-system assumes they ought to know, and have the means to know. If the Edinburgh, Glasgow, Dundee, Aberdeen, Perth, Hawick, and Dumfries papers in Scotland, and corresponding papers in England and in Ireland, were employed to advertise all applications for patents, there might be some ground for alleging that the State which favours the attack does no injustice to the defence, but there is nothing of the kind; and though there were, what would be the distraction a principal of each concern would have to undergo (for few underlings could do the work satisfactorily) in scanning and studying the wording, by no means clear and terse, of thirteen or fourteen applications daily! Only think of the time that he must spend, the correspondence he must enter into. The result must be that he will give up the task, and in despair allow himself to be victimised as the lesser evil,—better than vainly attempting an impossibility. Suppose it were possible, we all know what is everybody's business is nobody's. Is each one of the tens of thousands of shoemakers or smiths throughout the United Kingdom to be a subscriber to and porer over the Patent Office Journal or the costly London Gazette? "Oh!" it may be rejoined, "let them appoint one of their number." Who will appoint? Are there institutes of shoemakers and smiths? If the Attorney-General has any bowels of compassion, let him dutifully, as the very smallest help he can render against the fatal blows that his bill perpetuates, require the Patent Commissioners to send formal intimation about applications affecting any particular trade to whomsoever that trade may, by some machinery he can easily legalise, appoint as

the receiver of such intimations, and the open channel for informing its members.

Turning to the bill, surely clause 23 makes a mischievous provision when it ordains this novel practice :—

"The publication in the United Kingdom of the invention by the circulation or republication, within that period of [six months] of the foreign patent, or of a specification or other document officially connected therewith, shall not affect the validity of the patent."

Clause 33 should be so enlarged as to make it penal to mark "patent" on any article for which there is no patent at the time in force, and why not require, when the word "patent" is marked, that the *number* of the patent shall be given ?

If patents there are to be, some authority should require that licenses be granted equitably as to rates, and excessive or injurious differences of the payments to be made for the use of inventions be prohibited.

Most earnestly would I plead with the Attorney-General to introduce into his bill a clause entitling individual members of any trade to associate themselves for the purpose of procuring the extinction of any patent affecting their business on payment of a sum of money proportionate to the value of the invention. It would not be difficult to devise machinery for carrying this suggestion into effect. The relief would be great, the advantage in many ways enormous.

There is much in favour of the last named permission. It would remove many of the blots that disfigure the patent system even in the estimation of its friends. Do they regard the patent as a reward due to merit ? This provides one justly regulated. Would they measure the recompense according to the pains, the labour, the expense, the costly trials, incurred by the inventor and his associates ? This meets all reasonable requirements on those heads. Do they demand for him a great contribution because of singular utility ? This goes abreast of their wishes in that respect. Are patents blamed because the veriest trifles enrich while the grandest triumphs of skill often leave the man of genius and energy little in comparison ? By this the anomaly ceases. Are patents a restraint ? Here is a simple way to obtain freedom. Is the collecting of royalties and the management of the, in these days, huge business of superintending and promoting the use of a patented invention and vindicating it against infringers, a task so hard and difficult as almost to be a punishment ? (If the poet speaks of love as a dizzi-

ness that interferes with legitimate work, much more may a patent be chargeable with the further fault of imposing on a man, in addition to his immediate affairs, the overwhelming engrossment of pushing its adoption on people innumerable in the three kingdoms.) Here there is relief which may be initiated from either side. What do inventors wish more than equitable adjustment of their claims? If they do the community a service, they wish only what is due for it. Can they, or would they, object to an impartial ascertainment of what is that service's value, and a settlement on such a basis? An *author* may assume that he is, and nobody else can be, the *producer* of his book. The *inventor* merely alleges that he is the first who aims for, or the first who reaches, a goal. Others might reach, others probably would. If, therefore, statesmen and Parliaments do not regard a composition, which must in the nature of the case have its origin in a single mind, as property *de jure*, much less should an invention be so regarded, which may occur to and be brought to perfection by a number of persons engaged in the trade it concerns, all of whom become sufferers if the preference of a patent be assigned to one, seeing that they would, every one but he, be precluded from free use of an invention that was equally each's own making. Obviously the light in which a patent is to be looked at, the place a patent holds, is that of a *privilege* granted for sufficient considerations of public utility, which utility, its basis and justification, happily admits of being measured or reckoned, and that with nearness enough to warrant and enable the State to dictate a *price* in money. The reader will not fail to observe that any objection brought against our proposal on the ground that the valuation can at best be but approximative, is far less weighty than the objection on account of which we, on our side, ask that the present system of patents shall be condemned, viz., that there is not now *any* appreciable proportion between the receipts of a successful patent and the true merits of the novelty it protects.

I close with these remarks.

The bill wants something more: it ought to institute a registry for new inventions, which are not to be patented, and allow the commissioners to distribute among the benevolent recorders a portion of the fees of the Patent Office in medals and money rewards. This graft would prove a fruitful bough.

Every patentee should be required to have an office or agency within the United Kingdom, at which applications for licenses may be made.

Few things are more strange than the favour wherewith patents are said to be viewed by the working men of our country. Let them study the subject, and discuss it when they meet.

Quite in accord with our views is the following resolution, arrived at by a committee of the Edinburgh Chamber of Commerce in 1875 :—

Clause 11, *p.* 3.—"That the examiner and referee or referees, in event of any application for a patent, shall be required to communicate with the manufacturers likely to be affected thereby, through any person whom the manufacturers in any special branch may have appointed as their representative, and whose usual residence and position have been reported to the Patent Office."

The following old petition of the Greenock Chamber of Commerce reminds us that the Colonies were only a quarter of a century ago released—practically they were—from the bondage of patents, but their emancipation introduced inequality hurtful to home competitors with them :—

"That in the opinion of your petitioners, a great injustice and heavy loss would be inflicted upon inventors, and also upon persons manufacturing patented articles within the United Kingdom, if it were permitted to manufacture such articles in the Colonies, freed from the operation of the patent laws, and to import such goods for consumption here."

Equally adverse is it to require Britons to compete with patent-free *foreigners.*—I am, etc.

R. A. Macfie.

Sir,—Practically the differences that exist among patent reformers (not abolitionists) are connected with the vague and untenable idea that an invention may fairly be treated as *property.* Leave that question out of sight and we have only to do with the *principles* on which alone a *reward* for publishing and introducing an invention should and indeed must be given, and the *form* of the reward. As to the *principles,* surely there will be general consent that they are the following :—A reward must bear some proportion to the *value* of the service rendered, or the *cost* of time, of thought, of money, at which it was prepared for and rendered.

It must, therefore, be limited within approximatively definite measurements or bounds. It must be capable of being estimated and adjusted, so as to be a legitimate *quid pro quo*, free from niggardliness on the one hand and from extravagance on the other. As to the *form*, no doubt State rewards, payable in money, could most easily be shaped into conformity with these principles. But there is not time just now to so revolutionise and effectually rectify our system. There is no absolute necessity to do that. When we reward with monopoly privileges, this remuneration (view it as such) substantially is made in money. It is a power of gaining money that is conferred. Can this power be regulated so as to square with the conditions which ought to characterise and be fulfilled in the required *form?* These conditions are the following :— There must be approximative estimability as to the money gained or to be gained. There must, in the terms of charge for use, be substantial equality as between the several persons who use the inventions. There must be in these terms no hardship inconsistent with legitimate competition with rivals abroad. Everybody must be at liberty to use the invention within a reasonable period. (I am disposed to add, the persons who get the benefit of the invention should pay the reward ultimately, that is, the public, rather than individuals; the favourers of patents are not to be sought among the individuals whom these monopolies hamper and often oppress.) The system of compulsory licensing recommended by the Patent Law Committee in 1872, and by the Vienna Patent Congress in 1873, which the three Patent Bills of Government in successive years have embodied, is an approach to these conditions. Compulsory licenses are a limitation of charge and a throwing the use of the inventions open to all. But they do not go the whole length of the foregoing principles and conditions, for they by no means limit or regulate the inventor's remuneration. Under them most exorbitant exactions may be made, altogether disproportionate to the cost of the invention, and to its value; they may, indeed, be so oppressive as to be a positive and serious hindrance to British trade, especially in the critical circumstances in which, through advantages wherewith foreigners are favoured, our manufacturers and producers find themselves placed—circumstances not likely to change materially for the better. Let me illustrate again by the sugar trade, and for simplicity's sake take the case of Holland. That is a great sugar-refining centre. There are no patents there. Every process, all machinery, invented from week to week, the Dutch refiners can employ, and this free of charge. What is the relative position of

the *British* refiner even under this bill to amend the Patent Law? From the use of many inventions he will be debarred for three years, and when he does obtain the use he must pay a royalty—usually a considerable percentage on every ton. Say, however, the Lord Chancellor when appealed to reduces, in consideration of the difficulties of our countrymen, the royalty to what he will consider a minimum—to one per cent. That is probably more than the entire profit which, taking the refining trade as a whole, the business has on the average of transactions for several years yielded. What now if *several* inventions have to be paid for simultaneously? The trade must dwindle and decay. Why? Because for the sake of inventors a number of private taxes are legalised.[1] To be plain, because, reversing the original purpose of patent law, we have allowed a set of men, who might be benefactors, to persuade the nation to carry into practice a theory which is, virtually, that trade and the public and the patent system exist for inventors and patentees, and not inventors and patentees for them. Nor do I blame the patentees, for no medium course has been presented to them—legislation has not offered any better alternative. Therefore I wish through your columns to ventilate a plan which the committee of the Edinburgh Chamber of Commerce and Manufactures has adopted as its own, if I am not greatly mistaken—a plan which has commended itself strongly, to wit, to carry the method of compulsory licensing to its full and natural development, *permissory expropriation*—in other words, to legalise some method for enabling, if not the State, at any rate the persons whom a patent primarily affects, to "buy" the patented invention and get the patent cancelled. The proposition amounts to this—a definite number of persons associated under an obligation to pay within a certain period a price to be on their demand fixed by three experts selected by the Lord Chancellor, shall, after three years at latest, have power to thus present a boon in the direction of freedom of industry to the whole people. Inventors who are not professionals find the bringing inventions and patents into practical effect and favour and profitableness so expensive and troublesome, and especially the looking out for licensees and the collecting license-fees or royalties, that they would probably hail this door of escape as most welcome. They might even be right glad to negotiate long before the three years

[1] Subjoined is an extract from the Blue-book of 1829, part of the evidence of Mr. Farey, engineer, and inventors' adviser, here given in order to support the text in the use of the word *tax*, and as to the former moderation of the demand of patentees.

expire. As to the professional inventors, they, of course, must expect to be dealt with as other professional men are. We do not constitute a monopoly in favour of teachers or professors, or stage and musical performers. We give *honoraria*, and not shares of profit, to accountants who manage our affairs, and architects who build our factories and shops. The physician, the surgeon, the oculist, the barrister, is not paid according to the benefit conferred by, or the result of, their operations. The author of a guide or other book is not paid according to a standard representing the advantage his book brings to each reader. Naval and military officers are content with moderate pay at which many "inventors" would laugh, though surely it is a sign of something far wrong in their anticipations if they do. As to pastors of the Church, though, indeed, they should live of the gospel, that means obtain a livelihood, not demand or extort a fortune, or fleece. The fact seems to be that our statesmen, for want of clear apprehension of what an inventor's position and claim to consideration are, have allowed themselves to drift from the ancient statute of monopolies, which was constituted on principles thoroughly consistent and defensible : and as the dangers which that unconscious change of policy produces have come into view and indeed into operation, now that free-trade has removed the screen that at once veiled them and sheltered individuals from their worst effects, legislation must henceforth regard inventors as persons who, voluntarily, offer to render the State service, but necessarily, if a service, one which admits of being *estimated* and should be estimated and be compensated (no doubt liberally, if you will even generously), but not lavishly, as it so very often is when compensated by the grant of a long monopoly. Statesmen must have regard in this matter to their duties. These are primarily to the nation, not entirely to inventors, however meritorious a few of them are. As to inventors, far be it from me to charge them with *desire* to claim more than is fair :—at present they *must* be compensated with monopoly, as there is no other recourse properly open. Permissory expropriation is a happy complement of the patent system and a relief to the inventor. It may do much good ; who will allege it is in its nature wrong, or in its application difficult ? It will no doubt tend to correct some erroneous notions that prevail, and to bring us back to the better old times of comparatively moderate demands when moneys paid to inventors were appropriately called patent *fees*.—I am, etc.,

R. A. Macfie.

SOCIETY OF ARTS DISCUSSION.[1]

THE PATENTS FOR INVENTIONS BILL.—A special meeting for the discussion of this Bill was held by the Society of Arts on Tuesday night, Major Beaumont, M.P., in the chair. A paper on the subject was read by Mr. H. Trueman Wood, in which some of the principal features of the Bill were commented on. The paper was mainly an attempt to show the difficulties attendant on the preliminary examination of applications for patents which the Bill proposes. The attempt to discriminate between what was worth patenting and what was not, before the invention could be tested by experience, was beset with difficulties, and the difference between a successful invention and a useless one was often so slight that if absolute novelty was required, many valuable inventions would run the risk of being refused protection. This part of the paper was illustrated by a number of diagrams showing successful inventions which yet had been almost, if not entirely, anticipated by previous inventors. Bessemer's method of making steel, Nasmyth's steam hammer, Muntz's metal, Siemens' furnace, Neilson's hot blast, and several other inventions of more or less importance were brought forward as instances of this. The conclusion was that it was better to continue the present system of granting a patent to any applicant, leaving him afterwards to substantiate his claims rather than to run the risk of stifling useful inventions by requiring them to undergo an examination before they received protection. The risk was even greater if the examination was not properly carried out, and this it would be impossible to do with the staff proposed by the Bill. About 5000 applications were now made annually, and to investigate these only six examiners were to be appointed. Considering the relative character of English and American specifications, the work to be done in our own office would not be much less than that now carried out in America, where there exists a system of examination. If, however, such a system was to be introduced here, and the Government had evidently made up their mind that the Bill should pass, it would be better to hedge that examination round with restrictions, to make it have merely the character of advice, to give the inventor an opportunity of amending his description—in fine, to let the inventor have his patent eventually at his own risk. The power of appeal given in the Bill was of little value, and would be

[1] From the *Times* of 9th March 1877.

very costly. An instance of a similar kind had lately occurred in the Trade Mark Office, and an applicant had been obliged to spend £250 to make the Registrar accept a mark he had previously refused. The compulsory license clause was of rather doubtful policy, and another objectionable feature of the Bill was that it increased the powers of the Commissioners without improving the constitution of the Commission. An animated discussion followed, in which Mr. Theodore Aston, Q.C., Mr. F. J. Bramwell, F.R.S., Mr. Mundella, M.P., Admiral Selwyn, R.N., the chairman, and others took part.

Mr. R. A. Macfie writes to us from Dreghorn, Edinburgh:—"The Attorney-General's Patent Bill strangely proposes to extend the duration of patents to twenty-one years, in face of the 'recommendation' of the Royal Commission (comprehending in its number two most eminent members of the Government, the Earl of Derby and the Lord Chancellor), 'that in no case ought the term for which a patent is granted to be extended beyond the original period of fourteen years.' That recommendation was preceded by the oral examination of twenty-two witnesses, and the receipt of answers to a series of questions, one of which was this, 'Is it expedient to make any, and, if so, what alteration in the law as to prolongations and confirmations?' Opinions were obtained thus (distinguishing their avocations roundly) from eight officials, including the Duke of Somerset, seven Judges and gentlemen of the law, fourteen engineers, twenty merchants and manufacturers, six patent agents, six Chambers of Commerce, and three other societies, among all of whom the only indications of favour for a longer term were from Mr. E. A. Cowper, who is an advocate for a 'definite prolongation' to twenty-one years, and a Society of Scottish Engineers, who 'considered that the law as to prolongation should remain as at present, *one* member, however, thinking that prolongation should be done away with and the duration of a patent be altered from fourteen to seventeen or twenty-one years.' The Inventors' Institute simply wished 'much greater liberality' in granting prolongations. *Against* prolongations were three commercial witnesses, one of whom, the eminent firm of James Richardson and Co., wrote, 'Patents cannot safely be prolonged beyond the period of expiry in other countries,' a pregnant and suggestive sentence. The other witnesses and respondents either do not give any opinion for or against, or they favour *prolonging after judicial inquiries*, two of them, an ex-Lord Chancellor and Mr. Holden, ex-M.P., doing so expressly in case the patentee has not been 'sufficiently remunerated.' Besides the foregoing,

the Commission received eleven responses, authenticated by Messrs. Dixon, Chamberlain, Wright, etc., on the part of the Birmingham Chamber of Commerce, two of them negative, seven affirmative, with the following statement connected with these latter, 'the abolition of prolongations,' 'a fixed limit of fourteen years would leave patentees little to complain of. At present, however, many patentees, who have amassed large sums of money by their monopoly, seek to renew it, to the injury of the public.' 'Except in very extreme cases, no patent should be prolonged beyond the term of fourteen years.' Since the Royal Commission there have been two occasions in which the prolonging of the term, if desirable, or say if desired, could and would have been brought forward. As to these, the earlier, a Select Committee of the House of Commons, 1871-2 (on which I sat) was silent on the matter, and the latter, a Vienna Congress—a *pro*-patent gathering, carrying too much weight with the Attorney-General—approved a *maximum* of, or *prolongability* to, *fifteen* years, without even an amendment being moved. Much more might be added to show that the extraordinary proposal to elongate the term should be dropped. Almost everybody believes that the reward is already ample, inventions being admittedly not property. Why, then, throw away uselessly and gratuitously hundreds of thousands of pounds yearly in royalties and other lavish endowments of patenting inventors and their substitutes?[1] Why for seven years longer subject British manufactures and commerce in all its departments to a serious impediment and burden in the race or war of competition, now run and waged under daily aggravating difficulties? Patents are a fond but fatal anachronism."

The proceedings reported in the first portion of the foregoing extract show how utterly "inventors," who are practically a new creation of the existing statute, forget there are other interests than their own. They now boldly proclaim by their acts that patent law was made for them, and not, as it truly was, however mistakenly, for the public,—to help, not to hamper trade.

[1] Reckoning all things, I would not be surprised to learn that millions is the cost annually of the patent system to the nation.

RESOLUTIONS OF THE SOCIETY OF ARTS.

It is a pity the Society of Arts is in the hands of zealous patent-men. At the discussions which have just taken place not a member favourable to public rights appears to have opened his mouth. Let us glance at some of the resolutions that were passed.

In the second resolution we read—

"No adverse report of an examiner, even with a right of appeal, ought to preclude an applicant from obtaining a patent at his own risk and cost." In other words, anybody may have for the asking, and a trifle of money, letters of marque to prey on British consumers. Every individual, nay, any private householder whom he may come across, is to be made liable to a trumped-up charge of being a law-breaker, or a shabby fellow who is "doing" a patentee, and to the expenses of justifying himself in a court of law, possibly distant, certainly to his great inconvenience.

"The Reports containing opinions of patent-law authorities ought not to be made public." That is, the public is not to have what it pays for. The attacked or accused is not to have the truth that will give him help when wronged.

The third resolution is, "Compulsory licenses are not desirable." The passing of such a resolution is enough to show how utterly at variance the body is with enlightened views. Without referring to the Reports of 1829 and 1851 for evidence in this direction, observe a striking fourfold concurrence in the demand to which this society, once strong on the side of free industry, opposes itself.

1. The United Committee of the British Association for the Advancement of Science and the Association for the Promotion of Social Science, 1860, "recommend compulsory licenses."

2. The House of Commons Select Committe in 1872 report "that licenses be granted or given to competent persons on fair conditions . . . due regard being had . . . to the exigencies of foreign competition."

3. The Patent Congress at Vienna in 1873 determined :—"It is advisable to establish regulations, according to which the patentee

should be compelled, in cases in which the public interest may require it, to allow the use of his invention to all responsible applicants, for an adequate compensation." On this last, Mr. Webster remarks in his report to our Government:—"The principle of the proposition was supported by the English representatives with one exception. It was contended . . . that a patent right is in the nature of a trust to be used for the benefit of others rather than as a property to be dealt with only at the will of the owner, who might act as the 'dog in the manger,' and for personal reasons neither work the invention himself nor allow any other person to use it. . . . That this condition was calculated to remove the main objection insisted on against the patents, viz., that they were obstructive or might be used for the purposes of obstruction. That the leading opponents of patents in England had acquiesced in this as a remedy for the illegitimate use of the powers of the patent, and some of the warmest advocates of the patent system had approved it as removing the only real objection urged against the system, and under the belief that the supposed compulsory powers would rarely be exercised, inasmuch as the existence of the powers would afford a practical cure for the supposed mischief.

"By a clause inserted in patents for the United Kingdom, the grantee is bound to supply the public service with patent articles at a reasonable price; this may with good reason and on principle be extended to other cases under a license. The Judicial Committee of the Privy Council, on recommending the extension of a patent, have required the insertion of clauses regulating the price, and the terms of licenses for compensation to persons interested.

"In the result, however, the proposition was accepted in the terms of the preceding paragraph, forty-two having voted in favour, and seventeen against."

4. The Society itself, in 1875, petitioned—"That whilst your petitioners approve of the principle of compulsory licenses by patentees, as contemplated by the said Bill, the process of obtaining and granting such licenses as therein proposed is unnecessarily complicated and expensive, and requires to be simplified."

Resolution four, requiring patentees within a certain period to put their invention into practical operation in this country, is likewise objected to! The Select Committee, in 1872, it will be remembered, reported "That all letters-patent should contain the following conditions not hitherto usually inserted therein, viz.:—That the manufacture be carried into effective operation within a reasonable time, within the United Kingdom, by the patentee or

his licensees, so as to supply the demand therefor on reasonable terms."

Is not this reasonable in the extreme? The Vienna Congress decided that a patent need not lapse if the invention has been "once applied."

Resolution five demands that existing patents should be prolonged to twenty-one years' term.

Resolution seven characterises the present charges on patents as prohibitory taxation in the face of 5000 applications in a year! Weighty evidence in the Blue-Book of 1829 is as strong against reduction from the *then* prohibitory rates.

This resolution also says "it is not desirable that the fee or stamp-duties levied on inventors . . . should materially differ from those on other States *likely to be competitive in manufactures.*" When, taken in connection with the entire absence of any word of sympathy with, or concern for, manufacturers likely to *suffer* from competition under the burden of patentee taxes not paid for by their rivals, this minute self-regardfulness is notable. It prevails in all the proceedings of the whole patent fraternity. I doubt if selfishness, unconscious it must be, has often been on so great a scale and so flagrant.

Resolution nine objects to the cessation of privilege when a patent obtained abroad expires. Again, in their own interest.

The onesidedness of the views taken at the Society of Arts is truly remarkable. Among the names of those who took part, I do not recognise any manufacturer or merchant, except *Mr. Mundella*, M.P., and I may add *Mr. Newton Wilson*, who are noted patentees and workers with patents, and engaged in businesses which I suppose from their character are not so deeply moved by patent-fees and restraints as that of which I have had experience. The position of the speakers will be fairly recognised in the names which follow. The chair was occupied by Major Beaumont, M.P., an eminent patentee.

Mr. E. A. Cowper, already mentioned as among the many givers of written answers to the Royal Commission's questions, one of two who favoured an extreme length of term for patents, moved the first resolution, and consistently seconded another to this extraordinary effect—to prolong to twenty-one years existing patents granted for fourteen. He does not appear to have told to how many hundreds of thousands of pounds the easy-going gift would subject

the nation, and without any equivalent. Some indirect light is thrown upon this important point, however, by referring to the past, for Mr. Mundella told the meeting of a "process." "Mr. Krupp afterwards patented it, and this cost the Germans, in four or five years, some millions of thalers," that is (if for "some" we understand "five") three-quarters of a million pounds sterling! Again, the solicitor to the War Office told the Royal Commission with respect to ordnance, that the *difference* between a particular high-class inventor's prices and those actually paid exceeded £340,000. Another and a frequent speaker was Mr. Lloyd Wise, well known in patent circles. He proposed the second resolution, which was that "no adverse report of an examiner, even with a right of appeal, ought to preclude an applicant from obtaining a patent at his own risk and cost." In other words, he and the society which adopted this extreme view, along with these words, "that reports containing opinions of Patent Office authorities should not be made public," seek that the public should not have the safeguard these officers are appointed to insure, and, as we have elsewhere said, would arm every applicant with a general prosecuting power; for what less is it if a man is, at the pleasure of an honest but, to the offspring of his own brain and the pet of his own pocket, naturally prejudiced professional, to be annoyed with notices and brought before courts, perhaps far from home, to justify himself and maintain the rights of his fellows?

Mr. Lewis Olrick backed this with the following bold declarations:—"The publication of the result of the examinations would be very much against the patentee." "If trivial things are patented nobody would be injured. Inventions are the backbone of the country, and every means should be taken to encourage them!" What of things already known and therefore not patentable? what of the industrial who wishes to do or use these things?

Another of his resolutions which was carried is this, that the clause should be struck out of the Bill which causes a patent "to cease on the cessor of such one of the foreign patents as first ceases."

Mr. Bramwell, F.R.S., "believed that there was a desire on the part of the promoters (see p. 82) of the Bill to improve it in those particulars in which it might be improved. He knew at any rate that this was the view of the Attorney-General." He warned "if they did not take care they would not get the Bill at all, and it was so good it had better be secured." No doubt. This gentleman was succeeded by a gallant admiral, who, with a pardonable ignorance of business ways, said, "he (any inventor who

gets his patent cheap) made the royalty less in quantity, and the nation profited by it;" adding that we should not establish a patent-office whose heavy taxes would lead him to charge the consumer an enormous sum! as if patentees do not habitually grasp all they can. Admiral Selwyn also seconded Mr. Wise's motion about the ceasing of patents. The next speaker was my estimable friend, Mr. Hinde Palmer, Q.C. He told the meeting:—"Mr. Aston had very properly said that the committee, of which the Chairman and he (Mr. Hinde Palmer) were members, reported in favour of a preliminary investigation; but that was not the first occasion upon which that had been advised, because a Royal Commission, of which the present Lord Derby (then Lord Stanley), Lord Cairns, Lord Hatherley, and other eminent men connected with the law, Mr. Forster, the member for Bradford, Sir William Fairbairn and others, were members connected with manufactures and inventions, had made very similar recommendations. They all agreed in the report that a preliminary investigation was necessary. But they said distinctly that that examination should not extend to the merits or the utility of the invention, and moreover, they restricted the nature of the examination which that Royal Commission proposed to a greater extent than what the Bill now proposed, that the examination should extend to novelty, as derived from existing publications in the Patent Office. But this Bill, as it stands, contained a dangerous extension of that inquiry, because it said it was not only to be novelty according to former specifications and other documents in the Patent Office, but it was to extend to publications known to the examiner himself. In his opinion that was an extension of the powers of the examiners, which was dangerous. He should propose that that clause should be omitted, even if the inquiry into the novelty of the invention were allowed to stand as regarded previous records contained in the Patent Office."

The learned gentleman entertains the strange notion that all or most arts and processes are described in documents at the Patent Office. What of the inventions, perhaps thousands of times more numerous, known from time immemorial?

The Petition of the Edinburgh Chamber of Commerce meets this difficulty by giving manufacturers such notices as shall enable them to show when public rights are in danger of being infringed, that things are known of which there is no official cognisance.

Before the Chairman summed up the first evening's discussion, Mr. Mundella made a characteristic speech. There is so much

that is fine in what Mr. Mundella says from time to time that I am sorry to observe he shares and promulgates the dangerous belief that patent laws are on the whole helpful to trade. He said most truly :—"Our policy, as the first industrial country in the world, is to make England the depôt for inventions."

In a like strain Admiral Selwyn said :—"Ought not that to be the policy which should govern them, namely, give every possible inducement to inventors to come?" There is a certain *smack* about these sentences that repels. The Vienna Congress, likeminded, enunciated the "principle" thus :—"A great disadvantage arises to those countries which have no reciprocal patent system [a dig at Prussia], through its talented individuals going to countries where their work is protected by law." They mean that we should tempt the foreign inventor to leave his Fatherland and settle among us, which indeed he does. Others of the patent circle, giving loose reign to their fancy, contend that our patent laws, by being less liberal to "the poor inventor" than those of the United States, drive him to that country! But is not this rather what we ought to do, viz., enact what is on the whole expedient, at the risk of missing a few accomplished men from abroad, and of parting with the mythical self-expatriants. Let the worst happen, we shall very soon know from foreign patent-offices what is their new art or process, and be able to adopt it—perhaps free of charge too!

At the resumed conference Mr. Palmer, after, *inter alia*, saying that "Mr. Newton, an eminent patent-agent of long experience, was strongly in favour of compulsory licenses," moved a resolution that these should be approved of, "as recommended by the Select Committee in 1872." This was opposed by *Mr. Pieper*, the *Admiral*, *Mr. Newnham Brown*, *Mr. Cowper*, and supported by *Mr. Newton Wilson*, but lost, notwithstanding that in 1875, before the reactionary spirit had become so rampant, this same body, in a petition, stated they "*approve* of the principle of compulsory licenses by patentees." The Vienna Congress had resolved, "It is desirable to make legal regulations by which, in cases where public interest demands it, the patentee can be compelled to permit the use of his patent by others against suitable remuneration." The 1872 Select Committee favoured these licenses being granted, "having regard to the exigencies of foreign competition."

The petition already referred to said, as to the duration, "that it would be of advantage if the prolongation of letters-patent could be obtained on application to the Commissioners of Patents, and *satisfying them on the expediency thereof and on payment of a*

high fee." This is quite in accord with common sense, as expressed a thousand times and in a thousand places, one of these being M. Dumery's *brochure*,—"On remédierait ainsi à ce qu'il y a d'irrationnel dans la durée uniforme des brevets appliquée à des œuvres de nature et d'importance très-différentes."

The Vienna Congress's verdict is:—"A patent for an invention must have a duration of fifteen years, or be capable of prolongation to such a time." The mover, Dr. Werner Siemens, "described a duration of fifteen years for a patent as one which was by experience sufficient to make a patent pay." A mass of testimonies in favour of graduated terms could be presented, but it is not necessary. Such testimonies are welcome as an indirect confirmation of the view that the reward to an inventor ought to have regard to circumstances not always alike. The fourteen years' unprolongable term, recommended by the Royal Commission, is procrustean, and is not likely to find favour. Surely an intelligent commission could be trusted with fixing the duration of every patent, as well as, on demand by parties it affects, the price to be paid for extinguishing it. Even a mere approach to absolute accuracy of judgment is better than no exercise of judgment at all.

The paper by Mr. H. Trueman Wood, assistant secretary of the Society, offers several other subjects for remark, on which I will barely enter. He is opposed to preliminary examinations, and in assigning his reasons adduces a long array of cases in which patents were granted as profitable for inventions that had already been specified, or were for differences so minute from previous specifications that they would not be granted by examiners. All I need remark thereon is this: we could afford to do without monopolies in such cases, and indeed even a non-abolitionist might fairly ridicule the greed of asking fourteen or twenty-one years' exclusive use of microscopic and costless novelties. In saying this, I do not deny that often, very often, they are profitable. Referring to the report of the Vienna Congress, I find Mr. Thacher, of the Washington Patent-Office, said, "Preliminary examination, to prove its novelty and usefulness, was necessary, and had to be done by a well-constituted patent commission;" and, by the way, he justly added, "To make the patent system really fertile [tenable, I have long argued], an international understanding must be created." The Congress resolved, "The introduction of a system of preliminary examination . . . is desirable."

Mr. Wood's paper says "the obligation to grant licenses is surely of rather doubtful policy. There are indeed cases where

such a provision would be of value." His difficulty is, and there are many cases where an inventor might be undersold and ruined by an unprincipled licensee." This objection shows the license will prevent abuse of monopoly,—it will prevent mischief of the nature which the Statute of Monopolies seeks to guard against when it uses the words "so as also they be not . . . mischievous to the State by raising prices of commodities or hurt of trade, or generally inconvenient."

The chairman of the Society of Arts Conference "was glad to see that the principle of preliminary examinations was accepted."

Other Society Movements.

I have beside me copies of resolutions of certain London patent-agents, of the association of employers, foremen, and draughtsmen engineers of Manchester, and of the Philosophical Society of Glasgow. They all show how feline sleep emboldens the mice. Two features characterise them, great advance beyond any former pretensions, almost complete accord with one another.

The first of these parties go the whole hog. They petition against the clause by which a patent is to be "revocable if not used or licenses are not given." They would expunge the words that enact a patent shall not be granted "if at the time of the application there is a foreign patent for the invention in force, unless the foreign patentee is the applicant and his application is made within six months after the date of the earliest foreign patent;" and this, "the patent shall cease on the cessor" of the first ceasing foreign patent.

The second body, the engineers of Manchester, do not object to compulsory licensing. They object to the appeal to the Lord Chancellor, that it "would be utterly beyond the reach of by far the larger number of inventors, and would only be available to the wealthy." This objection justifies two observations: (1.) There is involved in it an exhibition of the unwarrantableness of the patent system, in that it makes demands for time and money which few people, rich or poor, especially the busy, can face; (2.) its propounders are (contrary to the old repugnant spirit) far more concerned to remove difficulties and expenses from takers of patents than from the community who are to be subjected to them.

As to the third, the Society presided over by Sir William Thomson, it goes positively wrong twice within a few lines. The Report declares "the Royal Commission recommended that in no case ought the term . . . to be extended beyond the original period

of fourteen years; but two of their number . . . dissented from this portion of their Report." Would anybody who reads these words understand that the dissentients record in writing that "the term of fourteen years . . . appears to be amply sufficient in the greater number of cases?" Again, the document, after saying that "fourteen years is not sufficient to develop an *important* invention," and that "if James Watt could have taken a patent for *fifty* years (!)" some "advantages would almost certainly have been secured to the public," "the continued interest of the patentee in his invention for a period of not less than twenty-one years, will, *if it be lucrative to him, certainly be beneficial to the public*, in face of the universal experience that patentees take all they can, supremely regarding their own interests, which are identified with high prices.

Members of Parliament and of the Government, accustomed to popular agitation and beset with importunities, are too apt to conclude that absence of these may be construed into an indication that all is right. Acquiescence, however, is *not* intelligent approval or true approval of any kind. The fact is, the public mind is seldom stirred, except on party or patriotic questions; and when nobody takes the trouble to lead, there is no movement. Industrials are in general too much engrossed with their individual affairs to organise committees and be head or tail of a band of remonstrants. What is the business of all is the business of none. The patentee side have the patent-agents in London and elsewhere for their leaders ready for attack and defence. They move societies, who, rightly or wrongly, sympathise with their aims. Even (British) Chambers of Commerce have come under the spell.

REPORT OF COMMITTEE OF EDINBURGH CHAMBER OF COMMERCE AND MANUFACTURES.

Adopted at Annual Meeting, 29th March 1877.

Your Committee, having had under review the Patents for Inventions Bill, report—

1. That they highly approve of clause 22, which is in these words, viz. :—

22. A patent shall be liable, at any time after the expiration of *three years* after its date, to be revoked on either of the following grounds :—

(1.) That the patentee fails to use or put in practice the invention, by himself or his licensees, to a reasonable extent, within the United Kingdom, or to make reasonable efforts to secure the use or practice thereof there, proof of the contrary whereof shall lie on him.

(2.) That it is made to appear to the Lord Chancellor that, in order to insure a proper supply to the public of articles produced under the patent, or proper means for the use of the invention by the public, licenses are necessary, and the patentee fails to grant licenses to proper persons requesting the same, on terms which the Lord Chancellor, having regard to all the circumstances of the case, deems reasonable.

2. They are decidedly opposed to the proposition, of clause 20, which extends the stated term for which patents are granted from fourteen to twenty-one years.

Your Committee would suggest the following amendments, viz. :—

1. In clause 13. This clause is as follows :—

After that report of the examiner the commissioners shall refer the case to the law officer.

The law officer shall, if required, hear the applicant and any person entitled, in the opinion of the law officer, to be heard in opposition to the grant.

The law officer shall report to the commissioners his opinion whether a patent may be allowed for the invention or not.

The commissioners shall then make public the report of the law officer.

To this your Committee would recommend the addition :—

"The Commissioners shall be required to give intimation of every application of a patent affecting a particular branch of trade, to the person appointed by such trade for that purpose, and whose address and authorisation have been lodged at the Patent Office."

3. Clause 33 should not allow a foreign inventor to patent his invention after it has been *three months* published, instead of six months as allowed by the Bill.

4. In clause 33 it should be provided that when an article is marked "patent," the number of the patent, and the year when issued, should be stated, wherever that is practicable.

5. A clause to entitle persons engaged in any particular branch of trade, associated together, to demand that, after three years of exclusive patent right, or earlier if the patentee is willing, any invention affecting them shall be valued by three experts to be appointed by the Lord Chancellor, in order to extinction of the patent and free use of the invention thereupon by the whole community.

6. A clause requiring a register to be kept at the Patent Office for specifications of new inventions that are not to be patented, and giving leave to employ a small portion of the funds of the office in the bestowal by the Commissioners of Patents of medals or other marks of honour on public-spirited recorders in cases where the service shall appear such as to entitle to this special distinction.

7. A clause requiring every owner of a patent to have an address or agency within the United Kingdom, where applications may be made for licenses.

The Committee recommend a petition to the Houses of Parliament in conformity with the above.

The demand of the Edinburgh Chamber of Commerce that intimations be sent to the trades that would be affected by any particular patent ought to be conceded. It lays a finger on what has hitherto been a weak part. In past legislation, when patents were supposed to be granted for *trades* and *articles* that were new, it might plausibly be held that nobody had much concern with applications except the rival inventor, who was in like secrecy working out the same problem, and whose invention lay on the same field of discovery, and who might be unfairly intercepted or interfered with. But now that *processes and improvements in trades and machines that already exist* constitute the mass of inventions, the circumstances are so completely altered as to call

for this step in advance. It is indeed no more than a step, for the principle is recognised (although very imperfectly carried into practice) in the procedure (in Act 5 and 6 Will. IV. c. 83), viz., the applicant "shall advertise in *The London Gazette* [which, by the way, nobody concerned almost ever sees] three times, and in three London papers [of which Scotch people at any rate see little], and three times in some country paper published in the town where or near to which he carried on," etc. It ought to be borne in mind that a much less amount of notice-giving is sufficient to reach the eyes or ears of a rival than those of the *users* of an invention. The one has his patent agent, who is on the *qui vive*, to look after his interests; the others, strange though it may seem, are seldom or never wide awake. It is not in nature that they should be.

Here a remark may be made, that the two sides of publicity do not generally receive equal attention. It is looked at chiefly as it regards inventors. But its more important aspect is that towards the public or, say, the users of inventions. If there is danger on the one side that by publicity an inventor may miss the patent he applies for, there is danger on the other side that something may be patented which some already use and all have full right and power to use. On the one side an individual at the worst is but disappointed, whereas, on the other, a multitude are positively wronged.

Proceedings of the Edinburgh Chamber of Commerce, 29th March 1877:—

The SECRETARY read the report of the Committee on the Patent Laws, which suggested various amendments.

Mr. R. A. MACFIE, in moving the approval of the report, said—The subject of patents not being understood, and not till lately requiring to be understood, they must be content with improving the bill, and leave till some future time the greater question—patents or no patents? The subject did not excite attention, because till quite lately there were few patents. In Scotland, the annual crop was, in 1750, none; 1800, 2; 1825, 33; 1850, 531; 1875, 3112. That was to say, they had multiplied in twenty-five years about sixfold, in fifty years about a hundredfold, in a hundred years fifteen hundredfold, and because there were protective duties, that kept out articles made abroad patent-free. Besides, we were not as a nation, owing to increased extent of trade, dependent on export business. Profits were slenderer if estimated by percentage. Further, generally patents were now taken for and intruded on

processes and mere improvements in trades that exist, seldom introducing new trades. The bill carried out some important recommendations of the Patent Committee, particularly compulsory licensing, which was also recommended by the Joint Committee of the British Association and the Social Science Association in 1860, as well as by the Vienna Patent Congress in 1873. It also required patentees to work their inventions, or else forfeit their privilege. It, however, went right in the teeth of the Royal Commission, which in 1865 reported that in no case should patents exist for longer than fourteen years, for it gave any patentee liberty to take twenty-one years. There was a great amount of evidence in the five successive Blue-Books and other public documents in favour of shorter terms, and of terms differing in length according to the character of inventions, but absolutely none worth mentioning in favour of twenty-one years. Even the Patent Congress at Vienna only claimed "prolongability to fifteen years." The truth was, the cats being away, the mice had not been taking a holiday, but quietly baiting traps on the novel principle that patents exist not for trade, but trade for patents. Everywhere there was on the patentees' side a bold concerted advance and action. Mr. Muntz, whose name was so conspicuous in the annals of patents, had given notice of an amendment in favour of the present term of fourteen years. This was in accord with the report just read. The report contained suggestions which he hailed gratefully as an old labourer in this cause, such as the proposition to carry compulsory licensing to its natural conclusion, permissory expropriation, or power to persons affected by a patent to demand that the invention shall at any date after three years of "close time" be valued, they engaging to pay the valuation price, and so extinguish the privilege, and let the public have thereafter free use. Non-professional patentees would probably welcome it. As to professionals, if they did not, which, however, they refused to predict, the answer was, They surely cannot and will not complain if their inventions after three years be valued, and they get the value fairly ascertained. Another suggestion was that persons inventing, from patriotic motives, and who did not care to take patents and become monopolists, might protect their own industrial freedom, and confer a favour on their fellows and the public by registering as a gift inventions they contrive or learn. Connected with this was a suggestion that some medal or mark of honour and gratitude might be conferred on such good citizens or foreigners who do the like service. Another suggestion supplied a conspicuous want—a ready means for informing people

engaged in any trade of any applications for patents which might affect them, in order that, if they were already using the plan or thing for which exclusive use is claimed, they may prevent the wrong being consciously or unconsciously perpetrated. He doubted if a more practical report, in respect to its matter, had often gone forth from a commercial body. Still, the subject needed to be pushed on public attention. Institute the reform and rectification which the report presented, and they would raise the position of inventors by lessening or entirely removing the antagonism that undoubtedly existed between them and the users of inventions, who both ought to be chief friends. As to trade, they freed commercial legislation from a great reproach. They did something towards helping British industry to contend in these worsening times against influences and rivalries which, in his apprehension, were not sufficiently watched, and which threatened, unless counteracted and met by adequate vigour, to leave them in the lurch.

Mr. CHARLES COWAN seconded the approval of the committee's report.

Mr. WADDY moved that the report be amended in the particular that they did not approve of the time mentioned in the bill for expiry of patents, viz., twenty-one years.

The motion having been seconded,

PROFESSOR HODGSON explained that what was proposed in the report was that the stated period should not be extended beyond fourteen years. It did not, however, abolish or propose to abolish, the existing right of patentees applying for an extension of a patent, stated at fourteen years as its natural duration. The patentee might within the fourteen years apply for extension, as at present.

Mr. JOSIAH LIVINGSTON supported the approval of the report, as it had been most carefully considered by the committee.

On a division, only three voted for Mr. Waddy's amendment.

Mr. Macfie then suggested that the report should be printed, and sent to the different Chambers of Commerce and Scotch Members of Parliament.

This was agreed to.

EXTRACTS FROM REPORT OF 1872.

Certain Resolutions proposed in the Committee.

I have before me now the second Blue-Book of the Select Committee (1872), and present some extracts from the proceedings.

First, Resolutions adopted.

"That in the absence of the protection of letters-patent, the competition of manufacturers amongst themselves would, doubtless, lead to the introduction of improved processes and machinery, but that it would probably be less rapid than under the stimulus of a patent law."

"That protection for a limited period, and dating back to the time at which it is applied for, should only be granted for an invention on its nature, and particular points of novelty, being clearly described in a provisional specification, and upon the report of a competent authority that such invention, so far as can be ascertained by such authority, is new, and is a manufacture within the meaning of the law."

"That all letters-patent should be subject to the condition that the manufacture shall be carried on within the United Kingdom, so as fully to supply the demand for the same on reasonable terms to the public, and with due regard to existing interests."

"That the law and its admistration are defective :—

"(*a*) They admit of protection, and, subsequently of a patent being granted for an invention which is not properly the subject of letters-patent, not being a manufacture, or, being a manufacture, is not new ; and of patents being granted for the same invention to several contemporaneous applicants."

"That all letters-patent should contain the following conditions not hitherto usually inserted therein, viz. :—That the manufacture be carried into effective operation within a reasonable time, within the United Kingdom, by the patentee or his licensees so as to supply the demand therefor on reasonable terms; and that licenses be granted by him to competent persons on fair conditions, such conditions, as well as the fact of competency, to be determined in the event of disagreement by the Commissioners, due regard being had in such determination to the exigencies of foreign competition."

"That this Committee are of opinion that there should be an assimilation in the law and practice in regard to inventions amongst the various civilised countries of the world, and that Her Majesty's Government be requested to inquire of Foreign and Colonial Governments how far they are ready to concur in international arrangements in relation thereto."

Second, Resolutions submitted, and for the most part not adopted.

"To insert the words, 'on a review of the evidence, and especially in consideration of the altered circumstances under which British traders are brought into competition with producers carrying on business in foreign countries, this Committee does not consider itself entitled to recommend any legislation that would tend to perpetuate the patent system'—(Mr. MACFIE)."

"Another amendment proposed after the word 'patent,' in line 1, to insert the words, 'whilst under judicious regulations it may promote the progress of manufacture by causing many important inventions to be introduced and developed more rapidly than would otherwise be the case, the present system of granting patents, many of which are deficient in invention, trivial in their character, or useless in their operation, tends to check and embarrass scientific experiment, and the progress of discovery and the trade in various articles of general use'—(Mr. GREGORY)."

"Motion made, and Question proposed, 'That whilst rewards may properly be given to inventors in certain cases by the State and by corporations or individuals, it does not appear that the granting of such rewards can be substituted, with advantage to the public interest, for the temporary privilege conferred by letters-patent, under which the consumer, as a rule, pays for an invention no more than its marketable value'—(The CHAIRMAN)."

"Motion made, and Question proposed, 'That the original principle and conditions of patents for inventions contained in the Statute of Monopolies should be maintained by granting exclusive privileges of "working or making any manner of new manufactures" only "to the true and first inventor and inventors of such manufactures, which others at the time of making such letters-patent and grants shall not use, so as also they be not contrary to the law nor mischievous to the State, by raising prices of commodities at home, or hurt of trade, or generally inconvenient'—(Mr. MACFIE)."

"Motion made, and Question proposed, 'That exclusive privi-

leges for fourteen years should not be granted, except for inventions so novel and so important as to distinguish them from the more simple and unimportant improvements which naturally occur, or would be suggested, to persons practically engaged in the trades they affect. That for minor inventions or improvements, for adaptations of inventions already in use, and for inventions of the nature of design, exclusive privileges ought to be granted, if at all, for seven or three years only, according to merit or attendant circumstances'—(Mr. MACFIE)."

"Motion made, and Question proposed, 'That an inventor should be entitled, upon payment of a small fee, to register his invention, being an invention in actual use, with a declaration that he relinquished all claim for a patent, and that such registration should prevent any other person taking out a patent for this invention'—(Mr. PIM)."

"Motion made, and Question proposed, 'That every patentee shall affix to his patent a price, on the payment of which, by the State or individuals, at any time during the period for which the patent is granted, it shall be cancelled'—(Mr. MACFIE)."

"Motion made, and Question proposed, 'That, at any time after three years have elapsed from the granting of a patent, it shall be competent for the State or three responsible persons, to demand that the patented invention shall be valued, and on the payment of the valuation price, the patent shall be cancelled; the three or more persons to be required, as a condition antecedent to valuation, to sign a bond obliging themselves individually and collectively to pay the price, or if they decline to pay the whole price, to pay one-fifth part thereof to the patentee as a forfeit or penalty'—(Mr. MACFIE)."

"Motion made, and Question proposed, 'That every patentee, or his assignee or agent, shall be bound to give, when required, a receipt for every sum paid him as royalty or fee for license, and the sums shown in such receipt, duly produced, shall avail towards rendering the patent cancellable under any system for annulling patents with which this proposition may accord'—(Mr. MACFIE)."

"Motion made, and Question proposed, 'That improvements on any subsisting patented invention should first be offered at valuation prices to the original patentee'—(Mr. MACFIE)."

"Motion made, and Question proposed, 'That patents for any improvements should expire with the principal patent'—(Mr. MACFIE)."

"Motion made, and Question proposed, 'That notice of the intention to grant a patent be given where practically by letter

to, at least, three persons known to be engaged in the manufacture concerned, provided always that the names of such persons shall have appeared in a public list, to be kept by the Commissioners, which shall embrace the names of persons known to the Commissioners, and of persons who have been ascertained to possess the confidence of others also engaged in the manufacture concerned, and who have likewise been ascertained to be willing to promptly communicate the information to the parties likely to be specially affected'—(Mr. MACFIE)."

"Motion made, and Question proposed, 'That the clearing away of useless or invalid patents should be made more easy'—(Mr. MACFIE)."

"Motion made, and Question proposed, 'That the law should not interfere with the sale or use of articles or manufactures made according to any patented invention'—(Mr. MACFIE)."

"Motion made, and Question proposed, 'That inventions voluntarily recorded at the Patent Office, which appear worthy of notice, shall be published'—(Mr. MACFIE)."

"Motion made, and Question proposed, 'That from the funds received by the Exchequer for patents, medals or pecuniary rewards of merit may be conferred on inventors'—(Mr. MACFIE)."

"Motion made, and Question proposed, 'That the functions of the Board of Commissioners should extend to the administration for the advantage of trade, of the funds that accrue from patents'—(Mr. MACFIE)."

Mr. Carey in his *Social Economy* says, cynically and truly, of a time gone by, "The recent extension of the Patent Laws to India is claimed as a great boon to the English inventor. It is so, for it enables him to compel the hundred millions to pay taxes for his support, while depriving them of the power to make any improvements on their machinery, unless licensed so to do by the man to whom he has sold his patent." Make the necessary change, and *de te, Britanne, de te, Hiberne, fabula narratur.* Bad as the case is as to machinery it is perhaps worse as to *processes* which are so often patented.

In *The Patent Question in* 1875, it is said:—"Sections 47 and 48 are about the most important in the Bill. They lay a fresh foundation for a system of dealing with inventions, which, if vigorously worked out under patriotic commissioners and by a spirited staff, may make the new régime conduce admirably to the clearing out of the way such rubbish as is now complained of, and bringing into view whatever is worthy, as well as to the preparing the way for some better system that will be worked alongside of the new or else be substituted for it. Meanwhile, on the sound principle of proceeding, as far as may be, on existing lines, I ask—Should not the 'record book of patents' have for its companion another record book to contain specifications of inventions that ingenious and philanthropic subjects of the Queen shall be pleased to present to the nation without claiming exclusive privileges? and would it not be a profitable investment, wise statecraft, to put a sum, say £10,000 a year, derived from the revenues received from patentees at the disposal of the commissioners for the purpose of being expended in medals or prizes so as to introduce into the inventive world, which ought to be pretty nearly co-extensive with the best part of the population, a new and healthy, a nobler and more congenial spur than the rather low pecuniary one which alone is now able to operate? The absence of a higher stimulus is a fatal defect in the monopoly system which strangely has alone engaged the attention of the Legislature.

"If the Patent-Office could devise some means by which persons living in the provinces, or indeed persons wherever they are carrying on business, could be timeously informed of applications, and notices, and other matter calculated to affect or abridge their industrial freedom (*libre travail*), several weighty objections to patents would be removed."

THE RIGHT HON. LYON PLAYFAIR, M.P., ON PATENTS.

To the Editor of THE DAILY REVIEW.

SIR,—Few men are so able or so entitled to write on patents as the Right Hon. Lyon Playfair. There are many sensible things well put in the twelve pages he contributes to the most recent of our monthly reviews. He supposes that "there is a general consensus of public opinion that it would be dangerous to national interests to abolish patents for inventions." If he searches deeper he will perhaps discover much misgiving about them, yet a widespread, vague, and perhaps all the more an embarrassing impression that inventions are a kind of *property* which, though of questionable effect, the State must in some way or degree recognise. No doubt inquiry and reflection dissipate this modern economic heresy, and lead to our author's wholesome conviction that "it requires little argument to reduce the question to expediency alone." He says that the introducers of vaccination and anæsthetics would have been condemned and classed as enemies of mankind if they had "restricted" the benefit of those discoveries by patenting. No doubt they would, and justly. But where is the line to be drawn between cruel and unjust restricting (patenting) on the one side and the ordinary practice of inventors; are they not *ejusdem generis*, differing only in degree?

He contends that most things now are fairly patentable for the sake of the public interest. As he puts the case, "the patent tells all the difficulties which have been surmounted, often at a great cost, before the manufacture is successful. If this information were concealed, a hundred manufacturers might spend capital in trial and errors in order to attain the requisite experience." This justification may be paraphrased thus:—Whatever be the course to which abstract principles of morality ought to prompt men, yet taking them as they are, they will conceal their improvements in order to promote their own sole advantage, if they can, unless some counter selfish advantage is assured to them. But the answer hereto is that in few cases can they at all or long conceal successfully. If the invention be one of form, a mechanical article, it cannot be sold or seen without its points of novelty being apparent. If a new substance, chemistry can analyse or compound it. If a process, scientific skill is now so perfect that its

nature and manner can be generally detected. Besides, manufactures are conducted in our day on so great a scale, so many hands and heads are required at work, that practically the secret would soon be carried to other establishments, new or old. Therefore the apprehension that a hundred rivals would need to go through the same series of costly experiments and failures as the reputed first inventor may be dismissed. Nor is there much risk of any secret being lost, seeing "inventions, when they do arise, are answers to demands already formulated by a public want. This want sets many minds in action in order to supply it, and the patentee has perhaps only the start of other inventors by a few hours, days, weeks, or months. . . . The tree of knowledge has put forth abundant blossom, and in due time produces fruit which, in the ordinary course, would ripen for common use. One man detects the first apple which is ripe, and the patent law says that nobody else shall pluck apples from the tree," etc. A most beautiful and true exhibition of the law of nature, and of its infringement by human law! Grant that there is now and then danger that a secret may be lost or remain undiscovered, it will in all probability prove a benefit only deferred. However, in such rare cases, application might be made for a patent, and on due advice of experts an exception be allowed. What the opponents of patents object to chiefly is the indiscriminate granting of the same reward, monopoly, to all who can allege present novelty or non-use.

Dr. Playfair adduces another defence of patents, which, when examined, is as easily disposed of. "It is the interest of the patentee to push his invention, and force improvements in manufacture." Partly true, and plausible. No objection need be made to what he urges about pushing a *new article*. It is, though, quite another branch of the subject which he introduces when he speaks of *improvements* in articles that are not new. Intrusion upon manufactures that already exist is what he contemplates. But is there necessity? If competition and self-interest fail to stimulate enough the persons engaged in a business to make a better article than they do, so as to secure greater sale, or to make a good article cheaper than they do so as to secure in that way more profit, will not, at the worst, new people entering into the business affected adopt the improvements, and bear off the palm; in fact, thereby "force the improvements"? The case of Switzerland is instanced; but does the learned author really insinuate that the manufacturers of that country are tardy in adopting improvements? Surely abundant evidence leads to the very opposite conclusion.

He candidly, and perhaps correctly, tells the reader "it is clear that in passing the statute of monopolies the State thought that patents could be worked so as to cheapen, and not raise the price of commodities, and I am inclined to think that this is the chief justification of a patent law even now." Well, wherever it does have this effect, even the patentless Swiss will be quite ready to buy our machines or commodities. If they want such and do *not* buy them, will it not be because the machines are not cheaper—that is, because the chief justification is either not attained at all, or attained but partially?

The author, though he admits that patents "act as a tax upon manufactures," enunciates this paradoxical or incredible doctrine —"The tax, when rightly applied, does not act in raising the price of a commodity as an ordinary protective tax does. Thus, a duty upon corn necessarily raises the price of corn." There must be some latent power in the words "when rightly applied." To ordinary apprehension every tax that increases cost raises price. Let us, however, read on—"But a small tax upon an invention for a declaration of its methods may actually cheapen the commodity to the public, inasmuch as the patent tells all the difficulties which have been surmounted, often at a great cost, before the manufacture became successful." Observe here, (1.) The tax that is so harmless or so helpful, is to be a "small" one—a small tax "to *recoup* the one man who has succeeded." The use of the verb, which we italicise, shows that in the mind of Dr. Playfair the "*tax*" *ought to be* one with a well-considered *limit* as to its total inbringings. We claim the Right Hon. Member's support from his place in Parliament of some plan for *insuring*, or rendering probable, this essential smallness which indeed is so generally absent; (2.) It is of course not the tax, but the knowledge, that cheapens production; the tax enhances its cost.

The Right Hon. Member writes:—"There are two bodies who have great interest in promoting it" (*i.e.* a change, or a stimulus, counteractive of manufacturers' assumed sluggishness),—"the public and inventors, and the problem is how to unite them in a common interest. England is the last country that could afford to make any experiment which might diminish the inventive faculty of her industrial population." (Nor may we trifle with their *libre travail* and retard their use of inventions.) That is, Holland was safe in abolishing patents. England dare not. Her shipowners, farmers, miners, and manufacturers require to be stirred up, at least they are too careless about improving and economising, and need the professional inventor and his associates.

What, then, according to the article, is the principle on which we are to proceed? "Prizes in the form of rewards for successful venture" [researches and trials] he tells us "must be offered. . . . These prizes are the royalties for successful patents." (I hoped the author renounced monopoly as a reward; but no.) "Expediency," he proceeds, "is their justification. But if expediency be the chief reason for granting monopolies to invention, we have a right to consider with what limitations patents should be given in the public interest."

To whatever extent one may demur in respect to these dicta, we are content to advance with him and see the practical application of his principle in, and to, the new Patent Bill. It "is founded on the necessity of protecting public interests." Good. What, now, are the protecting provisions which he specifies?

1. "Bad and frivolous patents are to be sifted out by examiners, and the worthy patents are to be tested by their utility, and by an increasing money payment as evidence that there is a practical interest to keep them upon the roll." Of this requirement he thoroughly approves—"The weight of all authority supports a system of preliminary examination, which, to be of any public use, ought to be conclusive." The examination that he believes in extends to "utility" as well as novelty.

2. "The bill also compels the inventor to supply the public with the products of the invention [adequately?], or to grant licenses within a moderate time and at reasonable rates."

"On the whole, then, the principles of the bill appear to be fair conditions in the interests of the public. . . . There are, as we have shown, two interests to protect—the interests of the inventor and of the public. In the case of a good patent these interests are identical."

The last words overstate the harmony of the "two interests," for it is the interest of the patentee to sell his commodities as dear as possible, that of the public to buy them as cheap as possible. What is meant is, I presume, no more than this: it is the interest of the public to get inventions introduced, even if monopolies are granted and maintained, provided a due supply of the patented article is kept up.

It cannot but strike the reader as strange how utterly ignored throughout the paper is the interest of industrials. They are not comprehended in either of his categories; all my eminent friend would do for them, or for the public through them, is this: they are to be entitled to claim licenses "after a reasonable period," and this (according to him—happily, not according to the Bill, as we

read it) only if the patentee fails to supply the public demand. No doubt, he elsewhere contemplates that licenses will be tolerably general under payment of "royalties," or of a "tax;" but, then, although he employs the words "reasonable rates," he evidently shuts his eyes to the position which, under free trade, British industries occupy. There is not a sentence to indicate that he cares whether the burden of what he reckons reasonable rates can be borne in competing with foreigners, many of them not paying any inventor's tax. No expression of sympathy with home industrials, no fear that they may be driven off the field, escapes his pen. Yet I am sure he is not willing they should suffer. It is plain that his paper has been written hastily, and it does not profess to traverse the length and breadth of the question, or discuss difficulties.

Still he does show sympathy with the inventors. When he speaks of advantages and disadvantages it is only them he has in his eye. He states no objection to the proposal to elongate the term to twenty-one years. He rather relishes it, for he complains that "the new Patent Bill, while it provides for the extension of new patents from fourteen to twenty-one years, strangely omits to make provisions for the extension of existing patents for a further period of seven years. . . . It would be a singular injustice that good and effective patents now in existence should have a term of life one-third shorter than the more fortunate ones taken out after the present year." Injustice! the term accepted for the existing inventions was fourteen years, a duration which an overwhelming amount of testimony throughout half-a-dozen Blue Books proves to be ample. Would it not rather be injustice to toss to the holders of these privileges, who are, in a great measure, the mere assignees of the original patentees, seven fat years more without compensating consideration, without inquiry whether the remuneration received is sufficient, as if the matter were one of complete indifference; whereas it may fairly be set down as a gift of several millions of pounds, or at any rate the imposing on the ill-used long-suffering public of a burden which in its various forms will approach such a formidable sum. The reader may doubt the accuracy of these flaming totals. I have adduced elsewhere figures which I commend to his candid summing up, and if my guess is excessive let another more reliable be presented.

This brings us to see the radical defect of the view the right honourable and learned gentleman takes. He omits altogether, amidst his frequent allusions to public interests, to notice that these are only consulted and guarded duly, if the price paid, the

income or advantage received by the inventor, corresponds to the *value* of the service rendered, of the trade brought, of the national gain obtained. If the price to be paid is monopoly pure and simple, the length of the term should vary according to circumstances capable of being considered; if in authority to levy royalties, the amount to be drawn, as well as the rate, admits of being regulated, and should be. It is folly or crime to give as great a reward, to tax manufacturers and the public as heavily, for a trivial benefit as for one of distinguished eminence. Whether the purpose of the patent system is to stimulate or to honour, the end is only attained aright by the exercise of some discrimination. That there can be discrimination is beyond a doubt. It has never been attempted. Circumstances formerly hardly called for it. Now these are altered quite.

Scattered throughout the paper are a number of suggestive sentences.

"I had the pleasure of making a tour in England and Scotland with . . . Baron Liebig. . . . During an inspection of the coprolites Liebig . . . prophesied that the time would come when England would enrich her fields with the fossil dung of the old Saurians. . . . Liebig had shown how bone-earth might be made a soluble manure by mixing it with sulphuric acid. Of course it was a mere childish extension of the idea that the same thing would do for the bone-earth in coprolites. . . . The manure merchants patented the preparation of these by sulphuric acid, and held a monopoly for fourteen years. . . . Agriculture was taxed for fourteen years by an *abstraction from common right.*" There is reason to think such a wrong, a like extortion, would be practised under the very bill which he commends! Will my right honourable friend move an amendment to prevent recurrence?

"The more that Pascal's ideas were used . . . the greater must have been the satisfaction of the *author*. Now Pascal . . . is said to be the *inventor* of the ordinary wheelbarrow. . . . The difference between the copyright and the patent is that between two estates, where the owner of one throws his park open for public use, while the owner of the other charges a shilling every time that you enter his grounds."

"Watt . . . was a maker of mathematical instruments; Arkwright . . . a barber; Neilson . . . the manager of gasworks; Cartwright . . . a parson; Wheatstone . . . a musical instrument maker; Young . . . a carpenter." These instances are adduced to show that "the introduction of improvements is generally due to intelligent

outsiders." For "generally" read "not unfrequently," and draw this inference, that to reward in the way we do, viz., by giving an exclusive right to carry on a business to which a man is a stranger is most illogical, if not preposterous, and to the *inventors* pretty often a costly and clumsy white elephant. Encourage to the utmost these outsiders and inside improvers too (who, however, hardly require extraneous encouragement), but why do it by monopolies? The disadvantages of these to the nation and to industrials the paper does not touch on, still less attempt to extenuate.

There is exaggeration in the following:—"Government would never have replaced their old wooden frigates if inventors had not brought out new cannon of great power. Modern changes in naval warfare have been due to competition among inventors." Nobody questions the debt we owe to inventors; the differences have respect to the manner of dealing with them. Certainly Government should reward those liberally who so well serve *it:* manufacturers, those who serve *them,* but in better ways than the patent system provides. Their costly and perplexing character is seen by the following:—"A celebrated inventor said to me a few days ago, 'No patent is worth anything unless £20,000 have been sunk in its preliminary stages.'" Think of that, you who plead for patents, imagining that they are a boon to the poor. They act, I have long thought, adversely to working men in particular.

"The patent revenue ought to be used not merely to swell the Consolidated Fund, but to promote invention. . . . Patent libraries to consult, and patent museums . . . ought to be provided." The Edinburgh Chamber of Commerce wisely wishes a portion applied in medals and honours for the worthy. These our author seems to disparage. "The fountain of honour which used to spring from the throne has become dried up, and both discoverers and inventors have learned to prefer the democratic letters F.R.S. to the more royal letters K.C.B." This may be doubted. Her Majesty has only to reopen more widely the sealed fountain, and the estimation in which it is held, and the power of good it can set in motion, will be manifest. My friend avers:—"The experience of State rewards for invention is melancholy in the extreme." Why? Because it was not systematic, but so rare that no machinery was in operation for testing value of the discoveries rewarded, and regulating the amount of awards. Will he say the purchase of the invention of perforation of paper for the nation was not a hopeful indication? Can he say that the War Office rewards absurdly, except indeed on the side of excessive

liberality? However, there is no present intention of instituting Government remuneration of inventors. The Edinburgh Chamber's plan of permissory expropriation may prepare the way thereto.

Let us thank the learned author for two declarations:—"Every scientific discovery is simply an addition to the common stream of knowledge. . . . No one could grudge that the owner of the land into which the channels are cut should receive the fertilising waters of the common stream of discovery, but the patent law goes much beyond this. It says that no one higher up or lower down shall construct similar channels for fourteen years."

Again: "Originally patents were only to be given if they be not contrary to the law, nor mischievous to the State, by raising prices of commodities at home, or hurt of trade, or generally inconvenient. . . . When the courts of law had to interpret these conditions they gradually began to consider the patent as a right, and not as a privilege"

With such manly and satisfactory avowals, who can doubt that, when the more excellent way pointed in the Edinburgh Chamber's report receives his attention, he will be ranked among our allies and advocates? Such an auxiliary will be more than welcome. He is needed by his country.—I am, etc.,

R. A. Macfie.

30*th March* 1877.

FURTHER OBSERVATIONS.

There is much less difference of opinion between patent-favourers and opponents of patents than appears on the agitated surface. If we take the trouble to dive down but a little way we are in clear, still water, and see at bottom a hopeful amount of agreement. For that reason it is fortunate when such a man as the Right Honourable Member for the University of Edinburgh is the "enemy" who "writes a book." It is well in dealing with adversaries, especially the honest and intelligent, to come to close quarters. Much, if not the most part, of our diversity of opinion about patents comes from want of exact definition and of precision in the use of terms, from the use of euphemisms and misleading phrases (*dolus latet in generalibus*), and from lazy contentment with uniformity of treatment, disguised and dignified as symmetry and simplicity of "system." It would be about as sensible to buy all metals at the same price, or punish all offenders with the same imprisonment, as to value all inventions, and reward all patenting inventors, alike. There are great varieties in inventions, each variety justifying differentiation of treatment; some are the result of years of brooding, others of a flash of thought. Some follow laborious and costly trials, accompanied with failures not a few; others are from their nature like Minerva, complete at birth. Some are so ingenious that extraordinary ability alone could conceive or mature them; others any ploughboy could make,—nobody could well miss making them. Of some the secret could be kept; of others there is hardly a secret to keep. Some are for machinery or articles; others are for operations or processes. Some are of very frequent and widespread utility; others the very reverse. Some present great advantage to whoever uses them; others only small advantage. By some a few months of monopoly would bring a fortune; by others a long duration could not possibly leave much gain; yet this last may have been the most laborious and costly to perfect, and have absorbed most time and required the highest and rarest talents. I might enlarge upon differences, but will mention only one more. Some it may be toilsome to introduce into general use,—the patentee may have to contend against prejudice and most serious obstacles; others may have only to be known to be appreciated and adopted. Here

I pause to ask if it really be the case that it is the business of the State, and if original devisers of patent law expected the State, to urge and persuade industrials to avail themselves of every new process, or to make new articles. I deny it, and I dislike and disclaim for them the thought that such a thing is necessary. It is not necessary. *Laissez faire.* Self-interest and the natural forces that operate in the commercial sphere ought not to be so clumsily supplemented and swaddled. Passing from this consideration, and assuming that the State should intervene, there are, as we have seen, extreme contrasts in the degrees and kinds of merit and of consequent claim to reward. If we look to the inventors, we find the same diversity. One inventor has youthful energy, capital, business habits, and health; he, if he likes, *can* work the monopoly with which the State invests him; another from wanting one or all of these cannot. A third has a fortune of his own, or does not wish to set up the required manufactory and take up his residence in the only place where it would serve his accredited purpose, or he is already engaged in active business; so to him, too, the privilege is of little value, and unwelcome. No doubt the privilege may be *exploité* in the way of only giving licenses, and not one's-self working the invention. Even this may require the setting up of an office, travelling over the kingdom, and corresponding with agents over Europe and America with respect to the foreign patents. The attention, the absences from home, the tact that are required, are more than he is conscious he can bestow on this business (for a serious one it is). He parts with the privilege therefore, as inappropriate and burdensome, for a mere trifle. A trifle is all that he gets who deserves most; a large revenue is drawn by the mere assignee; which, however, does not act as a stimulus to invention. It is sheer waste for the most part, as a national expenditure in favour of invention. The inference is legitimate or unavoidable that monopoly is a reward of only exceptional availableness, one which therefore ought to be resorted to but rarely indeed, only when it is specially demanded by persons who will work their privilege, and when it is justified by circumstances that ought to be taken into account; and that alongside of monopoly other forms of rewarding or remunerating inventors should be instituted and offered, among which gifts of money from the State, or purses collected by users of inventions, medals, titles, votes of thanks, etc., will be the staple. Monopoly, truly, is the most equivocal, awkward, abnormal, unsuitable, and expensive of rewards.

There are a number of false assumptions connected with patents which it would be useful to expose. We merely hint at one or

two. It is assumed the invention is so unlikely to be otherwise brought to light, and is so valuable, that it will be worth paying for. It is assumed that the patentee will work his privilege with vigour. It is assumed that the patentee will be content with moderate royalties. It is assumed that the payers of royalties will not be retarded in the race of competition with foreigners by the burden they impose. It is assumed that the fact that there are not patents in some other competing countries is of no consequence. It is assumed that Great Britain's industrials are able, in spite of such inequality, to hold their own against all rivals, or that if they do not, we have such a reserve of national pre-eminence that we can afford to lose a trade here and there. And it is assumed there is a right almost divine which inventors may plead whenever this power of endurance is questioned, and that the majority of inventors are meritorious, as well as that the greater part of modern patents are worth the much patient endurance they enforce. It is assumed that monopoly, which was reserved for inventors intending to manufacture, is not only a generally suitable form of reward, but is a reward in some rough-and-round way proportioned to the service rendered by inventors. It is assumed that there is so little nobleness of character and generosity of action among men of science and talent and enterprise, which would prompt them to make inventions and confer the knowledge of them on their fellows without that somewhat mercenary and selfish motive, that it is not worth while to provide facilities for receiving such gifts, while, on the other hand, there is organised wide array of appliances to facilitate monopolising and exactions. It is assumed that the chiefs of British industry are so listless that they require to be goaded to improve, and so short-sighted that they would not individually or collectively call in the aids of science and make the experiments which from time to time are absolutely clamant, or at least are hopeful.

I may answer some of these and other assumptions, as fanciful as they are fatal, by adverting briefly to matters within the sphere of my own observation.

The sugar trade has during my experience of it been revolutionised by certain great inventions. By the use of granular bone-black, the commonest quality of loaf sugar that is now seen anywhere far surpasses in whiteness what in my youth was superior "double-refined." The patentee of the practical application of the article in this form was a foreigner, who long neglected the patent

almost entirely. He did little or nothing to introduce the improvement.

By the use of the centrifugal machine, another great revolution was effected. This ingenious piece of mechanism was invented in Britain, and first applied to the extraction of sirups from sugar out of the United Kingdom. Here, however, the application had been patented by three or four different parties without any of them taking any pains in the matter (being "outsiders"). It was actually introduced into this country independently of them and even of the inventors and makers of the machine. By-and-by a coalition was formed and there commenced "whapping" charges. The hydro-extractors had been sold by Messrs. Manlove, Alliott, and Seyrig at only a fair manufacturing price that left a profit on each. The coalition, not satisfied with such trade, charged a royalty on the amount of work a machine did = something like $\frac{1}{8}$d. per lb. of sugar. Thus, they first of all got a fair price for the machine, and thereafter, besides, royalties which in a single fortnight, or some other short period, would about pay to the coalition as much as its value.

Probably the greatest revolution in the trade was effected by a clever invention of a very able reformer who did not patent it at all, but who has made a large fortune in the business.

Three new articles are now sent forth from sugar-houses and have led to great changes, yet never were patented,—crushed sugar, "golden sirup," and crystals.

These experiences contradict two current allegations, viz., that outsiders are the practical improvers of industries, and that patenting is required in order to bring new plans and machines into use. I rather think that since Howard's inventions it has retarded on the whole, and very much. They might likewise show that sums demanded or received by patentees are not proportioned to merit, and largely go to persons who have but secondary, if any claims.

Constructions of the Statute.

Till 1832 there could not legally be more than five persons interested in a patent. The plan of giving licenses seems to be a lawyers' contrivance by which the object of this limitation was evaded, that object probably being to reduce the monopoly to the smallest dimensions, under a hazy idea (practically a misconception) that the limitation would counteract monopoly. The history of patents is one of continually relaxing aversion on the part of the co[illegible]

of law, and continually enlarging pretensions on the part of inventors. The declension began early. It was not long after the days of the eminent jurist mentioned in the following extract from Rees' *Cyclopædia*, that the particular development referred to in it was established :—"Sir Edward Coke, in his explication of this statute (21 Jac. I. c. 3), gives it as his opinion that the new manufacture . . . must not be generally inconvenient, and this construction seems to have been generally adopted in his time, as he says that a patent for a fulling mill to thicken bonnets and caps was set aside on the ground that it was holden inconvenient to turn labouring men to idleness. But this construction does not prevail now," etc. As to the change which legalisation of the practice of licensing introduced, it was radical and subversive *pro tanto* of the statute, if the following view is correct, viz., that the monopoly's being enjoyable by a restricted number of persons implied restriction on the number, not so much of partners in one single business, as of single persons engaged in the same business separately. If there were more than five such separate concerns, evidently there was no need of a monopoly,—the encouragement which monopoly gave to the establishing of the new trade in order to the public supply of the new manufacture [or "vendible article"] was proved not to be required, by the very fact that so many persons, separately, entered into the trade. To allow more concerns on the monopolist footing could hardly fail to conflict with the public interest, in these circumstances. It would be against the letter and spirit of the statute. Let there be more concerns if there be demand sufficient, but on the footing of free competition. (Licensing was a contrivance not dreamt of.)

It is commonly supposed that the exception in the Statute of Monopolies of exclusive privileges (not, observe, for "inventions," but) for "new manufactures," was intended as a reward to a present inventor, or else as a stimulus to future inventors; there is, however, no mention of either of these motives in the statute. It is also commonly supposed that the statute legalises true monopoly = exclusive right to *sell*, but its language only extends to "the sole working or making," which is a much more restricted and yet a substantial privilege. Mr. Webster discusses this point thus :—"The grant of the sole right of vending appears at first sight to be contrary to the first section of the statute, and not to be within the meaning of the proviso. . . . The object of the law is to reward [?] . . . That reward is the profit to arise from the exercise of the invention; . . . the profit in fact being the sum charged by the patentee to the purchaser of an article beyond the cost of its production. . . . As no one [in this country] can use the invention

[in the sense of working or making] except the patentee, none besides him can lawfully have such articles for sale." This is reasoning in a circle most palpably, for might not any one (so far as patent legislation goes) *import* from abroad, or at the time of the statute, from Scotland or Ireland? He proceeds,—"The sole right to vend articles made by means of a patent invention is . . . absolutely necessary to enable the patentee to obtain the reward," etc. This is a mistake which a non-commercial writer might easily be betrayed into, not knowing that, in those times far more than now, the advantage of nearness to the market, where sales can be effected, and the being exempt from import duties, freights, insurance, and charges was far more than sufficient to make the concession of sole right to work or make a valuable privilege. Does it not amount to the very essence of that protection which British manufacturers long magnified and which French and United States manufacturers are stoutly defending and contending about? Protective duties are practically as serviceable as prohibitory, which, indeed, even in the palmiest days of the former, were imposed but rarely.

Another very common supposition concerning this world-famous statute is, that it requires the publishing or at least specifying of the nature and method of inventions. There is in it nothing of the kind. Possibly the modern question of secrecy did not occur to the framers of it, nor to the Parliament that passed it. The conviction was, that the term to be sanctioned was sufficiently long to enable journeymen to master the art which each patent caused to be introduced, and that consequently, if there should be any mystery maintained, the evil would be of (what in those days would be regarded as but) short duration and of little moment. The language of the statute does not conflict with the contention that legislators proceed in a dangerous track when they allow objections to disclosure, which are in themselves a suspicious symptom, to interfere with the fullest opportunity to vindicate public, that is, existing rights.

From THE SCOTSMAN, *April* 3, 1877.

In the discussion of the Patents Bill at the Edinburgh Chamber of Commerce last week, the views both of the public and the inventor received tolerably emphatic representation, the former by strength of voting, and the latter by strength of language. On the part of inventors, it was contended that patents, instead of being a privilege, are the limitation of a right. Mr. Waddy maintained that in taking out patents for their inventions inventors were "paying heavily for what was really their own." In short, he took up the position that an invention is the property of the inventor, exactly as a house or a field is the property of its landlord, and that to take it from him at the end of fourteen or twenty-one years is a breach of natural justice as distinct as it would be to deprive a landlord or householder of his special belongings at the end of the same period; while to make him pay a special price for the protection of his possession during this abbreviated period of ownership is an aggravation of the fundamental injustice. This is undoubtedly the legitimate issue of putting inventions on the same footing as property; but the instinctively felt impossibility of accepting the idea of making an invention the exclusive and perpetual possession of its originator and his heirs, or those to whom they may assign it, suggests that there must be something wrong with the principle thus laid down, and that however right it may be that inventors should reap a reward from their ingenuity and labour, it must be arranged for on other grounds than those which demand the security of property. In regard to property relations, ideas, and things, from the very nature of the case, cannot be dealt with in the same way. A thing, such as a house, or a field, or a watch, can only belong to one person at once—to become the property of B. it must cease to be the property of A. The mere fact, accordingly, of a thing being open to public observation does not make it any less the property of the person who has it, or any more the property of the person who has the opportunity of observing it. B. does not become the possessor of A.'s watch merely by looking at it, or even by understanding its construction. He can make it his only by getting hold of it through covenant or gift, or through theftuous action, whether violent or concealed. In either case the law can interpose effectually to protect the sole and rightful owner; and it can do so because what

it has to deal with is not an impalpable abstraction, but a concrete thing, which, in the last resort, its officers can seize and place in the proper hands.

The case is totally different with ideas, and not less with inventive than with any other ideas. An original idea can be proper to a man, can be his property, only so long as he keeps it within his own head. The moment he exposes it to public observation, in any form, it ceases to be his property, and yet in such a way that he cannot demand of the law to replace him in his first position of sole proprietor, and this for several reasons. In the first place, he cannot complain of having lost anything, because ideas, unlike things, can be the possessions of a great many people at the same time. The idea is not the less still an idea of his that it has become the idea of any number of other people. In the next place, he cannot complain that other people have become possessors of his idea by any unjust process, unless, indeed, they have tortured him to make him disclose it. But if he has spontaneously revealed it, he has in reality made a gift of it. Nobody compelled him to give it up; he did it of his own accord, in the full knowledge that, as soon as he exhibited it, it would become the possession of all intelligent observers. And then, further, even were there ground on which to make a complaint to the law that protects property, the law is powerless to help him, because the law cannot seize ideas. A policeman cannot take a notion out of the head of a man who has once got it and put it back into the head into which it first entered, so that, as at first, it shall be nowhere else. If in this way a man's idea may, through his own act, pass into the possession of others, without any breach of the natural law of property, it is not less true that they may further, without infringement of that law, give it such embodiment or expression as they deem suitable. If a man has acquired the idea of a watch by the voluntary communication of his neighbour, not only does he commit no depredation on his neighbour's property by receiving the idea, but he commits no further depredation on it when he proceeds to embody the idea in metals of different sorts, provided simply that the metals are honestly his own. And the number of instances in which he may make this embodiment, and the amount of profit he may take from the sale of these embodiments, make no difference on the impossibility of convicting him of any transgression of the law of property, strictly so called. The source of hardship to the inventor lies in the very nature of things, and cannot be avoided. If he wants to make any profit by his invention, he must embody it—that is to say, he must deli-

berately allow other people to become more or less fully acquainted with it, without involving them in any true transgression of property rights in acquiring and embodying it also. It may be perfectly true that for an inventor's neighbours to profit by the necessities of his position, and grow rich upon the applications of an idea, which, but for his ingenuity and labour, might never have been theirs to use, without making him to some substantial extent a sharer in the gain, is highly ungenerous and ungrateful. But that is a totally different thing from invading his property. It is the business of the law to enforce respect for property, but it is not the business of the law to enforce the practice of generosity or gratitude. As far as the natural principles of property are concerned, the inventor has no case—he ought either to keep his idea to himself, or make a firm bargain before he reveals it; if he risks an unconditional revelation of it, he must take his chance of thanks from society. Nobody asked him for his services, and he is not in a position to make it matter of lawful demand that they should be remunerated.

But because the law can do nothing for an inventor, on the score of infringement of property rights, when he exposes his invention to public notice and imitation, it does not follow that the law has no call to do anything for him or with him at all. It has a call to take proceedings with him, grounded upon the fact already mentioned, that he is apt to feel himself ungenerously and ungratefully used if other people acquire wealth through what he has invented, while he receives little or nothing, and upon the other fact that he has it in his power to keep his useful secret, unless it is made worth his pains to disclose it. If it were to become an understood thing that inventors will make nothing by their exertions, or nothing but a sense of being unhandsomely treated, it is plain that inventors and invention would be immensely discouraged, a state of matters obviously antagonistic to the well-being of society. It is, therefore, an advisable thing that there should be a legal encouragement of invention in the form of some security to inventors that it will be their own fault if it does not become worth their pains to exert their inventive abilities to the utmost in the service of society. What precise form such legislation should assume is simply a question as to the most effectual mode of gaining the end in view. The proposal that has occasionally been mooted, to make the rewarding of inventions a function of some department of Government, to be exercised according to the view taken of the value of the invention, is open to the twofold objection that it is insurmountably difficult to

determine the value of an invention before experience of its working, and that the whole community is made to pay equally for what certain parts of the community profit, in a very appreciable degree, more immediately and more largely by, than others. A recommendation of the Patent Law is, that in instituting a stimulus to invention it aims at avoiding both of these drawbacks. It seeks to make the invention fix its own scale of remuneration by the test of its success, and it seeks to draw the largest and most immediate part of that remuneration from those who take largest and most immediate gain from its use. Another element in such a scheme of encouragement ought to be that of throwing as few obstacles as possible in the way of poor inventors, whose anxiety to serve the public in this way, and therefore the probability of their rendering service, is in the inverse ratio of their ability to bring it forward. It should also be a feature in such a scheme that reward should be in some proportion to merit, for a kindred reason to that which in the philosophy of punishment differentiates penalty in accordance with desert. How far the existing Patent Law fulfils these and other essential requirements, or how far the Government Bill for its ammendment is likely to improve it, cannot in the meantime be considered. It must suffice to have emphasised the fact, very apt to be forgotten, that the Patent Law is simply a device to stimulate invention in the public interest, not a measure for the better protection of private property. This latter it cannot be, owing to the peculiarity that is inseparable from any element of property there may be in inventive ideas, viz. —that the essential condition of their being profitable to the holder is that of ceasing to be a private and becoming a common possession.

Sir,—You have rendered great service to British industry by the clear statement your editorial article of to-day contains of the reasons why it is impossible to regard an invention as property. You say, "The law has a call [it is invoked, at least] to take proceedings with him (the inventor), grounded upon the fact already mentioned, that he is apt to feel himself ungenerously and ungratefully used if other people acquire wealth through what he has invented, while he receives little or nothing; and upon the other fact, that he has it in his power to keep his useful secret." Lord Dreghorn, in his Essay on Literary Property, with reference to

what more nearly resembles a wrong than anything that inventors might have to complain of (viz., republishing without author's consent), writes:—"Many cases may be figured in which it would be ungenerous and ungenteel to do so. . . . There are many acts inconsistent with rigid morality which the common law cannot possibly punish." *You* will probably agree with patent-abolishers, that to use any invention whatever which the course of Providence develops is a right and duty belonging to every man. *They*, again, will probably agree with *you* that it is "an *advisable* thing that there should be a legal encouragement of invention," and that "what precise form such legislation should assume is simply a question as to the most effectual mode." You apprehend that to make the rewarding of inventions a function of some department of the Government . . . is open to the twofold objection (1.) that it is unsurmountably difficult to determine the value of an invention before experience of its working" [which is indubitable; but why not defer till after experience affords the means to determine?]; "and (2.) that the whole community is made to pay equally for what certain parts of the community profit . . . more largely by than others" [but if the incidence of the comparatively small pecuniary burden, which will liberally suffice when direct payments from several nations become the established mode of remunerating inventors, should, in the necessity of the case, be distributed in taxation so irregularly as not to correspond in any one year to the value received by individual tax-payers, there will on an average of years be a tolerable approximation to fairness; and even were the case otherwise, the principle of seeking the greatest good of the greatest number would justify the experimental introduction of what is a theoretically much better system than that now in operation—in which formidable inequalities are practically the general rule.] The present is not the time to discuss the expediency of direct State rewards. The Edinburgh Chamber of Commerce, to whose decision you allude, has given the weight of its influence to an intermediate course which, though falling much short of a perfect solution of the question, has this advantage, that it is not liable to either of the objections you specify.

Let me quote the language of the Chamber's recommendation: it is, to introduce "a clause to entitle persons engaged in any particular branch of trade associated together to demand that after three years of exclusive patent rights, or earlier if the patentee is willing, any invention affecting them shall be valued by three experts to be appointed by the Lord Chancellor, in order to extinc-

tion of the patent and free use of the invention thereupon by the whole community." This way to remove many difficulties ought to please inventors. It assures to them, when expropriation is demanded, the *full value* of their inventions, and it ought to be welcomed by trades which find or fear that patents interfere with improvement of their processes, and burden as well as embarrass them in competing with patent-free foreigners. You properly say, "reward should be in some proportion to merit, for a kindred reason to that which in the philosophy of punishment differentiates penalty in accordance with desert." The present law does not profess to seek, it does not provide, any such necessary adjustment. The Chamber's plan seems to present what is wanted, to the extent to which it is acted on, and therefore is entitled to your support, and that of all patent-law reformers.—I am, etc.,

AN OLD PLEADER FOR FREEDOM AND
FAIR PLAY TO INDUSTRY.

3*d April* 1877.

From THE DAILY TELEGRAPH, 10*th April* 1877.

With each Session of Parliament there recurs in the regular group of legislative hobbies a measure relating to the amendment of the Patent Laws, and the second reading of the Attorney-General's Bill on that subject was on the orders for last night. For some years the name of Mr. Macfie, the late Member for Leith, was associated with an annual measure of this description, the object of which was to abolish patent rights altogether. That gentleman proposed that inventors should be rewarded out of the national purse, and the product of their brains secured gratuitously to the public. Nevertheless the scheme failed to meet the approval of the House of Commons, and in 1875 and 1876 two unsuccessful attempts were made in the Upper House to remedy the alleged grievances of patentees. On each of these latter occasions the Lord Chancellor stood sponsor for the measure, and still the difficulty of equitably protecting the interests of inventors appears as far from permanent adjustment as ever. Yet so urgent is the necessity for improved legislation in reference to "letters-patent for inventions" deemed by the present Government, that the Bill of the Attorney-General now before the Lower House was honoured with specific mention in the Queen's Speech. So far, however, as the opinion of persons interested in the advancement of the industrial arts can be ascertained, the Bill of Sir John Holker is thought to be in some respects as little adapted to encourage the development of inventive originality as the patent laws now in operation. The action taken by the Ministry in the present instance may be accepted as a recognition of the vital dependence of industrial and commercial prosperity upon the due fostering of useful invention. But, while the motives which have prompted the Bill cannot fail to be sincerely appreciated by the friends of progress, the delicate question meets us at the threshold whether the measure now under discussion may not indicate a tendency on the part of the Government, in the very eagerness of its zeal to maintain the manufacturing and mercantile supremacy of England, to overstep its legitimate province and defeat the desired end by undue interference with the intrinsic merits and spontaneous fate of inventions.

[Here is one of the euphemisms or well-turned indefinite phrases, one of the generous acquiescences in mere assumptions,

on which I have elsewhere animadverted. "Undue interference," forsooth! Why, the whole patent-system is interference—interference with private rights and liberties, and with public use of, and benefit from, things invented. What the disapprovers of the system say is—By all means, just let inventors stand on their "intrinsic merits" and meet the "fate" that comes "spontaneously." What the amiable and sensible, but only half-awake writer of the article does, unconsciously, being bewildered amid the fine sentiments to which we are nowadays familiarised, is to lift up his voice in favour of right of search and letters of marque, and against "freedom of the high seas;" he does not trust free growth, but would *force* the plant of invention under glass, by artificial and unhealthy stimulants. In plain terms, the good leader advocates, under the idea that it is non-interference, that invention-monopolies should be given freely, and every such monopolist should be free to make what inroad he likes and enclose what he likes on the public domain, and to charge what he likes to the public for use of what he encloses. I have said "monopoly," the legal word, which, in spite of its frequency in law-books, the fashion is to oppugn or resent. The truth is, the word "patent" is a euphemism that disguises what would otherwise be obvious and offensive. Few people are such plain speakers as to say, "I have taken, because the State allows it, a monopoly. I have acquired, by means of my wits and a little cash, power from the State to prevent everybody from making a thing that has flashed upon my mind, or indeed was manifest enough, a thing I was lucky or smart enough to get upon the books before my neighbours to whom my getting it will prove a great inconvenience. I can now extort a big lump of money from them, even if the Bill pass with its compulsory licensing, which you know is really but turning my monopoly into power to levy taxes as high as I can, on as many as I can, for as long as I can. No doubt I will draw into my net a great deal more than I deserve; it's my good fortune." Language not less self-condemnatory would describe what ought to be acknowledged by many a patentee if the truth were told. I remember a case where a patent was taken by a high-class man for the right density at which the saccharine magma should enter centrifugally-acting sirup-extractors, a very pitiful claim; for who is not at liberty to use the gravity most suitable, and to discover it for himself? Yet are not a great many lucrative patents scarcely more meritorious? I hope it is clearly understood that I see no objection on principle to, and of course I do not condemn, the granting special privileges

in every case where an inventor will openly declare his invention, and where, after due public intimation, nobody is found who is willing to spend energy and money in trials. In such a case what inventor would or should shrink from telling what is his novel conception? Is not the desire to conceal before getting the patent a noxious result of our mistaken way of dealing with invention, our turning it into an empire of mere selfishness? But to proceed.]

. . . Provision is also made for the establishment of a Board of four examiners with two assistants, who shall hold their appointments direct from the Lord Chancellor. The function of these officials is to determine, after minute investigation, whether there be the requisite amount of difference between the idea of the applicant and any invention similar to it already protected, to justify the concessions of patent rights.

[Observe: "already protected," not *already known and in use.* Such is the flagrant but characteristic enormity of inventors' pretensions!]

Law officers are likewise to be consulted before any formal decision on the destiny of an invention is arrived at by the Government examiners, and should the invention be pronounced inadmissible for protection by patent, any applicant dissenting from the verdict of the Board is at liberty to appeal to the Lord Chancellor. The avowed object of this modification of the existing patent laws is to enable a rival claimant to obtain the information necessary respecting the invention, so that he may be guided in judging whether it may be an infringement of any patent by which he is already protected.

[Observe: "a rival *claimant,*" not the *people,* who may already be doing what is to be prevented; and "infringement of any *patent,*" not *infringement of public right.*]

We must presume that the Attorney-General has sufficiently pondered the difficulties that will inevitably be encountered in the preliminary investigation of new inventions contemplated by the Bill; but there may be some fear lest these should turn out to be insuperable in practical working. On an average more than a hundred applications for patents are made at the Registrar's office every week. Each examiner, on that calculation, with the one or two assistants, would be required to test the claims of about nine applications per diem. To discharge efficiently the duties involved in such a task demands a rare combination of acquirements. The examiners should not only have command of a prodigious variety of technical legal lore as regards patents generally,

but they should be profoundly versed in scientific and mechanical knowledge. Where are six walking encyclopædias of the law, art, and science to be found, each capable of deciding offhand whether a given invention is entitled to the guardianship of the State? For some years the annual number of patents applied for in England has been about five thousand, and consequently the powers of research, discrimination, and endurance required in a Board of painstaking examiners, would, at that rate, transcend the limits of human capability.

[Very true; but does not all this amount to tolerably plain acknowledgment that the evil system is incurably bad?]

The upshot would probably be that the judgment of overworked examiners would be implicitly trusted by overworked legal referees, and the Lord Chancellor, inundated with petitions from aggrieved inventors and distracted by the conflicting opinions of experts, would be under the necessity of delegating his function to some member of the judicial bench who would have to choose between performing the task imposed upon him in a perfunctory manner and abandoning it in despair. Moreover, the importance of even the most valuable inventions has usually been slowly comprehended. It is not often that an inventor, with the utmost diligence, succeeds in getting his conception fairly introduced under four years; and it is unreasonable to suppose that any body of officials should be able to allot its destiny in a few hours. We believe most experienced mechanicians would prefer that inventions should go, as at present, upon their merits before the tribunal of public opinion rather than accept the necessarily hasty verdict of professional examiners. No objection, however, could be offered to such officials if it were understood that their function was solely of a consultative character.

[Again a euphemism. "Consultative character" is well understood to mean, not help to make the patent strong, but freedom to "try it on." Here let me advert to another "assumption." It is assumed that because there are many persons interested in maintaining the open common clear from marauders, therefore there is no danger of people being molested; whereas the fact is, that the interest of the one man is so preponderant over the interest of any individual among the many, that such incursions are safe, and, I fear, frequent. The case would be different if one of the commissioners, or somebody else, were specially nominated to be guardian of public interests and opponent of public wrongs.]

Clause 20 of the Bill fixes the maximum duration of a patent at twenty-one years, subject to the payment of the third and

seventh years' duty, together with an additional £100 at the expiration of the twelfth year. This extension of time will afford satisfaction to all who do not entirely object to patent rights.

[*Why* should it? The able writer has yet to study this part of the case.]

The Attorney-General states that the extra duty will serve to weed out bad patents. But this view is clearly open to question, for a bad invention eventually dies a natural death. [Does it indeed?] . . . At the same time there are certain points in Sir John Holker's measure which mark a distinct improvement on the patent laws now to be amended. Compulsory licensing under royalty has much to commend in it. An inventor, and those who have a financial interest in his idea, should be taught that, in return for the substantial advantage they reap from it, the public may justly claim an early participation in whatever benefits it may be designed to confer. This end can be best served by all manufacturers who choose to adopt the new invention being at liberty to do so on practicable conditions. . . . The announcement that in future the Government undertakes to pay for whatever patents may be used by it will be welcomed as a tribute to justice. At the same time it hardly comports with modesty that the Treasury, which cannot, under the circumstances, be expected to be a purely disinterested arbiter, should assume the responsibility of deciding what compensation it ought to award the patentee. . . .

[Certainly if the Government gives a gratuitous privilege, and is willing to buy what it thus favours, it is entitled to say what it will give. There is liberality enough in that quarter, I doubt not.]

Since the previous pages now in type, a good deal has appeared on the topic of Foreign competition. Here is a specimen :—

"They blame the foreigners. We open our country to competition from all parts of the earth; but they will not open their doors to us. We will take American manufactured cotton or iron; America will not take ours, except at almost prohibitive rates of duty. A cry which seemed to be dead has therefore suddenly revived, the cry for protection. . . . We venture to predict that we shall see a good deal more of it during the next few years than many people suppose. . . . They see our cotton trade going away from us, American railroad iron imported into England, every department of our commerce suffering, from the mills of Lancashire, to the sugar refineries of Bristol and the silk-looms of Coventry and Derby; and they will not look unmoved, or with the eye of philosophers on that alarming spectacle."—*World*, 18*th April* 1877.

LETTER TO THE EARL OF DERBY.

DREGHORN, *Edinburgh, March* 1877.

MY LORD,—I am convinced that the demands made by patentees for the use of inventions are much heavier than they used to be. In my youth they were called *fees*, and perhaps they then corresponded in amount to that professional designation. Mr. Farey, engineer and inventors' adviser, in his evidence before the House of Commons Committee of 1829, speaks of them as moderate, although he justly again and again calls them *taxes*. Being taxes —and the worst kind too, for they are irregular as to rate, and must be paid whether there is profit or not—they cannot fairly be disregarded by statesmen, who know that free trade has put British industrials into a position in which only by equality of treatment in all that is within the sphere of legislation is it possible for them to maintain their ground. The Patent Law Bill now before Parliament may, by means of its compulsory license clause, do a little towards correcting the other bad characteristic, that of being exorbitant; but, I am afraid, not enough.

I am familiar with a striking instance to illustrate this fear,—the trade of sugar-refining, in which I was long engaged. In it a diminutive rate of profit on each operation is compensated by magnitude and multiplicity of operations. There are refineries in each of which no less a quantity is operated on in a twelvemonth than 50,000 or nigh 100,000 tons. If the profit is 1%, this leaves at the balance £10,000 or £30,000. But I have known patentees ask £2 per ton, and for several years the firm I was connected with paid £1, which your Lordship will observe is, on a single refinery's working, as much as £50,000 to £100,000, or much more than double the above profit. Besides, there might be more than one patentee to pay heavy sums to.

Under compulsory licensing the adjudicator could hardly appoint a lower rate than 1%; now this, I am pretty sure, is more than the trade taken as a whole has yielded in profit on the average of late years.

It is conceivable that British refiners may be liable to these patent-taxes for the use of inventions which are at the time not the subjects of patents in France.

My experience entitles me to say not only that this is unfair inequality created by fond favour for inventors, patronised recklessly by the State, but that the inequality greatly aggravates the difficulties under which the refiners labour, and which may overwhelm them.

I hope that by convention or treaty the French markets will be opened on terms of absolute equality as to duties to British refiners. If not, the foregoing figures demonstrate that our trade may go to the wall. A protective duty of $2\frac{1}{2}^{\circ}/_{\circ}$ (contrast this with the rate in the Cobden Treaty!) is more than can be faced in a business where $1^{\circ}/_{\circ}$ is a remunerative profit, unless indeed our country, either by lower wages or greater skill, or otherwise, has some advantage to countervail. Except in coal, I apprehend the advantage is all on the other side.

Here may I parenthetically introduce a practical man's idea of treaties. It is exactly that which finds diplomatically neat expression in the Paris letter in yesterday's *Times*, viz.: "The great majority of the Chambers demand the renewal of the treaties as alone capable of giving the *stability* so necessary to the national industries, for they are *only increased and developed in proportion as a certain future is insured* for them." This means, in plain English, taking a concrete case: "We will enlarge our refineries and build new ones, if you will but *bind* yourselves, ye confiding, generous English, to be content *for ten years* with unequal terms in which we shall be favoured, and to *guarantee* us all that while against an export duty on coal." The operation of a sugar protective duty in France is this: the increased consumption of Europe requires increase of manufacture. Where will that increase be? Of course in France, because, if there, the "cream" of French *and* the "cream" of British demand will be so *both* enjoyed. Whichever country at any given time offers the best price, the French refiner can choose and will choose. If I am not mistaken, modern business is conducted on the theory that, deducting losses from gains, the margin left by the excess of the latter over the former (and not anything like a *uniform* small profit) is the year's profit. The French refiner, we shall say, has some months of losses. He recovers himself by being able to supply *both* markets at their respective bests during these months, when one now, and the other by and by, leaves a goodish margin. I hope I shall be pardoned for going through these elementary principles, and especially if I have wrongly questioned the eventual perfect equality of convention or treaty. Some allowance may be claimed for a sexagenarian who

takes a much more sombre view of British trade and its prospects and ability to compete with other countries than is generally entertained; one who almost believes that masters and operatives alike confound two things that differ,—what is present good, and what is abiding good. My observation teaches me this lesson—that the former thing, whatever else it does, fosters rivalry that may subvert the latter. Even so clear an exponent of sound commercial views as *The Times* appears to me to be under the popular delusion that protection is ineffective in its aim. No, unfortunately, should I say? protection is appreciated still on both sides of the Atlantic. Can we doubt the individuals or trades whom it favours *know* that it helps them; that it builds up industries that will soon compete too successfully with us, and *we* by treaties and tariff join in that up-building work for rivals?

I most respectfully submit that the Commissioners, or some other agency, might represent to the French Government that the sugar-trade (to make the *experimentum in corpore vili*) should be exceptionally dealt with in respect to inventions. Probably overtures to this effect would be well received. They would have been in 1860, for Mr. Cobden and M. Chevalier are, as your Lordship is aware, known as opponents of patents. There are two circumstances to notice: (1.) the fact that the sugar-trade is already in a peculiar position with respect to these privileges (I remember well the endeavours—thought by the Greenock Chamber of Commerce, which petitioned on the subject, highly objectionable, although practically successful—of the West India sugar interest to get free from the bondage of the patent system); and (2.) the abolition of patents in that important sugar-refining country, the Netherlands. I would suggest either that the countries should agree that there shall be no sugar-patents in either France or the United Kingdom, or, if granted, they shall be terminable *pro bono publico* on either the State or associated refiners, in one or other country, or both, demanding that any troublesome invention (not the privilege) shall be valued, and paying the price. Nothing could be fairer than the latter treatment of inventors. Non-professional inventors would probably like this mode of settling. The trade would often pay in this form not a tenth of what they are liable to pay now, though to the original and deserving inventor little may be accruing. A committee of the Edinburgh Chamber of Commerce has adopted this plan of permissory expropriation as a generally applicable complement of compulsory licensing, and indeed its logical and happy conclusion. It will gratify many

find it commends itself to your Lordship and the Government. The result may be the establishment of a general European and American "buying" of meritorious inventions. Small contributions from each country would unitedly form a liberal total reward, and industry would be free; all competing countries would be on an equal footing.

I am getting into comments on our patent system. Allow me to say—what your Lordship, I am confident, sees,—that it would not be objectionable if the plain meaning of the Statute of Monopolies had been kept in mind, which is this: to tolerate patents only for businesses or commodities that are new, and not for improvements and processes in businesses and on commodities already naturalised among us. I have most gloomy forebodings of mischief to British industries if a twenty-one years' monopoly is legalised.

Whether this country can maintain its ground as a producer, none can tell. One thing is clear, statesmen should do what they can to retain leading and bulky trades, which pre-eminently the sugar-trade is, because they carry other trades with them. If we lose the sugar-trade, we lose a great many others that are affected and dominated by it. I hope I am not unorthodox when contending that such trades should be held fast, whatever appears to be the conflict with popular political doctrines. The French will do so.—I have the honour to be, My Lord, Your Lordship's faithful humble servant,

R. A. MACFIE.

Two newspaper editorial articles reach me to-day connected with the French Treaty question. To-day's *Times* writes: "Since 1860, French silks have flowed into England without any fiscal hindrance, and they are beating the native products on their own ground. But English silks cannot enter France until they have paid a high protective toll, and thus our manufacturers are heavily handicapped. *The Bristol Times* of 7th April, with respect to the sugar-refining trade, writes: "Even the strongest must succumb in a race when they have been so unjustly handicapped. We are not surprised at some public impatience being felt—free traders though we be—that this country should stand on so nice forms of international etiquette as to allow," etc. It does not appear to me that the leading journal puts forth all its strength of judgment when it pooh-poohs the silk complaints thus: "They exactly repeat the reasons for which the farmers opposed the repeal of the Corn-Laws." This may be true; but there are differences in favour of the manufacturers' pleading; for—1. There

was no soil more on which to farm, whereas there is abundance to build factories on, so the danger of high or monopoly prices of silk goods does not exist; 2. There was not any hope of a regular export production of British corn,—it was not natural; 3. It is not possible to enlarge British farms in order to work them more economically, but it is easy and habitual to double the size of British factories with this end in view. Again, "we negotiated the Commercial Treaty with France, because we wished to buy more cheaply than we could under the system of high custom duties." No doubt, we so wished; but for that we did not need a treaty. We negotiated in order to get the French market opened, hoping, too sanguinely, that after ten long years the French nation would act otherwise than they have done. "The real question, therefore, is not touched by the objection." Well, what is the real question? Is it not this, whether we ought to accept a treaty in which, besides other inconveniences, we are asked to consent to inequality? I doubt if Mr. Cobden would have counselled that we should, and certainly think we should *not.* Let us, at any rate, not aggravate the grounds of complaint by ill-judged legislation regarding new inventions.

"Giff-gaff maks gude friends," *i.e.* "mutual giving, mutual obligation," "makes good fellowship." Jamieson, from whose *Dictionary of the Scottish Language* I draw this quotation, quotes my friend the author of *The Annals of the Parish*:—"In this world the *giffs* and the *gaffs* nearly balance one another, and when they do not, there is a moral defect on the failing side." The sagacious novelist would, I am sure, have admitted the defect works badly, seeing there is a sense of inferiority created where the "reciprocity is all, or much, on the one side," which, as men are constituted, is apt or sure to create unpleasant feelings: it wounds the pride which passes for self-respect, and is therefore dangerous. What tends thereto, wisdom eschews. Is it different with *nations?* Passing to the sphere of commerce, even of the professions, among the commonest of sayings is this, "There's no friendship in trade." But the proverb must be applied with right apprehension of what it means. There is less difficulty in telling what it does *not* mean. It does not mean that people are uninfluenced by friendship in the articles they buy, the places of business they frequent, and the persons they deal with. Influenced they are on all occasions, in innumerable ways, and just because the preference, *i.e.* "custom," is a benefit conferred. How constant are the solicitations to be kept in mind, to be employed! What is meant by the words,

"customer," "supporter," "patroniser?" Whence the servility, more or less truly, alleged on the part of suppliers and purveyors? Has the grateful acknowledgment of "favours" no basis? Why those Christmas gifts,—ay, and those deplorable douceurs = bribes, —if sellers were not greater gainers, the side more obliged, than buyers? What is the rationale of bagmen and commercial travellers? Questions of this sort might be largely multiplied. But it is needless. All the world knows and realises that it is an immeasurably greater task and advantage for sellers to find buyers, than for buyers to find sellers. Is there any imaginable reason why the commercial interest of *nations* should be viewed and dealt with differently? Of course not. Are we impressed with this identity in negotiating with France? We shall be told that we are, that it is just to make the French buy and become customers that we enter into negotiations. But will they? *Their* object is to sell not only wines but manufactures that we can and do at present produce at home.

13th April.

The following letter is reproduced chiefly for the sake of presenting the views of the Liverpool Chamber of Commerce and of *The Economist*:—

LIVERPOOL, 28*th April* 1851.

DEAR SIRS,—We thank you for that part of your letter dated 22d April, in which you inform us of what is thought in Manchester regarding the movement as to the Patent Laws. We cannot but agree with your remark, that "the subject is involved in considerable difficulty;" but that is the reason why we think it highly desirable that the public should be watchful, and why the Associations should take diligent measures to keep the proposed amendment from proving a fruitful source of future evil to manufacturers, producers and consumers; nor are our apprehensions at all lessened by the consideration to which you advert, that "several of our scientific men are watching the progress of the Bills, and have had an interview with Government with reference to them." It is fair and necessary that men of science should be consulted; and practical inventors along with engineers and mechanists, a portion of whose business consists in introducing new improve-

ments, are thoroughly entitled to express their wants and their wishes. But the question has two sides:—on the one side are ranged inventors and patentees, patent importers and patent agents, and all the clever and praiseworthy men of business, whose headquarters lie about Chancery Lane;—on the other side are the various manufacturers and trades of the United Kingdom, the producers in the Colonies, and, in general, the whole public,—for every one has an interest in getting, on the best terms, the use or benefit of new improvements.

The present powerful movement (although indebted for much of its progress and its promise to the spirit of a noble Law Lord) has originated and been carried on by the former of these sides; and we cannot be surprised if the changes recommended have, as their prominent feature, a reduction of the costs, and removal of the annoyances, to which patentees are subject under the present law. These are, no doubt, great and proper improvements; but, in order to prevent the facilities, henceforward to be afforded, from proving detrimental to the *public*, there must be some legal provision to neutralise the evils that may arise, from the too probable contingency of a great multiplication of patents; the increased number of which would, in all likelihood, be mostly for trivial inventions, which the low charges will encourage, and some of them perhaps taken under doubtful circumstances, on the chance of parties being induced to compromise rather than take the trouble of defending themselves at law. It is no discredit or imputation upon the present respectable body of patentees to anticipate, from an altered state of the law, the introduction into the class of some persons whose patents would answer this character. The needful provision might indeed easily be afforded by the institution of a tribunal, whose duty it should be to defend the public interest, by examining all applications, and thereupon deciding whether or not, and on what terms, it would be compatible with the public interest to grant a patent. We have seen one of the new Bills that have been introduced into the House of Lords, and find it characterised by the onesidedness adverted to, and by the absence of such a provision as this.[1]

Anticipating legislation on the important subject of the Law of Patents, the Liverpool Chamber of Commerce lately referred a branch of the subject to two of its members, and adopted their Report, embracing the following remarks:—"We should oppose the granting of patents for inventions already published in a

[1] The other Bill has been printed since the other, and is said to differ in no important particular.

foreign country, and any procedure being sanctioned or introduced by law, by which producers in this country or the Colonies might be subject to restrictions and burdens greater than those to which parties engaged in the same occupation in a foreign country would be subject, as it must be evident, that if we are to act upon "Free Trade" principles, exposed to equal competition with foreigners, it is essential to avoid burdening our country with unequal charges for patent rights; and we should recommend also, that there be a competent power constituted to limit and regulate the charges for patent rights."

The injurious effect of an excessive multiplication of patents upon manufacturers gives Manchester so strong an interest in watching the progress of legislation thereon, that we have ventured to trouble you with this long letter, in the hope that you may oblige us by calling the attention of one or more of your commercial bodies to the present movement. We believe a Select Committee of the House of Lords is charged with an inquiry upon the subject. A most influential London commercial journal, some time ago, had an article containing many sensible remarks upon Patent Laws,—maintaining, as we think, with great truth, that it is most doubtful whether patents are beneficial in the present state of our country.[1]

Pray excuse this long letter, and believe us,

DEAR SIRS,

Yours always,

MACFIE & SONS.

[1] It speaks of patent rights as "privileges which are wrongs to the community," and says,—"The demand to have them is as completely and pecuniarily selfish as anything ever put forward under the mask of patriotism." Whatever may be thought of the abstract rights of inventors, there will be a general assent to the proposition that the grant of the monopoly should be regarded as a mark of royal *favour*, and as such restricted to British subjects (and in certain cases aliens) who give the public the secret of *meritorious* improvements, under conditions consistent with the national welfare. [The journal referred to is no doubt *The Economist.*]

AN ANALOGY.

The following is part of a leading article in *The Scotsman* of 1st March. Substitute manufacturers for distillers, and for extra expense occasioned by excise requirements read the more palpable and often much heavier differentiation, in direct taxes to *patentees*, which Dutch rivals, etc., have not to pay, and where is the ground for saying, as perhaps that influential journal sharing current misconceptions might, that subjection to these invention burdens is, under equal duties, *not* injustice and not impolicy?

"The British distiller, on the other hand, has been hampered from first to last. There is not a process in his business that is not more or less fettered by Excise supervision; he is unable to use his plant in the most economical manner because of Excise restrictions; and he positively pays duty on more spirit than he is able to put into the market. It would be absurd to say that Free-trade required him, with all these burthens and drawbacks imposed upon him by the State, to compete with the foreigner without any consideration. His difficulties are not of his own making, but are the creation of fiscal necessities. Free him from the restrictions imposed upon him, and he may be safely left to look after himself. They insist, however, that the surtax of 5d. per gallon on imported plain spirit does not counterbalance the loss actually imposed upon them for the protection of the revenue. There can be little doubt that if it is not absolutely fair, it is not in their favour. To comply with the request of the German Government, then, would be in no sense economically justifiable, because it would mean the admission of German spirit at a less rate of duty than is paid, in one form or another, by the British distiller. In other words, the foreigner would be favoured at the expense of the home producer. Inasmuch as demands made in the name of Free-trade are likely to mislead, and in this particular case have misled, it is well to remember that Free-trade, properly understood and fairly practised, is in favour of and not against that extra duty the removal of which is so strenuously urged."

Foreign Ideas.

The following extracts reveal ideas which we do not share. Substitute for Government taxes and foreign bounties taxes to

patentees, exemption from which is as good as bounties, and who can deny their truth?

From Mr. Henry Carey Baird on *The Rights of American Producers*:—

"What is British free-trade? It is that extraordinary governmental policy which would grant privileges to foreigners which it withholds from its own people!"

"To allow to foreigners greater facilities in the transmission of mail matter is quite consistent with and by no means more wrong than the system pursued for nearly a quarter of a century as to trade.

"Is not every Englishman who is engaged in any branch of productive industry subjected to the most onerous and grinding taxes, Imperial and Local, for the support of the State and the different divisions thereof? Is not his foreign rival, almost without an exception, entirely exempt from all British taxes whatsoever? Hence, as has recently been pointed out in these columns, British 'free trade' consists in granting to foreigners privileges which are denied to your own people, and so far from being based upon any grand and immutable principle of justice, as is claimed for it, it is based upon a positive wrong."

"The heavily taxed American has an absolute right to demand that, enjoying the advantages and profits of these markets, foreigners shall take with them some of the many drawbacks and disadvantages which he himself is obliged to bear."

From *The Edinburgh Evening News*, 5th April 1877. Abridged from *The Times*:—

"The French sugar manufacturers are now agitating against the convention they helped to bring about. The clause which displeases them most is that providing that sugars imported from one contracting country to another shall not be subjected to higher customs or duties than the duties on similar produces of national industry. This clause, they maintain, will enable bounty-fed sugars to pass over contracting countries into France and compete on unequal terms with French indigenous sugar."

NOTES AND MATTER FOR A SPEECH ON THE PATENT BILL.

The feature of the speaking that followed the Attorney-General's speech on introducing his bill must cause uneasiness, viz., its one-sidedness. Not a voice, so far as the newspaper report shows, was lifted up on behalf of freedom of industry. The nearest approach to that was Mr. Samuelson's statement:—"There was keen international competition in sugar-refining, and a simple improvement patented in this country would render all our manufacturers unable to compete with those of Holland." Why not by way of trying how a trade would get on without patents, exempt sugar-refiners from their operation just as the West India planters were allowed the exemption, in order to please them, a quarter of a century ago? I am sorry and surprised that Mr. Samuelson, who warned so sensibly, does not oppose the twenty-one years (if he is rightly reported). Constituents should correspond with their members on the subject. Patents are the very worst way of rewarding and honouring inventors, for they are downright antagonism to freedom and perfection of manufacture. If we cannot abolish them, let us at least not make them *more* oppressive.

The Royal Commission received a large amount of evidence, partly oral, partly written, comprehending the opinions and wishes of a great number and wide variety of persons and associations. Classifying them roundly: of seven judges and gentlemen of the long robe, eight official gentlemen, including a Lord of the Admiralty, fourteen engineers, twenty manufacturers and merchants, seven chambers of commerce, six patent agents, and four societies, including the Inventors' Institute and the Patent Law Reform Association. Among these, one individual only went in favour of twenty-one years; all the rest are silent as to length of term, or were against prolongations, except in the Institute of Civil Engineers in Scotland one member proposed "seventeen or twenty-one years." All that the Inventors' Institute asked was "much greater liberality as to prolongations." Besides the answers I have classified, the Birmingham Chamber sent, by Messrs. Dixon, Chamberlain, Wright, etc., several answers quite in keeping with these others. One of these is summarised thus:—"A fixed limit

of a term of fourteen years would leave patentees little to complain of. At present, however, many patentees who have amassed large sums of money by their monopoly, seek to renew it to the injury of the public." Another thus :—"Except in very extreme cases, no patent should be prolonged beyond the term of fourteen years." Lord Chelmsford and Mr. Holden, himself a successful patentee, approved of "a chance of a prolongation" in case "patentees have not been sufficiently remunerated. In connection with this, I remind you that in Prussia "the period for which a patent is to run is laid down specially for each case. . . . *It is now usually fixed at three years.*"

Mr. Woodcroft adduced before the Commission the fact that the Patent Reform Societies of 1851 had dissolved, as a proof that the working of the patent law is satisfactory to inventors.

The United States have hitherto been the stronghold of patents. But mark the change in progress there. Dr. Appleton writes in *The Fortnightly Review* for February :—

"The western farmers and manufacturers . . . are already showing signs of dissatisfaction with the institution of patents."

The mention of farmers in this extract naturally suggests a thought that great manufacturers have been almost alone spoken of as the sufferers by, or parties concerned with, patents. But the incidence is on small as well as great, on all trades and industries indeed, chemical and mechanical, on navigation, cultivation, mining, and even on the appliances and operations of our homes, I might add.

Commonly, economists contend that a burden or expense that falls on all producers alike finally rests on the ultimate consumer. This consolation is of no avail here, for the transference is, in the nature of the case, impossible in consequence of the foreign competition. Patents are much more likely to cripple all our commerce, to impoverish and shut up some of our thriving industries, and to foster thereby that rivalry which is every day becoming harder.

Some of the quotations I have made point to international arrangements. To whatever extent these are attained, the evil of patents will be mitigated. But as yet there is not so much as talk of such, and I confidently predict that the happy peoples who either have no patent law, or having patent law grant few patents, will not be persuaded to enter into any international patent system or negotiation that is not based on the principle of paying, in the form

of national contributions in money, a fair or even a generous dotation to deserving inventors, and abandonment of the pernicious old-world but flourishing practice of granting monopolies which cost nothing to the State but are most lavish and extravagant as regards the people. This principle of paying for inventions may even now be partially introduced. Why not do so tentatively? It is but a step from compulsory licensing to permissive expropriation.[1] With this view the committee has wisely recommended that the Bill should contain a clause empowering the Lord Chancellor, on the formal demand of a certain number of directly interested parties, to purchase back the freedom to use any particular invention for the whole public upon their agreeing to pay a valuation price. I have no doubt the plan will work well. It is certainly well worth trying. Another suggestion of the committee will be self-commending, viz., that which asks for the institution of a record office for inventions gratuitously offered to the nation. At present many an invention is patented just for the sake of preventing another person from excluding the original inventor from use of his own brainwork (which result our system of patents quite permits). Sometimes, too, inventions may be left unpatented, and therefore undescribed, in order to avoid what may seem to be the selfishness of grabbing at monopoly,—sometimes from the mere desire to avoid the trouble and expense of being patentee and

[1] The Report of a Joint Committee of British Association and of the Social Science Association on the Amendment of the Patent Laws, A.D. 1860, is particularly suggestive. It largely supports the views in the text:—

"Another question of importance, and which formed the subject of a communication to the Liverpool Meeting (1858) of the Association, and which also was the subject of evidence before the Select Committee of the House of Lords in 1851, is the adoption of a system of *compulsory* licenses."

"It seems not unreasonable that the Legislature should make it obligatory on every patentee to grant a license, if required, the mode and rate of compensation to be fixed by persons appointed by the Crown."

"Your Committee, in connection with this subject, would advert to a suggestion as to the expediency of money compensation to inventors, and purchase for the public of inventions prior to the expiration of the term of the patent.

"The 'Inventors' Fund' (as the surplus of the fees levied in the form of stamp duties on the granting of patents over and above the legitimate expenses of the system has been termed) is adequate, and would be most appropriately applied to this as well as to other purposes beneficial to inventors."

"Your Committee conceive that these objects will be provided for in any future legislation, which in conclusion they would recommend to be directed to the following objects:—

"1. Some check by a previous enaction and report on the present uncontrolled granting of patents for inventions.

"2. In trial of patent causes by a judge and jury of assessors, instead of by a judge and jury selected as at present.

"3. A system of compulsory licenses and money compensation by way of purchase for patent rights.

"4. Consolidation and amendment of the several statutes relating to patents for inventions."

patent-monger when there is no mercenary object to impel. Another of the committee's recommendations is that provision should be made (virtually there is none at present) for persons likely to be affected directly by any patent being informed when the application for it is made.

I might go on enlarging, but I have had other opportunities of doing so, and I therefore only beg you to remember that trades are not like mountains and river-beds, not like farms and fisheries, fixed and untransportable. In these days they are seen to be ready to migrate, and when they do take to themselves wings, they are not easily decoyed back. Nothing need be said to prove that new establishments at any rate will have a tendency to settle where they are most favoured. Steamboat and telegraphic communication, large cargoes, low freights, quick voyages, a certain and early delivery, agency arrangements, combine to make distance from markets now a comparatively small difficulty. It takes some time no doubt to divert the channel of trade, but by and by there is an easy and quick flow, or a rush. We have been educating our rivals, who, to the delight of their compatriots, prove most apt and painstaking pupils not unlikely in economy of operations and closeness of attention, in energy and plotting, to surpass their masters. Let us make a stand by not compromising our position further in the matter of patents. Are we not as a nation too confident, if not conceited? Are we not careless of our advantages and prestige, and too ready to squander or neutralise them. Do we not look too much to present gains, viewing with little concern and exercising little forethought as to the future? This may be true of the calculations of employers and employed alike, in their respective spheres of immediate interests. I invite you now to act more worthily.

We are in danger of acting foolishly. Let us learn a lesson from the Statute of Monopolies:—

"5. Provided nevertheless, and be it declared and enacted, That any declaration before mentioned shall not extend to any letters-patent and grants of privilege for the term of one-and-twenty years or under, *heretofore* made, of the sole working or making of any manner of new manufacture within this realm, to the first and true inventor or inventors of such manufactures, which others at the time of the making of such letters-patents and grants did not use, so they be not contrary to the law, nor mischievous to the State, by raising of the prices of commodities at home, or hurt of

trade, or generally inconvenient, but that the same shall be of such force as they were or should be, if this Act had not been made, and of none other: and if the same were made for more than one-and-twenty years, that then the same for the term of one-and-twenty years only, to be accounted from the date of the first letters-patents and grants thereof made, shall be of such force as they were or should have been, if the same had been made but for term of one-and-twenty years only, and as if this Act had never been had or made, and of none other.

"6. Provided also, and be it declared and enacted, That any declaration before mentioned shall not extend to any letters-patents and grants of privilege for the term of fourteen years or under, hereafter to be made, of the sole working or making of any manner of new manufactures within this realm, to the true and first inventor and inventors of such manufactures, which others at the time of making such letters-patents and grants shall not use, so as also they be not contrary to the law, nor mischievous to the State, by raising prices of commodities at home, or hurt of trade, or generally inconvenient: the said fourteen years to be accounted from the date of the first letters-patents, or grant of such privilege hereafter to be made, but that the same shall be of such force as they should be, if this Act had never been made, and of none other."

Observe here *first*, a maximum term of fourteen years, and *second*, patents were not to be granted if they (not the inventions) raised the price of commodities or injured trade. It is admitted that in general patents do sustain prices at a level higher than if the inventions were in use and were not patented; and I have assumed that it is clear that under competition with foreigners not subject to patents, trade is of necessity affected injuriously. The truth I fancy is, the framers of the statute contemplated the introduction of new manufacturing arts, and did not anticipate that patents could be granted for improvements that disturb businesses already established, as they habitually are.

There is a marked contrast between the attitude towards patents of Governments and representatives of commerce on the Continent and those in this country. I will illustrate this. In the year 1873 the Foreign Office issued a series of reports by Her Majesty's Secretaries of Legation.

Mr. J. G. Kennedy, in regard to *Belgium*, reports:—

"It may perhaps be stated that a majority of the manufacturing

classes in Belgium are in favour of the entire abolition of patent laws."

Mr. Plunkett reports as to the *German Empire*:—

"The message of Prince Bismarck, although only professing to call the attention of the Reichsrath to the urgency of remedying the confusion in the existing Patent arrangements of the North German Confederation, distinctly gave it to be understood that in their opinion (the Imperial Government's) the best solution of the question would be simply to abolish patents altogether. It may therefore be expected that whenever the question is mooted again, a very strong push will be made to induce the Reichsrath to settle it once for all in a summary and conclusive manner, by repealing the various existing laws without passing any new one in their place."

Mr. Burnley reports:—

"Generally speaking, the opinion of *Saxon* manufacturers is much less in favour of patents than it used to be. Of the five Chambers of Commerce existing in Saxony, three (those of Leipzig, Zittau, and Plauen) have decidedly pronounced themselves in favour of an abolition of the patent laws, because they maintain that the advantage derived from them by individuals is much less than the injury which they do to free trade. The Dresden Chamber of Commerce is likewise more against patents than in favour of them. If, therefore, German imperial legislation should some day decide upon the abolition of patents, whether by coming to an understanding on the subject with England and the United States or not, the conviction is generally entertained that this measure would not do any serious harm to industry."

Mr. Gould reports as to *Switzerland*:—

"Public opinion is so opposed, that an attempt made some years ago to bring the subject before the National Assembly proved a complete failure, owing to the marked disfavour with which it was treated on all sides." See also p. 33.

But this question is not one to be settled by such authorities. Still less, however, by sentiment or prejudice in favour of inventors or against them. I will appeal to your judgment, to reason. Observe, to start with, that the State is not bound to give a patent. The grant is an act of grace, with a motive,—the encouragement of invention and the promotion of manufactures. Observe, too, that in the infancy of science and manufactures there was much to learn, many businesses to attract, and plenty of elbow-room; one patent did not clash with another. Observe further, that the

number of patents then granted was small,—it was not one for a hundred now.[1] Consider, too, that commercial capital being then limited, and the operations of commerce and trade restricted within bounds narrow in respect of space but long in regard to time, some encouragement to venturers was legitimate. Consider too, that under the shelter of protective duties there was (no more than there is now in most civilised countries) practically no competition from abroad, and therefore deprivation of the use of inventions for fourteen years, which rivals out of the kingdom were or might be enjoying free, did not subject to such unequal competition as exists under the régime of absolute free-trade. Consider, too, that owing to the greatly increased vigilance and skill with which patents are managed, not to the multiplication of patent agencies, the power given to a patentee is made much more efficacious, and the rates expected and exacted for licenses have been raised to a higher pitch. Consider, in connection with these things, the change that has taken place in the manner of conducting manufacturing businesses, in particular the enlargement of transactions and the consequent diminution of the margins for profit that are usual and held to be satisfactory. Take into account now the meaning and effect of a patent. It is a strict prohibition. Sometimes, nay often, this prohibition is alleviated by the grant of licenses. Under this bill there will be compulsory licenses. But what are they? Rights to levy taxes. It is a first principle in levying a tax that it be levied equally or equitably on all. If there be any difference in incidence, it is never against citizens and subjects of the kingdom that imposes the tax, though it may be against foreigners. In other words, if there is inequality, the inequality is protective, it is such as to encourage home manufacturers and not their foreign rivals. The taxes which a patentee levies are not equal, they habitually vary. Though it were the reverse, there is of necessity under free-trade one flagrant and most pernicious inequality, viz. this, that whereas British manufacturers

[1] An interesting table will be found on p. 19 of *The Abolition of Patents*, which I here reproduce, bringing it down to the latest:—

	England.	Scotland.	Ireland.	In England for the Colonies.
In 1650—	None.	...	...	...
1700	2	...	...	...
1750	7	...	...	...
1800	96	13	2	6
1825	250	62	33	87
1850	523	227	531	191
1866	2121	2121	2121	none
1867	2292	2292	2292	none
1875	3112	3112	3112	none
1877	3317	3317	3317	none

pay these taxes, there is no assurance that the foreigner, who is allowed to import the article duty-free that is made according to a patent or patents, has paid any tax to a patentee abroad. If he is a Swiss, or a Dutchman, he cannot have done so. If he is a Prussian, a Portuguese, a Greek, etc., the chances are many to one that he has not. Some one may allege that the pressure of such taxation is insignificant, that royalties are not heavy. I know the contrary is true. In the first place, the pretensions of patentees are high, they frequently claim a third of the saving or advantage their invention promises. That is, the patentee exacts this quota although the manufacturer may be doing a business that is yielding him no profit, but a loss. In the second place, liability to pay patentee A. his tax does not exempt from liability to pay B., C., D., and E. There may, in some cases, be several patents to pay for simultaneously. In the third place, we know well that some concerns pay several thousands a year, what is exemption from that but a powerful stimulating bounty to foreigners? Suppose a sugar-refiner has but a single such exaction to pay, it may be a shilling per cwt., a rate usually mentioned, this is something like five per cent. on the gross value of the sugar. I shall be very much surprised if, taking the trade as a whole, its profits have for some years been one per cent. Statesmanship, when it inaugurated free-trade, did so under an implied pledge that if the protective duties ceased that favoured our own people, there should be none left on the Statute Book to operate against them. The Patent Laws should have been abolished when free trade was established, but what did we do? We, in 1852, riveted the system more firmly, and greatly increased the number of patents. To the honour of British statesmen, however, be it said, some have yielded to evidence. Lord Granville presided over the House of Lords Patent Bill Committee in 1851. His Lordship is a strong opponent of the system. The Earl of Derby presided over the Royal Commission of 1862; he became an opponent. I may mention the names of three living Lord Chancellors who are said or known to be of the same mind, Hatherley, Selborne, and Cairns. No, it is the manufacturers who, by their silence and under the fascinations of the inventors' organisations, have permanised patents. The present bill will probably mend matters; it will hinder the noxious growth of trumpery patents, but this is to cure what is in my view only a very minor evil. It is the burden imposed on our manufactures, the danger to which excessive royalties to patentees expose our trade, that is the grand ground of complaint. In the reports which I have freely quoted from we read this Washington Embassy contribution:—

"I venture to think that the prolongation of the period for improvements [what that means is not quite clear], and the adoption of general licenses for all alike, at the same rate of royalty, if such a measure be practicable, would remove, in conjunction with a thoroughly good system of patents on the American plan, all the complaints on which the demand for abolition of patents is provided, *all*" [mark what follows] "except the international one of the disadvantage of competing with countries not weighted with patent royalties." Permit me here to introduce a sentence more from these reports.

The minister in *Portugal* discouragingly or in pleasantry says :—

"It will be some time before the principles of Free Trade can make an advance towards a more extended view of the advantages to be derived from the abandonment of the protectionist system; and as there is much affinity between the principles on which the opponents of Free Trade base their opinions and those held by the partisans of patent-rights, any proposal for the abolition of patents in Portugal would be met with much opposition."

Little wonder, indeed, seeing the emancipation of that little kingdom is almost complete already, for during the six years preceding she granted on the average not twenty a year!

To return to the twenty-one years: it was not recommended by the Committee of 1851. Only one witness spoke on the subject of a longer term, though in the appendix there is a paper, by a "committee for legislative recognition of the rights of inventors," which in a special way favours twenty-one years. The Royal Commission adopted the following resolution :—"In no case ought the term for which a patent is granted to be extended beyond the original period of fourteen years."

I must here speak of a society that has a most eminent president, the Glasgow Philosophical Society. It has long been under the influence of inventors, and has just issued a paper, "printed by order," which unaccountably says two of the Commission dissented from that portion of the report,—a very misleading way of putting things, for the dissentients only objected to the discontinuance of the power to prolong where the inventor had been insufficiently remunerated. There is another part of the paper to which I may advert. It says there has been a "reaction which is well illustrated by the change from a generally hostile feeling towards patents (mark the admission) manifested by the Royal Commissioners, to the warmly favourable appreciation of patents expressed by the Select Committee." Need one offer an explana-

tion more than this? The Committee was moved for by a favourer of patents and presided over by him, and from the first it was recognised as a committee with that leaning. Indeed, the only abolitionists nominated were Mr. Lowe, who never attended, Mr. Andrew Johnston, and I.[1] So much for that.

With such an indictment against patents, with such a *consensus* as to their operation and consequences as you are familiar with, what is to be said of the extraordinary proposition in this bill to prolong the term from fourteen to twenty-one years? It is simply monstrous and flagrant. That it can be traced to interested parties is manifest. I hold in my hand a characteristic and not mealy-mouthed document, headed, "Patent Law *Reform*." "Notice." "A Bill to further amend the Patent Law Amendment Act of 1852, *will be* introduced during the current session." It fore-announces the addition of such other classes as are deemed necessary for securing to *inventors* (the poor public is nowhere, so far as appears, thought of) certain things, among these being "the extension of the term of patent-right from fourteen years to a period of twenty-one years," and "such improvements as will improve the *value of patent property*." "The Bill," it says, "will be prepared by a committee of experts, composed of eminent members of the legal, scientific, and civil and mechanical engineering professions, who will be assisted (led) by patent agents of high standing." "Communications bearing on the question may be addressed by *inventors* and others to the Committee of Patent-law Reform. The items of the proposed draft bill will be published in the *Inventor, Patentee, and Manufacturer*." No bill answering these promises has been seen or heard of but the Attorney-General's. What is the fair inference?

[1] In the end, Lord Gordon could be hailed as an honourable yielder to the force of evidence.

From *Some Effects of the Patent Laws upon the Industrial Arts and Manufactures of this Country*, by the Rev. W. J. Connolly. December 19, 1876:—

"*The evil of granting a Patent for an incomplete Invention.*—And here arises one of the great evils of granting Patents. A public want is felt: the attention of men having the requisite technical knowledge is directed to the subject, and immediately there is a rush to the Patent Office to obtain the monopoly of what they have contrived. But a complete and perfectly developed contrivance for meeting a public want is not made by intuition. The invention progresses step by step until the experience, gained by experiment and failure, supplies sufficient knowledge to enable the expert to avoid those defects which have spoilt the efficiency of the previous inventions. As the law stands at present, the crude and half-developed machine is patented and becomes an obstruction to all further progress, for many improvements are at once seen that could be made in the invention, and the man who comes later with his more perfect machine, the result of greater labour and deliberation, finds the way blocked by the patentee of the crude contrivance, who has obtained the monopoly of the new principle involved because he was the first to arrive at the office of the Commissioners. The owner of the second invention of superior merit has to make terms with the first before he can be paid for his time and thought, and the public enjoy the benefits of his improvements. At the same time we must not forget that he himself may soon become an obstacle to a further improvement. Take the case of sewing machines. A few years ago, one of these useful little machines of any practical value, could not possibly be made at all without buying up and combining a number of patents. From the first the daily improvements in these machines were almost without number, and the monopolies granted in proportion. Any little improvement which, in the course of manufacture, would be made by a man of ordinary technical knowledge and observation, was at once made the subject of a patent and stood in the way of further useful alterations.

"*Evidence of Sir William Armstrong.*—Sir William Armstrong, in his evidence before the Parliamentary Committee of 1864, alluding to facts of this nature, very well observed, 'You cannot grant a monopoly without excluding other persons who are working upon the same subject.' This obstruction then is one of the

great evils of a Patent Law. It ignores the fact, that not only a few men but many quite unknown to one another may be working out the same idea; and it grants a monopoly of fourteen years to the man who has a few hours' start of his competitors."

"*Case of the Plimpton Skate.*—The invention is very simple and consists of making the rollers turn by the pressure of the foot either on one side or the other. Immediately this idea became known, numbers of mechanics set to work and contrived skates, which, while embodying the principle of converging axles to describe the smaller circles, obtained the result by different mechanical contrivances, maintaining before the courts of law that they had a right to do so, since a principle could not be made the subject of a patent. These expensive law proceedings are now going on, but should Mr. Plimpton gain the day, is not this tremendous monopoly for fourteen years a reward out of all proportion to the labours entailed, and at the same time, is not the invention an obstruction in the way of the contrivance, perhaps, of hundreds of better skates?"

"*Chemical Processes.*—Changes and improvements in all chemical processes are constantly being made, and almost as rapidly follow one another as experiment succeeds experiment; the consequence is that the result obtained to-day is the starting-point to-morrow. No manufacturer, much less an analytical chemist, can be long engaged in any branch of chemistry without seeing his way to some improvement or another. The law which gives to one man the monopoly of a minor invention in any one of these long chains of improvements, at once erects a barrier against further practical experiment. Chemical manufacturers say, their greatest difficulty is to avoid some patent right or another. The slightest change in the construction of a furnace, or even in the temperature at which certain ingredients are combined, is made the subject of a patent, and the practical man finds his way stopped by some legal injunction or another when he is going to make use of an improvement in his business which has been suggested by his ordinary working experience. You will understand the manner in which some businesses are hampered by these patents, when I tell you that in the year 1866 alone there were thirty protected inventions for refining sugar, an old and well-known article. When some newly discovered substance has to be dealt with and prepared for public use there is a perfect rush to the office of the Commissioners. Nor is this all. By means of a patent, the first in the race can even get a monopoly of the use of a newly discovered raw material. There is the often quoted mineral oil case."

"*Action of the Admiralty with regard to Patents.*—I may say before I conclude that the Admiralty have at length found it impossible to design an iron ship without treading on the toes of at least fifty patentees."

"*Influence of the Patent Laws between Home Manufacturers.*—To escape expensive litigation, and to prevent themselves falling into the hands of the lawyers, they often pay large sums of money for patent rights which have no real existence."

"*Frivolous Inventions.*—In commerce nothing that is profitable can be said to be frivolous. We have to consider not the ingenuity displayed in the construction of the article, nor its usefulness, nor its intrinsic value, but the value of the monopoly of supplying this, and perhaps many other countries with it, and of exercising this privilege without any kind of competition or interference. . . . A man took out a patent for a sleeve-link; for the first six years there was no profit, at the end of seven years he hesitated to pay the £100 to complete his right for the whole fourteen years; in the last seven years the profit was from £15,000 to £20,000. . . . It is said that the manufacturer of an American Patent Pencil Case, where the invention consisted in placing a piece of india rubber at the end of the pencil for use if required, made from £20,000 to £40,000 by their sale."

"A concession to an individual of the sole right to manufacture such articles is almost of the same nature as the grant of monopolies formerly made."

"*Machinery used in Manufacture.*—Unfortunately, from the state of the law, it often happens that he is not able to have the best machine. The most efficient machine could generally be constructed by the combination of the various advantages of the several patents."

"*Where there are no Patent Laws the Manufacturer can use the best Machine.*—The manufacturer of those countries where these laws do not exist does not suffer from this inconvenience. The Swiss rival of the English employer comes to this country and examines the various machines constructed for his business, and returning home he combines the advantages of the different machines he has examined, and constructs one by means of which he is enabled to produce an article cheaper and better than the English manufacturer. If Switzerland had the same geographical advantages as England, this power of using the best machines would give rise to a competition very dangerous to some of our manufactures, but on account of her inland position she is not able to reap the full benefit of the present state of affairs. I do

not overstate the case. There are agents of those countries where there are no Patent Laws who watch our office, and make use of the knowledge obtained from the specifications filed there to improve the manufactures of their own countries. This absence of protection in some parts of the Continent also acts another way. I will explain what I mean by an example—What is called a keyless watch was invented in Switzerland. A Swiss manufacturer obtains the monopoly of this article in England, the consequence was that he not only held the right to sell this article to the English people, but he prevented any other of the watchmakers of his own country, where no monopoly existed, from entering into competition with him. In other words, our laws gave this foreigner the power of supplying this article at his own price and of his own quality."

"*Royalties.*—The power which the law gives of charging whatever may be thought fit for the use of an invention is one which most seriously affects our manufacturers in their competitions with our continental neighbours. The manufacturer in England often has to pay royalty to a patentee of an amount which would be a very fair average trade profit; while perhaps in Switzerland or Prussia any man can make the article without paying any royalty whatever. It follows that the manufacturers of those countries can undersell their English competitors by the amount which the latter has to pay for permission to carry on that branch of industry. Take the case of Mr. Bessemer's patent for the manufacture of steel rails. Mr. Bessemer's patent for Austria was invalidated, and in Prussia they refused to grant him any protection at all. It followed that our steel manufacturers were handicapped in their continental trade in that article to the extent of from £1 to £3 per ton."

PATENTS IN FOREIGN COUNTRIES.

The following are extracts from "Reports of Her Majesty's Secretaries of Legation respecting the Law and Practice of Inventions." 1872. See also page 23 :—

"AUSTRIA-HUNGARY.—A foreign invention can only be patented in Austria-Hungary on condition that it is still patented abroad.

"The number of years for which the patent is demanded . . . cannot exceed fifteen without the special consent of the Emperor; or, if the invention is already patented abroad, the expiration of the patent there granted."

"BAVARIA.—The longest term for the duration of a patent in Bavaria has been fixed at fifteen years."

"BELGIUM.—In the case of a patent of invention the period is twenty years, but the time for which a patent of importation is granted must not exceed the period which the original patent has still to run in the countries where it was first delivered.

"A Belgian patent of importation for an invention already protected in Great Britain, would be granted for fourteen years, and if the invention were patented in France, the Belgian patent would be for fifteen years."

"BRAZIL.—To these arguments the objections may be raised, cited in Prince Bismarck's message to the North German Chambers in 1868, that the present remarkably developed system of communication and conveyance, . . . which has opened a wide field to real merit and enables industrial men to reap promptly all benefit of production by means of large outlets for their articles, will, generally speaking, bring those who know how to avail themselves before others, of useful inventions, to such an extent, ahead of their competitors, that even where no permanent privilege is longer admissible, they will make sure of a temporary extra profit, in proportion to the service rendered to the public.

"Article 3 of the Law of 1830 grants to the introducer of a foreign industry a premium in proportion to its utility and the difficulty of introduction.

"This stipulation has never been executed, but has been in practice substituted by the concession of privileges of introduction for a term not exceeding ten years.

"This right of exclusive privilege for a definite term, though it tends to enhance the cost of the articles patented, has the advantage that only those who profit by a new industrial process pay for

the same, while a premium or reward from the public purse causes an augmentation of the public expenses in favour of a limited number of persons.

"In certain rare and exceptional cases the Committees would, however, accord to Government the power of granting such premiums, together with a five years' contract or privilege.

"All modern legislations, they add, agree in the grant of limited terms, to prevent a privilege degenerating into an unjust monopoly, but that in proportion that industry has in any country developed itself and attained a certain degree of prosperity, the shorter should be the term of any privilege granted, because the larger the number of inventors."

"DENMARK.—The patents usually run for three, four, or five years. Important inventions are protected for ten years, and in special cases for fifteen years.

"Patents granted to foreigners never run for more than five years."

"GREECE.—The practice of the country places all inventors on the same footing as a person seeking a monopoly, and in either case a special act is required to secure the individual in the possessions of the rights which he claims."

"NETHERLANDS.—On the 21st of June of that year (1869) a Project of Law was submitted to the Second Chamber of the States-General, having for its object the repeal of the Act of 1817, and the complete abolition of all patents.

"After an interesting debate, in which the supporters of the Patent Laws endeavoured to prove that invention conferred a right of property, and should therefore be protected, the project passed the Chamber by a majority of 49 to 8 votes."

"PORTUGAL.—Patents are granted for a term of years not exceeding fifteen, to the inventor or discoverer, to enjoy during that time the right of property.

"The number of patents granted during the last six years amounts to 119.

"As there is much affinity between the principles on which the opponents of Free Trade base their opinions and those held by the partisans of patent rights, any proposal for the abolition of patents in Portugal would, I think, be met with so much opposition, showing that public opinion is not in favour of abolishing the system."

"PRUSSIA.—It may therefore be expected that, whenever the question is mooted again, a very strong push will be made to induce the Reichsrath to settle it once for all in a summary and

conclusive manner, by repealing the various existing patent laws, without passing any new one in their place.

"The law is that it shall not be less than six months, nor more than fifteen years; but it is now usually fixed at three years."

RETURN of the Applications made and the Number of Patents granted.

Year.	Applications made.	Number of Patents granted.
1871	731	86
1872	817 (Up to middle of November.)	51 (Up to 1st November.)

"RUSSIA.—Patents for inventions belonging to the applicant are granted for three, five, or ten years—the longest term.

"Patents for the introduction of foreign inventions cannot exceed the term of the privilege granted abroad to the inventor; at all events, cannot exceed six years, unless the petitioner be the inventor himself, in which case he may obtain a patent for a term of ten years."

"SAXONY.—Generally speaking, the opinion of Saxon manufacturers is much less in favour of patents than it used to be. Of the five Chambers of Commerce existing in Saxony, three (those of Leipzig, Zittau, and Plauen) have decidedly pronounced themselves in favour of an abolition of the Patent Laws, because they maintain that the advantage derived from them by individuals is much less than the injury which they do to free trade.

"The Dresden Chamber of Commerce is likewise more against patents than in favour of them, whilst the Chemnitz Chamber, which represents chiefly the interests of the owners of iron foundries, alone advocates the maintenance of patents, with this proviso, however, that they should, in future, take effect throughout the whole extent of the German Empire, that the inventions for which they are taken out should be previously examined, and that full publicity should afterwards be given to them.

"If, therefore, Imperial legislation should some day decide upon the abolition of patents, whether by coming to an understanding on the subject with England and the United States or not, the conviction is generally entertained that this measure would not do any serious harm to industry."

"SWEDEN.—No patent is granted for more than fifteen years, and its duration is determined by the Board, according to the evidence which they may have obtained as to its merits and relative importance."

"SWITZERLAND.—The practice does not exist, as in most other

countries, of securing to inventors by letters-patent the monopoly of their inventions for a limited term of years. Public opinion in this Confederation is so opposed to the above practice that an attempt made some years ago to bring the subject before the National Assembly proved a complete failure, owing to the marked disfavour with which it was treated on all sides. The accepted theory seems to be that inventions should be considered as common property, and that whatever benefits they may confer should, without delay or restriction of any sort, be extended to the whole community."

UNITED STATES.

Number of applications for patents during the year 1871,		19,472
Number of patents issued, including re-issues and designs,		13,033
Number of trade-marks registered,		486
Of the patents granted there were to—		
Citizens of the United States,	12,511	
Subjects of Great Britain,	432	
Subjects of France,	30	
Subjects of other foreign governments,	60	
	———	13,033

"The number of design-patents issued is about one-sixth of the total number of patents in recent years. It should be noticed that re-issues are again counted as patents, so that there is some double counting. An allowance for these two items would probably diminish by from 25 to 26 per cent. the aggregate number of patents issued. The minute subdivision of inventions into separate patents must also be considered. The net number of patents covering whole inventions will then probably be from 7000 to 8000.

"As to money value, I am informed that one-half of American patents are more or less remunerative.

"It should be held that no such exclusive use conveyed to the patentee any monopoly of manufacture, either for himself or any licensees. In order to carry into effect this restriction of the exclusive use granted to the patentee, he should be required, as a condition of his holding a patent, to register at the Patent Office his license with his maximum royalty for the use of the thing patented. Any one desirous of becoming a licensee would register at the Patent Office and then take out a license. The royalty might be lowered at any time, but should not be raised, and every

license must, of course, contain the same rate of royalty. Reasonable security for payment of royalty should be given, but there should be no covenants for 'solatia' in case of surrendering the license. There would be no injustice in adding to the contract between the public and the patentee this condition as to licenses open to all at an equal royalty. An inventor's reward should consist in the royalties from the use of the thing invented, and not in the profits of a monopoly of its manufacture. In order to provide further against any monopoly of manufacture, it might be made a condition of the patent contract, that the inventor, if he became a manufacturer of the thing patented, should pay what would be equivalent to a royalty, at the same rate as the licensees were paying for royalty. There would be two ways of disposing of the sums from such a source. The 'royalty,' so paid by any patentee, might be distributed in equitable ratio amongst the patentee and all his licensees, and would operate practically in reduction of their rate of royalty, and would place all, as manufacturers, on an equal footing.

"I venture to think that the prolongation of the period for improvements and the adoption of general licenses for all alike, at the same rate of royalty, if such a measure be practicable, would remove, in conjunction with a thoroughly good system of patents on the American plan, all the complaints on which the demand for the abolition of patents is founded: *all* except the international one of the disadvantage of competing with countries not weighted with patent royalties. On this point American opinion is in favour of securing the benefit of the Patent Laws even at such an international disadvantage, but would doubtless be in favour of the proposed international system of patents."

"WURTEMBERG.—I consulted Dr. Steinbeis, the President of the Board of Trade and Commerce, than whom no higher authority on all industrial matters exists in this part of Germany.

"Although an anti-abolitionist, President Steinbeis advocates a modification of the present system. He thinks that the cost of acquiring a patent in Wurtemberg, at least, should be much greater than it is; and although opposed to the remuneration of inventors by the State, he is of opinion that the patentee of an invention should be compelled to put a certain price before-hand upon the use of it, under such conditions as to place the advantages of it within the reach of the industrial public, without depriving the inventor of his legitimate reward.

"The period for which a patent is granted must not exceed ten years."

THE VIENNA PATENT CONGRESS.

EXTRACTS FROM MR. WEBSTER'S REPORT TO THE ROYAL COMMISSION OF THE VIENNA UNIVERSAL EXHIBITION, 1873.

Letter from Mr. Macfie to the President, in acknowledging a special invitation :—

"I remember with pleasure conferences somewhat similar, at which I had the honour to be present, at Dresden and Ghent. At the former of these places, a congress of political economists declared itself opposed on principle to the monopoly system of rewarding inventors. At the latter in the congress of the International Association for the Promotion of Social Sciences, a vote was unanimously passed, on the basis of a paper of mine, in favour of an international system of dealing with inventions.

"My opinions, if expressed at your conference, would be found in substantial accord with both of these resolutions ; for I think it obviously beneficial to any country subjected to patents that other countries which are its competitors in trade and manufactures should be liable to the same burdens and restrictions, otherwise they gain an unfair advantage. Their freedom from restrictions and prohibitions, their exemption from 'royalty taxes' or duties to the holders of patent rights, acts in their behalf very much, and, indeed, with aggravation, as a protective differential duty on the productions of the country that is their rival. Such is the character and effect of royalties exacted by patentees. When royalties are not accepted and the legal monopoly is enforced, the protectionism of the patent system becomes prohibitionism. But I am quite prepared to advocate liberal treatment of inventors. If any inventor proves by his success that his new art is a valuable contribution to society, I would gladly see him honoured and made the recipient of a sum of money.

"Let there be an international committee of the several States of the civilised world, constituted to make honorary acknowledgments and confer suitable rewards in all such cases. A comparatively small pecuniary contribution by each State would suffice. Assume it to be what you will, I doubt not it would put more money into the pockets of deserving inventors and adventurous manufacturers than the existing system of granting

(too promiscuously and without such discrimination as to make it creditable to be a patentee) what we euphemistically call 'exclusive privileges,' *i.e.* a more than royal power to forbid one's fellows for fourteen years to make or use processes, or machines, or knowledge which the course of Providence opens to view and brings within reach. As to the people, on whom ultimately the burden of patents falls, they would be immensely advantaged by the exchange of the present mode of 'purchasing' new methods and arts for the simple and natural one of direct pecuniary contributions based on accurate estimates of their worth formed on the incontestable proof of value established by experience and actual use. No one country probably would be assessed, in order to provide as its quota £100,000. Will any expert calculate how much in royalties, in enhanced prices, in retardation of improvements, and in various directions which I need not follow out, the present system costs? Whoever does so may expect to find the result, reducing it to money, will reach several millions."

From a Memorial of the Seniors of the Trading Community at Berlin to the Royal Minister of State for Commerce, Trade, and Public Works.

"A similar position exists in France, where also a reaction has arisen against the system of overwhelming the public with useless and therefore troublesome patents. *The false economical principle of intellectual property* has led the Legislature to give too much facility to the prolongation of patents and neglect the application of effectual means for removing the dead weight of the useless ones. Here also the price paid to inventors by the community, for the publication of their ideas and experience and for the sacrifices they bring to the completion and dissemination of their inventions, must be regulated by the laws of supply and demand. *The price is too high* and must be moderated when the pressure grows too great."

From the Project of a Patent Law for the German Empire, drawn up by a Committee of the Society of German Engineers.

Term of Patent, § 9.

"The duration of patents varies in the different codes of law.

"In England patents are granted for fourteen years, but may, in exceptional cases, be prolonged for further fourteen years.

"In America their duration is seventeen years without possibility of prolongation.

"In France patents are made out for five, ten, or fifteen years.

"In Austria a patent may be awarded for fifteen years.

"In Prussia the duration varies from six months up to fifteen years. In Bavaria the utmost is fifteen years, in Wurtemberg ten years, in Saxony five years with possibility of prolongation for further five years."

"The universal period of duration will have to be settled at fifteen years. The determination of such an epoch is, it is true, sure to be more or less a matter of fancy; but the epoch we select has this in its favour, that it expresses the average of those already arrived at in legislation."

"In England, however, the patentee is privileged, before the expiry of the patent, to apply by petition to the Privy Council for a prolongation. . . . This would leave the public always in a certain degree of uncertainty, however rarely the prolongation were actually granted. We discard it therefore."

From Report on Patent Laws by Dr. Rosenthal of Cologne.

"Nine years ago already the Government and Chambers of Commerce were invited, by a circular letter from the Prussian Ministry of Trade, to consider the question, whether in the existing stage of industrial progress it was still necessary to encourage the spirit of invention by granting patents.

"The majority of the answers advocated abrogation of the system of protection by patent, and thus confirmed the opinion which the form of the question indicated to be that of the ruling authorities.

"We are afraid the voices of the few manufacturers who belong to the Chambers of Commerce will be drowned in the contagious cry for perfect freedom of trade, commerce, and production, and abolition of all protective taxes, and 'monopolies.'

"And yet the most recent settlements of principle have proceeded from conferences of experts and members of the Government; the same Prussian Ministry of Trade called men together a year ago from the most incongruous classes in which an opinion on the subject could be expected, to consult them upon separate practical measures for the settlement of the social question; in all the legislative labours of this century, great attention has been paid to the resolutions of the Juristentag (diet of jurists); in the preamble to the project of the law upon literary copyright, etc., it

was thought necessary to premise expressly that experts from all classes interested had been heard on the subject, and during the first debate, the Bundes-commissarius (deputy of the confederation) explained further, 'that the project of law had been framed under the continual active co-operation of authors, men of letters, journalists, newspaper editors, booksellers, music publishers, and artists, and the Government of the Bund has had the happiness to receive from these classes assurances of their complete approval of the project.'"

The International Patent Congress in Vienna, 1873. Translation of Dr. Hermann Grothe's Report. By A. Hildebrandt, civil engineer. (Extracts.)

"The protection of the patent right, under any circumstances, needs new forms which shall correspond to the present position of international intercourse. . . . The present territorial restriction of the inventors' patent constituted one of the chief shortcomings of the systems hitherto in operation."

"The Director-General of the Vienna exhibition intends to bring in connection with the latter an 'International Congress,' which shall discuss the question of patent protection. If that discussion should lead, as may be expected, to a vote supporting the maintenance of protection by patents, it would be the task of that Congress to arrive at and lay down fundamental principles for an international reform of patent legislation."

"Vice-president Dr. F. X. NEUMANN spoke to express his conviction *against* the protection of inventions. He had publicly represented that view for the last ten years, and held that the principle of freedom must also penetrate the patent affairs. Patents were *irreconcilable with the progress of modern times, and with free trade*—it was a contradiction of freedom, as proved by the history of the question, since they were a substitute of the privileges offered by trade guilds."

"Professor Dr. MARCHET (Vienna) concurred with the views of Neumann. . . . As a theorist, he believed to have the right to express himself freely against patents in the interests of science."

"Dr. TRAUN (Hamburg) considered it his duty as a manufacturer to rise against protection of patents. He shared the opinion, with many manufacturers and practical men, to let competition reign free; the real inventive genius would always clear its way.

. . . An ineradicable disease, that had been created by the patent laws, was the professional inventor."

"Dr. KOERNYER (Hungary).—Perhaps Hungary would be better off if it simply used the inventions of others, but it would be unjust not to protect intellectual property, and that had been the sentiment of Hungary also. Considerations of utility ought *not to displace* the principles of justice. . . . He supported, with all his power, the protection of intellectual property—patent protection."

"Dr. HOFFMANN (Berlin) thanked the opponents of patent protection for their attendance, as the matter was thereby cleared up considerably. . . . The inventor must have his *right;* a *favour* he did not want."

"Ober-Bergrath Dr. KLOSTERMANN (Bonn) examined the position of the inventor from a judicial point of view. The inventor had no *right* except that granted him by the law; there was no *natural* right. The interest of industry and civilisation demanded patent protection. . . . No opponent, not even Exner, in spite of his effort to prove his assertions from technology, had yet adduced proofs in support of his statements."

"Professor RUEHLMANN (Hanover) explained that the opponents of patents were merchants, political economists and chemists."

"Dr. F. X. NEUMANN did not wish to go any further into the treatment of the question on its merits, but only desired to meet the misconceptions put forward by the friends of patent protection. Not only theorists and adherents of the 'old school,' but practical men also, and engineers especially, were champions of freedom. He would only name Michel Chevalier, an ex-engineer—(a voice: 'But what sort?')—then Sir William Armstrong, M. Brunel, Cubitt and Co. in England, the opinions of practical men in the Chambers of Commerce at Dresden, Leipzig, Liége, and elsewhere, in the Society of Arts, etc.; then there was the interesting modification of the Dutch laws of the 14th July 1869, in which stress is laid upon the injurious tendencies of patents. So far as the conception of right of ownership was concerned, that had been quoted, it was not applicable to patents which did not possess that exclusiveness, were good only for a limited time, and did not admit of the ordinary means of protection."

"Dr. BAUMHAUER (Holland).—A universal patent law, however, Holland would join immediately. He was of opinion the patent law must be international."

"Engineer JOSEPH GOERZ declared that, notwithstanding the arguments of the Congress, he had not relinquished his opposition

to patents. The minority, in spite of the opposing views, had as much desire for the moral as the majority. . . . Engineers and inventors could not become administrators on account of the patents which protected them.—(Disturbance.)—It was very difficult in such an assembly so strongly in favour of patents to speak against them, yet would he not withhold his conviction."—(Great uproar.)

"GOERZ withdrew his words."

"Dr. F. X. NEUMANN stated the position of the minority, according to which they intended to vote *stante concluso* for those motions which would in effect restrict the consequences of patents which they considered to be injurious."

"Dr. WERNER SIEMENS then moved passage II. (*b*) of the committee proposal, and described a duration of 15 years for a patent as one which was by experience sufficient to make a patent pay."

"JULIUS STEINER (Chemnitz) proposed to substitute for this passage, 'The duration of the patent must be regulated with regard to technical and geographical limits, and with regard to the effect of the protection, so that the patent right shall be capable to call forth a maximum of inventions or of equivalents, and gave his motives for this amendment in a lengthy speech; but it was negatived in the division and the motion in its original form adopted."

"The last passage of the committee recommendation was then moved by Dr. KLOSTERMANN, according to which patents are open to every one who wishes to make use of them against suitable remuneration. In this he saw a bridge between the two parties. The universal interest of the inventor demanded some such restrictions of the monopoly, and it lay within his well understood interest. This regulation would also tend to aid the principle of freedom in finding its way. The most important objections of the patent opponents would be removed by this clause. The expropriation of the inventor created thereby was a necessary demand of the community. In order to carry it out, a state functionary must be appointed to decide the amount of the remuneration for the invention."

"Dr. ANDRÉ.—Reform tendencies in patent matters existed even in America, and therefore things could not be permitted to go on as Ward had intimated. The paragraph contained no interference with the rights of the inventor, and could be easily carried out."

"Dr. KLOSTERMANN.—In England the license principle had already been adopted in the deliberations of the commission." (*Committee?*).

"WEBSTER defended the amendment warmly; the adoption of the same would be in the interest of the inventor and not in that of the capitalist, and as counsel of the men of genius, the inventors, he pleaded for it."

"MARCHET, in the name of the minority, declared that the latter would vote for the original motion of the committee, although being aware that it was inconsistent with the refusal to recognise the principle that the inventor had a legal claim on his invention. He submitted for their consideration that the adoption of the original motion would remove the stringency of patent protection, so that the resolutions of the Congress would meet with less opposition in the ranks of opponents."

"Mr. THACHER spoke with great emphasis on the legal right which the inventor possessed in his invention. . . . To make the patent system really fertile, an international understanding must be created."

"Dr. REYNOLD (New York).—It really promoted the interests of the competitor, rather than that of the inventor. It was usual in America to sell a patent for a certain territory, that would then have to be abandoned."

"Dr. KLOSTERMANN wished to see all country interest removed from an International Congress. An international protection of inventions was only then possible if the State could stay the use of an invention in a way opposed to public interests. In the same manner that it was possible to deprive any one of the unrestricted use of his substantial property in the interests of the public, was it desirable to subject inventions, because a monopoly in hands opposed to the interest of the State created circumstances deeply damaging to the public; therefore he recommended the new amendment. A great fire could not do so much mischief as a monopoly, and the duty of the State was to interfere."

"HILL (Boston) believed it would even be approved in America."

"The motion of the Committee, as read, carried with 42 against 17 votes."

"Dr. NEUMANN.—In the name of the minority he must thank the Congress for recommending the expropriation right against the inventor, for it offered the possibility to make patents less injurious to universal development. By adopting this principle the Congress had softened down the harshness of the 'inventor's right.'"

CHAMBERS OF COMMERCE.

From the Official Report of a Special Meeting of the Association of Chambers of Commerce, held at Leeds in September 1875 :—

"Mr. FIRTH (Heckmondwike).—When they met in London they had approved of the bill of the Lord Chancellor, because it tended in the direction of protecting the public interest, as against the interest of patentees, in three particulars especially. The first was that there was a principle of examination introduced for the first time; the next was that there was the principle of compulsory license also for the first time in the law of England; and the third was that it shortened the duration of patents."

"Mr. J. S. WRIGHT (Birmingham).—The Association were agreed in the matter of obstructed patents—that is, in cases where a party not exercising his right within a reasonable time, or who could not supply the demand for the article patented, should grant licenses to other persons to use it. He advocated, too, a shortening of the period of duration of patents."

"Mr. SCARBOROUGH (Halifax).—His Chamber . . . sent a circular to the Executive Council urging them to give every attention to its details, in three particulars especially—the duration of patents, the lessening of expenses, and the office of examiners. . . . The question was rather resolving itself into one of patents or no patents. In Switzerland, Holland, and certain other countries, where there were no patent laws, there were many people who came over to this country, took advantage of new inventions patented here, and returned to their own country in order to work them out for their own advantage."

"Mr. W. H. BRITTAIN (Sheffield) said he had not heard a single word in favour of the present patent laws."

PROFITS OF PATENTEES.

One or two more extracts will show what very large sums are occasionally drawn. Mr. Charles Barlow, in *How to make Money by Patents*, says :—

"It is a common fault of a patentee to fix too high a price on a patent machine or article; the argument used is that he has a right, as the Duke of Newcastle said, to do as he likes with his own; he alleges that he has had to pay heavy patent fees, and has been at great expense in perfecting his invention, which may be perfectly true, but is, after all, no justification for exacting an exorbitant price."

"One of the greatest misfortunes of inventors arises from the fact, that they are seldom men of capital, and are therefore 'cabined, cribbed, and confined' for want of means. . . . The inventor who lacks means for carrying out his projects is obliged to call to his aid the capitalist, and like the horse in the fable, finds him willing to aid, only on condition of servitude on his part. . . . The American inventor of the first sewing machine sold his English patent for £250, which has certainly returned the purchaser £150,000. Had he reserved to himself only a small royalty, or percentage, on each machine sold in England, he would have reaped a rich harvest. But he was poor, and not prescient, and never dreamed of the great success which was to attend his early efforts: pressed for money, he sold his English patent for a mess of pottage. One of the most fortunate inventors of the present day is Mr. Bessemer, who happened to possess capital of his own sufficient for the purpose of carrying out his important discoveries in the manufacture of steel, and he has, therefore, realised large sums. Had he been poor, he would probably have shared the fate of many of his class—he would have been compelled to sacrifice his future interest to supply present necessities."

"I procured the patent, some years ago, for a sausage and meat mincing machine, which has ever since returned the rather handsome royalty of £600 per annum to the patentee, without any trouble, and with the regularity of consols.

"What may be called small inventions, are by no means to be despised. Improvements in household requisites are in great demand, and pay well. I procured numerous patents for Mr.

Masters, who introduced the knife-cleaning machine, the ice-making machines, and a host of very ingenious contrivances, for the dining-room and kitchen. They returned him large profits. . . . I was concerned in selling a patent, for cutting out cloth, for tailors' use, for £2500. . . . I was also concerned for the patentee of a cork mattress, by which he realised a comfortable independence in less than seven years, and sold his patent for £2400 when he retired. The invention simply consisted in stuffing a leather cloth mattress with ground granulated cork. The inventor brought it out during the Crimean war, and his first order was from the War Department, and amounted to £2500."

"Iron smelting and working have, perhaps, rewarded patentees with richer prizes than any other manufacture. . . . Nearly every large smelter has secured his inventions, and found them profitable."

"Among the most successful of modern patents is that of Young, for the manufacture of paraffine oil. . . . By unwearied application he has succeeded in acquiring enormous gains, extending so far even as to return, in one year, the almost incredible sum of £300,000. I shall not attempt to estimate the profits made by Mr. Bessemer, from his patents for the manufacture of steel. Considering that his royalty has been for several years £2, 15s. per ton on tens of thousands of tons of rails and other steel goods, made in this, and in various foreign countries, it is easy to understand they must be very great. . . . The numerous patents which have been taken for aniline dyes have proved remarkably lucrative. By them, Medlock, Perkins, Maule, Nicholson, and a host of other patentees, have largely remunerated themselves."

"A new branch of manufacturing trade has of late years sprung up, called sanitary engineering, comprising a variety of useful necessary articles; and in this branch the patentees are pre-eminent."

"It was proved on the trial of an action respecting infringement of patent right in New York, that Howe, who first invented a sewing machine, received not less than £50,000 per annum from royalties paid to him by other American makers of sewing machines, in addition to the profits he derived from his partnership in a company."

"The author remembers the introduction of one of the best sewing machines into this country in 1851, when he was commissioned to sell the patent for £500, and could find no purchaser Yet this patent has returned more thousands per annum net profit, than he asked hundreds for the whole right."

"I knew an American who, when only twenty-three years of age, brought over to this country a sewing machine, which I patented for him; he speedily sold in London one-eighth share of his patent for £2000, and going afterwards to most of the provincial cities sold a great many licenses for £500 each, and this at a time when sewing machines were scarcely known. The successful hits, if I may make use of the term, which American inventors have made in this country alone, would, if recounted, read like a romance, and out-Barnum Barnum."

"During the Crimean war a patentee . . . so insinuated himself into the good graces of the officials as to procure a contract to supply the Government with six guns at the price of 20 cents, or 10d. per pound, exclusive of freight, together with £10,000 for his patent. There was no stipulation as to weight, and the inventor, determined to make the most of his bargain, constructed six cannon of the enormous weight of 98 *tons!* which at the price named, cost this country about £9000."

"Price's Patent Candle Company, Limited, . . . purchased a patent for night lights for £5000, and was amply repaid that apparently large consideration."

A Paper on the Patent Laws, by Theo. Aston, Esq., of Lincoln's Inn, read at Manchester in 1870, tells that:—

"In 1866 the number of licenses and assignments of patents registered in the Patent Office was 596; in 1867, 606; in 1868, 653; in 1869, 675. From my professional experience I am justified in saying that a large number of those registrations are records of prosperous trading in very useful inventions, beneficial alike to the inventor and the public user. When I add that for some of those registered transfers the consideration has varied from £80,000 to over £100,000, the importance of the existing trade in inventions cannot fail to be recognised."

Is it not prodigal waste and arrant folly to elongate into twenty-one years a term which already is evidently in many cases unnecessarily long? It costs the patentee agents even less to take the lavish boon than a facile Government to propose it!

One or two questions at once occur. What will be the position of our shipowners if some propulsive agency, much better than steam and steam-engines, or some means of greatly economising fuel, is discovered and patented here? Won't shrewd Holland, Greece, the German ports, and countries where it is *not*

patented, if British patent-fees are as high as is usual, carry away our shipping, and show how short-sighted is the policy of so attracting inventors? A like question may be raised as to all our cargo manufactures, *e.g.*, if cheaper raw materials for, or means of making, paper, soap, glass, candles, textile fabrics, artificial manures, etc., be invented, will foreign patent-free competition not undersell us?

Now these, though hypothetical, are not at all improbable cases. I am prepared for the reply—It is an infringement of the monopoly conveyed by the patent to import goods made in contravention of British patents. My rejoinder, passing over the repulsion of our own population to such an exercise of the monopoly power (which, however, I understand, is legally enforceable) is—(1.) What will the colonies say to such exclusion as the reply contemplates? (2.) Will our treaty obligations to foreign powers permit such exclusion? (3.) Are the officers of customs to be turned, as in the matter of copyright, into spies and detectives in support of monopoly? (4.) Even if so, by what cleverness or declaration of origin are they to satisfy themselves whether the goods are or are not contraband? (5.) How do these pleas meet the case of competition in foreign and colonial markets to which our commerce extends? It is indeed almost certain that even compulsory licenses will do little to favour British interests so recklessly exposed to unfair treatment by the Parliament and statesmen, whose duty it is to watch over and foster it.

Here we introduce some more extracts, chiefly illustrative of this branch of the Patent question. The first are from a report given by the *Mining Journal*:—

EXPECTATIONS OF INVENTORS.

The following from a discussion that took place some years ago is instructive. Petty articles that yield a large profit may, of course, safely be subject to a royalty of 2%, but commodities that are sold at a very small percentage profit could not stand so much as ½%:—

"In a valuable and interesting paper upon this subject, read at the Inventors' Institute by Mr. G. H. Cole, the remarkable manner

in which one invention suggested another was pointed out; and it was urged that if every inventor were compelled to permit the free use of his invention at a royalty of 2 per cent. fixed by law, it would be to the advantage alike of the inventor and of the public. Inventors generally would seek to perfect a promising invention, as so small a royalty as 2 per cent. would make the efforts to produce close imitations not covered by the patent unprofitable. The inventions taken for illustration were Bessemer's Steel Process, in connection with which it was urged that he would have arrived much sooner at satisfactory and useful results had he been permitted to use any previous invention at 2 per cent. fixed royalty. . . . The CHAIRMAN (Mr. F. W. Campin), barrister-at-law, thought . . . it would raise discussion at almost every point, for whilst it was evidently the intention of the writer to insure an inventor an adequate remuneration for his ingenuity, he feared that the mode in which it was proposed to give him that remuneration would be distasteful to a very large proportion of the inventive classes. He fancied that inventors were given to going to sleep upon many questions which affected them as a body, although he by no means accused them of going to sleep about their individual inventions when they considered they had something that could be turned to advantage. . . . The idea of cutting every man's advantage down to a 2 per cent. royalty, was, he thought, preposterous. . . . Perhaps the greatest inducement for a man to invent was the speculative character of invention—the knowledge that, although he might invent several things which barely repaid him for his outlay, a single success was the passport to an enormous, and sometimes almost fabulous, fortune. If it were the intention of the writer that the percentage should be subsequently fixed, and that 2 per cent. was mentioned only as nominal, he could agree with him, for the proposition of compulsory licenses at fixed royalties was one with which many inventors cordially agreed, but for many inventions 2 per cent. would be altogether inadequate."

"MR. BELL GALLOWAY believed that there would be some difficulty in adjusting the 2 per cent. Users would, no doubt, give the 2 per cent. willingly enough, but unless it was very much used that would never pay the inventor."

"A VISITOR feared the meaning of the writer of the paper had been somewhat misunderstood; it was, no doubt, intended that the 2 per cent. should be paid by all users of the invention, so that really one inventor would be receiving his 2 per cent. royalty from a dozen different classes of users, each distinct from the

other; consequently he would, in the aggregate, be very amply remunerated."

"MR. SAVAGE (of the Workmen's Exhibition, 1870) hoped the arguments in the paper would receive the attention to which they were entitled. . . . The 2 per cent. would be paid by all, and thus if the working man could by his practical knowledge make the invention of still greater practical utility to the public, he should be permitted to do so upon payment of a small fixed royalty to the inventor, who would thus be benefited rather than otherwise."

"MR. R. M. LATHAM thought there would be great difficulty if they were to limit inventors to 2 per cent.; they ought rather, he thought, to recognise the maxim that 'The labourer is worthy of his hire.' To say that a man who invents a railway or an electric telegraph should be classed with the inventor of a useless machine or process, was, he considered, absurd, and he took it that a fixed royalty of 2 per cent. would be most unsatisfactory."

"MR. COLE contended for a fixed royalty, though not necessarily of 2 per cent.; he thought, however, that the smaller the royalty (of course assuming it to be sufficient to remunerate the inventor) the greater would be its money value to the inventor."

"MR. LATHAM could not help thinking that much depended upon the nature of the invention. A quarter of 1 per cent. would sometimes pay the inventor, whilst sometimes 10 per cent. would be insufficient. In a conversation which he had had with the late Mr. R. Roberts of Manchester, he told him that it had taken him ten years to introduce each invention; to offer him 2 per cent. in return for that amount of labour would be most unjust."

"MR. SAVAGE doubted whether with the 2 per cent. royalty system in force it would take long to introduce any useful invention, and 2 per cent. would be quite enough for a maker to pay, as in the aggregate it would be much more. Take a steam-engine, in which there would be, perhaps, three or four distinct inventors to pay, so that 6 or 8 per cent. in all would be paid to inventors. He thought, too, that there was no objection to classing the inventors of important machinery or processes with the inventors of trifles, as each would be recompensed according to value and utility, and would thus obtain a proportionate reward. He believed that if Howe could have secured 2 per cent., as suggested, upon his sewing machine invention, he would have made an immense fortune instead of what he did."

"MR. LATHAM feared the 2 per cent. would benefit the rich capitalist against the poor inventor."

"The CHAIRMAN, in conclusion, observed . . . at present you

could not get on without money, and it was by appealing to the cupidity of manufacturers that large fortunes were made by inventors. There was a too general impression that patents did not pay, the fact being that although it was comparatively few who made enormous fortunes by inventions, the majority of inventors made a very fair profit out of their patents. As to compulsory licenses at fixed royalties, the question was well worthy of discussion."

The Policy of a Patent Law, by Henry Dircks, C.E., LL.D., a well-known author on the patentees' side, supplies the following:—

"As a mere schedule we may here suggest the following as an illustration of what appear to us the important points for consideration in framing a New Act.

"1. The *Title* to specify whether protection is sought for—(1.) An Invention; or (2.) an Improvement on some previous invention.

"The *term of years* for an Invention to be 3, 4, and 7 years.

"The term of years for an Improvement to be 1, 2, 3, or 4 years, with power to determine the period at any of these dates respectively; or, to admit the patent to the right of an *invention*, on proper grounds.

"5. . . . The Commission to have power to refuse patents, when found to be anticipated, or to extend them after 1, 2, or 3 years, to a further 4 years, on satisfactory representations being made to the Commissioners.

"6. No imported patents for Inventions to be entitled to more than 7 years' protection."

The above confirms what we have elsewhere written, by showing how widely within eight years the aggressive party has diverged from their former comparatively sober views. What follows, from the same, is on the branch of the subject treated of in the preceding extracts. It is a report of part of the proceedings of the Social Science Congress at Bristol in 1869.

"A. V. Newton.—If there be a manufacturer in Holland who manufactures sugar cheaper than a manufacturer in England in consequence of a patent, then I will undertake to say that not twelve months will elapse before a much better plan will be adopted than the plan which is hampered by large royalties. . . .

It is impossible for a man to bar the door. Sir R. Palmer talked about a man putting a gate across a road; if he does you may tunnel under it. You cannot put a barrier to a man's mind: intellect will not be cramped.

"Mr. MACFIE.—Is it not a fact that Mr. Bessemer, for a very meritorious invention, charges from £1 to £3 for royalties, so that it is impossible for British manufacturers to compete with nations who have not that to pay?

"Mr. NEWTON.—It is with the view to meet such a question as this, that I gave those figures referring to iron and steel. If we export in an increased ratio, I do not conceive we have anything to complain of with respect to Mr. Bessemer."

"Mr. MACFIE.—Mr. Hill said it was acknowledged that it was inequitable that British manufacturers should pay a tax to patentees, and their rivals abroad should be allowed to import into this country without liability to that tax. The question I put is, Do you believe there is an inequality, and have you any means of remedying that inequality? I adduced, as a fact, Bessemer's Patent; I have a letter from an important manufacturer, stating that he did find it a great hindrance, and it interfered with his work. In the iron market it was stated that large orders left this country for rails, which used to be executed here. I put this question—Presuming this charge of from £1 to £3, have you any plan by which to put the English manufacturer on a footing of equality with the foreigner?"

The evidence of Mr. Clode, solicitor to the War Office, from the Report of the Royal Commission, 1865, contains this:—

"I have taken some pains to ascertain the fact, and I find that we have never been able to control the 'reasonable price' of any patentee."

"With regard to the 'reasonable price,' to illustrate the difficulty of arriving at what is a reasonable price, if you look at the supply as taken by what Sir William Armstrong justly considered to be a reasonable price when the invention was first promulgated, we should have paid for supplies £757,000. The prices were afterwards re-adjusted in the year 1862, and taking our supplies according to that, we should then have paid £320,000; it is simply about half, and our actual supplies, taken at the price which we were charged, cost £416,000. This shows the difficulty of agreeing

upon the 'reasonable price,' even with the great advantage of having the patent in possession, and being able, by Woolwich, to ascertain the precise cost of producing the article; but if the patentee holds the patent in his own possession, it is almost impossible to say what is a fair and reasonable price, because we have not the cost of manufacture.

"MR. FAIRBAIRN.—That is in the case where the patentees themselves manufacture?—Yes. Of course each patentee has an extremely exalted view of his own invention."

"The following letter was addressed to the Secretary of State by a patentee:—

"'The sum I require for the assignment of my patent to the Secretary of State is £500,000, or for a license to manufacture, the sum of one shilling per hundredweight of cannon made on my plan by Government officers in royal arsenals or foundries.'"

"One gentleman for the expanding or Minie bullet, asks £500 a year. Another, for an incendiary system of warfare, asks £50,000. Another gentleman will sell his patent for strengthening guns for £500,000; that case I have just quoted. Another gentleman asks £5000 for a projectile, and a royalty of 9d. on on each shot. Possibly there is nothing more deceptive than in a large department, like the War Department, assessing a royalty for its consumption; for in the case of Minie bullets, or many other things where a royalty is placed upon consumption, it is found to be enormous. When we rewarded Mr. Pritchett for his Minie bullet, in 1853, and endeavoured to take out anything like a scale, we found that the consumption of the article was so enormous that you could not reconcile what was ultimately given for it with any figures. Another gentleman asks £15,000 for the invention of a projectile, or £10,000 for the license. The next case that I have is a material for making the fittings for limber boxes; £1000 is asked, or 1s. 6d. per piece for the article when used. Here is another invention for shells; £8000 is asked. The next is an invention for muzzle-stoppers for cannons and rifles; £10,000 is asked for the patent. The next is a plan for suffocating troops in tents, for which £12,000 is asked, and a note is put to the effect that it is too absurd for the Ordnance Select Committee even to investigate. The last which I have upon the list is an invention for waterproofing paper, for which £5000 is asked. There have been no pains taken in selecting these cases, and I merely quote these instances to show how extremely difficult it is to approach an inventor for the purchase of the patent before using it. I could show the Commissioners by the returns of the

War Office that we have paid larger sums for patents which we have never used than for valuable inventions in constant use."

"Some hundreds of Patents have been granted for instruments and munitions of war alone since 1851, which are now in force, and although each of these might contain some slight element of use, it is in all probability only by a combination that any of the patents could be used."

"You were never stopped by injunction?—No; we have generally gone on and run the risk of what may happen."

"These patents are granted not only to our own subjects, but to aliens, and we are not unfrequently placed entirely in the hands of an alien for a supply. I can give instances in which the most valuable instruments and munitions of war have been invented by Americans, and therefore we have no security that the supply will be furnished to us.

"So that a foreign government could make use of our Patent Laws to shut out the inventions from this country?—Yes."

"I have a case which arises under 'The Registration of Designs Act,' but may be used as an illustration to show how these exclusive rights are worked against the Crown. Not very long ago Her Majesty thought it expedient to change the clothing of the 91st regiment of foot into the Highland costume. The Commander-in-chief placed himself in communication with the officers, but no sooner did certain tradesmen know that Her Majesty had sealed the pattern than they registered it."

The Appendix adds, amid other interesting matter, the information below on other branches of the Patent question:—

"The Ordnance Select Committee have been very frequently impeded in the prosecution of inquiries tending to the greater efficiency of Her Majesty's forces by real or pretended legal right of patentees."

"Mr. M'Kay, who has patented a great variety of unusual forms of shot, recently threatened the Committee with legal consequences if any of them were tried without his concurrence."

"If Her Majesty's service is not seriously obstructed by the facility with which patents are at present granted for warlike inventions, . . . it is . . . from other causes, the first of which is the worthlessness of the great majority of the so-called inventions patented, and the second the small proportion which really new discoveries or appliances bear to those which are only supposed to be new by ignorant or interested parties, but on examination turn out not to

be so. These conditions are no security that serious inconvenience may not some day accrue."

"In 1858 (and the same practice may still exist), it was the practice of our Patent Office to send the specifications of English inventions, as soon as they were published, to Paris, Berlin, etc., and it was ascertained that Sir W. Armstrong, by patenting his time and percussion fuse in April 1858, had, by so doing, given it (by making it known) to foreign powers, although his own Sovereign could not use it till he subsequently assigned it to the Secretary for War."

"The Ordnance Select Committee write :—

"'The Committee do not apprehend the slightest public inconvenience from the free patenting and publication of inventions provided the Government reserves its own liberty of action, and its right to make or use improvements in material of war in its own establishments.'"

Resolutions of the Patent Laws Committee of the British Association, 1861, subjoined to this Blue Book, like the report of the Joint Committee of 1860, contain no suggestion of a longer term, but, also like it, one in favour of compulsory licenses.

The following pieces of a report of the proceedings of the House of Commons Committee on the use of steam on tramways are taken from *The Daily Review* of 15th March. They are suggestive, for they show (1.) How inventions are the natural outcome of felt wants; (2.) How large are the expectations of pecuniary advantage; (3.) How the consequent demands embarrass and lead occasionally to preference of cheaper rather than of better mechanism. The old practice would have been to charge a full *price* for a machine, the inventor probably being satisfied with the profits of manufacture. The new way is a bad one, viz., a charge on the work a machine does :—

"Mr. W. B. Scott-Moncrieff, of Edinburgh, was the first witness examined. He said—I am an engineer of some experience. About four years ago my attention was called to the practical working of tramways by horse power. It struck me that the system was unsatisfactory, and I set my mind to work to devise some better motive power.

"I carefully studied the question what would be the best motive power to adopt, and especially steam; but I came to the conclusion

that the difficulties and objections with regard to steam were inherent to it. By the use of compressed air we entirely get rid of steam, and not only of smoke, but of combustion. . . . I have made up my mind, after careful calculation, that compressed air is the best mode."

"For the last year or two you have directed your attention chiefly to the working of tramway cars by means of compressed air?—Yes."

"As to cost—Have you ascertained whether it is less than the cost of the ordinary car?—I have; the cost in coal is about a halfpenny per mile. The cost of repairs is much less, and a car worked by air would be less expensive than one worked by steam. From actual experience I come to the conclusion that cost of working my system, including driver and everything except the guard and making the permanent way, would be from 3d. to 4d. per mile. An additional 1d. paid in the shape of a royalty would make the total cost about 5d. per mile."

"To Mr. EVANS.—The 5d. per mile includes a royalty of 1d. to the inventor. The running expenses of a tramway car worked by horse-power was about $\frac{7}{8}$ths of a penny.

"To Mr. SAMUELSON.—The preference was given by the Vale of Clyde Company to Mr. Hughes' plan solely upon a question of price. . . . I was led to understand that they were willing to give me 6d. per mile, or half more than they pay for Mr. Hughes' locomotives. I am satisfied that if the Vale of Clyde Company had provided the necessary machinery, they would have been able to work any system for 5d. per mile."

"Can you convey passengers, including all costs, as cheaply as by steam cars?—I am not prepared to say with precision, but that is certainly my opinion."

LENGTH OF TERM.

Resuming the subject of the extracts on page 106, copiously adverted to elsewhere, I have glanced over the Report of the Select Committee on the Law relative to Patents for Inventions, 1829, and find the following on the subject of length of term:—

MR. JOHN TAYLOR.—"Have you any suggestion to make upon the period for which patents are granted?—Merely that there is a difficulty in the term of fourteen years; it does not seem equally fair

for all patents; one patent might deserve protection for three or four years, another for twenty years, and so on, according to the utility and expense of them."

Mr. Davies Gilbert, M.P.—"Will you state your opinion as to the propriety of allowing persons to take out a patent for a shorter period, paying a proportionate smaller fee?—I should think the fees of patents cannot be made proportionate to the importance of the invention, and consequently it may be advantageous to allow individuals judging for themselves, to secure a monopoly of less than fourteen years, on paying diminished fees.

"Might it not be advisable to make different regulations for the different sorts of inventions, separating, for instance, the mechanical from the chemical discoveries?—I think it would."

Mr. John Farey.—"Would it be advantageous to the public, that patents might be taken out for a shorter time than fourteen years, supposing that there was a correspondent diminution of expense?—That is the practice in all other countries, but I am scarcely prepared to make up my opinion upon it; it would tend to multiply the number of patents for trivial inventions, which I think is not desirable, because they occasion so much litigation, and that evil would remain, if patent rights were rendered more secure by better law. Shorter terms, at less cost, would be utterly unavailable to patent rights for inventions of importance, which so much require amendment at present; because there the evil is, that fourteen years is too short. In my opinion fourteen years of profitable exercise of an invention is always sufficient, if it has not been preceded by loss that is to be repaid. The question is, whether a part or the whole of that term may not pass away before the profitable exercise begins. An invention which has no such term of unprofitable exercise, might be very well repaid by five years, as in France."

"It would be a very good measure to reserve a portion of the revenue derived from the granting of patents, to accumulate and form a fund for the purchase of valuable secret inventions, like Mr. Knight's, which are not likely to be disclosed by the inducement of any patent law, however complete; and also to reward individuals like Mr. Woolf, whose inventions have not come into use during the terms of their patents, but have afterwards become of national importance.

"Would you not, in the latter case, rather recommend an extension of the term of the patent?—Not in all cases."

Mr. M. I. Brunel.—"What is your opinion as to the period of fourteen years?—It is a great deal for some, and not enough for

some others; I shall lose probably six years before I come to make anything of my present patent."

"Would you increase the time beyond fourteen years?—I think that might be done, in some cases."

MR. ARTHUR AIKIN.—"Have you considered whether it would be an advantage to allow parties to take out patents for short periods instead of fourteen years with a proportionate diminution of expense of fees?—I do not see that it would; because, generally speaking, it would not be agreeable to a patentee; for whenever a patent is taken out it requires some two or three or four years to bring it into actual operation, and if you have a patent only for seven years the time is expired before you get anything from it."

MR. CHARLES FEW.—"The Committee have been informed that cases occur not unfrequently in which for the first ten years of a patent very little profit is derived from the invention, but that during the last three or four years it begins to be very beneficial; in such cases as those would you recommend a power of extending the patent?—I would in all cases leave it to be extended for another seven years; at present we must go to Parliament to get it extended, which is very expensive."

MR. WILLIAM NEWTON.—"Do you mean, then, that the board should have the power of granting a patent for more than fourteen years?—I think it would be desirable that patents should be granted for various periods.

"For more than fourteen years?—Under some circumstances. For instance, there are many trifling things, such as a patent for a new invented lace-hole for stays, a new invented fastener for gaiters, and such little matters as that, for which a patent should not be granted for more than five or seven years, in my opinion; but there are other matters of great magnitude, such as are connected with marine architecture, the construction of dams and fortifications, and things of considerable magnitude, which the inventors could not be remunerated for in the course of fourteen years. In that case, I should say the consultative board should have a right to grant a longer term; and, upon application, perhaps it would be desirable, where they saw a reasonable ground, that they should be able to extend the limits of the original grant."

MR. SAMUEL MORTON.—"Have you any other suggestions to make?—With respect to the terms upon which patents are given, I conceive that fourteen years is quite insufficient in many cases."

MR. W. H. WYATT.—"Would it not be fair for such ephemeral inventions to allow a person to take out a patent for a shorter

period than fourteen years?—I should apprehend more inconvenience than advantage would result from such a course."

The Committee evidently did not entertain the idea of a longer term than fourteen years. The questions are directed to the point of shortening, the answers are throughout adverse to a general fixed term longer than fourteen years. There is not an index to the Report to enable me to see if there is more that illustrates the question of the duration of patents.

BLUE-BOOK, 1829.

The following, from the evidence of Mr. Taylor in 1829, gives a hint which ought to be followed up by an amendment of the Bill:—

"Have you any suggestion to make upon the period for which patents are granted?—Merely that there is a difficulty in the term of fourteen years; it does not seem equally fair for all patents; one patent might deserve protection for three or four years, another for twenty years, and so on, according to the utility and expense of them."

"Are you aware that in France, if a person who has obtained a patent, during the period he holds that patent, makes any improvement on it, he is obliged to give in a description of the improvement, in order to its being made known to the public?—I am not aware of that fact.

"That is not the practice in this country?—No.

"But would it not be useful that there should be some regulation of that sort?—I think some regulation of that sort would be very beneficial; I think many improvements are withheld from being published on account of the difficulty and expense of taking out a new patent.

"Do you think it a fair thing to require from the patentee, that he should communicate to the public any improvement he may make during the period of his patent?—I think it is extremely fair, and that the public should have a right to require it."

Extracts from the evidence of Mr. Farey naturally here find a place, though not in connection with the branch of the subject immediately before us:—

"By a monopoly I understand a confinement of trade in the hands of an individual; but if licenses are granted under a patent,

I think there is very little harm can be done by any patent right, for it makes no restriction, but only levies a small *tax* on a new and profitable business, which can certainly bear that *tax*, or else it could not be levied."

"Mr. J. C. Daniell invented a new process to improve the lustre of woollen cloth, by immersing it in hot water, after the pile is set very smooth. The operation was reported to cost not more than a penny a yard. . . . He is a large manufacturer, and took a patent for the inventiou. That patent produced a very great revenue to the patentee, whilst his patent lasted; he received I think at one time a *tax* of 2d. a yard for license under the patent; that *tax* was nothing worth notice, to those who paid it, when they improved their cloths so much; but it was a greater object to the inventor than the profit that he could derive, by improving all the cloth he could possibly make in his own manufactory, and he had no interest to endeavour to make his patent a monopoly; he still retained that profit, with only a gradual diminution of it, as the practice extended over the whole trade, under the licenses he granted, but as he derived a profit of twopence per yard (and might have had more if he had insisted on it) upon all the cloth made by others, he had the strongest interest to promote the practice to the very utmost."

"If the patent can be made into a close monopoly, it will command the whole supply of that market, and can consequently be made to raise the price very greatly."

"Even supposing there is no patent abroad, I conceive it puts our manufacturers under no disadvantage to be paying such a small *tax* as is usually levied by a patentee for licenses, when foreign manufacturers may not be paying such a *tax;* because I feel confident of the fact, that under the stimulus and protection of a patent in Britain, the patentee, either by himself, or by men of talent whom he can then afford to employ, will improve the manufacture that is to be effected by the new invention, much more rapidly than can be done by the foreigners who are at work in the same course of improvement, without that stimulus, and with inferior means of execution; hence the *tax* the British patentee levies will never be felt at all. If there is a patent abroad to stimulate corresponding exertions to improvement there, then the foreign manufacturers will be under a corresponding *tax*; but such *taxes* are in all cases a mere trifle, compared with the profits that manufacturers derive from the adoption of new inventions."

"Supposing an article patented, and actually brought in-

efficient use abroad, is there any benefit to this country in allowing persons to introduce an article in that state, and to have a patent for it?—Supposing the invention to be already as perfect as we could make it, there would be little advantage in allowing a patent for it, except that as it still requires to be made known, and brought into use amongst us, in spite of ignorance and prejudice, that bringing into use will be accelerated by the exertions of a patentee; nor do I see any equivalent disadvantage in granting a patent, because I know the *taxes*, levied by patentees, are always so slight."

FROM THE BLUE-BOOK, 1872.

All that is said in favour of a longer term is this:—

Mr. C. W. Siemens answered, "I think if the system of compulsory licenses was adopted, and if, moreover, power was granted to add to the specification, which would tend rather to shorten the length of the privilege to the patentee, in that case there should be an increase of the term; fourteen years is really not sufficient time to develop an important invention. Important inventions have generally proved valuable to the patentee only after the lapse of the term of the original patent, when he is still in possession of some patent of improvement; but then his right becomes rather a doubtful one, and I think it would be more desirable to have a longer period granted him from the first, and rather to allow the inventor to accumulate strength in his position than to diffuse his strength over a number of patents."

Mr. James Howard.—"I think there should be a difference in the time for which patents are granted. I think for small frivolous inventions they should not extend over so long a period as for large and more important inventions."

"I think that there are some patents which require an immense deal of time to successfully introduce them."

"I think there are certain improvements in minor things for which fourteen years is too long a time; a great deal too long. I would not grant patents for the full term of fourteen years as a matter of right, and a matter of course; but I think there should be some substantial reasons why you prolong a patent beyond the third year."

"I think that to a man who makes a minor improvement, in a lock for instance, three years is quite sufficient, because it comes into use immediately. That class of man has not the difficulty which an inventor of greater things has to overcome in the *vis inertiæ* of people averse to change."

"I think you also said that a person who required an extension of a patent privilege beyond three years should give substantial reasons for that extension. Will you be kind enough to give the Committee an idea of what you would think to be reasons fairly adducible?—Suppose a patentee said, 'Now I have got a patent for an article which I find requires a great deal of time to perfect it.' The case of the reaping machine has been introduced. The patentee would say, 'I can only use the reaping machine for a week or two in the year, and the season passes so quickly before I can get alterations made in it, that I have not had time to produce a perfect machine.' In my opinion that would be a case in which the Commissioners should grant a further extension, though the machine had not been introduced.

"If the experiments had been of a costly nature, you would say that a longer period than three years might be granted?—Yes.

"Or I suppose if the patentee had made great losses in introducing the invention, you would say that a longer period than three years might be granted?—Yes."

Mr. G. Haseltine, patent agent, a citizen of the United States.—"I think the term of fourteen years is too short; I think a fair term would be twenty-one years for both parties; that is to say, both for the public and the inventor."

"You are one of those who are of opinion that the inventor has a right to his patent, and that it is not a mere question of public policy?—I am, most decidedly.

"You put him on the same footing with an author or any person claiming a copyright?—Yes, or higher, inasmuch as I believe inventors to be more deserving, and of more benefit to the community."

Mr. J. H. Johnson.—"I certainly would not dispense with the present power of the Privy Council. Those powers have been very useful, and very judiciously exercised. Prolongations of patents are by no means easy to obtain; they have been granted in cases where there would have been otherwise a great hardship.

"Do you think that they are not obtainable with sufficient ease?—I have been sometimes unsuccessful myself, but I should be sorry to say that.

"There is no substantial reason to complain, I suppose?—No, speaking generally, I think not."

The Appendix contains no complaint of the present length of term as insufficient, although it includes—

(1.) A paper by Mr. Bower (who by the by says:—

"Licenses should be compulsory in all cases of patents for improvements in an established manufacture or process, *e.g.*, steam-engines, iron, glass, sulphuric acid, etc. etc., but not compulsory where a new article or process is the subject, *e.g.*, a new method of reducing wheat to flour.")

(2.) A report and a memorial from the British Association, 1856.

(3.) Documents of the Society of Engineers, bearing the names of 101 firms and individuals, and that of the "London Association of Foremen Engineers and Draughtsmen."

And (4.) A resolution of the "Manchester Association of Engineers."

Extracts from *Proposals for a Council of Trade in Scotland*, by the celebrated John Law, Esq., of Lauriston, afterwards Comptroller of the Finances of France, first published at Edinburgh in the year 1700. It will be observed that quite in conformity with the natural meaning of the words of the Statute of Monopolies, patents were regarded as the means for introducing of *manufactures*, and not of improvements on manufactures already existing, and that a decided preference is given, in accordance with the views this compiler has always expressed, for direct rewards by the State in money and not in monopoly:—

"Perhaps there is not any one part or piece of trade in the world but might and would prosper better without than in a monopoly, unless it be in a very few and singular cases, and never but where the monopoly is qualified with an easy and reasonable permission.

"They will doubtless still continue to be considerable in the fisheries and foreign trade, at least so long and in so far as they shall remember, and act as if they remembered, that it has not been by monopolies and exclusions, but by the generous principles of ease, freedom, and security, which they have prudently opposed to the heavy impositions, restraints, and prohibitions of others, that they have been enabled to raise themselves. It is

true, if quite contrary to all this, they who have of all men living have most known by experience that trade is a coy mistress, and will not be hectored but courted, if even they shall begin to take umbrage at the industry of others, if they shall be for forsaking their old and virtuous principles, and way of courting trade by industry, frugality, and ingenuity, and betake themselves to force and violence, which has ruined so many others before, this indeed would look but too like a sign of their declension.

"Now if, as in the case of the fisheries, it should be asked, at whose pains and expense ought the people of this kingdom be broken off from this habit of idleness, or in many cases perhaps unprofitable work, and learned and trained up to industry, will monopolists or private men, not rather choose at all times to deal but for one hundred pounds? or to set only one hundred men to work, where they can get ten per cent. for their money, than to deal for a thousand pounds, or to set a thousand men at work where only five per cent. can be gained. . . . Quite contrary to all this, it is not seldom the interest of the nation, rather even to lose five or more per cent. by their proper money, to have double the people employed or work done, since for the most part the nation considered as such may gain at least one-half, nay sometimes above three-fourths, of the produce by profitable manufactures.

"It is true we find it the custom of not a few trading nations, as an encouragement to trade and industry, to grant monopolies of any new invention, or to those concerned in the first introducing of manufactures to a country, but in this we may likewise observe that these monopolies are commonly granted but for fourteen, fifteen, or hardly exceeding twenty years: and although these sort of young monopolies, as hath been said, be not so pernicious as others, and that this be indeed one way of learning of arts unto, and of begetting industry in a nation, yet surely it is so far from being the best that it were often, nay for the most part, much better for a prince or state to give double or treble the sum gained by the monopoly, as a reward to the inventor or introducer, since it not only, for the time at least, possibly hinders four or five, but it may be eight or ten times the people, from going into the matter, but not seldom proves so bad a preparative, as in a great measure to baulk the further growth and progress thereof, even when the monopoly is at an end."

The article on patents in *Rees' Cyclopædia*, ends thus:—"If, indeed, we could suppose that Government would examine, in all cases, thoroughly, impartially, and scientifically into the merits of

every invention, it might be better for them to throw it open to the public by rewarding the inventor, though in this case the nation at large would pay for what directly and materially benefited only certain classes; whereas by letters-patent those reward the inventor, whose interest it is to reward himself. On the whole, therefore, the present mode is the best, with perhaps this alteration, that the letters-patent should vary in their duration according to the importance of the invention and the money and time expended by the inventor."

On the above the following remarks are made :—(1.) In *Abolition of Patents* an answer is given to the objection that State rewards would fall unequally on tax-payers; at any rate the proposal for permissory expropriation is free from that objection; (2.) Under free trade it is too true that the persons who use patents pay for them, but no longer can carry the charge forward to the purchasers or customers; (3.) The principle of "value received" is again in view. Why is it not applied in any way? The proposal referred to accords with it.

Since the earlier portion of this compilation was put together, attention, happily, has been strongly turned in many quarters to the condition, dangers, and prospects of British manufactures, so much so that I feel it is now superfluous to insert anything on the subject. I wish however, to quote a few lines from the *Scientific American*, of 29th March 1879, they are so very suggestive :—

"We cannot be blind to the fact that the apathy and conservatism of our manufacturers, the greed of our merchants, and the ignorance and drunkenness of our workmen, are weighting us so heavily in the race for trade that a member of our own family . . . is outstripping us with the greatest ease. Our boasted supremacy as a manufacturing people is leaving us, and leaving us under such humiliating circumstances."—Part of an address by F. Smith, Esq., delivered to the Manchester Scientific and Mechanical Society.

Hereon the editor remarks :—

"The newest of lands has leaped to the leadership in the arts almost at a bound."

SCOTCH ACTS.

The following Scotch Acts of Parliament are of general interest. They show a shrewd purpose to be satisfied that monopoly does not raise prices. There are a great many Acts conferring privileges in favour of manufactures, but only *twelve* during six or seven centuries for new *inventions,* the first in 1593.

"ACT declaring the suggarworks at Glasgow to be a Manufactury (1663).

"Forasmuch as ther being a Petition presented to the Kings Ma^tie and Estates of Parliament be Frederick Hamilton and John Corse for themselves and in name and behalf of their partners Maisters of the tuo suggarworks at Glasgow, Representing that upon the encouragement given to them be the Acts of Parliament made anent Manufactories, They did imploy a great pairt of their Stocks & fortunes in setting up the saids tuo works, which are now brought to that perfection that they are able and doe sell the suggar at a thrid part cheaper then the same can be imported from abroad, By which many people are keept at work, And a great stock of money which used to be exported keeped within the Kingdom, And wheras by the tuelt Act of his Majesties last Parliament, the former Acts anent Manufacturies are Ratified and approven, And it is thereby declared and ordained that if any Strangers shall come or be brought into this Kingdom by Natives to set vp work and teach his Airt of makeing of Cloath stuffs Stockings Soap or any kynd of Manufacture, that he shall enjoy the benefite of Law and all other privileges that a native doeth enjoy, with power to erect Manufactures either in Burgh or Land as they shall think fitt, And ther to dwell and exercise their trade without any stop or trouble, And that they shall have libertie and freedom of trade and to buy and purchase Lands and heretages And all other Goods moveable and Immoveable And all other privileges liberties and capacities that doeth belong to any native Subjects born within this Kingdom, And for the further encouragement of Manufactures All oyl, dying stuffs, forraign wooll, potashes or any other materials whatsoever usefull for Manufactures that shall be imported, Are declared to be free of Custom and excise and all other publict dues in all time coming, And that all Cloaths stuffs Stockings or any other Cōmodities to be made and exported by them, shall be free of Custome and Excise for the space of 19

yeers after the date thereof, And it is furder declaired that any stock employed or to be employed for erecting and intertaining any Manufactures, the same shall be free of all privat and publict taxes whatsoever And all quartering and levying of Souldiers, And that all the Servants of the saids Manufactures shall be free of watching warding Militia and Levyes dureing their actuall Service therein for the space of Seven years after the date of the said Act; With power to the Maisters Erectors or intertainers of the saids Manufactures, to meet for making of ordinances for the right ordoring of their services, Sufficiency of their Stuffs, Cloath and others And for appointing Visitors of their work, And therefore Humbly supplicating that the saids Tuo Suggar-works might be declared to be Manufactures And that they have possess and enjoy the haill freedoms privileges and Immunities contained in the saids Acts of Parliament, And particularly that the Collectors Customers and waiters may be discharged from exacting of any Custom excise or other publict dues for any of the materialls necessar imported for the said Manufactures in all time coming, or of any Commodities as the product of the said Manufacture, or the space of Nineteen yeers after the dait heirof Conform to the said Act of Parliament; And that the Maisters of the said Manufacture may be allowed to grant Transires for the product of the said Manufactures without application to the Custom-house of Glasgow, The Kings Majestie and Estates of Parliament having heard and considered the foirsaid Petition and report of the Lords of the Articles theranent, Doe hereby declare the saids Tuo Suggar-works of Glasgow to be Manufactures, And ordains the petitioners and their successors to have possess and injoy the haill freedoms privileges and Immunities contained in the foirsaids Acts of Parliament, And discharges the Collectors Customers and Waiters present and to come from exacting of any Custom, excise or other publict dues for any of the materialls imported for or made use of be the saids Manufactures in all tyme coming or of any Commodities being the product of the saids Manufactures for the space of Nyntein years after the dait hereof Conform to the said Act of Parliament, And gives warrand to the Maisters of the saids Manufactures to grant Transires for the product of the saids Manufacturies, without necessity of any Application to the Custom-hous of Glasgow."

ACT in favours of silkweivers Printers &c. (1681.)

The Kings Maiestie being most willing out of the tender respect he hath to give all due encouragement to the persones promotters of trade & manufacturies And that necessar it is for their encouragement that impositions be layd vpon all such Cõmodities imported into the Kingdome as can be made within the same Doe therfor Statute and Ordaine tuentie vpon the hundreth over & above all former imposiºns to be raised leveyed and collected aff all combs, neidles, pins, perfumed gloves, glasses, silk, silk ribbens & louping, stiffing, threid, threidlaces and other things that may be made of threid, and of all sort of steill neidles imported into this Kingdome; And heirby Prohibites and expreslie discharges the importation of all yron-neidles Except pak neidles vnder the paine of confiscation of the samen, the one halff thairof to his Maiesties vse and the other halffe to the partie discoverer Provyded alwayes Lykeas it is heirby expreslie provyded that the artists who are to make and furnish the particular cõmodities abovewr̃in shall find surety and caution to his Maiesties privy Councill that they shall furnish the people of this Nation with as good & sufficient commodities of their oune makeing, and near at as easie a rate as any merchant or artist can doe by importeing the same from other Cuntries and they shall take for Apprentises as many of the Natives of the Kingdome as they can and teach them faithfully their respective arts & trades Suspending heirby the commenceing of the leveying of the said imposition till the said caution and surety be fund, and till his Maiesties privy Councill give order theranent And to endure for seven yeers next and im̃ediatly thairafter, and longer if his Maiesties Privie Councill shall sie cause And it is further Declared Statute and Ordained that the Artists in the said respective trades Shall in reference to the same enioy all priveledges and im̃unities introduced by any acts of Parliament or that shall be introduced in favours of manufacturies And that the materialls imported for the respective trades, and all materialls for printing, as printing paper, oyle, potashes and the lyke and all licentiat books imported by Stationers and booksellers Shall be frie of all custome excise and other impositions whatsumever, and the exportation of all the saids Cõmodities wrought and books printed within this Kingdome to be likewise free of all imposition whatsomever for seven yeers after the date heirof.

PATENT-OFFICE PRINTED MATTER.

"Those interested in the doings of the Patent-Office will be astonished to learn that an order has recently been given to destroy nearly all the copies of printed specifications of expired patents. Two hundred and fifty tons of these valuable documents have already been carted away, and the process of destruction still continues. The only reason given for this is that it is difficult to find storage room, and it has therefore been determined to reduce the stock of copies of specifications to five apiece. The amount which these have cost to print is something over £700,000, more than that sum having been spent in this way since 1852, when the Patent Law Reform Act authorised the printing of specifications. Large numbers have, of course, been given away, and still greater numbers have been sold; but the stock still remaining is very large, and the greater part of it is in constant demand. This wholesale destruction of public property is causing bitter complaints among the patent agents and consulting engineers who have been informed of it, as it will give much additional trouble to those employed in patent cases. The usual practice has been to purchase copies of the specifications required for such purposes, and the agents were then able to work in their own offices. It will now be necessary for them to do much of their work at the Patent-Office Library. It is also stated, but on this point we are not certainly informed, that the library of the Patent-Office is to be 'weeded' in order to give more space."

Every one will be glad that the above quotation is either an entire misrepresentation or a gross exaggeration.

There surely ought to be a collection of such documents, and the more important Blue Books and white, made and kept accessible at some one place in every county and colony. The reasons why the Patent-Office veritable treasures have not been generally sought are threefold. *First*, They are published in a rather clumsy form; *Second*, The willingness of the Government to make free grants of them has been almost unknown; and *Third* (if we mistake not), Government expected they would be bound at the expense of the recipients.

We suggest that, if it is not too late, one or two hundred sets should be rescued from the threatened destruction and offered in a bound state to public institutions, on condition that in each case of presentation, the public shall continue to enjoy access to

them for consultative use; failing which, the institution to return them or pay for them. It is a grievous and a strange mistake to suppose that specifications cease to be of value after the period of privilege has expired. Why, according to *theory*, it is only in view of that time—the time when any and every body is at liberty to adopt the invention—that the specifications, *i.e.* the direction how to make and work the invention, becomes necessary. Can a better illustration than the lavish and illogical waste mourned over in the newspaper extract be wanted of the call for an Invention Board, composed of men acquainted practically with trade, drawn from different parts of the kingdom, and desirous of introducing on all hands an improved administration of the office, which also they would be specially capable of devising. See *Abolition of Patents*, p. 289.

THE PETITIONS TO PARLIAMENT.

I have received the printed copies of four of the fourteen or fifteen petitions presented to the House of Commons respecting the Patent Bill.

The first is from the Glasgow Philosophical Society, in anticipation of legislation, and has sufficiently been adverted to on p. 26.

Another from the same Society desires that the Bill may be amended.

It states that the Bill proceeds on "the erroneous assumption that the real value of an invention can be measured by the rapidity by which it becomes remunerative and able to bear heavy taxation." "As a rule, it is the most original and important inventions which require the longest time to be appreciated, and, as generally the most revolutionary, have to encounter the greatest obstacles and opposition before they are adopted." The peculiarity portrayed in this too strong representation, which is given forth as a reason against "increasing the weight of taxation at the third, seventh, and twelfth years," certainly may be urged as a reason why the length of the term of patent should vary according to the differing nature of inventions (a short term being enough for some, as we are so frequently told), whereas the Society (inconsistently) favours a uniform term of twenty-one years; and it furnishes proof that, if there are to be patents at all, some inventions would not be *under*, though others may be *over* burdened by the payments complained of. There must be acknowledged to be strong and weighty testimony in favour of progressively increasing charges, "with the object of extinguishing" those which ought not to live very long. The objection to this method of extinguishing is that it, while imposing a burden by no means heavy in the case of inventions that are too remunerative, that is, inventions which tax people oppressively, fails in its most important and most desired application. It does not answer what ought to be its main purpose.

The Society maintains, in spite of frequently repeated allegations to the contrary, that the public is already sufficiently protected against undeserving patents by the condition "they shall be void if the inventions are not new or useful," and that if the applicant were allowed a "patent with a statement of the objections appended thereto, with such a notice added to their other

sources of information . . . the public could not be imposed upon, and the patentee . . . would be very chary of attempting to enforce" his claims "against the public. But the applicant should not be called on to fight any battle with the public before he obtains his patent." Do these most extraordinary views really proceed from an association that hails from Glasgow? "Heads, I win; tails, you lose," is a joke not to be played off in this serious business. Alas! the "public" is too easily mulcted. Who is to be its guardian and vindicator? Why should it be thus heedlessly exposed to plunderings and "never venture, never win" malpractices?

The next remarks refer to an assertion not less bold. "Assuming an invention to be original and novel, the inventor earns his right to a patent sufficiently by disclosing it to the public." In plain English, to *disclose* an invention which may be of the minimum of originality, and may be a mere anticipation by a few days of an inevitable discovery or publication of a method or thing, entitles to a patent which may bring to the man who has the start not only a right to hinder others, many of whom would in ordinary course acquire the information independently of him, but a right to tax his fellows, and this though he be a foreigner, to the extent it may be of hundreds of thousands of pounds (for this large sum has again and again been claimed for very trifles).

The petition objects to an inventor being "compelled" to work his invention himself or "to make efforts to force it into use." The Society is, as to the first of these matters of compulsion, out of harmony with the general voice of Europe, and as to the second with at any rate the ex-Postmaster-General, as we have seen. Let the reader observe how completely the patent system has been perverted from its original design, which just was to set the patentee to the very work remonstrated against, and it contemplated not at all the other requirement (forcing into use), which is insisted on nowadays only because of the perversion. What would in those days have been thought of the reason the Society gives—"The inventor is forced to give up half or two-thirds of his property [the patent!] to any capitalist who will advance money to enable him to comply with the law by working it. Members of the Society" and others "have been forced to spend very large sums in endeavouring to get their inventions worked in foreign countries, . . . and after much expenditure had to abandon their inventions, which were in several cases immediately taken up by the public." Two corollaries: *first*, the monopoly privilege, *i.e.* a patent, was thereby demonstrated to be unsuitable for these times, along with

the modern custom, almost an obligation of duty, to patent in several countries. What capital, energy, time, is sufficient to enable an inventor to carry on businesses on both sides of the Channel and both sides of the Atlantic? *Second*, The legitimate escape from the dilemma is either by abolishing patents or by establishing international arrangements, especially if pecuniary rewards, contributed proportionally by several States, were adopted. See Reports of Select Committees, 1872, and Vienna Congress, 1873.[1]

A most remarkable dictum in opposing compulsory licenses proceeds from this philosophical body—"The only way of regulating the license-duty is to leave it to the operation of the laws of supply and demand." What is the operation of these laws in a monopoly? What has the Society, too, to say as to the foreigners who are not subject to the monopoly?

Another petition is from the Wolverhampton Trades' Council (with which correspond petitions from four other Trades' Councils —showing that there has been again a whipping up). It well states that the Bill should give inventors the prospect of "a *fair* remuneration for their time, trouble, and the expense they have incurred." As usual, these modest words cover a demand for unlimited monopoly, remuneration without any limit fair to their fellow-countrymen.

The following is hard to coincide in:—"That the stamp-duties contained in the second schedule are excessive and unnecessary. That seeing the great benefits inventions have been to the country, it is unwise and impolitic, and against the spirit of the age, to tax those things which are imperatively necessary for the good of the community further than is necessary to defray actual expenses. And also taking into consideration that a patent can be obtained in America for the sum of seven pounds sterling, and that a passage from this country to that can be obtained for the sum of six pounds ten shillings, it is necessary that if this country is to hold its pre-eminence as a manufacturing country, the stamp-duties on patents for inventions should be reduced to what will pay the expenses of the Patent Office, and the profit now made out of the fees be sacrificed by the consolidated fund for the good of the manufacturing industries of the country."

[1] "Pour remédier aux inconvénients de la variété de legislations et de la complication qui en résultat pour les inventeurs et l'industrie, M. Macfie, Président de la Chambre de Commerce de Liverpool au Congrès des Sciences Sociales de Gand, en 1863, a proposé de rendre cette législation internationale et uniforme. Cette idée semble avoir l'avenir."—Garnier, *Traité de l'Économie Politique*, 7th edition, 1875.

The Bill lowers present charges. The threat of going to the United States to patent there, and not to patent here, shows that the petitioners, of course having a plausible argument suggested to them, seize it in the dark.

I hope I may appeal to my relations with working-men for near half a century to back my expression of desire for their welfare. In this spirit I read with interest the following regarding clause 22:—"The whole of this clause would entirely shut out inventors of small means from ever hoping to obtain any remuneration for their inventions, as the capitalist would not venture money in the manufacturing of an article which, in the first place, could be obtained free after three years, and, in the second place, after all the preliminary expenses had been incurred, any one could claim to manufacture in opposition."

After during so many years pondering the subject, may I not say that these considerations show that patents are by no means the reward that suits working-men as inventors, and that the plan of private expropriation or that of State rewards is out of sight more suitable, to their case pre-eminently? I think so, because they have neither capital nor credit, neither business experience nor commercial connections, to enable them to work the monopoly themselves, and, as the petitioners acknowledge, it may be years before they get (if ever they get) a capitalist who will do it for them; in that event they receive as usual but a very small part of the benefit, whereas under the other system they have but to apply for the reward or else to offer their patented invention in the proper quarters, and they with comparative speed obtain in cash the *value* almost as easily as if they were millionaires, and without any deduction except a moderate commission to the patent agent: (as to these *agents*, they, as a body, would, by becoming negotiators in the new business, earn much more than they do now). As to the operative *masses*, their interest is the same, viz., to accelerate the free use of all inventions in order that there may be no losing of employment, no hindrance to British trade.

The following is a petition from the Liverpool Chamber of Commerce in reference to the Bill.

TO THE HONOURABLE THE COMMONS OF THE UNITED KINGDOM OF GREAT BRITAIN AND IRELAND IN PARLIAMENT ASSEMBLED.

The petition of the Incorporated Chamber of Commerce of Liverpool humbly sheweth,—

1. That your petitioners have examined a copy of a bill now before your honourable house, intituled "A bill for consolidating, with amendments, the Acts relating to letters-patent for inventions."

2. That your petitioners have long held that the absolute monopoly granted to patentees is adverse to the public interest, and that the result of an inquiry into the whole question would be beneficial to the public without entailing unfairness to inventors.

3. That in the year 1862, when the subject of patents was brought before your honourable house by Mr. Ricardo, your petitioners prayed for the appointment of a committee of your house to inquire into the policy of granting patents for inventions; that subsequently, in the same year, a Royal Commission was appointed to inquire into the working of the laws relating to patents for inventions, whose report suggested changes in the laws relating to patents which it was believed would mitigate the evils very generally complained of as incident to the working of those laws.

4. That the question of the policy of granting patents for inventions not having been included in the investigations of the Royal Commission, your petitioners submitted to her Majesty's Government in the year 1869, and again in the year 1870, that this part of the question should be well considered before fresh legislation, then in contemplation, was undertaken by them, and the appointment of a Royal Commission was asked for, charged to investigate the question of the policy of granting patents for inventions, but no step in this direction, though frequently pressed for by your petitioners, has been taken on the part of her Majesty's Government.

5. That your petitioners are of opinion, after the long experience the country has had of the working of the Acts relating to patents for inventions, that the time is opportune for inquiry now into the question of the policy of granting patents.

6. That should, however, your honourable house deem such an inquiry uncalled for at present, your petitioners humbly submit

the following for amendments in the bill now before you for consolidating, with amendments, the Acts relating to letters-patent for inventions, as being necessary and desirable, namely—(*a*) That on application for a patent affecting, or appearing to affect, any branch or branches of trade in the United Kingdom, intimation of such application shall be communicated to the representative or representatives, agent or agents, of such trade as shall have been appointed by them to receive and to make known such application to the trade represented by them—the addresses and authorisations of the representatives to be reported to the Patent Office. (*b*) That the limit of fourteen years now in force is amply sufficient for the duration of patents, and that the proposal, therefore, in clause 20 of the bill to extend the term to twenty-one years, would throw a serious burden upon the public, without conferring any corresponding advantage on patentees.[1] (*c*) That the time within which applications for patents for foreign and colonial inventions should be limited to three months, instead of, as proposed by clause 23 of the bill, to six months after the date of the foreign patent. (*d*) The introduction of a clause making it penal to stamp, mark, or otherwise distinguish any article as "patent" for which no patent has been granted; and also a clause enforcing, in all cases where patents are granted, that the number of the patent shall also be stamped or marked on the article where the word "patent" is used. (*e*) The introduction of a clause enabling traders or manufacturers, associated together, whose interests are affected by the existence of a monopoly created under a patent, to demand, after the expiration of three years from the granting of such patent, or earlier, with the consent of the patentee, that a valuation of the patent affecting their interests shall be made by three experts to be appointed by the Lord Chancellor for the time being, and that upon payment of the sum at which the patentee's interest in his patent is valued at, the patent right vested in him shall terminate.[2] (*f*) Also the introduction of a clause enjoining that a list of the specifications of new inventions for which no patents have been granted shall be kept for reference at the Patent Office.

7. That the obligation to license patents, provided for in clause 22 of the bill, is of the utmost value in the interest of the public, and for the beneficial working of the measure; and your petitioners

[1] I fear the advantage to patent *assignées* would be very great indeed, at the cost of the public.

[2] I hope, and may presume, the petitioners mean the *invention*, not the privilege, shall be valued and paid for.

strongly hope that this clause will, under any circumstances, be retained in the bill.

8. Your petitioners humbly pray your honourable house to take the foregoing amendments into favourable consideration, with a view to their introduction into the bill now before you, and that the bill and amendments may be allowed to pass into law.—Given under the common seal, etc., this 11th day of April 1877.

SAMUEL SMITH, *President.*
WILLIAM BLOOD, *Secretary.*

The Saturday Review of 14th April has a genial article on "French Tariffs and English Trade," from which I take the liberty to make a few, as elsewhere in this compilation, disjointed, and therefore inadequately "set" extracts. After a deservedly complimentary account of a great sugar firm, it says :—

"Private persons whose conduct has been blameless have been beaten in a pecuniary contest by the wealth of a nation. It is France that pays the bounty, and it is by France, with the boundless resources of a great nation, and not by French manufacturers, that the English firm has been undersold. . . . The industry of sugar-refining is not a large one as industries go in England. Eight years ago it was calculated that the refineries in the kingdom numbered fifty."

Yes, but it is not the *number* of individual firms nor even of the workmen they employ (it is men, not women and children, who work in sugar refineries), that determines the largeness and therefore the value to the nation of any industry, but the magnitude and effect of operations, the weight and kind of trade, the number and kind of businesses that accompany and are led and dominated by it. In these respects sugar-refining stands pre-eminent.

"One of the commonplaces of Free-trade doctrine is that we are to think of our consumers and not of our producers. . . . English families sweeten their tea at a lower cost. It is true that when the bounties have killed off English competitors, foreigners may take advantage of the absence of competition to raise their prices, and so it might be thought that in the long-run sugar would be dearer here. But Free-trade always works in this way.

"The silk industry of Coventry has sent this week a deputation to Lord Derby to explain how dreadful are the sufferings and how great the losses which that industry has had and still has to endure in consequence of French competition. There was only one answer for Lord Derby as a Free-trader to make. It is the prin-

ciple of our recent legislation to think of the consumer very much and of the producer not at all. . . . The case of producers, who suffer not from the competition of rival producers, but from bounties, seems harder than that of the Coventry silk manufacturers. . . . The English refiners have been beaten, not in a fight between producers simply, but between one set of producers, helped by the resources of a nation, and another set not helped by the resources of a nation. There seems something specially hard and unfair in such a contest being forced on any class of producers, and many persons think that in such a case retaliatory duties are justifiable. This, for example, is the opinion lately expressed by Prince Bismarck, who said that in a general way he was all for Free-trade, but that he must insist on duties being imposed on articles coming from France on which a bounty was given. Great allowance must, however, be made for an English Minister who declines to follow Prince Bismarck in this matter; for to impose retaliatory duties is to raise the price to the consumer for the benefit of one class of producers."

Not everybody will enter into the spirit of these observations, unless indeed they are cynical. They may be construed into an implied admission that if exemption from patents can be shown to act as a bounty to foreigners, their incidence at home invests them with a characteristic which may fairly be considered by any State injuriously affected.

THE GOVERNMENT BILL OF 1879.

In order that the forward and, on public rights and industrial freedom, aggressive movement by Inventors' Associations and their coadjutors may be realised, the history of the question for the last sixty years should be studied in Parliamentary Reports, and the Report of the Royal Commission presided over by Lord Derby, and in the various Bills that have been presented. The Bills now before the House of Commons, to mention only two of their serious faults, propose to elongate the term of patents to twenty-one years, and ignore the provisions for preliminary examination, which, in conformity with the recommendations of the Commission,[1] and the 1872 House of Commons Committee, as well as the requirement of the 1874 International Patent Congress at Vienna, the Bills of 1875 and 1877 contained. The late Mr. Webster, who attended that Congress "in accordance with instructions from the Royal Commission of the Vienna Universal Exhibition," reported to his Royal Highness the Prince of Wales, as their President, that the Congress resolved—

"It is advisable, in carrying out these principles, to introduce a system of preliminary examination.

"Its next resolution was—a patent should be granted either for a term of fifteen years, or be permitted to be extended to such a term."

The Philosophical Society of Glasgow in 1877 petitioned, under the signature of its distinguished President, Sir William Thomson, for—

"Provisions for securing an efficient preliminary examination of all

[1] In favour of "Preliminary Investigation," in the "Analysis of Evidence" given to the Commission, appear, *inter alios*,—

Justice Grove.
Sir M. E. Smith, Judge.
The late Mr. Webster, Q.C., author of important Law-books on Patents.
J. S. Russell, Engineer.
J. Platt, Do.
Sir W. Armstrong, Do.
Sir F. Crossley, Manufacturer.
The late Lord Chelmsford, Lord Chancellor.
J. Lister, J. Holden, } Eminent Patentees and Manufacturers.
E. F. Hughes, Patent-agent.
Inventors' Institute.
E. A. Cooper, Patent-agent.
Chambers of Commerce, Wolverhampton, Belfast.
James Richardson and Co., Glasgow.
Institute of Engineers of Scotland.
Philosophical Society of Glasgow.

applications, with the view of drawing the attention of the applicants and to warn the public, with respect to what stands recorded in previous specifications, thereby enabling the applicant to avoid the risk of re-presenting what may appear to have been already patented, or, in case he resolves on proceeding, to guard the public against possible loss or inconvenience."

The North British Mail of 17th February 1877, commenting in an article presumably inspired from the above quarter, said of the then Bill—

"Let us notice briefly its good points in their order. . . . *Second*, if the *modus operandi* were simplified, examination as to the novelty of inventions sought to be patented."

Regarding that Bill, the Chairman of a special meeting of the SOCIETY OF ARTS (Major Beaumont, M.P.), in summing up the discussion, said :—

"The principle of preliminary examination had been accepted by previous Committees and by a Royal Commission, and he was glad to see that, in the terms both of the resolution and of the amendment, that principle was accepted."

Having quoted the views expressed in 1877 by two eminent Societies, it is appropriate to quote what two eminent *savans* have formally put on record.

In an article in *The Nineteenth Century* for April 1877, the Right Hon. LYON PLAYFAIR, M.P., writes :—

"The Bill before the House is founded on the necessity [observe] of protecting public interests, while it accords private monopolies to inventors, and it is well that we should examine its guiding principles. These are, that only good and substantial patents should be encouraged, but that bad and frivolous ones should be repressed. The latter are to be sifted out by examiners. . . . When the public travel along a road, it is useful to have steps cut to shorten a hill or to escape an obstacle. . . . The previous examination of patents for novelty and utility is intended to prevent these hindrances, and has been recommended by a Royal Commission, by a Select Committee, and by the International Congress of Vienna. The weight of authority is, therefore, strongly in its favour."

So the eminent economist, M. MICHEL CHEVALIER, in *Les Brevets d'Invention*, Paris, 1878, writes :—

"We are driven to preliminary examination as an indispensable precaution. . . . Persons have thought we might in France have recourse to an expedient of this kind to render serious and conclusive the preliminary examination, by instituting a supreme commission . . .

composed of men of eminence, offering all the guarantees of knowledge and experience, devoting themselves entirely," etc.

Preliminary examination is well known to be the practice in the United States, and in a very rigid form in Prussia. A remarkable illustration of its efficacy is found in *The Times* of 22d March :—

"Fourteen out of Edison's sixteen applications for a patent at the Washington Patent Office have been rejected. This impulsive man took up the electric light last fall as an entirely new subject of experiment, and allowed himself to believe that he saw a key to make the light useful which others had never thought of; but when he reached the Patent Office he discovered that very nearly every idea which he had embodied in his application had either been covered by the patents of other inventors, or was not patentable at all. This information is obtained from the Patent Office."

By way of episode here may be introduced two short extracts from different parts of *The Times* of January 2 :—

"Mr. Edison said he had sold the right to use the instrument to France [probably some few individuals there] for 500,000 francs. He also stated that he had sold out his right in the Phonograph to the Edison Phonograph Company, who are now selling machines at from £20 to £25 each."

"An arrangement has been made during the past year for working a new American carpet-loom, brought out by Mr. Alexander Smith. . . . The licenses for Great Britain are confined to five firms."

In plain English, these transatlantic inventors take advantage of British patent laws to establish among us invidious and restrictive monopolies. They receive high sums from a few of our countrymen, who much more than recoup themselves by fourteen years of monopoly profits, unlimited both in respect to highness of percentage and magnitude of total amount extorted. This is certainly adverse to free competition, large operations, and low prices, *i.e.* to the nation's ability to retain manufacturing supremacy.

By way of illustrating the portentous declension which this Bill marks, compare it in some points with the Bill of 1875, as it came from the House of Lords.

1875.	1879.
Clause 6: "There shall . . . be examiners and assistant examiners of Patents. . . . They shall be specially qualified for the office by legal or scientific knowledge."	[The following seem to be the nearest approaches to the provisions of the 1875 Bill :—]

1875.	1879.
Clause 7. "There shall . . . be referees for Patents. . . . The referees shall be persons specially qualified for the duty by knowledge of manufactures, arts, or science."	
Clause 8. " . . . Notice of the application shall be published. Any person having an interest in opposing the grant may . . . file notice of opposition," etc.	*Clause* 6. " . . . Notice of the application, but not of the contents of the provisional specification, shall be published by the Commissioners."
Clause 9. "The use and publication of the invention, during a period of *six* months from the date of the application, shall not prejudice the grant of a patent for it."	*Clause* 7. Same as clause 9 *per contra*, substituting *twelve* months. *Clause* 9. "On the filing of the complete specification, the Commissioners shall make public the same, and other documents relating to the application. . . ."
Clause 10. ". . . The Commissioners shall refer the application to an examiner. . . ."	*Clause* 10. "Any person . . . may . . . give notice . . . of opposition to the grant. . . . The law officer shall, if required, hear the applicant, and any person so giving notice, and being, in the opinion of the law officer, entitled to be heard in opposition to the grant. The law officer may, if he thinks fit, . . . use the assistance of an expert."
Clause 11. "The examiner shall consider the application, specification, and relative documents, and shall report to the Commissioners his opinion thereon, and especially with reference to the following questions:—	
. . . .	
"*c.* Whether the invention appears open to objection on the ground of want of novelty, as far as can be ascertained by such examination, as prescribed of former specifications and other documents and publications in the Patent Office.	
"*d.* Whether the invention is wholly or mainly of a combination of known machinery, substances, or processes;	
"*e.* Whether, regard being had to the last-mentioned consideration, that the invention is not of great importance or utility, or for any other reason, it is expedient that the duration of the patent to be granted for it (if any) be limited to *seven* years; or	
"*f.* Whether, by reason of the frivolous character of the invention it is not worthy of a patent."	

1875.	1879.
Clause 12. "In any case as presented there may be associated with the examiner a referee or two referees." . . .	
Clause 13. "The law officer shall report to the commissioners his opinion whether a patent may be allowed for the invention or not, and if allowed, whether for *seven* years or *fourteen* years." . . .	*Clause* 16. "The term limited in any patent for the duration thereof shall (notwithstanding anything in the statute of monopolies) be *twenty-one* years from its date."
Clause 16. "Any person may petition the Lord Chancellor against the sealing of a patent."	*Clause* 14. "Any person may petition the Lord Chancellor against the sealing of a patent."

Clause 25 is thus annotated :—

"This is from the Act of 1852, § 26. It had reference, no doubt, to *Caldwell* v. *Vanvlisengen*, 9 Hare, 415, where Dutch subjects were restrained from using in their ships, in British waters, screw-propellers patented here, without licence."

It is questionable if shipowners realise what this altered state of the law imports: it is nothing less than that Dutchmen, who shrewdly, a few years since, abolished all granting of patents, now can adopt any invention for the construction and propulsion of ships without charge, and therefore, whenever any one is brought forth, as there is pretty sure to be, greatly reducing the cost or discomfort of navigation, they have assured to them such an advantage over every British shipowner, that they will be able to drive us off the sea—even in our coasting trade.

Practically the same state of matters, of course, exists to help Dutch sugar-refiners to compete unfairly with their British rivals in our every market. Is all this generosity, or conceit, or short-sightedness?

The entire absence of the protective element in the British system under our proud Free Trade should render legislators very cautious in drawing the inference that heavy exactions for licenses to use patented inventions are easily borne, from their seeming harmlessness in the United States, where there prevails a universal and stringent protectionism. The shaky or gloomy condition of British manufactures adds great weight to pleas to reconsider our patent system.

The following extracts about the Bill may be useful :—

"The first important provision is contained in Clause 5, which

requires, in addition to the eight officials connected with the administration of law in the three kingdoms, the appointing of five other persons as Commissioners, two of whom are to be nominated by the Lord Chancellor (the highest law-officer) and three by the Board of Trade. There is no requirement that any of these five shall be men acquainted, still less sympathising, with commerce and manufactures. They may, and probably would, be all Londoners.

"Nor is there any indication given that their function is in any, far less a chief, degree to champion and watch over public interests. For aught that is said, they may be most pronounced favourers of patents and of patentees (whose vigilant associations might, indeed, come to be the virtual selectors).

"Certainly one or more of the Board or Commission should have specially committed to him or them vigilant concern for the interests of the public, along with some power of appeal in case he or they and his colleagues do not agree.

"This Clause closely resembles Clause 1 of the Act of 1852, which appoints as Commissioners the same law-officers, adding 'such other person or persons as the Queen may think fit to appoint.' None ever have been appointed. The due selection of these powerful unpaid is a matter of first-rate consequence. The right sort of men here may work a much-wanted revolution. The number, which is to be filled up in committee, should be enlarged sufficiently to find room for men of weight and integrity connected with the principal industries of the United Kingdom, such as our diversified manufactures, engineering, mining, shipping, agriculture, fisheries, etc. The principal Chambers of Commerce and Associations of Engineers and the like may well have some kind of representation on the Commission.

"*Clause* 6 requires that notice of any application for a patent 'but not of the contents of the provisional specification, shall be published by the Commissioners.' Unless this future publishing shall be more effectual than that of the past, there is reason to conclude it will be of far too limited utility—in fact, will fail to safeguard the public and the general body of industrials, most of whom live far from the patent office, and are ignorant of its doing and its wars.

"The advertisements or notices should appear in newspapers circulating widely in the districts in which each particular branch of trade affected is carried on;—thus, as regards cotton manufactures, in Manchester papers; as regards sugar-refining, in Liverpool and Greenock papers; as regards shipping, in Liverpool and Glasgow papers,—and so forth.

"*Clause* 16 extends, notwithstanding the Statute of Monopolies, which is emphatic in restricting the term to fourteen years, the term for all future patents to twenty-one years. It runs counter to the hitherto prevalent and almost unquestioned general opinion, and to the spirit and tenor of committees of Parliament, and even of Continental favourers of patents for inventions—*e.g.*, the Patent Congress at Vienna,—and stands in direct contradiction to the following passage

from the Report of the late Royal Commission presided over by Lord Derby, and consisting further of the present and the late Lord Chancellors, Lord-Justice Erle, Justice Grove, Lord Overstone, the Right Hon. W. E. Forster, Dr. Fairbairn, Mr. Hindmarch, and Mr. Waddington :—

"'That in no case ought the term for which a patent is granted to be extended beyond the original period of 14 years.'

"Mr. Hindmarch intimated that, though fourteen years is a duration that 'appears to be amply sufficient in the greater number of cases,' power to grant prolongation should yet be retained; and to much the same effect Dr. Fairbairn: 'In cases where the public have derived advantage from a patentee's invention, and *where the patentee has not been remunerated*,' there should be prolongations.

"*Clause* 18 may prove inconvenient; it subjects the Crown to the payment of moneys agreed on between the officers or authorities administering any one of the departments of the Government (with approval of the Treasury) and the patentee, or else to be settled by the Treasury, with the advice and assistance of the Commissioners. Its great evil is the want of any limit to the demands that may be made.[1] It certainly opens the door both to enormous exactions and to jobbery.

"Would it not be well to authorise the purchase of the particular invention or right, at a fairly estimated value, by the nation for public behoof, as was done, much to the satisfaction of the nation, for the sum of £7000, in the matter of perforating paper as is now wont with postage stamps, etc. ?

"*Clause* 36, authority to call in two or more experts is advisable here as in Clause 10.

"Clauses 40 onwards to 46 are headed 'Proceedings of Commissioners.' It is there provided that three shall be a quorum (so says the marginal note or rubric), but they are not required to meet—they may seemingly transact business without meeting—in order to obtain this active position. There is no chairman or convener, nor power for any of the Commissioners to demand that they shall meet. No set times for meetings are appointed. It is not required that their deliberation shall be conducted in public or in presence of reporters. In truth, there is danger that the whole administration may fall into the hands of officials, like the Board of Trade and other so-called Boards or Committees of Privy Council, that never do meet, and are not even summoned for the transaction of their business, however important, and the Commission will not be efficient or adequate for the great purpose it ought primarily to have in view, viz., the promotion of national (and not sectional) interests in the several spheres of industry, which, at the present time, claim more than our former tending, and especially liberation from all hurtful chains.

[1] This points to the radical fault of the patent system. The grand desideratum is some appraisement of inventions that would bring the productiveness of patents into some degree of proportion to merit.

"Travelling expenses should be allowed to every member non-resident in London. It is desirable to introduce the provincial element of strength and counsel."

On a review of the various points indicated in the foregoing paper, and of suggestions which the Edinburgh Chamber of Commerce, and other influential public bodies, are preparing to make, good reason appears for wishing and hoping that the Bill will be referred to a Select Committee; for truly the provisions contained in it for the public interest are of the slenderest and most shadowy character, and show but slight realisation of the need there is in the present state of trade to trim our sails for foul weather.

The following Report was unanimously adopted by the Edinburgh Chamber at its annual meeting in April 1879:—

THE PATENTS BILL.

The Secretary read the report of the committee appointed to consider the "Patents Bill." The report was as follows:—

"Your Committee having considered the Patents for Inventions Bill, No. 2, have to report—1. That they are of opinion that sufficient provision is not made in the Bill requiring the Commissioners to meet and decide in every case whether the granting of a patent is for the public advantage, and that this should be distinctly provided for in the Bill; and further, that the recommendations made by a select Committee of the House of Commons in 1872, in clause 15 of their report, should be adopted in the Bill, viz.:—(*a.*) That the Commissioners be reinforced by the appointment of competent persons of high standing, and of legal, scientific, and technical experience, whose time is not occupied with other engagements to such an extent as to prevent their full attention to such administration; (*b.*) That the Commissioners should make rules, relegating to some of their body, with competent assistants, amongst other duties, that of reporting to the [Commissioners?] law officers as to every invention for which a patent is sought to be obtained, whether it is properly the subject-matter of a patent; whether its nature, distinguishing the particular points of novelty, has been clearly described in a provisional specification, and whether, so far as can be ascertained by them, it is a new invention; and, as to the complete specification, whether it fully describes the means of carrying the invention into effect, and accords, in all essential particulars, with the description thereof in the provisional specification. *Clause* 6.—Your Committee renew the recommendation in their former report—viz., that an addition be made to clause 6 requiring the Commissioners to give intimation of every application for a patent affecting a particular branch of trade to the person appointed by such trade for that purpose, and whose address and authorisation have been lodged at the Patent Office; and further, that every means be taken to give

due publicity to the application. *Clauses* 10 *and* 36.—Your Committee suggest that instead of 'one expert,' power should be taken in clauses 10 and 36 to employ 'one or more experts.' *Clause* 16.—Under this clause your committee renew the recommendation made in their previous report, 'that the proposition in this clause to extend the stated term for which patents are granted from fourteen to twenty-one years is altogether unadvisable, and they would express their decided opposition to such extension being granted.' *Clause* 25.—That provision should be made in clause 25 that the vessels of any foreign nation trading to or from British ports should not be exempted from the necessity of taking out any licences to which British vessels are subject. That provision should be made in the Bill for the following purposes:—(*a.*) That when an article is marked "patent," the number of the patent, and the year when issued, should be stated, whenever that is practicable; (*b.*) That a register be kept at the Patent Office for specifications of new inventions that are not to be patented, and empowering the employment of a small portion of the funds of the office in the bestowal by the Commissioners of medals or other marks of honour on public-spirited vendors, in cases where the service shall appear such as to entitle to this special distinction; (*c.*) That every owner of a patent should have an address or agency within the United Kingdom, where applications may be made for licences; (*d.*) That a complete set of patent publications should be supplied to, and kept accessible at, the principal centres of manufactures, mining, shipping, agriculture, and fishery. And that in sub-section c. of clause 44, the instruction should read—'For securing and regulating the opening to public inspection, and the publishing and selling copies, at such prices, and in such manner, *and at such centres of industry*, as the Commissioners think fit.'"

Mr. R. A. MACFIE, in a few remarks explanatory of the report, moved its approval.

Mr. JOSIAH LIVINGSTON, the chairman of the Chamber, seconded the motion, which was adopted.

LONDON ENGINEER PERIODICALS.

The *Engineer* and *Engineering* have leading articles on the Bill which are quite in keeping with antecedents. The latter says:—

"One thing ought to be insisted on, namely, that, save where fraud is distinctly proved, every applicant, whose invention is not contrary to public morals, should be allowed a patent at his own risk."

The signification of this is, that, to the verge of indecency, every possible chance of foisting his claims upon the public should be given to every applicant; every advantage that experienced shrewdness can bring be accorded to every restrictor of public rights,—and the *onus*, the trouble, the expense, the time, the journeying to London, the interference with business and family engagements and duties, should be

thrown on industrials (who may indeed escape these evils, for more likely than not will they be out of the way of hearing of the application, and will be uncertain whether or not it concerns them if they do hear), in the prospect, of course, that such an accumulation of obstacles to the latter's undertaking opposition will prevent any earnest movement, any serious danger of the application being unsuccessful. My observation renders me very doubtful whether commonly industrials, having, as a general rule, little liking for patents, and a great dislike to meddling in patent matters, would in any case interfere with the course of procedure. An Aberdonian and even a Newcastle shipbuilder, a Galashiels or Stroud manufacturer, would be so loath to undertake the crusade, encompassed as it must be with discomforts and dubieties, that even the *quisquis* intruder would, in most instances be unconfronted and get his own way. "Why," each industrial would argue, "should I assume the *rôle* of a vindicator of my trade's rights? My proportion of the burden, even if I take a licence, which I will do all I can to avoid, may be so much less than the cost to me of money, and of the loss reduced to money, which I inevitably must sustain by acting as champion, that I will let others, if they come to a conclusion different from mine, do the fighting."

As to the public, it no doubt has vital interest in the maintenance of the industrial field free of unprincipled intrusions, because if it has not to pay dearer for the articles it buys or the services it procures, it at any rate suffers when individual members of the community are made unprosperous, and their welfare-diffusing factories are closed; but the patent-favouring periodicals, full to the brim of the delusive notion that patents never do harm while often they do good, ignore these risks, and disparage as croakers those persons who give such warnings.

The same cruelty is avowed in the United States. Commenting unfavourably on a new Patent Bill there, the *Scientific American* writes in February:—

"The law, as it stands, shown by the practice of the courts, provides ample safeguards for the public interests as against untenable and wrongfully granted patents."

This of course refers to the inconveniences and injury inflicted *after* the patent is sealed.

Engineering naively avows:—

"We have never been able to see any logical reason for making the life of a patent in one country dependent on the duration of a patent previously obtained elsewhere."

Logical or illogical, the reason is plainly this: A patent is a document that entitles a patentee to debar from the use of an invention and, if he is willing to relax his claim, to levy a heavy tax on whoso-

ever uses it. If rivals abroad are freed from that restriction and burden, for home industry to continue subject to them is to occupy a disadvantageous and difficult position.

It is on this principle that *The Edinburgh Chamber of Commerce and Manufactures* petitions against continuing to exempt Dutch and other foreign ships from liability to pay in British waters for inventions which British shipowners are paying for.

In the same spirit a committee of the *Association for the Reform of the Law of Nations*, reported, *inter alia*, regarding the 1877 Patent Bill :—

"Its system of preliminary examination was calculated to encourage crotchety objections and factious opposition at every stage, and to launch the unhappy applicant, even if ultimately successful, in an ocean of costly litigation before he obtained his patent."

I cannot say I adopt that view; but though I did, I would rather see one individual who seeks a personal advantage or privilege encountering what is foreboded than the body of manufacturers and others who are not seeking personal advantage, and are to be disturbed on the field they already meritoriously occupy, for indeed it is disturbance, unnecessary and unrequited, that is too apt to follow.

The following extract from the Report of the Antwerp Conference of this *Association for the Reform of the Law of Nations* touches on disputable points. The French section resolved—

"1. It is for the interest of industry, as well as of inventors themselves, that inventions should have protection for a term sufficiently long *to compensate them for their trouble and expense.*

"2. Where patents for the same invention are granted in several countries, *the grants should be co-extensive.*"

It is sad to see that a Society of which other things might have been expected has succumbed so completely to the persuasions of patentists. Its Patent Law Sub-Committee (the Committee was appointed in 1877 at Antwerp) has just issued a paper, in which it, under the head of "General Principles," enunciates that (in its opinion!) :—

"1. The right of inventors over their productions is a right of property; the law does not create, it only regulates it. [Paris.]

"2. A temporary privilege of sufficient duration to ensure the remuneration of their labours and outlay should be accorded to inventors, less in their own interest than in that of industry in general."

The first of these affords fresh evidence of the advance or aggression of which we have spoken in previous pages. The second is sound

if it means that the public interests should prevail over that of inventors; but does it not mean that patenting is real promoting of "industry in general" [which I deny]?

"Examination" is another heading under which we read—

"After the filing of the complete specification, the Patent Office" [whatever that be] "shall examine it, . . . whether the invention is wanting in novelty, regard being had solely to prior publications in the Patent Office of the country [which we have shown before is not a sufficient range]. A prior publication to a patent should . . . be not more than twenty-one years old, and be in the form of a full description identical with the applicant's," or if older, "the identical invention openly used within twenty-one years."

"Reports and opinions of examining authorities should not be made public" [again see *ante*].

Under the heading "Term," twenty-one years is demanded.

Under the last heading "Effect of Patent," compulsory licensing is repudiated, notwithstanding the acceptance of that improvement.

How severe the control to be attempted on imports we see by this—

"No one should be permitted . . . to use or sell . . . the article produced by such patented machinery, process, or combination," unless "manufactured under the patent [*sic*] and introduced by himself."

"Expropriation for public utility" is presented half-heartedly.

The following is from a Petition, sent in March 1879, of the Chamber of Commerce and Manufactures of Greenock :—

"They are of opinion that it would be expedient to provide that the Commissioners should cause an examination of the application for a grant of letters-patent to be made by officers to be appointed by them with a view to ascertain whether the patent applied for should be granted or refused, and this should be done although no person should appear to oppose the grant. Your Petitioners are further of opinion that the term limited for the duration of patents should not be extended beyond fourteen years, subject to the power of conditional extension under the law as it at present stands."

The Glasgow Inventors in a Petition express themselves thus from their point of view :—

"The operation of supply and demand has heretofore satisfactorily regulated the granting of licences. . . . Making licences compulsory under a penalty of revocation of the patent at so early a period as the third year seems an objectionable innovation, and unnecessary interference with the practical action of the patentee; and as the applicant's motive for obtaining the patent is to have a property which, by improving some machine or process, may become profitable to himself and others, it naturally follows that he will use every effort to put the invention into practice."

REPORT OF THE PATENT LAW COMMITTEE.

The Committee, having had their attention called in November last to the announcement of a draft patent bill (*avant-projet de loi*) just issued by the Swiss Government, put themselves in communication with M. Droz, the Swiss Minister of the Interior, on the subject, and were invited by him to express their views on the bill. This they accordingly did in a memorial pointing out the alterations that seemed to them necessary. The memorial was approved by the Council of the Association and forwarded to M. Droz.

The Committee have also taken action in support of a bill brought into the British Parliament by Mr. Anderson, M.P., with the object of lengthening the term of patents in Great Britain, and of reducing the fees payable upon them. A petition to Parliament in favour of the Bill was signed or subsequently adhered to by all the British members of the Committee, and a memorial, based upon this petition, was afterwards sent to the Attorney-General. . . .

The Committee therefore begs to submit to the Council the following resolutions, dealing with those points of the law and practice as to patents on which it conceives an assimilation between the different nations to be both desirable and practicable.

That a liberal patent law is not alone of benefit to individual inventors, but is to be considered as the ground-work of all progress in trade and industry. . . .

Provisional protection for twelve months should be granted on the filing of an outline description of the nature of the invention. . . .

Before a patent is granted, . . . opportunity should be given for opposition, and the invention should be examined with reference exclusively to the following points:—

Whether it is wanting in novelty, regard being had solely to prior publications in the patent office of the country.

A prior publication, to be fatal, should come strictly within one or other of the following conditions:—

(*a.*) It should not be more than twenty-one years old, and should be in the form of a full description identical with the applicant's description. Where a patent has been applied for in one country, subsequent publication of the invention during a limited period, say twelve months, should not necessarily prejudice the original applicant's rights to patents in other countries.

(*b.*) If the prior description be more than twenty-one years old, it should be proved that the identical invention, as claimed by the applicant, has been openly used within twenty-one years last past. . . .

Reports and opinions of examining authorities, as regards applications for patents, should not be open to the public, except so far as they relate to proceedings in cases of opposition. . . .

The term of the patent should be not less than twenty-one years. . . .

The effect of a patent should be that no one should be permitted, without the leave of the patentee, to produce, use, or sell the article

which forms the subject of the invention, the patented machinery, process, or combination, or the article produced by such patented machinery, process, or combination.

After the issue of a patent it should not be subject to revocation, and should be held to confer an indefeasible title to the invention described in the complete specification, unless it be proved that there exists a prior patent covering an identical invention, or that the identical invention has been publicly used within twenty-one years prior to the date of the patent.

Patents granted in different countries should be perfectly independent of each other in all respects.

A patent should have no effect on vehicles or appliances to vehicles which come but temporarily within the boundaries of the country, and the owners of which do not carry on business within the country.

The patentee should not be prevented from introducing from abroad articles manufactured under his patent.

The principle of compulsory working should not be admitted. . . .

The Conference agreed.

From a Letter to the Council of the Association for the Reform and Codification of the Law of Nations.

We, your delegates appointed to attend the Congress of Industrial Property at Paris in order to support the resolutions presented to you by your Committee on Patent Law, beg to report . . . that the Congress was only able to discuss a small number of the points raised in its own programme and in the resolutions of our Association. The following points were, however, decided in harmony with the suggestions of your Committee, viz., the non-admissibility of provisions for compulsory working (Resolution 2 of the Congress, Patents Section), the desirability of an examination strictly of an advisory character (Resolution 3 of the Congress, same section) and the principle that patents granted in different countries in respect of the same invention should not be in any respect interdependent (Resolution 10 of the Congress, same section); also that patent fees should be moderate in amount, though, what the amount should be, was not defined, and that foreigners ought to have equal rights with citizens.

We consider that the resolutions of the Congress on these and some other points are of considerable value, and that its results are highly satisfactory, so far as they go. Moreover, the Congress appointed before its separation a permanent International Commission charged with the completion of its labours, on which nearly all the members of your delegation have been placed. . . . The permanent Commission has also been charged with the duty of taking diplomatic steps, with the promised aid of the French Minister of Commerce, for carrying into effect the resolutions passed by the Congress.

PATENT-LAW BLUE-BOOKS.

Extracts from THE REPORT FROM THE HOUSE OF COMMONS SELECT COMMITTEE ON THE LAW RELATIVE TO PATENTS FOR INVENTIONS. 1829.

MR. JOHN TAYLOR, called in, and examined.—Are you conversant with the taking out of letters-patent for inventions?—I have had some experience formerly; . . . my time was then chiefly employed in manufactories. . . . As to the policy of rewarding inventors, it seems to me just and right that *some* reward should attach to inventors; and there can hardly be such a reward without some monopoly. . . . As soon as an invention is to be exercised in this way, it becomes necessary, in order to secure it, to keep it perfectly secret for some time. . . . The invention, be it what it may, necessarily involves experiments of some sort; and as those experiments can hardly be conducted perfectly in private, or without the assistance of workmen and others, a revealing of the secret may thus take place which is fatal to the patent afterwards, if confidence is broken. . . . I took out a patent for oil gas, and have been concerned in others. . . . Do you conceive that practically there is much difficulty in making a specification?— . . . The usual time is two months, I believe; but sometimes it is extended by the Attorney-General on particular reason being shown—such as that it is more than commonly difficult to describe the invention in the time usually allowed. I know one instance where there was a patent in which one of my brothers was concerned; it was a printing machine originally invented by an ingenious foreigner; it required an immense deal of thought and labour, and involved much mathematical calculation. I believe twelve months was allowed for that specification. But in the present state of the law would it not be inconvenient to give a longer time for the specification?—It would, certainly, as other parties might be injured by it. . . . A most important improvement on the manufacture of oil of vitriol was the object of a patent by Mr. Hills, which was litigated for a long time; it was a case in which I happened to be a witness, and the specification was attacked upon the ground of its being inadequate. The patentee, however, succeeded in defending it. It was evident he might have made a better specification if he had had proper time to have carried his invention as far as he afterwards did, and a doubt arose, whether by making the invention afterwards more perfect, he had in that way departed from the specification to a certain extent, and thus had vitiated the patent. The court certainly held he had not done so, and refused to set the patent aside; but it was much contested, and the patentee very nearly lost a great deal of money and labour which he had bestowed upon the process. . . . Would the use of an invention not communicated to the public preclude another

person who may also discover the same invention from obtaining a patent for it?—No; such person certainly would not be prevented, if it was not published, but kept perfectly secret. . . . The second inventor is the publisher, and therefore the inventor according to law, the other never having communicated it to the public; but I think the first inventor, upon proof that he had used it, could not be prevented going on to the same extent as he had formerly done; that is what I understand to be the law. . . . Could the original person who invented it stop the patent of the second?—No; he had never given it to the public, and that is what the public require by a patent. Could he not stop the patent of the second person?—If he chose to publish it before the second person's patent was sealed he could prevent its going forward to the world as that person's invention. Do you not think such a case as that exists, as a person discovering an improvement in machinery, and keeping it private?—I think it would be difficult to keep secret any invention in machinery, as so many persons must necessarily be employed; a chemical invention might be kept secret, but I do not think a mechanical one could. . . . Have you any suggestion to make upon the period for which patents are granted?—Merely that there is a difficulty in the term of fourteen years; it does not seem equally fair for all patents. One patent might deserve protection for three or four years, another for twenty years, and so on, according to the utility and expense of them. . . . There should be a difference between the time patents should run which are taken out for trifling inventions, and more important ones, or which involve great expense. . . . Are there not inventions where the inventors can only calculate on the invention remaining in vogue for a very short time—the kaleidoscope, for instance?—Yes, certainly; they never can calculate upon any profit except on the first sale, because it would be idle to bring actions for every interruption of such patents. . . . Are you aware that in France, if a person who has obtained a patent, during the period he holds that patent, makes any improvement on it, he is obliged to give in a description of the improvement, in order to its being made known to the public?—I am not aware of that fact. That is not the practice in this country?—No. But would it not be useful that there should be some regulation of that sort?—I think some regulation of that sort would be very beneficial; I think many improvements are withheld from being published on account of the difficulty and expense of taking out a new patent. Do you think it a fair thing to require from the patentee that he should communicate to the public any improvement he may make during the period of his patent?—I think it is extremely fair, and that the public should have a right to require it. . . . Suppose a man taking out a patent for an invention has not used his invention for five years, should not his patent be void at the end of five years?—He cannot be obliged to give up his invention; but certainly his patent ought to lapse unless it is produced in a given time. . . . Does not the prohibition to inventors to claim a patent on abstract principles lead to an unnecessary multiplication of details in the specification?—Certainly; it leads to the use of words trying to embrace all sorts of things, which embarrasses the specification very much. . . . Do you not think it expedient that

persons should be allowed to take out a patent for a secret communicated to a person by another person, being a British subject?—Most clearly so. It may happen that a poor inventor may put into the hands of a richer man a good invention, which the richer man may take out a patent for, and work to the advantage of the public; but, as the law now is, the person applying for a patent must swear he is the inventor before he can take it out. In that case patentees may very often perjure themselves?—I have not the least doubt of it. . . . Supposing patents were made for different periods at different prices, do you conceive if certain prices were to be fixed on patents, and a period of fourteen years allowed for an important patent, would that be too large a period, or do you not think that it is necessary the expense should be to a certain amount in order to check frivolous applications?—The expense ought in a great measure to depend upon the nature of the patent. . . . I do not think the expense is so objectionable as the uncertainty of the law. . . . Patentees do not bring actions against every person who infringes their patents?—No, they could not. . . . Do you not imagine, in consequence of the expense and difficulty of defending patents, that there are successful attempts at infringement in many cases?—I should think so; the case of the kaleidoscope, for instance. It would have been quite impossible to have defended that patent; they must have brought five hundred actions.

Davies Gilbert, Esq., a member of the Committee.—I conceive that the invention of a principle is a much greater achievement, and much more likely to produce great public benefits, than the invention of any mode of applying a principle already known; I therefore think that, *a fortiori*, there should be protection given and encouragement held out to the discoverers of new principles, and that they should be secured to their inventors for the legal number of years; but always assuming that some practical mode of applying them to useful purposes makes a part of his invention, and is included in the specification, and then I think that the inventor should not lose the benefit of his temporary monopoly in consequence of another or even a better mode of application being discovered. What is your opinion of the expediency of appointing a commission, composed of scientific men and lawyers, to examine a specification before it is enrolled, to ensure the patentee from having his patent afterwards impugned?—I think it would be highly expedient that some person or persons more competent to judge of scientific matters and inventions than the Attorney-General, from the course of his ordinary pursuits, are in general to be found, should be called to his assistance. . . . Will you state your opinion as to the propriety of allowing persons to take out a patent for a shorter period, paying a proportionate smaller fee?—I should think the fees of patents cannot be made proportionate to the importance of the invention, and consequently it may be advantageous to allow individuals judging for themselves to secure a monopoly of less than fourteen years, on paying diminished fees. Might it not be advisable to make different regulations for the different sorts of inventions, separating, for instance, the mechanical from the chemical discoveries?—I think it would.

Mr. John Farey, a practical engineer.—Have you had considerable experience in the practice of taking out letters-patent?—Yes, in assisting inventors professionally. . . . Do you consider it more beneficial for a party applying for a patent to make an application to an agent than to carry it through himself?—Decidedly so. . . . The objection to having a patent for England and the Colonies, without an Act of the Colonial Legislature is, that all law proceedings being necessarily in this country, the expense of bringing over witnesses would be enormous, for an invention which is exclusively practised in the colonies. . . . The inventor might not think it worth while to apply for an Act of the Colonial Legislature. The only instance which has come to my knowledge is a recent patent to Mr. Hague, for expelling the molasses from sugar. He explained to me that if law proceedings on such a patent right were limited to suing infringers in our courts in this country, it would amount to a prohibition altogether; hence he applied for an Act of the Colonial Legislature at the same time with his patent for this country. . . . During the time between making the application and sealing the patent, has the applicant any security for his invention?—No security whatever; there is even an increased necessity for secrecy beyond that which existed before his application, because his application has called attention to his procedure, and declared what is the object of his pursuit. . . . Do you not word the title obscurely, in order to avoid directing public attention to the subject? —Yes, but there is a danger in being too obscure. . . . The remedy is obvious—to make the right of the patentee secure from the time he makes his application, on condition of his then lodging a paper of the heads of his invention, a statement of the principle on which he founds his invention. That is the case in Spain. . . . The inventor of a new mode of making verdigris manufactured and sold the article before the date of his patent, which was afterwards set aside in consequence. In this case the invention being the mode of making the article, that invention did not become known by such sale, and therefore the substantial claim to a patent remained, viz., the power of the inventor to withhold his invention from the public. . . . Many patents are infringed for years together, without it being possible to obtain any redress, from the difficulty of proving the exercise of the identical invention. That is only the case in a peculiar class of inventions which admits of secrecy; they are mostly chemical operations, where the whole can be done by one or two hands. The Court of Chancery is said to have a right to compel a man to disclose his processes to inspectors appointed by the Lord Chancellor, to ascertain whether he has infringed a patent or not. I know that the late Lord Chancellor appointed two engineers to go and inspect machinery, but I believe the party consented to the measure, and nominated one of them. I never knew such inspection ordered respecting processes. . . . Would it be advantageous to the public that patents might be taken out for a shorter time than fourteen years, supposing that there was a correspondent diminution of expense?—That is the practice in all other countries, but I am scarcely prepared to make up my opinion upon it. It would tend to multiply the number of patents for trivial inventions,

which I think is not desirable, because they occasion so much litigation, and that evil would remain if patent rights were rendered more secure by better law. Shorter terms, at less cost, would be utterly unavailable to patent rights for inventions of importance, which so much require amendment at present, because there the evil is that fourteen years is too short. In my opinion fourteen years of profitable exercise of an invention is always sufficient, if it has not been preceded by loss that is to be repaid. The question is, whether a part or the whole of that term may not pass away before the profitable exercise begins. An invention which has no such term of unprofitable exercise might be very well repaid by five years, as in France. . . . I have known a case where an inventor obtained a patent, and not more than a week after lodging the specification he made a material improvement upon what was specified. The improvement is so great that it would supersede his present article, which is a good one and sells well; and yet if he practised the last and best edition, his former patent might be brought in question, and therefore he keeps it a secret, and does not practise it at all. Some time or other he may apply for a new patent, when his old one is expiring, or by his death it may be lost. . . . When a man invents and takes out a patent for a steam-engine, steam-coach, or a lace machine, or a mule to be worked by power, six months is the utmost he can get for preparing his specification; he uses his utmost exertion to get his engine made and put to work before the time when the specification is due, in order to make a trial of it, and regulate his specification by that trial. Perhaps just before the time when he is expecting to get it to work, some part fails or requires to be re-made, which prevents his making any trial, and the time being come, he is not able to try his engine before he must put in his specification, which he therefore makes as well as he and his adviser can guess, without any trial, though he has gone through nearly all the trouble and expense of a trial. Then a few days after having enrolled, he finds out, upon experiment, some most important improvement in the means of carrying his invention into effect, which either had not occurred to him before, or, if he had thought of it, he could not have safely put it into the specification, because it was a mere speculative idea. . . . The expense of those hurried proceedings to get a sufficient trial of new machines to enable us to specify properly is excessive, being frequently obliged to keep people working night and day. I have sat up all night many times myself for such work, and have undergone such fatigue that I could not be any way sure of what I was doing. Even when a successful trial has been accomplished, there remains so little time afterwards that the specification must be composed in such haste as to run the greatest risk of some inaccuracy or error. . . . It would be very easy to have specifications examined and verified either by a competent commission or by suitable referees. . . . A case occurred very recently of a patent invention, for which I had made a specification in the year 1816, Clegg's Gas Apparatus, since called Crosley's Meter. It was just such a case as I have been describing, where the men had been working night and day to get machines to work before specifying, and only one out of two could be

got to trial; consequently a specification was made describing the untried meter in such a manner as we thought would be most likely to answer in practice when the experiment was made; but after that experiment was made, it became apparent that some things that we supposed to be the best were not the best, but as we put the whole in, the specification proved sufficient—in fact, it was more than sufficient. . . . In the case of Mr. Woolf's invention of working steam-engines by high pressure steam acting expansively (either in one or in two cylinders), there was no profitable exercise of that invention for at least ten years out of the fourteen; and there was so much loss incurred at the first, that the profit made during the last four years never repaid it. . . . Would you wish a discretionary power to be vested in somebody for extending patents?—That would be a very difficult subject; those discretionary powers should be very carefully watched, or they would grow into very gross abuses very soon. . . . Does not the law as to the duration of patents operate very unequally upon different patentees?—Excessively so; almost in the inverse ratio of the merit and importance of the invention. An important invention is only a source of expense and labour to the inventor during several years, till it is brought to bear very completely; and frequently the greater part of the time expires before it is brought to bear at all. It often happens that the profit arising from the first exercise of it after it is brought to bear will not repay the loss and expenses which have been occasioned in its first establishment. . . . I think Mr. Woolf is more entitled to a public reward for the services he has rendered, without any recompense, than any inventor who has ever been rewarded by Parliament. . . . Several different defendants may attack him in concert, by infringing the patent in every quarter, and making a common purse to carry on the war. That is a much better course for them, because if the patentee succeeds in one action, he must then try another and another till his money is all gone, and he can scarcely ever keep his patent right alive to overcome them all. The few patents that have been supported have been commonly sustained by collusion with the infringers themselves. After one trial has decided that the patent is not absolutely bad, they combine with the patentee to allow them free use of the patent on moderate terms, and then, by making a common purse, they prosecute and suppress all new infringements. To effect that, they must keep up the appearance of law proceedings, but defend themselves so as to let the patentee get a verdict, which is only sham; but, added to the common purse, it serves to terrify new infringers, who are not allowed to have licenses or practice at all, whereby the patent right becomes a close monopoly, instead of a general practice paying a small rent to the patentee. If patent rights were made more secure in law, and by less expensive proceedings, it would not suit the interests of patentees to enter into such combinations, but, on the contrary, to promote the most extensive and open use of their inventions, under licenses, at a moderate tax. . . . There is a long process laid down in some old law books, by which the patentee may be called upon to surrender and bring his invalid patent into court to have it cancelled, and to have the great seal torn from

it; but all that is quite useless, and is never practised. . . . The efficient revival of neglected and obsolete inventions I think ought to be encouraged as if they were new, but that would require regulation. . . . I do not conceive that patents are or ought to be merely a recompense to the inventor for the merit he has displayed in what he has done previous to the grant being made. It is a sort of bargain, or a lease granted of some small portion of the public employment that is new, and has not hitherto been cultivated; that if the lessee will go to work to bring the new invention to bear, he shall have the benefit of working it for some certain time, which it is supposed will leave him a *fair* term after it is brought into profitable exercise; but if the time, when properly employed, does not allow that fair term of profitable exercise, then some extension or recompense should be allowed to cover the deficiency. . . . I think that he who has invented the method should be made to divide the advantage fairly with him who had before discovered the principle, because both parties have contributed to the public benefit; they are in the relative situation of a landholder and the farmer who cultivates his estate—both should participate . . . by arbitration.

Mr. M. I. Brunel.—What do you think of the present rule of law, that the patents cannot be given for an abstract principle?—I think that is wise, and that ought to remain as it is; it would be dangerous to grant a patent merely upon a principle. . . . Upon the whole, do you think the patent laws are beneficial to the public?—Very much so. What is your opinion as to the period of fourteen years?—It is a great deal for some, and not enough for some others; I shall lose probably six years before I come to make anything of my present patent. . . . Would you increase the time beyond fourteen years?—I think that might be done in some cases.

Arthur Aikin, Esq.—Are you aware that specifications are frequently, especially in chemical processes, made imperfect, with the view of concealing the process?—Yes, I am certain of it; and it was with the view of preventing the fraud which runs through the whole system of patenting, that I think examiners ought to be appointed to see that the actual produce of the manufacture agrees with the statement given in the specification. . . . Have you considered whether it would be an advantage to allow parties to take out patents for short periods instead of fourteen years, with a proportionate diminution of expense of fees?—I do not see that it would, because, generally speaking, it would not be agreeable to a patentee; for whenever a patent is taken out it requires some two or three or four years to bring it into actual operation, and if you have a patent only for seven years, the time is expired before you get anything from it.

Mr. Charles Few.—Are you very conversant with the practice of taking out letters-patent?—I have taken out several. . . . I cannot agree with Mr. Aikin as to the expense of obtaining a patent being small; I think it would be a pretty heavy sum, and I would have the

inventor protected from the moment he made his affidavit and petitioned for his patent, but I would make the first payment somewhat heavy, to show that he was in earnest. . . . Are you prepared to suggest any plan for the composition of such a commission?—I think it should be composed of chemical men, and men acquainted with mechanics, and a barrister. . . . The committee have been informed that cases occur not unfrequently in which for the first ten years of a patent very little profit is derived from the invention, but that during the last three or four years it begins to be very beneficial; in such cases as those, would you recommend a power of extending the patent?—I would in all cases leave it to be extended for another seven years; at present we must go to Parliament to get it extended, which is very expensive. . . . It has been stated, that if a man has obtained a patent for an invention and not carried that invention into effect, it would be desirable to set that patent aside after three years of non-user of the invention; do you consider that there would be any advantage in that?—I think it would be for the benefit of the public that it should be so. . . . Are you satisfied in your own mind that great inconvenience would result from considerably reducing the expenses now necessary for taking out patents?—I am quite satisfied about it; even with the present expense there are so many trifling patents taken out. If the fee was much higher, parties that are now taking out patents for little speculative things that do not answer, would not take them out. They act something like the dog in the manger; they prevent the public from benefiting by the invention or improvements on it for fourteen years, and yet do not benefit themselves.

Mr. Francis Abbott.—Then would it be any convenience that you should give him more time than is usually given for specifications?—I think six months is quite sufficient if they would set about it directly they have got their patents. . . . Do you know several oppositions sometimes arise from one quarter, or not, fictitiously originating from the same party under different names?—I have heard something on the subject in conversation, and I have entertained a suspicion that there has been collusion of that kind practised. . . . Do you think it would be advisable to print the specifications of existing patents for public use, in order to publish them?—I have generally considered it would be prejudicial to the interest of the country by their getting abroad,—I am speaking of it in a national point of view, sending many valuable discoveries abroad; many of those things perhaps would be bought from English manufacturers, but if the specifications all go abroad they would be more likely to be made there than they would be if the information was not so circulated. . . . Generally speaking, I should say that the courts are not very liberal to patentees. . . . In Lord Kenyon's time every little thing would set aside a patent. . . . Do you think that, practically, many persons are deterred from defending their patents by the uncertainty of the law at present?—I think they are. Are you aware at all, that sometimes fictitious suits are instituted for the sake of giving stability to a patent?—I have heard of that being done in more cases than one. Is it not a very common

feeling, that a patent is of very little value until it has had at least one verdict in its favour?—I should say, that that gave it a little additional sanction. . . . Those fictitious suits have been instituted for the sake of giving greater value to the patent?—Certainly; perhaps to deter some one else from defending it, who otherwise would have defended an action for infringing it.

Mr. William Newton, a patent agent.—There is a condition that, when you take out a patent in France, you shall not take out a patent anywhere else, or if you do, your patent in France is vitiated; the same happens in all the other Continental states; but that is got over with the greatest ease, because you employ your agent, or your brother, or your friend, and so an invention runs through all the countries, beginning in America. . . . Have you ever known a petition for a patent successfully resisted, in consequence of notice which has been given?—Yes, frequently; I have opposed patents myself, and they have been stopped upon producing sufficient evidence to the Attorney-General or to the Solicitor-General that we were in possession of the same secret. They would of course refuse to grant a patent to the petitioning party, on the ground of the invention not being exclusively in the possession of the applicant. Can you mention any cases in which a patent has actually been refused upon such a ground?—Yes; I remember a patent applied for by Mr. Dickenson, for metallic buoys: Mr. Stebbing, of the dockyard at Portsmouth, had the same invention, and he opposed him; and the patent was refused by the Attorney-General of that day. . . . Are you aware of any case of rival patentees, in which one of the parties being unsuccessful has published the invention, and thereby prevented the other party from obtaining a patent?—I know such cases have existed, but I am not prepared to state the names; it is the natural consequence. I have known it often to have been threatened, that if such and such things are not done, I will immediately make public what I know of the matter. It has been done, perhaps, under circumstances rather of an aggravated nature, when parties have obtained the information surreptitiously, and have endeavoured to extort a something that they ask for. . . . Do you approve of the plan of being able to apply for a patent for a shorter time than fourteen years?—I think it might be desirable, for there are many trifling things that pay the parties very well; little matters which they have suggested in the way of business, the stopper of a smelling bottle or some little thing of that sort, from the sale of which a great deal of profit has been derived; and I think fourteen years is too long to give security for such a thing. . . . Are you aware of any patents that have been taken out where the invention has not been carried into effect?—A great many. Is there at present any means of setting aside those patents?—There is not at present, but I think it would not be objectionable to provide means, for I know some very valuable inventions that, if they were in the hands of the public, would spread far and wide, and be very useful, but for some cause or other they are lying dormant. Is the expense of maintaining a patent right in a court of law very considerable?—The expense arises generally from

a cause that cannot very easily be remedied; it arises from the number of professional persons that must be brought from different parts of the kingdom to speak to the points under consideration. . . . Do not you think that the existence of a great many small patents might operate as an impediment to the progress of other considerable improvements?—No, I do not. . . . Do you mean, then, that the board should have the power of granting a patent for more than fourteen years?—I think it would be desirable that patents should be granted for various periods. For more than fourteen years?—Under some circumstances. For instance, there are many trifling things, such as a patent for a new invented lace-hole for stays, a new invented fastener for gaiters, and such little matters as that, for which a patent should not be granted for more than five or seven years, in my opinion; but there are other matters of great magnitude, such as are connected with marine architecture, the construction of dams and fortifications, and things of considerable magnitude, which the inventors could not be remunerated for in the course of fourteen years. In that case, I should say the consultive board should have a right to grant a longer term; and, upon application, perhaps it would be desirable, where they saw a reasonable ground, that they should be able to extend the limits of the original grant. . . . In what manner do you think the consultive board, as you have called it, should be constituted?—I should conceive that they ought to consist of lawyers and mechanics, but mechanics out of trade certainly—persons that should be fully competent to judge of the subject when placed before them. . . . Do you think that the patentee ought to be required to add at a future time any improvements that he may make to his original specification?—Certainly he ought to be at liberty to do it, if not required; he cannot very well be required, but if he fails to do it he should lose the advantages of those improvements. . . . I should not like a patent to be a mere mercantile license; I think it still ought to be a grant from the King.

Mr. Charles Few.—I would propose that the commission should consist of five persons; two to be selected for chemical knowledge, two for mechanical knowledge; one a barrister of years' standing. The barrister is proposed from the practical knowledge he may be presumed to possess on questions of evidence, which must constantly arise between contending parties. The commissioners to be nominated by the Treasury or by the Lord Chancellor, or by the Chief-Justice of the King's Bench, or the Attorney-General; or by the heads of certain scientific institutions, *ex. gr.* Royal Society, Royal Institution, etc. etc. New commission every ten years: power of removal to be in the party nominating. . . . Do you contemplate that the patent is to be kept secret?—Certainly not; I think the balance of fraud would be on the side of secrecy. I should think that the reason they are kept secret abroad is from a fear of other countries becoming possessed of the secret, rather than for the sake of protecting the patentee. . . . What are the grounds upon which you would think that such a commission ought to set aside a patent if questioned?—

Want of originality, previous use and practice, misdescription. . . . The Committee have been informed that a second party making a discovery, and using it secretly, would be allowed to continue that use for his own benefit; but that the patent of the first applicant would not on that ground be set aside, but would continue valid as regards all other parties?—I do not coincide with that opinion; I consider not founded in law.

MR. MOSES POOLE.—You have had considerable practice in the taking out of patents?—I have. . . . Have you yourself been in the habit of drawing up specifications?—Never; it is too difficult a thing for me to undertake; I occasionally look them over. There are a particular class of persons?—Those I have been in the habit of recommending are Mr. Farey and Professor Millington, Mr. Rotch and Mr. Gill, and others. Some persons undertake them who have no ability for them, and many capable decline drawing them. . . . Are you aware of the patent that was taken out for the kaleidoscope?—I am; that was lost, not in consequence of time, but in consequence of exposing it before the patent was sealed. Would a patent for fourteen years for an invention of that sort be desirable?—I should see no objection to it. . . . I am a clerk in the Patent Office by the appointment of the Attorney-General. . . . Do you see any inconvenience in the time that is now given for enrolling the specification?—None; the only one is keeping the public in a state of suspense for the time. Do you conceive that two months is sufficient time?—It depends upon the extent of the invention; some require twelve months. Can you suggest any improvement in the present practice?—Nothing, but that I think a patent should be quicker obtained, and the patentee secured from the commencement. But you have no objection to the present expense?—No; I have known them to get £130,000 by a patent; they all run the risk of losing by it, and those who get so much pay no more than those who lose by it.

MR. JOSEPH MERRY, a ribbon manufacturer at Coventry.—I am in possession of three patents. . . . Do you conceive that there is great difficulty in preparing a specification which is sufficient to maintain the patent?—I conceive it is almost impossible. . . . I have got three, and I do not believe either of them is good; the last was drawn by Mr. Rotch. . . . I have a patent for making ribbon velvets, which has been locked up in my place for five years; the improvement is so great that I can make forty pieces of this article while any other person can make one. Here are two pieces of this article (*producing the same*), one of which is English manufacture, the other is German; the German cost threepence a yard, and the English cost sixpence; and the German is very superior to the other in point of quality. Was your patent communicated from Germany?—It was obtained partly by information I have had derived from foreigners and partly from my own invention; I am entitled to a patent for anything I bring into this country, whether I am the inventor or not. . . . Do you mean that you have not practised the invention?—Yes; because I cannot do

it to a profit; because if I were to begin working it, all my neighbours would immediately do the same in defiance of my patent; the specification is not worth a farthing, and I do not believe it is possible to make a specification upon this loom that will pass in a court of law. . . . From the great difficulty in passing a court of law, and technicality required, . . . it cost me three or four hundred pounds, and I saw the advantage of the thing; and when such a law shall be passed as will enable me to work it with advantage I will work it. . . . The patent holds out a security which it does not afford. . . . I do not mean to go to law again about a patent; I would sooner relinquish the patent altogether. . . . I think the Board should have power to decide what was an infringement and what was not. I do not at all object to the present payment for a patent, if I can only obtain an effective security, and not merely a nominal one. Supposing it were left at the option of an applicant to specify on paper, or to lodge a model of his invention, is it your opinion that an applicant would generally prefer the lodging of a model, or would it not be too expensive?—I should think they would generally prefer the lodging a model; it is the only way in which any one can decide whether it is original or not. What is your opinion with respect to the appointment of a scientific commission for the decision of disputes upon patents?—I think it would be very desirable. . . . Would it be a convenience to manufacturers if they were allowed to take out short patents?—Yes, I think it would. I employ about five hundred people, and they are every one at play at this moment. This art of velvet weaving, for want of protection, is entirely lost to the public. . . . I think there is a great evil in specifications, because they are so easily sent out of the country. . . . Do you conceive that many inventions are lost to the public from the unwillingness of parties to trust to the protection of a patent?—Unquestionably.

Mr. Samuel Morton.—I am a manufacturer of agricultural implements; my brother is a ship-builder, who invented an apparatus for hauling ships out of the water. . . . I cannot complain of the price, provided there were protection afforded. . . . Have you formed any opinion as to the possible advantage of appointing a commission of scientific persons to assist in deciding disputes as to patents?—I should think it decidedly superior to a court of law. . . . Have you any other suggestions to make?—With respect to the terms upon which patents are given, I conceive that fourteen years is quite insufficient in many cases.

Mr. Samuel Clegg.—What is the objection to the present mode of extending a patent by Act of Parliament; is it to the expense that you object, or to the difficulty of obtaining it?—To the difficulty of it, besides the expense. The extension of my patent was opposed by all the gas companies throughout the country almost. They thought they could get the thing cheaper if the patent was not renewed; and so, after a number of years, and the expenditure of a great deal of money in perfecting the machine, it is thrown open to the public without any

remuneration to myself. Can you state any other instances of patents for useful inventions by which the inventor has not been adequately remunerated within fourteen years?—There are many; there is Mr. Perkins's for instance; he has been the whole fourteen years making experiments with his contrivance of high pressure steam, and he has not brought it into the market yet. . . . Do you conceive that the expense of taking out a patent now is any evil?—No, I think it would be better if it was more. . . . Two-thirds of the patents are for mere alterations which nobody would ever look at the specification of. . . . Do you not conceive that many specifications are purposely drawn defectively with the view of misleading the public?—I believe there are some drawn in that way. . . . I think the present Lord Chief Justice is very favourable to the law of patents; and I think a patent is much more secure while he presides, than it was with his predecessors. . . . He considers patent property more sacred, and that a slight alteration or a little technical difference should not set aside the patent. . . . Do not you think that the multiplication of patents to a great extent would be a great impediment to improvements in machinery and in arts?—Yes. . . . Are not workmen, and people of that description, constantly in the habit of making little observations and small improvements?—Yes; sometimes very important ones arise from the workmen. If a workman has discovered anything of the kind, and finds it likely to be beneficial, there is no difficulty in procuring any one to join him in the expense of taking out a patent for it. Do not you think that if it became a habit among that class of people to secure patent rights for those small discoveries at low rates, it would be very inconvenient?—I think very much so.

JOHN MILLINGTON, Esquire, Professor of Mechanics in the Royal Institution of Great Britain, a civil engineer.—As the matter now stands, whether a man does not make a penny by his patent, or whether he makes an immense fortune, the country gets no advantage; but, on the contrary, if anything of an *ad valorem* duty could be devised, so that that man who made nothing by his patent should merely have the expense of his patent, and he who made a large fortune by it should contribute a portion of that fortune to the State, it might be advantageous. . . . Do you think that the expense of a patent is any evil?—I do not think it is, provided the patent was a secure property; I think it is rather an advantage that a patent should not be too cheap; the world would be inundated with them if that were the case. . . . There are but two difficulties attending the specification; the one is, not to describe that which is the property of the public before, and which requires a very general knowledge of what has existed; and the second is, to describe the thing so clearly, that every competent workman will be able to carry it into effect. Are not there some cases in which hardly any skill on the part of the person who is employed will enable him to draw a specification that will secure the patent?—No, I should almost say not, with the exception of the first point I have mentioned, which perhaps no human being can be supposed to possess, that is, a knowledge of everything that has gone

before. From a review of the cases, with regard to patents, is it not manifest that the Judges have very materially differed in their opinions as to the construction of the law?—Certainly they have. . . . I never yet heard of a patent producing a sixpence in any of the colonies. Are they often taken out for the colonies?—Very frequently.

Mr. Walter Henry Wyatt.—The subject of patents is one which I have been intimately considering for many years. . . . I am the editor and proprietor of *The Repertory*, a work which has been published for the last thirty years, in which verbatim copies of the specifications enrolled are published. . . . Do you know how many patents were obtained in the time of King James?—I believe one or two; there are very few patents till the year 1796. . . . No sum of money will gratify an inventor; if it is indefinite, his expectations are very great. . . . I am of opinion with the last witness, that if you decrease the expense much (and unless you did, it would be no benefit), it would so increase the number of patents, that they would become a public nuisance; for, notwithstanding the great expense of obtaining patents, there are patents continually obtained for the most trivial, absurd, and old things. . . . Would it not be fair for such ephemeral inventions to allow a person to take out a patent for a shorter period than fourteen years?—I should apprehend more inconvenience than advantage would result from such a course.

Benjamin Rotch, Esq.—From the experience that I have had in that particular branch, and to which I should say I have directed particular attention. . . . In the case of those elegant visiting cards which have been lately shown about with an enamel on them, that is produced solely by a particular white colour which is brought from Germany. The inventor, a German, came to me on the subject of his specification, and told me it was done with the purest chemical white. . . . That will only show the Committee the feeling there is, if possible, to conceal something from the public. You might succeed with commissions nine times in ten. Commissioners almost uniformly get careless in their office by time. . . . The words of the Statute, which are extremely well calculated for those times, do not happen now at all to hit the necessities of the present period. The consequence is that the judges are constantly straining the meaning of this Act to make it meet the necessity of the times. Thus it exactly depends on the extent of laxity that a judge will venture to give as to what the law at this particular day in any particular court happens to be on patents. The word in the Statute is "manufactures"—that monopolies shall be granted for fourteen years for the sole working or making of any manner of new manufacture within this realm. Then comes the question, what are "manufactures"? Now if it is discovered that in bleaching cotton, instead of dipping it, we will say, first in an acid, and then in a water to get rid of the acid,—if it is found better to mix the acid and water together, it may be an improvement of thirty per cent. value to the manufacturer; and that advantage in the process is no doubt most important in the present time, when everything depends on the excellence, the rapidity, or the cheapness with which you do a thing. In fact, three patents out of four are taken

out for new processes by which well-known ends are obtained; that cannot be considered as a new manufacture. A new process by which you obtain an old manufacture is not a new one; it is a mere mode of putting together known elements to effect a known end. But some judges—my Lord Tenterden for one—are so open to the necessity of granting patents for these things, because they are so vastly important, that they will say, "That is the meaning of the word 'manufacture.'" Another, who is a Statute lawyer, would say, "Nonsense; *manufacture* means no such thing; this is only a process." A man takes out his patent, with this conflicting evidence as to the judges, for "a new manufacture of bleached linen." Then that will be upset in the specification, because one judge will say, "It is not a new manufacture; it is a new process." If he takes out his patent "for a new process of bleaching linen," he will again upset it, because he says, "You cannot have a patent for a process." He will quote the authority of Lord Mansfield, who says the way in which you can determine what is a patentable article and what is not is simply by asking yourself this question: Is it a vendible article or not? who shall say mixing acid with water, instead of using them separately, is a vendible article? The judge who is adverse to Lord Mansfield's decision says, You cannot have a patent for a process. Then Lord Tenterden, in a celebrated jugdment which I have here—The King and Wheeler—attempts to determine what a new manufacture is; the words of his Lordship show how completely he is puzzled to make it mean what patents ought to be granted for at the present day, to meet the times. He says, "the word 'manufacture' has been generally understood to denote;" he only says, "has been *generally understood to denote* either a thing made which is useful for its own sake, or vendible as such; as a medicine, a stove, a telescope, and many others; or to mean an engine or instrument, or some part of an engine or instrument to be employed either in making some previously known article, or in some other useful purpose, as a stocking-frame, or a steam-engine for raising water from mines; *or it may, perhaps, extend also*"—that is what I complain of, as the cruel judgment which makes the law uncertain—"or it may, *perhaps*, extend also to a new process to be carried on by known implements or elements acting upon known substances, and ultimately producing some other known substance, but producing it in a cheaper or more expeditious manner, or of a better or more useful kind; but no merely philosophical or abstract principle can answer to the word 'manufacture.'" . . . The judges say (to my ear excessively absurd) that means an inventor; a man who imports from abroad is an inventor; and in order to make it come within the Statute, without which they could not grant it, they distort the meaning of "original inventor," by saying a man who has a friend who writes a letter from abroad, "such a thing is in existence," takes out a patent for it as for an importation, expressly so stated in his affidavit, and that person is held by the judges to be the inventor. That is merely to show how the judges are obliged, from the change in the times, to strain the meaning of this unfortunate Act. . . . I would therefore suggest the new Statute should not limit the granting of patents to

fourteen years merely to any manner of new manufacture within this realm, but it should embrace the following heads, which I have taken the liberty of writing down, and which, as it appears to me, are all heads which are now sanctioned by law, although not by this Statute, and confirmed by the decision of some of the judges. The first would be "A new manufacture or an article of sale;" and it is difficult to find a proper term to use; some people say an engine is not a manufacture; I adopt my Lord Mansfield's opinion, then, that it means a vendible article: secondly, "A new process of making either a new or a known manufacture, or article of sale:" and, thirdly, "A new application of a known manufacture, engine, or article of sale, such not being patented at the time." . . . There were no improvements allowed on steam-engines until after the patent had run out, except such as Watt and Bolton invented; after that had expired each man could have a patent for any particular improvement of his own. . . . The fourth head I should suggest should be, "An improvement on any known manufacture or article of sale not being patented at the time, or, being patented, not without the consent of the original patentee." . . . Under the fifth head, I would class "Inventions imported from abroad not before used in the kingdom." I contend that they are not at all provided for in the Statute of Monopolies, and that it is not only a strained meaning of the words to decide otherwise, but an absolute perversion of the Statute. . . . Patentees come to me constantly to know if they cannot for some little improvement obtain a patent on their own patent, which would be an extension of the term to twenty-eight years instead of fourteen, and thereby shut the public out of the benefit they are to have at the end of the fourteen years. . . . A man cannot take out a patent for an improvement on his own patented invention, any more than he can on any other person's; and if he should include the original invention in a new patent, with the improvement, provided the original invention be patented, he forfeits his patent; but if he waits until the end of the term for which the original article is patented, he then can take out his patent for the improved steam-engine. Have you any objection to the law remaining in that state with respect to improvements?— . . . Not the least in the world; but I want it to be provided for by Statute, and it should not be in the breast of one judge to say that is not law, and of another to say it is law. It is only the present state of the law according to the decisions of the judges, but not according to the Statute of Monopolies. One judge will fly back on the Statute, and say improvements are not provided for in the Statute—"I hold this is bad;" another will stretch a little further, and say, "This ought to be the subject of a patent, and I will hold it to be so." I myself wish it to be made the Statute law. . . . Lord Tenterden says no merely philosophical or abstract principle can answer to the word "manufacture;" that is taken hold of as laying down broadly you could not have a patent for a principle. . . . Can you define a principle?—Any new principle reduced to practice. . . . Bolton and Watt's patent. . . . The patent was distinctly taken out for a principle?—Yes. . . . My experience teaches me another thing, which is a still greater hardship, arising out

of the same circumstances, which is, that if a clothier in the west of England has a patent, one single man is called from the north of England, who comes down into court, and having read the man's specification, stands up like a parrot, and will be found to swear, fourteen or twenty years ago I did so and so, and so and so—exactly verbatim repeating the specification. The patent is upset: nobody can provide against such evidence as that; and I do not hesitate to say there is more perjury in that one particular (and I am sure I shall be held out by a member of the Committee who I see on my right) than could be believed by a Committee who have not experienced what we have. That arises from two causes—first, because they do not adhere to the Statute, which I think a very wise one; and secondly, the perjury that interested people are enabled to procure by suborning witnesses, which is of common occurrence. It is always the interest of the whole trade against the patentee combined; they combine their money in the first place, and then fight away and procure witnesses at any price. . . . The Statute confines the novelty to such manufactures as others at the time of making such letters-patent shall not use.

Arthur Howe Holdsworth, Esq., a Member of the Committee.—There is nothing more common than that two persons of similar habits and pursuits should be thinking of the same thing at the same time, and it at once becomes a race between them as the law at present stands. . . . There is a great want of a certain something at this moment in a particular kind of business; a friend of mine has discovered the thing required, and I am quite satisfied, from knowing exactly what he is about—for he first set about it at my request—that he could go for a patent, and that the patent would be very valuable. I also know another person, with whom I am well acquainted, who, being in the trade, is aware of that necessity as much as myself; and I feel satisfied that if my first friend were to go for his patent, the second, without meaning at all to do the first an injury, would be immediately set at work, and would at once know, from his knowledge of the subject, what the other man must be about, and they would come in collision; and therefore the only probable remedy at this moment would be to bring the two parties amicably together. . . . If the patentee could be secured from the time of his petition, he might, as regards his monopoly, be allowed any time he pleased to specify, provided his patent bears date from the sealing—that is, as between him and the public. . . . If he required a longer time to specify, from anything particular, the public would be no losers by that, inasmuch as the specification is a part that is of no importance to anybody but himself, if the law really secures his invention to him till his fourteen years have expired. . . . It is a circumstance well known to those who have been in the habit of taking out patents, or have given their minds to mechanical subjects, that whenever a patent for a valuable invention is taken out, there are persons who immediately try by every means in their power to gain all the advantages to which the patentee is entitled, by studying how he may avoid in some way or other the specification; for by getting through that

instrument a perfect knowledge of the process, he becomes perfectly acquainted with the views of the original inventor, and then endeavours, through some other mode as yet not practised, to avoid the specification, giving to his mind a view of the subject which he never would have thought of if the original inventor had not first obtained the monopoly which, on specifying, the patent gives him; and it is not at all considered, I am sorry to say, by many persons in the slightest degree dishonest to do everything in their power to defeat a patentee after he has obtained his grant. This has occurred to myself in a most extraordinary way, and not confined at all to mechanical persons, but extending to others in no degree connected either with science or mechanics, but who seem to have taken up the same idea, viz., "that a patent is fair plunder." . . . This case was of so much consequence that we employed four counsel in Chancery; we had consultations, and everything that could be necessary for a case of the greatest importance. We appeared in court for a decision upon whether or not an injunction should be confirmed restraining those parties. A compromise was proposed; we consulted our counsel, and although we knew that they had the strongest case upon affidavit that they ever saw—and where this peculiarity attached, that if those who had sworn on our side had said a single word wrong, there were, I will venture to state, hundreds of persons who could have denied us, and yet not *one* did—still so uncertain did the counsel consider the view that the court might take of the case, that they advised it, as the more prudent course on our part, even then to come to a compromise, on their all taking licenses; and under their advice we did so with all the parties who had thus conspired against us. But this did not rescue us from attacks, for at this time five or six other companies are again conspired together to endeavour to defeat us, although we have granted licenses to at least fifty different sets of people, and the patent has but two years to run. . . . Do you think that the specification should be allowed in any instances to be concealed?— . . . It would be a matter of policy, and worthy the consideration of the patentee, whether or not he would attack such party, and thereby open his specification, and whether he would not rather let such man continue to work, provided that man took due diligence to keep his mode concealed from the public; and the reason why I mention this is, that I know there are persons that have made valuable discoveries, and are now working secretly upon them, preferring to trust to concealment rather than have a specification which will enable other persons, anxious to run on the same road, to discover the process by which they themselves are working. . . . Have you ever known cases in which any sort of arrangement has been made between the patentee and the party to whom it has been let, that it should not be let to other people?—It has been proposed to me, but I have never acceded to it. I have heard it questioned by a lawyer whether it would not be contrary to law.

Mr. John Isaac Hawkins.—I am well acquainted with many cases in which a poor inventor has remained poor, while the capitalist has realised a great fortune by the invention, because the invention could

not, before being patented, be shown to persons competent to judge of its value. I have been for more than thirty years in the habit of being consulted confidentially by inventors in England, France, America, and Austria; and I have prevented a great number of patents being taken in England and France, by laying before the parties the difficulties they would be likely to meet with, in negotiating with men of capital prior to taking a patent. . . . I know of several instances of valuable inventions having been lost to the public by the death of the inventors. . . . I have for some time declined attempting to bring capitalists and inventors together. . . . It is apprehended by some, that the great increase in the number of patents, which would be the consequence of throwing off all the fees, would occasion so much litigation as to become a great public inconvenience; my view is, that this evil, if it should be found to exist in the early stage of the change, would soon correct itself.

ARTHUR HOWE HOLDSWORTH, ESQ.—Do you know of any case that has been compromised on an agreement to prevent third persons from working?—I remember, some years since, when at Worcester, to have been shown the factory of a person who was making patent net; I had never before seen the thing in progress, and was rather inquisitive of the man as to its details; he told me he was working upon the plan of a Mr. Heathcoat. I asked him upon what terms they worked; he said "We pay so much per frame." I said I thought there had been an action brought upon the subject, and that Mr. Heathcoat's patent had been destroyed; he said that it was carried into court, but the case was compromised; they had no doubt that the patent would have been destroyed, but it was deemed wiser by the trade not to proceed, provided he would undertake not to license above a certain number of those frames, so that the trade might not be too much extended, and induce too great a number of hands to enter into it; and, as well as my memory furnishes me, I think it amounted to about 500. . . . Patentees are deemed fit persons to be plundered, and which I would thus exemplify: I had occasion myself to call upon some parties who were, as I believed, pirating a patent in which I was interested. Whilst we were talking upon the subject, one of the party, a man in one of the first houses in England, coolly told me that my patent was good for nothing, and that he could prove it, if we went into court, adding, as if to confirm his position, that he had already spent in one instance £10,000 to destroy another man's patent,—a proof, I conceive, that nothing can be more dangerous than to oblige a patentee to expose more of his specification to the public than is necessary while such feeling with regard to patents exists, for if it required £10,000 to destroy the patent, it must at least have had a pretty good title, or it could not have been so well defended as it would seem it must have been.

MR. JOHN FAREY.—Did you write to Mr. Dyer to request him to attend this Committee? . . . Will you allow your letter to be produced? . . . I consider that patents ought not merely to be viewed in the light of rewards for what has been done in secret before the

patent is granted, but more particularly as holding out an inducement and encouragement for doing what requires to be done publicly afterwards; and insuring a competent reward for successful exertions in bringing the invention into use. . . . In choosing such a lessee of the new branch of industry, we must of necessity give the preference to him who first became a candidate for the lease, because it is his of right; but if the prospect of successful cultivation is so open and good, that several competitors would be willing to take the lease, we should encourage a transfer of the right of priority to that one who is best qualified to work the lease advantageously. . . . I am not certain that a patent law, without any of the objections that I make to the present ones, would have induced the disclosure of such inventions, and certainly would not of others, which are of such a description that it is easy to practise them, and yet preserve secrecy effectually; they are mostly chemical secrets. Mr. Faraday, of the Royal Institution, could, I think, give the Committee information on such subjects, which are not in the course of my studies, and I only know them incidentally. There is a process of refining the raw sulphur or brimstone that comes from abroad, which I am told is now practised in secret at a large manufactory in London, with such success and superiority over the ordinary methods, that they have brought nearly all that trade into their own hands. There is a secret black dye for silk, practised in London by Sir Francis Desanges, which was, I believe, in the possession of his father before him, and has been preserved secret for a great length of time, although it has been practised to a large extent; so that they have realised great wealth by it. There are numbers of medical secrets which are very much boasted of, but as they are out of my line, I can form no opinion if they are really of value. . . . It would be a very good measure to reserve a portion of the revenue derived from the granting of patents, to accumulate and form a fund for the purchase of valuable secret inventions, like Mrs. Knight's, which are not likely to be disclosed by the inducement of any patent law, however complete; and also to reward individuals like Mr. Woolf, whose inventions have not come into use during the terms of their patents, but have afterwards become of national importance. Would you not, in the latter case, rather recommend an extension of the term of the patent?—Not in all cases. . . . The same discretion that could determine the propriety of an extension, could also decide between that mode and a reward. . . . I think that public purchases of many inventions should always be contemplated, and a fund should be provided for that purpose. . . . It is scarcely possible to practise some secrets to a profitable extent, for any length of time, without losing them in the end; for the precautions that must be taken to ensure the secrecy, must tend to cramp and limit the exercise of the invention so much, that only a small proportion of the profit can be realised, that might be made by an open use of it, under a patent, if it were secured by law and for a long term. . . . Mrs. Knight's family never put the secret into writing, for fear of accident, and hence it has always been subject to be lost by the sudden death of the possessor for the time. Hundreds of valuable lives have been lost by the scrofula, and most exces-

sive misery endured, which might have been avoided, if this specific had been made generally known to all practitioners thirty years ago; and probably it might be applied to other uses in medicine. . . . Do any evils arise in factories from the workmen being entrusted with secrets which it is in their power to divulge to the injury of their masters?—Yes, the evils are excessive, in the insubordination that they induce; for such workmen cannot be kept in any control, because emissaries from rival manufacturers are always on the watch to seduce them, and they have at all times the means (even if they are under bond to continue to work for the masters) of communicating the secret to rival manufacturers, and thus spite their masters, as well as get bribes for themselves. They may safely reveal the secret at second hand, and there is no remedy whatever, because the communication from them to an intermediate agent, and then from that agent to the rival manufacturer, admits of no proof. Are workmen occasionally under bond?—In many factories where new processes are practised, workmen are under bond to work for a master, under fixed conditions, during a certain term; they are considered as grown apprentices. It was more the custom formerly than it is now; because it is not found to answer. I am informed, that if the master reserves the power of annulling the bond, it is not legal; and it is a hazardous measure for a master to engage a large number of men, at an absolute certainty, for when trade falls off, he might be ruined, if he could not discharge his men. To come under the nature of articles of apprenticeship, I believe, the bond must be reciprocal on the man to work, and on the master to teach and employ for the term. Is the keeping the secret a part of the obligation of the bond?—Yes, in many cases it used to be; but as it has never been well decided whether a condition of that kind can be enforced in law, there is a doubt about it. In France it is a positive law in the code, and is constantly acted upon. Is it not attempted to retain secrets by making the persons entrusted with them enter into a bond subject to penalties?—It has been attempted, but I believe it has not succeeded; and I know is not commonly done now. The bonds I have known, are merely that the workman shall continue to work for the master during a certain term, under the specified conditions of hours of labour, and wages; but it is of very little avail, for if the workman does not like his place, he will remain under the bond in the factory, and do all the mischief he can, without subjecting himself to the law. I have known magistrates commit workmen for going away when under such bonds; but I have no doubt, if application had been made to the Court of King's Bench, it would have been found illegal. Where a bond has been given not to divulge a secret, have you ever known the penalty recovered?—Not from any workman. In the case of Smith *v.* Dickenson, in 1803 (respecting which, I added a note to my former evidence), damages were given. . . . Is that system very common?—No; it is only in new trades where there are secrets. I have been engaged in works where some hundreds of workmen were working under bond, with very low wages in the bond; but they were allowed to get good wages by piece-work, if they behaved well; if not, the threat of reducing them to bond wages was all the power it gave:

it was in the patent net lace manufacture some years ago. I found the men were never restrained by the bonds, unless it suited them, and then they would have done without. Their average wages rose and fell by the piece-work, according to the state of the market, like any other trade. They had been only common labourers, and were glad to get into any manufactory, but competent workmen would not have entered into a bond for low wages. Are you aware that patents have sometimes been supported at law, by collusion between the parties?—Yes, I have known an instance; and there may have been others. It was a case of infringement, in which the patentee feeling afraid his patent would be set aside, compromised before the trial, and arranged that the trial should go on, but that the infringers should defend themselves so as to secure a verdict to the patentee, and make it appear to the public that the patent was good at law. The effect of that verdict would be to give the public an idea of the validity of the patent having been tried, when in fact it never had been fairly tried?—Yes, it would; and the conditions of the compromise were, that the infringers should take licenses at a very high premium, only part of which was paid; and that all parties should make a common purse, to prosecute and prevent any others using the patent; the patentee granting no more licenses. The patent was thus converted into a close monopoly. It would not have been the interest of the patentee to have submitted to this, if he could have enforced his patent in spite of any one. For if he had been sure of maintaining his patent, it would have been more to his interest to have granted as many licenses as he could, and thus made the practice of his invention very general; but under the uncertainty, it was better to secure a portion of his patent right by collusion, than to run the risk of losing it altogether by the uncertainty of the law. . . . I have found that a decided majority of patentees desire me to specify in such a style of language, and with such drawings, as they think will do them most honour in their character of inventors. . . . If there have been many patentees who have intended concealment, they have not come to me. . . . By a monopoly I understand a confinement of trade in the hands of an individual; but if licenses are granted under a patent, I think there is very little harm can be done by any patent right, for it makes no restriction, but only levies a small tax on a new and profitable business, which can certainly bear that tax, or else it could not be levied. . . . I consider, in general, that the public derive some benefit from many patents for trivial inventions, such as snuffers, stirrups, lamps, cork-screws, and many other articles of domestic use, which can be of no material value to the public, for the use and exercise of the inventions; but by the operation of patents the making and vending of patent articles (which have merit enough to sell) is multiplied and accumulated into considerable trades, which would never have risen to any such extent without patents; because no individuals would have devoted themselves to have created such trades, if others could have supplied the demand as freely as themselves when created; but having been cultivated under a patent, and established as distinct trades by interested patentees, such trades continue to be permanent after the expiration of the patents. That is

the origin of a number of considerable trades at Birmingham and Sheffield, and in London. They have arisen from the demand created by many trivial articles or inventions, which if they had been manufactured when new, by every individual who might have thought it worth while to try to make a few, would never have been advertised and pushed into use, so as to create an extensive and distant demand; because the new articles first sent out by individual workmen would be badly made, so as to fail in answering the purpose of the consumer, and the extension of the demand would thus be prevented. Whereas a man, manufacturing under the protection of a patent, sets up at first in a large way, with the aid of tools, and establishes a system of subdivision of labour amongst his workmen, and makes a study of every part of the business; he advertises, and sends out travellers with the new articles, pays attention to rectify all complaints, and satisfy all the wishes of consumers, and by inducing shop-keepers and merchants to sell, and to export, establishes a trade. In short, by using every means which an extensive business in one article admits of, and which a divided business in a variety of articles does not admit of, he creates a new trade in making and vending articles, which are too trifling to be of any importance in other points of view. . . . Do not you consider those small patents as capable of being protected by that sort of collusion as any others?—Yes, much more so than important ones, because individuals have less inducement to incur the expense of contesting the patents at law. Manufacturers capable of carrying on a great invention or trade are not so easily deceived, nor would they be deterred by the expenses of law, but would certainly bring the patent right to trial, even if they did not see any technical flaw, because it is so generally known that patents are always likely to be overturned, that it would be worth the cost of an action to have that chance of getting over a patent for a great invention, though not for a small one. Is not that an argument against the multiplication of patents for trifling inventions?—Yes; the evil of multiplying legal rights is always great. . . . That is the reason why I do not recommend patents to be granted cheaper, unless some other check than the cost were applied to limit the number of them; and if it were not for the difficulty of distinguishing the merit of inventions beforehand, I should recommend a previous inquiry and selection, and the terms to be made shorter for trifling patents, and longer for more important ones, but I fear such a system would be abused. . . . Persons take out patents occasionally, not for the purpose of using the invention themselves, but of licensing others; did you ever know where licenses under a patent were publicly in the market, that a patentee refused to license a particular individual?—In practice I have known it refused at first, but afterwards granted; for a party so refused can always practise the invention without a license, and the patentee would, I believe, get only nominal damages awarded by any jury from an infringer under such circumstances of unfair partiality in granting licenses. Patents are often taken out by rival manufacturers where there is enmity and ill-will existing between them; and sometimes the great motive of taking a patent is to steal a march upon some individual rival; but it cannot

have much effect to refuse licenses to such rival, for I believe that in most such cases, if a license were refused to a party tendering such a fair price for the same as had been accepted from others, there would be but little chance of a jury awarding real damages against such party for infringement. Even if the patent were ever so good, they would, I think, give only nominal damages in a case of manifest ill-will. . . . Have you known any case in which a license under an established patent having been refused, the parties have proceeded to work?—Yes, I have known some; but I know of no instance in which an action has been brought into court for such an infringement; for even if the patent has been established by a previous verdict, so as to leave no great chance of overturning it, the counsel for the patentee would advise him that it was very imprudent to proceed to a trial which might set the patent aside if it went wrong; but which was not likely to procure damages in the event of success. And in cases of a first trial, where the validity of a patent has not been established by a previous verdict, damages are not usually given, and are rarely asked for, as it is considered to be only a trial of the question of right under the patent. . . . It is common for a patentee to license a certain number of the trade, refusing to license more?—That is seldom done, unless his patent becomes doubtful or difficult to maintain; then it is sometimes done. In the case of the lace trade, was not there an agreement made that only a certain number of persons should be licensed?—In that case no licenses were granted originally; but all the practice beyond that by the patentees was begun in infringement; and when those infringers had gone to a great length, and a large number of actions had been entered against them, and one was appointed for trial, a compromise was made, that they should all be licensed, and pay rent, for just so many machines as each had then really at work. The patentees also engaged not to grant any new licenses, nor to work more than a certain extent of machinery in their own manufactures; and to prosecute all new infringers, in the most expensive manner. In that case the patentees had an interest to make that agreement and compromise with the infringers; but if they had disliked such a measure ever so much, they must have come into it, in order to avoid the risk of overturning the patent; for two defects were discovered in the specification, which, though very little known, rendered it doubtful, though not certain, whether it could be supported if those defects had been pleaded. The property in that patent was divided, and some of the proprietors were much more interested in restricting the use of the patent to their own manufactories (and as few others as they could) than in licensing under the patent right; another had a larger interest in the patent right than in any manufactory, and the premium or rent of the licenses (which then amounted to £12,000 a year) might have been extended so as to become more important to him than keeping out others from the manufacture; he had therefore an interest to grant further licenses, but that interest was quite over-ruled by the circumstance, that if they had granted any further licenses, the whole body of infringers would not have paid any more rent, but would have continued, or renewed, their opposition to the patent, and would have

allowed themselves to be brought to trial, one after another, at their common expense, which it was feared would not have failed in the end to have overset the patent. As the doubtful point in the patent right was not at all known beyond the circle of the combination between the patentees and infringers, there was very little risk of any new infringers doing harm. The substantial merits of the patent were unquestionable, and were proved by proceedings in a trial on another subsequent patent for improvements, which patent was set aside on the ground that it was not a new invention, for that the first patentee was the real inventor, whereby he got that part of his case proved without bringing his own patent into court. The great fault in the specification which was the weak part of his case, was a clerical omission that no persons could find out, unless they went through the making of a machine exactly by the specification. All the early infringers had done so, and had thus found out how to make their peace with the patentee; but of course they kept the secret, and the later ones did not find it out, because they began to infringe, by making improved editions of the machine, and not those described in the specification. . . . The machines that were licensed at first were so numerous, and they admitted of being so much improved in their productiveness without departing from the regulations of the combination, that they were made to supply the gradual increase of the market without any great call for new ones; hence those engaged in the combination were satisfied, and remained firm to it, and there was no such very great inducement for new beginners to enter into the trade as to be worth the expense of a contest at law. . . . Was not an attempt made among the manufacturers to limit the number who should use that invention, after the expiration of the patent?—I believe there was such an attempt made, at the expiration of the first patent. The combined manufacturers were to continue to pay a reduced tax to the patentee, who was to keep up the exclusion by the threat of prosecuting new intruders under a second patent for improvements of the original machine. If that measure had succeeded it would have kept up the monopoly for four years longer; but there was such an obvious certainty that the second patent could not, by any contrivance, be brought to bear against the new beginners, that they only laughed at the threat of prosecution under it, and the attempt failed; as did also another subsequent attempt to set up a still more recent patent for improvements, which had been adopted by a part of the trade, but in such a very different mode from what was specified, that the patent could not by any construction be brought to bear against them. . . . I believe that verdicts can scarcely ever have been obtained by collusion, unless the defects of the patent have been such as would require evidence to support them, and that the parties could by collusion withhold that evidence. Would you think it desirable that patentees who grant any licenses, should be compellable to grant to the public without distinction?—That compulsion would be so difficult to apply equitably, by any plan that I have thought of, that I am inclined to the opinion that any such compulsion would be abused, and ought not to be enacted. I think it ought to be rendered as much as possible the interest of every inventor to encourage the unlimited use of his

patent, and to lead him to prefer a small tax on an extensive trade, rather than a heavy tax on an exclusive trade, or a trade rendered unusually profitable by exclusion. The present insecurity of patent rights, and the great expense of proceedings, has a strong contrary tendency; because the more persons a patentee licenses (unless he gratifies them by making them a monopoly), the greater number of opponents he provides against himself to set to work to discover flaws in his patent; and if a large number make a common subscription fund for expenses, he can scarcely subdue them at law. Whereas, if fewer licenses are granted, and the trade is made exclusive, they will readily pay him a high tax, and will assist him to keep up the patent, when it is used to make a monopoly, though they would do everything they could to overturn it, if it were only used to gather a fair and moderate tax for the inventor. How could you ascertain what would be a fair price for license under a patent?—That might be settled by an arbitration for each individual case, but not for a whole trade, or for a long term. The difficulty is, that such fair price must vary continually with the circumstances of trade, the situation of the parties, the number of licenses which are actually in exercise at the time in competition for the supply of the market, the demand in that market, the effect of other inventions or means which spring up after a license may have been granted, to divide the supply; in short, although the principle of arbitration would settle all these points, the expenses of doing so, as often as would be required, would, I think, be a worse evil than the present law proceedings. . . . It is rarely that the interest of a patentee, if he has a firm patent right, will be different from that of the public in the long-run. If he has a patent that is insecure at law, it is his interest to resort to trick and fraud, collusion, combination, or monopoly, to keep up his patent if he can. . . . The case of monopoly, such as the lace trade (or Arkwright's), could not have been maintained as it was if the persons who were admitted into the monopoly had not formed a very large majority of all those who had any desire or interest to practise the invention; for if the patent right had been attacked by a stronger body of new infringers, they would have overturned it if invalid, or if it had on trial proved valid, then the patentee would have found out his own power, and that he might command his own terms, and would no longer have submitted to the combination which restrained him as well as others. Hence I conceive that the existence of such a monopoly depends upon the circumstance, that the patent is sufficiently exercised to very nearly supply the existing demand for its productions. The patent might certainly do more good if fairly worked than if abused; but it must, in my opinion, always do some good, or it will work its own cure, either by the patent being set aside, or by the patentee becoming sensible that it is worked to less than its maximum of profit to himself. . . . This case of Mr. Daniell's licenses may be taken as an example, to consider what would be the result of compelling patentees to grant licenses, at a price fixed by arbitration. In fairness arbitrators must in his case have awarded at least eighteenpence or two shillings per yard; when the patentee, from a consideration of his own

interest, took twopence. I am of opinion, from all the experience I have had, that such arbitrations must inevitably fix the price of licenses at an average of at least four times greater than the patentees usually fix for themselves; because if they insisted upon any such prices, it would be refused as an odious tax, which would so limit the adoption of their inventions as to diminish the total profits of their patents. . . . Mr. Hall, of Basford, invented a process of singeing lace net, by drawing it over a flame of gas lights, and thus burning away all the superfluous fibres. I prepared a specification for his patent in 1819. He was not a lace manufacturer or dealer at that time, and he only proposed, at first, to dress the lace made by others; that was during the time that the trade was carried on under the limitation before stated. He asked a higher price for dressing lace than the combined manufacturers chose to give him; and being united in a body, they would not have adopted the new invention at all if the patentee had not set up a warehouse in London for the sale of his improved lace, which he bought in the raw state, and refined by his process. The superiority was thus rendered so apparent that a great public demand for the improved lace was created, whereby the lace manufacturers, after much scrutiny of the patent, were compelled to send their goods to the patentee, who, as his trade increased, granted licenses to others to dress lace. . . . Ought not the public, in case of the right being sold, to be enabled to come in generally?—It is very desirable that they should; and in a majority of cases it will be the interest of the patentee, if he has the power in his own hands, to get his invention into very general use; but it frequently happens, that in a trade where there are individuals of large property, to whom the expense of law proceedings is not of great consequence, they will endeavour to combine together in order to induce the patentee, by the offer of an addition to his tax for their licenses (or to compel him by threatening to dispute his patent right), to limit the exercise of the patent to themselves, and debar poor men from any participation in it. . . . Sometimes the most powerful of such individuals pay for the licenses they take, and sometimes they do not, or only a trifle, if their means of resisting the patentee and overturning the patent are strong; the less powerful ones are always made to pay. . . . When a powerful infringer, who could scarcely be subdued with the present defective law, will assist the patentee, instead of opposing him, it is worth giving him a share in the patent to bring the power he possesses to support the right, instead of to destroy it. . . . Would not licenses very often be given, though the patent is unquestionably good?—Almost invariably; the circumstances will be very peculiar when, under a patent known to be good, it will be the interest of the patentee to keep it to himself, and a few others, for their own use, rather than to have it generally practised under licenses. There are some exceptions to that, but they are not very common; they are all cases in which the new invention produces a new article of commerce, and is not merely a new process for producing an old article. The consequence of this distinction is, that those who practise the patent invention have no competitors who can bring the same goods into the market, without the patent inven-

tion; hence, if the patent can be made into a close monopoly, it will command the whole supply of that market, and can consequently be made to raise the price very greatly. Such were the circumstances under which Arkwright's spinning and the lace trade originated. It must not be forgotten in all such cases that the inventors of entire new branches of trade do great service to the public, even if they do charge the very utmost price for the new goods. . . . Public notice should be immediately given of the application by advertisements in *The Gazette*, and in such of the principal newspapers as the examiner thinks most proper, in the districts where the trade to which the invention relates is most extensively practised; such advertisements might be in this form. . . . If, in consequence of such notice, any oppositions are offered, on the ground that it is not a new invention, or has been surreptitiously obtained, the examiner is to hear and decide upon them. . . . Why do you not recommend a tribunal of scientific men?—Because I fear that they would be very much influenced by feelings that do not exist in the present courts; such men would want weight and firmness to control the counsel, who would perplex, and overwhelm them with rules of proceedings, and forms and precedents. Many men of competent knowledge of their subject, and of the greatest integrity, are not competent to act as arbitrators in disputes, from want of such firmness. Even experienced judges, though they will not yield to counsel, cannot avoid losing much time from their attempts to support a losing cause by subterfuges. Men unaccustomed to see through such attempts, and who were not determined to repress them, would be quite incompetent to preside in a tribunal; they might do very well in a jury, but that would not diminish expense. There are also other difficulties; men of science would want the necessary practical knowledge of the arts which come in question during such trials, and they are very subject to be misled by their previous theoretic notions; and if practical artists and manufacturers were substituted, then established prejudices of trades, and jealousies of rival traders, would come into operation. . . . Does not the apprehension of such expense deter infringers from attempting to set aside patents, or defending themselves when actions are brought against them by patentees?—Certainly, unless a combination can be made to subscribe for the expenses, and then the managers of the suit have every motive to increase the expenses, and quite as often the expense deters or absolutely prohibits patentees from proceeding, until they make up a combination and a monopoly under their patents to provide a subscription fund. They are often driven to that course exceedingly against their wills, as well as against their interest. Are patentees aware of that?—Some are, some are not; most attorneys understand it very well; but, in general, where a combination and subscription fund exists, whether to support or to overturn a patent, the other side is usually an individual, and he has scarcely any chance. I never knew a case of combination and subscription on both sides. . . . About twenty years ago, some of the mechanists in Messrs. Marshall's flax mills at Leeds invented the machine now generally used for heckling flax, preparatory to spinning. One of them applied for a patent for it, but was opposed by a Mr. Murray, who had been occupied with

the same object. The Attorney-General, being unable to find out the similarity that really existed, allowed the patent to pass; whereupon, before the date of the patent, Mr. Murray presented to the Society of Arts the same model that he had exhibited in opposition. . . . We have derived almost as many good inventions from foreigners as have originated among ourselves. The prevailing talent of the English and Scotch people is to apply new ideas to use, and to bring such applications to perfection, but they do not imagine so much as foreigners. Clocks and watches, the coining press, the windmill for draining land, the diving bell, the cylinder paper-machine, the stocking frame, figure weaving loom, silk throwsting mill, canal-lock and turning bridge, the machine for dredging and deepening rivers, the manufacture of alum, glass, the art of dyeing, printing, and the earliest notions of the steam-engine, were all of foreign origin; the modern paper-making machine, block machinery, printing machine, and steamboats, the same. There are a multitude of others, that never have risen to any importance in the foreign countries where they were first imagined, because the means of executing and applying inventions abroad are so very inferior to ours.

"A privilege, to be consonant to law, must be for what is substantially and essentially newly invented; if the substance was in being before, and a new addition made thereunto, though that addition make the former more profitable, yet it is not a new manufacture in law."

Extracts from THE HOUSE OF LORDS' REPORT ON THE PATENT LAW AMENDMENT BILLS. 1851.

THOMAS WEBSTER, Esq.—I feel most strongly that the public require protection; I think the patentee, if he had his business well conducted, and has proper professional advice, has ample protection; at least, he might have ample protection, with a very little alteration of the present system; but the public requires protection, and one of the greatest grievances which exist under the present system is, that patents are granted almost of course, except there happens to be an opposition. The existence of an opposition, in many instances, is matter of accident. The deposits may be so framed, and the business so conducted, that an opposition is very often avoided, and the public, by whom I mean other patentees and manufacturers, and others interested in the subject, though they may have used all the means which are open to them, do not get notice of the application, and have not therefore the means of preventing patents being granted for inventions, which certainly would not be granted if greater opportunities were afforded of investigating them. Is it not the case that snares are laid for persons, and that they are entrapped, without knowing it, into invading patent rights of which they are ignorant?—Constantly. . . . There would be an opposition at the report, and an opposition at the sealing; and more than that is wholly unnecessary. What should be done as regards advertisements in the intermediate stages, for the purpose of warning the public, or whether the present system of caveats, which, as a means of publication, is very bad, should be continued, is a matter of detail which would be under the control of the Attorney-General, or, as I should rather trust, of the Commissioners. The idea of Commissioners has been a matter which has been very much discussed; most patentees have been anxious to have something in the nature of a Commission. . . . There have been published and circulated twelve recommendations, which have been pretty much the bases of the petitions which have been presented, and of the reforms which have been suggested. . . . The cost of letters-patents for the United Kingdom and the colonies (for the term of 14 years) to be as follows:—On the application for the patent, £10; on obtaining the patent, £10; at the end of the third year, £40; at the end of the seventh year, £70. . . . A joint committee . . . was formed, under the title of the "United Inventors' Association," I believe all patentees. . . . Are there any other societies with which you are acquainted, established for the purpose of obtaining an amendment of the law of patents? —There is a body called the "Patent Law League," and another called the "National Patent Law Amendment Society;" and another, "Association of Patentees for the Protection and Regulation of Patent Property." . . . Would not it be a great object for the manufacturer to have the use of the improvement to himself for a few weeks or months?—He would not be able to keep it to himself

for a single week, except by resorting to secret practices, and other proceedings highly objectionable. Then the public would have the advantage of that invention without paying a tax for it?—Yes, and the inventor would be deprived of the fruits of his ingenuity. With respect to improvements which have relation to an established trade, as, for instance, the cotton trade, where an improvement is introduced like that of the loom, to which I have referred, the same necessity for protection does not exist as in new trades and manufactures. But many of those improvements in an established trade are made by workmen; and if you do not give some legal protection to the workman, he would never get a sufficient reward for his ingenuity; it would be taken advantage of by the master, and absorbed by the capitalist, while the workman, the inventor, would get nothing. It must be remembered also, that you cannot legislate for specific cases. You must either allow a patent to be given in every case, or you must have no patent at all. . . . This man conceived the idea of transferring the momentum of the slay to the break on the fly-wheel, and the stoppage was instantaneous. I know this had long been a desideratum; this man had been at work upon it for years, and he succeeded. What was the result? Why, that the manufacturer paid him 5s. a loom for it. . . . The advantage of the patent in that case would be as a reward to the man for his labour and ingenuity, and not as yielding any benefit to the public; with respect to gutta-percha, of which you spoke just now, was not that more in the nature of a lucky discovery than the result of a scientific and laborious pursuit?—No doubt many discoveries are lucky accidents, but you cannot estimate that; you must look at the result; is it new, and is it beneficial? How great may have been the amount of pains bestowed is not a matter which you can examine into in the first instance. It is a matter which the Privy Council examines when an extension is applied for; but you cannot do that in the first instance. . . . The principle, as recognised by the common law of this realm, was this: He who shall introduce a new trade into the realm, or an invention tending to the furtherance of a trade, shall have a monopoly patent for a reasonable time, till the public shall learn the same. The means of instructing the public, under the old common law, was by requiring the patentee to take apprentices. That was not a very practical mode, and it has been entirely superseded by the modern rule of the specification. . . . If you look at the history of a particular improvement, say, for instance, the screw-propeller, through a series of years, it will turn out that A. began, B. followed, C. added something, and D. perfected it. . . . There is another class of cases, . . . where a person conceives an idea, and says to a workman, "Can you carry that out?" That was the case in Fourdrinier's machine for making endless paper. In that case the person to whom the idea suggested itself employed Mr. Donkin, one of the most celebrated machinists of the day; the inventor may be supposed to have said, "I have conceived the idea of making paper in endless sheets if you can give me machinery, moving webs of wire gauze at a uniform velocity;" that was his idea, and he employed Mr. Donkin to carry it out, and the law said, he being the person who had

the merit of suggesting and conceiving the system, was the true inventor. He only paid Mr. Donkin for applying his existing knowledge in executing the invention; in that case it was true that the invention was carried out by another person, but it was carried out at the suggestion, and with the funds, and of course at the instigation of the original inventor. . . . The first patentee of the screw-propeller obtained a verdict, on the ground that the other patents were improvements upon his, and could not be used without a license from him; in the result they all combined, and divided the profits; I should conceive that each of them had a large share of merit. . . . You may divide inventors and discoverers pretty much into two classes: persons who are concerned in manufactures, and whose business and interest it is to improve those manufactures by economising material and labour; and speculative people, or men of science. The former class are very generally led to an invention by some want having arisen; that is the key to a great number of inventions. Some want arises: they exert themselves to supply it; considerable expenses may frequently be incurred in experiments; these can only be recovered by securing the protection of the invention for a limited time. Inventions are often made, and remain useless until some new state of things arises. Take, for example, the case of the electric telegraph. The requirements of the Blackwall Railway rendered a communication of that kind essential; so that the introduction and wants of railways led to the establishment of the electric telegraph, in consequence of the want which was created of communicating from end to end of the railway. . . . I am satisfied that it is only the knowledge that if a man brings out a successful invention, he will have such protection given to him as may be the means of his recovering not only the expenses to which he has been put, but *some* reward for his ingenuity, which affords the stimulus that leads to inventions being made. Inventing, and the introduction of patented inventions, become, in fact, a sort of trade or business. In consequence of the knowledge that protection will be afforded, scientific people are induced to take to invention as a pursuit and means of livelihood. The case in that respect is quite analogous to copyright and to other things; persons are induced to write books, and employ themselves in that way, from the knowledge that they can make it a business, and obtain a profit by doing so. . . . The number of inventions brought out by purely scientific people I believe to be very few, and for this reason: purely scientific people want practical knowledge to enable them to carry out their own ideas; the mass of inventions, I have no doubt, are made by workmen, or persons of skill and science engaged in actual manufacture. Perhaps the best illustration of that would be to take the case of the screw-propeller; that is a distinct thing from an established trade. . . . That species of invention must necessarily fall into the hands of scientific men. . . . Is not it fair to consider that those inventions would in all probability have been made, without any reference to the direct pecuniary reward which the patent offered; are they not the natural emanations of the minds of the persons who are working upon those subjects, differing, therefore, from the case of the

covery of the safety-lamp by Sir Humphry Davy, where the problem was distinctly presented to him to find that invention, and he found it; his attention would not have been turned to it, except as it was connected with some pecuniary reward or scientific honour; but are not those inventions made by persons who are continually working upon those machines, as the natural result of their daily observations and daily necessities, without the aid of any artificial stimulus?—No doubt that may be the case with a large number of them; but the hope of a pecuniary reward is a stimulus. And the question occurs. Is it just, where a man has brought out such an invention, that he should not have *some* reward? . . . A workman knows that if he effects an improvement of a machine, if he has a liberal master, he will get well rewarded for it, and therefore, in those cases improvements might be made; but in the majority of cases the inventor would be in uncertainty, and he would know, that while the reward he would get might be exceedingly inadequate, the advantage his master would get would be very great, and he would leave things to their course. . . . The value of patent property in this country is known so well, that inventors generally contrive to obtain a patent in England before the invention has been disclosed abroad. I believe that that has been the general rule, though there have been instances to the contrary. In the case of the daguerreotype, it had been purchased by the French Government before the patent was taken out in this country. . . . It is proposed that there should be a preliminary examination, either rendered absolutely necessary, or at the desire of the Attorney-General, by a board, consisting, say, of a chemist, a mechanist, and some other person, probably the Secretary of the Commissioners; what do you consider would be the operation of that examination?—I think the operation would be most beneficial; I am sure that it would stop a great many patents. . . . There is one further observation I should wish to make upon this Commission. . . . There is no means of bringing those persons together, and, therefore, complaints and abuses go unremedied and uncorrected.

William Carpmael, Esq., a patent agent of considerable experience.—You think that it is a good mode of preventing the abuse of patents that the system of granting them should be expensive and complicated?—I only say expensive. . . . You think expense is the best check which can be imposed?—I know of no other. What would be the evils which you imagine would arise from a great multitude of patents?—It would decrease the value of every patent. The impossibility of obtaining a sound patent is in proportion to the number of documents which the party who draws the specification has to contend against. Is that the only objection?—That is the main objection. I am also strongly of opinion that we should not increase the beneficial invention of this country by having a larger number of patents; and I think the benefit to the meritorious inventor would be increased if we had a less number of patents at the present day. . . . I can see no inducement to an inventor to come forward to benefit the manufacturers of this country, unless you give him *some* reward. Looking through the history of the whole of the manufactures of this country, you will

find that all the steps have been founded upon patents from the earliest date up to the present time; take any one branch, whether it be the cotton manufacture, the steam-engine, the manufacture of flax or wool, in the case of every one, if we trace the history of it through, which I should be very happy to do if it were necessary, it will be seen that the whole system is built upon patents; papermaking the same, and so in every branch that I remember. . . . Parties are often obliged, in the granting of licenses in the early period of the patent, to grant them for nothing, in order to induce the manufacturers to change their system of manufacture, and to accommodate it to the new invention. . . . In nineteen cases out of twenty, if there were cheap patents, they would be for things which already exist, and people would only use patents for the purpose of advertisement and publication. . . . If you grant a patent, and give to a man the means of advertisement for a small sum of money, he will not investigate it in the slightest degree in the world. He does not inquire, and does not wish to inquire, but he goes and spends his money, and then he advertises, because the patent appears to give him a standing different from his competitors in the same way of business. . . . You rest it upon expediency and public advantage, believing that such a stimulus is required, in order to induce persons to invent at all?—I do; I think it is wholly a question of public advantage. . . . If your Lordships were to have that investigated, you would find that there was very little for which Mr. Grant could have taken out a patent, because much of the machinery existed in a variety of directions, part here and part there. I have not seen the biscuit machinery, and do not know what additions Mr. Grant may have made to it of late; but, as far as my experience in bygone times goes, I know there would have been very little which would have induced a man to take out a patent, and there is not the demand for that class of machinery which would induce me, if I were consulted on the subject, to advise him to take out a patent for it at all; because there are not many Admiralties, and therefore there are not many parties to pay for a patent in that case; the primary object to consider is the field which a man would occupy supposing he gets his patent. . . . Is it the case that a man who happens to stumble upon the last step of a process which has been discovered by the scientific inquiries of many men for a long time before, does, by the present law, in any way contribute to reward those who have the real and chief merit of the discovery?—He in no way contributes to reward them. . . . The first cost of putting a new invention into practice is so much larger than the second, or any which follows the first, that no man would venture to be first in a large change, such as Watt's steam-engine, or spinning cotton by machinery in place of by hand, or propelling a vessel by a screw in place of a paddle-wheel, and so on. . . . Take, for example, Maudslay and Field. They are as adverse as any men possibly can be to having patents, if they can help it, and yet they have patented their changes. Penn has done the same thing; and several other engineers have done the same. The cause of their doing it is this: they do it to prevent their competitors following immediately in their wake, and doing the same thing. How else would those men rise into eminence? What would

be the inducement to a man to lay out money, and to alter his system of manufacture, when, if he did so, his competitors would follow him if he succeeded, but they would not follow him if he did not succeed? . . . A man engaged in a manufacture scarcely ever makes a change which produces an important result without patenting it. . . . The patentees in these cases do not charge more for their engines than other persons, but they induce a number of the public to come to them, who would not otherwise do so, because like engines are not to be had elsewhere. . . . Suppose a person makes an important improvement, say in cotton spinning, and takes out a patent for it, is there any power by which you can prevent that improvement becoming known to, and used by, foreign competitors?—No. . . . I do not think the public can ever benefit to the prejudice of an inventor if the law be good; neither do I think that the law would be good if the inventor benefited unfairly, at the expense of the public. . . . Can you, without difficulty, point out a certain number of very important inventions, which were preceded by such costly experiments that they could not have been carried out without the patent law?—Watt, in the case of the steam-engine, was seven years before he got the first engine to work efficiently. In the case of Arkwright's machine for spinning cotton, he was several years before he got it efficiently to work. In the case of Crompton, the same; in the case of Hargraves, the same. Then, in regard to combing wool by machinery, and the first power-loom by Cartwright, he did not succeed in getting practically to work for many years, and he was rewarded by Parliament for what he had done, because he had not been remunerated in the working of his patent. The paper machine was worked out by a series of costly experiments, which never would have been entered on but for the patent laws of this country. Parliament also rewarded the individuals who worked out this invention, which was a foreign invention brought to this country. . . . I believe, in the case of Boulton and Watt's engine, at least from £10,000 to £20,000 was expended before anything like a large practical result was brought about. I have known, in the case of many inventions, hundreds, and in other cases thousands, of pounds have been spent before any practical operation took place. . . . The country has sometimes derived as much benefit from a happy thought as from a long-enduring inquiry and experiments. . . . I find that not one inventor out of twenty, I may say out of fifty, can be induced, when we hand them a list of what has been done before their own invention, to read the pre-existing specifications. . . . Is it any benefit to the colonies to be obliged to pay a heavy tax?—I have no doubt it is the highest benefit to the colonies that they should have the advantage of the patent laws. . . . A. is the inventor in this country of certain machinery for extracting the syrup from the crystalline portions of the sugar; the proprietors let it at the rate of 6d. a ton on the quantity produced; the colonial people acknowledge that the sale in this market is improved to the extent of 6s. a ton by the process; therefore the rental which the patentee asks is just one-twelfth, and they object to pay this small rental. What they wanted to do was this: The parties in the colonies bought some machines in Belgium to

take over to the West India colonies to use there for this process, not intending to pay the patentee; but I cannot conceive that there is any propriety in permitting parties to go and get machinery surreptitiously made which is protected in this country; a sugar refiner in this country might, with equal propriety, have brought machines in from Belgium, and have expected to use them in the face of the patent. . . . I see no reason for placing them in a different position from Ireland or Scotland. . . . I object, first, to the taxing of the patentee, simply because he is a patentee, because I think there is no ground on which you ought to do so; and I also object to it on the other principle, that cheap patents will bring in such a host of matters, that they will go to destroy the solidity of every patent which may be granted under such a law. I am confident that you cannot do a greater injury to inventors, and consequently to the country, than to grant cheap patents. . . . He will not even examine whether the thing pre-exists or not; but he will take out a patent and lodge a document, and that document and every one of those documents must be read when a real and beneficial inventor comes forward, and the beneficial inventor will be encumbered with all these documents, and I do not think it will be in the mind of man to make good specifications in the face of them; and the good inventor will be labouring under this disadvantage, that when he has got a good invention, he will not be able to get from a professional man a sound and confident opinion which would justify manufacturers in going to the expense of putting the thing into practice if it required considerable cost, because manufacturers will feel that such is the doubt of any specification that they may have brought to them, that, should they go to the requisite expense, they may find that they have not got a valid document, and, therefore, they would have gone to that expense in their own wrong, because their competitors would set to work and use the invention as soon as the thing is successful. . . . Even at the present time there is a very large number of patents taken out for useless inventions. . . . I think the whole object of the patent law ought to be to give a *fair* remuneration and benefit to the inventor, and at the same time guard him against having his property jeopardised. . . . For the three or four years last past, I have, as I have stated, advised, and have felt it my duty to advise every one who came to me with crude inventions—and most men do come to me when their inventions are crude—not to trust their secret to workmen. . . . A gentleman had materially improved some windlasses and capstans, and also the stoppers of cables. At the trial, evidence was given that he had at that time three workmen in his employ. He communicated those matters to the workmen, and from time to time he superintended the making of those instruments. The workmen joined together and took out three registrations for those three subjects.

Paul Rapsey Hodge, Esq., a civil engineer, an inventor, a patent agent.—I think that after the examiners have reported upon the patent, the report should be published; the patent should not be issued before that is done. I do not think the patent ought to be issued till the

parties who are opposing know the nature of the report. I think the report of the scientific examiners and the decision of the Attorney-General should be published, and then, in my opinion, to prevent any objections to the examiners' report being final, there should be a Court of Appeal; the examiners are liable to err in their judgment, of course; they do so sometimes in America. You would have two stages of inquiry, and two opportunities for opposition?—Yes. . . . My reason for recommending cheap patents is my experience in that country; the real inventors are generally operatives,—practical men. I can cite an instance of a spinning-machine which has been bought for £6000, which was invented by a journeyman who worked under me for ten years. We used very often to laugh at this man's assertion that he would make a better spinning-machine than Mr. Danforth's, with whom he served his time; and this improved machine is now in the Exhibition. My experience in America goes to prove that practical men and operatives themselves, if they are encouraged, are the very men to invent, and not the employers. . . . It was patented originally in America, and then patented here. . . . Though the workman has been the inventor, the employer is the only one benefited by it. Sometimes the workman meets with a liberal employer; I can cite to your Lordships an instance of Messrs. Sharpe, of Manchester, who gave Mr. Hill, at the head of their loom department, £2000 or £3000 for an improvement in a carpet loom. . . . The present spinning machinery which we now use is supposed to be a compound of about 800 inventions. The present carding machinery is a compound of about sixty patents. . . . I think that the application of his idea to the ginning of cotton will do a vast deal of good in India. The present cotton-gin, what is termed a saw-gin, is not so effective as the machine of Mr. Calvert; he came here with the invention, and has sold it for between £8000 and £9000. The first year he was here he gained little or nothing at all. This is another instance showing that the best and most valuable inventions do emanate from practical men. . . . I fear masters generally are very uncharitable to their workmen; their object being gained, the workmen receive just sufficient to enable them to live from hand to mouth. . . . In my experience I have found that a very complicated machine, producing wonderful results, is generally a bad patent for the inventor; it has cost him a great deal of time, a great deal of thought, and a great deal of money. There are not many of such machines wanted; but an improvement of the pin-machine or an improvement in spinning, though minute, will produce great effects in itself, and increase our means of production, and generally benefit the manufacturer, if not the inventor, and the consumer most of all. . . . The machine for making type was imported into England from the United States; it was patented in England; the cost of the patent was very considerable; it cost a large sum of money to get the machines here, and to make experiments. But there is a peculiar monopoly among the typefounders of London, who not only keep the price of type up at a very high rate, but prevent any improvements in the making of type. They offered a certain sum of money for this invention here; the parties thinking they could get more, and not knowing

the peculiar monopoly which existed, refused it. The typefounders then had a meeting, and said, "We will not buy your machine at all." The machine, therefore, is locked up to this hour; I have it in my possession; but that machine is worked in Glasgow without a Scotch patent, and the types are sent to this country. And so again in Ireland; they are just commencing the manufacture of type there. . . . The American india-rubber shoes, and many other of their articles, are superior to ours. It is in consequence of the patent which is held by a wealthy company in Manchester, claiming in their patent the use of india-rubber generally for braces, coats, gloves, shoes, and other articles. . . . As patents now exist in this country, you admit them to be a considerable obstruction in many cases to the progress of improvement?—This is one instance. . . . These parties claimed the application of india-rubber to those things to which they did not apply it for many years. . . . We never pretend to settle specifications without saying to our clients, You had better have counsel's opinion upon this; it is sometimes very difficult for counsel to advise upon specifications. . . . Do you hold the opinion which several witnesses have expressed before this Committee, that patents might be too easily obtained?—I do not think that would be an objection, provided there was a proper check put by the scientific commissioners upon them. . . . I think that at least one-fifth of the more valuable inventions which are patented in this country are American inventions. . . . There is a mill now exhibited at the Great Exhibition, under the name of Crosskill's mill, which is the invention of Mr. Bogardus, of the United States. . . . The party who brought out that patent sold it to Sharp, Brothers and Company, in Manchester. I think they paid £3000 for it; but having so much business to do in other matters, the locomotive business at that time coming in fast upon them, they neglected it: the patent has run out. Now Mr. Crosskill is beginning to introduce it. . . . The inventor came to this country, hoping to reap some benefit from the invention, and he found that the invention had been pirated and stolen by the father of his own apprentice; and he would not have had a shilling to take him back to America again, but that he invented the penny post stamp, for which he received a large sum from Government. . . . You think no protection ought to be granted to a man who merely imports an invention from a foreign country?—I think not; by so doing you are encouraging a parcel of people who have no character of their own, and who do not care what they do. . . . Would you assign any particular term for patents, or would you allow any discretion on that subject to the authorities vested with the power of deciding as to the novelty of the patent?—I think that fourteen years is an ample term for a patent. You would allow none to last longer than that?—None, unless upon it being shown that the inventor had been unable to derive sufficient from the invention. . . . If that great advantage attends the system of payment by instalments, is it not sufficient, in your mind, to make the adoption of that system desirable, even though the total cost of the patent should be reduced to the American level?—Taking that view of it, it would be desirable; it would be a check to the existence of useless patents beyond a certain

period. Very often a party takes out a patent which is useless to him; but, having the monopoly for a time, he might prevent others making any improvement.

RICHARD HENRY WYATT, Esq., a solicitor, the honorary secretary of a society which is very much interested in the amendment of the patent law, the United Inventors' Association.—There are instances of foreign inventors inducing large English capitalists to purchase their inventions. . . . Many capitalists, I believe, invest their money in important patents, in consequence of the present protection here.

FREDERICK WILLIAM CAMPIN, Esq., a patent agent.—Was there no original patent law in Scotland?—No; I think there must have been very few patents for inventions in Scotland previous to the Union. Have there been Acts passed since the Union introducing the patent law into Scotland?—None whatever; there is one law of the time of Charles the First or Charles the Second which refers to some matter which is not of any importance, but it does not apply to the subject-matter of the patent law. . . . In giving this opinion you are considering the interest of the inventor, and not the interest of the public, who ought not to suffer from useless inventions being patented?—My opinion is that you would clear all those away by the system of preliminary protection. By a monetary test you cannot clear away all those; even if you were to charge £1000, or any large sum of money, some parties would find the means of patenting useless or frivolous inventions; so that it is only a rough approximation that you get, as far as the public is concerned, by the monetary test, but the object would be obtained by the system of preliminary protection. . . . Is there any mischief to the public in patenting frivolous inventions, if the patentee chooses to go to the expense?—They are instruments upon which you may hang lawsuits; that is the only use of them, and that is decidedly detrimental to the public, and not only that, but it stops the progress of improvement. It is a very common thing for the suggestion of one person to lead to the invention of another, but that other finds that he can do nothing without obtaining the license of the previous inventor; and the previous inventor, believing that he ought to have the benefit of the invention, is not disposed to surrender the license. . . . We are told that, for the most part, inventors sell their inventions to men of capital, who advance the money?—Inventors do not sell their inventions, but they join capitalists with them.

JOHN DUNCAN, Esq., a solicitor, more or less engaged each year in patents for others.—One of the reasons I give to your Lordships for entertaining the opinion that the Legislature should not now provide for a preliminary investigation into novelty or infringement is, that we have arrived at a period when there are in existence an immense number of inventions which are clashing with each other every day, infringing one upon the other, and being many of them defective as respects novelty and utility. Do they lead to any practical inconvenience?—Not at all; and therefore it is that I want to see the

system carried out of patents being given without discrimination, and of course without guarantee of validity. . . . My own impression is that, even if the new system were to lead more than the existing one does to duplicate patents, if I may call them so, there is no harm done by that. . . . I do not see how you can work out satisfactorily a complete system of preliminary inquiry into novelty, by means of the Attorney or Solicitor-General, if you mean him to enter into such an inquiry before any patent be granted. In such a country as ours, so active and inventive, where even the fixing of a peg or of an additional wheel in a particular machine may produce an invention worth £100,000, I think it would not be proper that the Attorney or Solicitor-General, or any examiner appointed in his place, should have the power, by a preliminary inquiry at chambers, of stopping or refusing a patent, and of changing or taking away the property of persons whose rights may be in some collision. . . . If a poor man has got a patent, and he is followed by a rich man, and the poor man has the protection of the law as being the first of the two, he has the power of compelling the rich man to come to a compromise much more easily than he would have when he was battling with such a man before the Attorney-General only, without having the security of a patent sealed. . . . Your object is to give parties a greater facility in obtaining patents?—Yes. And to leave the question of whether the patent is a good patent or not to be settled by the courts of law?—Yes; I am convinced that in many cases the matter would not go into a court of law. . . . In the case you suppose, the patentee, by limiting his patent to England, has published it in Scotland and Ireland, and has given the public all the benefit of his invention?—Yes; that is the legal result. Therefore, the public are at this moment in possession of the right of using this invention, which you would propose to deprive them of for the benefit of the patentee?—Yes.

William Spence, Esq., a patent agent.—I think it is most important that there should be no question as to the utility or novelty of an invention settled by the Attorney-General, but that it should be left to the patentee's own risk. . . . What do you think would be the objection to this course, that everybody should be allowed to take out a patent?—That a person who was not the true inventor might get a patent right; and it is most important, I should say, knowing the character of patentees, to prevent that; of course there is a difference between patentees, but the large class of patentees are men who require a good deal of checking. There is a good deal of piracy?—Yes. . . . We require two sorts of patent, a short patent and a long patent. . . . Conversations that I have had with manufacturers, principally in Birmingham, in small trades, have satisfied me beyond a doubt that there is a class of small manufactures in which it is possible to conceive that patents may be established and worked out, and become remunerative, in the space of three years. . . . I am not favourable to giving low-priced patents for fourteen years. . . . It would multiply patents inconveniently; it is an evil to multiply inventions faster than they can be taken up and perfected in the trade to which they relate. . . .

At the present moment the constant communication that takes place with Europe and the United States, from whence the great mass of inventions comes, alters that state of things?—It would probably alter it in one sense; but still I think that persons must have an inducement for all they do in introducing improvements, and that there must be *some* prospect of remuneration held out. . . . In the case of the Household Company, in pronouncing an opinion as to what would have been the effect of user upon the patent, Lord Lyndhurst observed that if it had been in use fifty years ago, and had gone out of use, it might have been a question whether that would affect the patent.

Mr. John Fairrie.—A sugar refiner. . . . On as large as any individual in Britain, at present. . . . I had a consultation yesterday with Mr. Macfie, and Mr. John Davis, another principal sugar-refiner in London, and it was agreed that I should be requested to appear before the Committee. . . . If a patent is taken out for sugar-refining, and a large sum is charged under it to the sugar-refiners of Great Britain, which the sugar-refiners of the West Indies are free from, it amounts of course to a tax upon us. It does not appear to me to be a matter of so much interest to sugar-refiners as to patentees, because a patent, if it does not extend to the colonies, becomes of much less value in Great Britain. If the colonies are allowed to use it free of expense, of course it diminishes the value of the patent so much. . . . I was at the expense of a patent within the last six months, and the original idea with which the inventor started was entirely abandoned before the patent was taken out. He experimented with me during the whole of the six months, and laid himself out for obtaining information on all subjects connected with it. He put into his patent everything he could find, and, among other things, discoveries which he had no right to claim at all. The correct principle would be, as it appears to me, that before a patent is taken out at all, the whole of the process should be described as it is intended to be worked. . . . Making the cost of patents so very small, instead of doing any good, will do harm; there will be such a number of patents on every trifling subject, that manufacturers will be prevented making any alteration or progress whatever. If patents could have been obtained at £20, I might have taken out fifty patents, for a great many of the adaptations in use at present originated with me many years ago. I never thought, under the existing system, of taking out a patent; but if they could have been got for £10 or £20, I should have tied up half the present arrangements now in use in sugar-refineries. Which would have been an obstruction to others in the same trade?—It would. . . . I know of a process which is in use at the present moment; I see improvements which I could make upon it; but I cannot make those improvements, because the original patentee says, "No, I shall not allow you to touch this thing at all." . . . Do not you think that if all those small steps were clothed with patent rights, the effect would be rather to obstruct that continued daily course of improvement than to forward it?—I think so. . . . Then, according to your opinion, patents are injurious altogether?—My opinion is rather on that side than the

other. I have conversed with a very ingenious man to-day, who takes a very opposite view. He says, "I have inventions in my head; if I were not allowed to patent them, I should not discover one of them." I said, "That is not wise of you; you can go and try what you can get for them; there are always men who are willing to pay large sums for improvements." . . . In our business there have been only two very important discoveries within my experience within the extent of forty years; the first was Howard's patent, which was for boiling sugar *in vacuo*. He got hold of the idea, and by the assistance of Boulton and Watt he perfected, as he conceived, that idea; when it came to be tried, however, it was an entire failure; the plan would not work at all: it was a suggestion by a German workman which at last enabled that patent to be worked, which ultimately produced £40,000 or £50,000 a year. The original plan was entirely a mistake; it was the slight improvement of a German workman which brought the thing to perfection. Was that improvement patented?—No, it was not patented. The application of that principle was, in fact, new?—It was new. The improvements with which you are specially conversant, I apprehend, are improvements depending upon chemical processes and chemical discoveries rather than upon the direct adaptation of mechanical means?—Mechanical means in a considerable degree. The only other great improvement which has taken place is the use of charcoal in a particular way; the charcoal is used in small grains, like gunpowder, through which the sugar is filtered; that has had the effect of reducing the price of fine sugar 20s. a hundredweight. . . . People took out a patent for a machine called the centrifugal machine, to be used for drying cloth. A gentleman in Liverpool said this would be applicable to sugar-refining. He went and took out a patent for that, though he had made no discovery, simply because the idea occurred to him, and without ever having tried it; and so had the means of excluding all the world from using it, though it was not his own invention at all. . . . I have mentioned another great discovery in sugar-refining, the use of this grained animal charcoal, which has the curious property of removing all colour from the sugar. The power of animal charcoal was a known principle for many years. It occurred to me that the proper way of using it was to use it in grains. I tried it, but it never occurred to me that it should be patented, because it was only an application of a known power. To my surprise I found I was forestalled; that a patent had been taken out, though I had known the principle, and applied it two years before. . . . I saw this plainly, that if a patentee comes before a jury, the jury will always give it against the public, and in favour of the patentee; that was plain in this case. The judge directed the jury that my opponent had no case at all; the jury, in the face of that direction, gave a verdict for the patentee. . . . Is not it your opinion that in the event of there being no patent to protect an inventor, he might still count, in most cases of useful inventions, upon remuneration for the communication of his improvement to the trade?—I think so, to a very large extent, if the invention is important. He might not get so large an advantage, but he would get a considerable one. No man could get £40,000 or

£50,000 a year, which Mr. Howard did; but he might get a certain amount of remuneration. . . . You stated that the really useful idea accidently suggested itself to a German boiler?—That was the case; the invention was put into the hands of a sugar-refiner, a Mr. Hodgson, who, in attempting to carry it out, was said to have spent his whole fortune. Before this mode was discovered, it was said that he lost £40,000 in attempting to carry out Mr. Howard's idea; when just at the last moment this person made incidentally a discovery of the way of applying it. . . . Do you think that the want of power to take out patents in your case, in consequence of the cost of them, has in any degree tended to check the application of your ingenuity to the discovery of further improvements?—Not in the least. All patents involve the principle of a monopoly?—Yes, and on that account the inclination of my mind is, that it would be better to have no patents at all; the progress of improvement, I believe, would be as rapid, or even more rapid, if it were not obstructed at every turn by patents. . . . I think the great bulk of improvements proceed from the manufacturers themselves, and not from mere inventors. . . . Of the patents which have been taken out in sugar-refining, though they have amounted to hundreds within my recollection, there have only been two or three which have been of any value whatever; and those which have been of value have been made so from the application of the experience and knowledge of manufacturers themselves—men who have been practical men, not inventors, who devote their attention to catching improvements from every quarter. . . . Do you think that the introduction of such a provision as you have referred to might lead to sugar-refineries being established in the West Indies?—The tendency is to enable the West Indians to refine sugar, having an advantage over us in being taxed to a smaller extent. . . . In all cases I think they have expired, except in one case, which has been recently introduced—the use of the centrifugal machine in refining sugar. Practically, at this moment, the clause in question would not give the West Indians any great advantage?—In this case 6d. a hundredweight is charged for the use of this machine; but the West Indians would get the use of it free. . . . Is it within your experience that the effect of the existing patent law is seriously to restrict the use of a patented article, or is it merely to leave the use of it free to the public, but at a higher cost than they would otherwise have to pay?—It is the latter. . . . So far as your experience and observation go, can you tell the Committee whether the expiry of patent rights is usually marked by any important change either as to the price or as to the extent of use of the article patented?—A very great change. In the case of Howard's patent, who charged 1s. a hundredweight previously to the patent expiring, not above one-fourth of the refiners of London used the process: as soon as the patent expired, it was almost universally adopted. . . . If the patentee charges a very small sum, the existence of the patent, of course, will have very little effect; but if the charge amounts to 6d. or 1s. a hundredweight, as it does in many cases, it is otherwise. Mr. Howard attempted, originally, to begin with 4s. a hundredweight. Does not it depend also upon whether the patentee is a manufacturer?—It does of course.

In which case, he would be interested in making the amount of protection upon the invention high, in order to have the monopoly of supplying the machines?—Yes.

ROBERT ANDREW MACFIE, Esq., a sugar-refiner at Liverpool, as well as in Scotland.—Do the English refiners consider it a grievance that Irish refiners should be exempted from the operation of a patent?—That is my opinion. We—that is, the firm I am connected with—have a sugar-house working in Greenock to a considerable extent, for the market of the North of Ireland. We have a sugar-house in Liverpool, working bastards, I may say chiefly for Ireland. It would be very awkward, in the case of an important patent, if we were liable to pay the patent charges, while our rivals on the other side of St. George's Channel are exempt. The house I refer to, which is working chiefly for Ireland, is working molasses. There are two molasses-houses in Dublin, the very market to which most of our bastard sugars are to go. Very high rates have generally been charged by the discoverers of important improvements. In the case of Howard's patent, our firm paid for a number of years 1s. per cwt. upon our sugar, and 4d. per cwt. upon molasses. We agreed for our Edinburgh house, about fifteen years ago, to pay Messrs. Terry and Parker either 1s. 6d. or 2s. per cwt. for the use of their patent and the supply of materials. About eighteen months ago, refiners were asked to pay for Dr. Scoffern's patent 2s. per cwt. Mr. Finzel, for the use of his centrifugal improvement, proposed to charge 1s. per cwt.—that is known generally under the name of Rotch's Centrifugal Patents. One shilling per cwt. upon foreign sugar and upon colonial sugar, when colonial sugar has been cheap, is very nearly five per cent. *ad valorem*. I may perhaps anticipate a question, which your Lordships will probably propose. We should find it very awkward to be obliged to compete under free trade, if we must pay five per cent. to an inventor, while we have no protection whatever against rival refineries in the colonies. . . . It would be very hard to say that we should be obliged to pay a tax to patentees, if we are to be called on to compete with those who pay no tax. . . . I know, with respect to a notable patentee, that he gets a very small remuneration for his application of an important principle; but that was his voluntary act; he chose to arrange with certain parties for a percentage, or for a certain moderate remuneration. . . . My own impression is, and it is a very strong impression, that the manufactures of this country as a whole, and ours in particular, suffer very much by the existence of any patent laws. . . . I would correct myself thus far, that it seems to me a matter of some doubt whether the great vacuum-pan improvement would have been perfected but for the hope of the monopoly; it might have been so.

ALFRED VINCENT NEWTON, Esq., a patent agent.—Are not almost all great inventions arrived at about the same time by different parties?—It is frequently the case; the miner's lamp, the electrotype and the electric telegraph, are familiar examples. . . . I do not think the existence of useless patents does the least harm to anybody; that notion

I consider to be an utter fallacy. If an invention is of no use whatever, the public will never be troubled with it.

WILLIAM FAIRBAIRN, Esq., a civil engineer.—I have taken out five or six patents for different inventions. . . . It generally happens, in the purchase of an invention, that the inventor and the capitalist go into partnership; they divide the profits of the invention, if it is a good one, the capitalist taking the whole of the risk. . . . Generally speaking, you think the inventions emanate from the working partner? —Yes. . . . Would not a manufacturer generally reward a workman who could inform him of a more speedy way of getting his work done? —As a natural inference, one would suppose it to be so, but it is not always the case; I have known cases where the manufacturer has taken the advantage of the workman and used his patent, and has not remunerated him except by a very small sum indeed.

RICHARD ROBERTS, Esq., a civil engineer.—Have you taken out any patents yourself?—Yes, my Lord, several; thirteen or fourteen, I think. . . . I think there ought to be no opposition to the obtaining of a patent. If a person infringes a patent, it is a matter to be brought into a court of law. . . . Are not the principals of the firms in which they are employed usually disposed to defray the expense of taking out a patent by which they would themselves so much benefit?—They often are; but the consideration with inventors is, what share of the profits will they require; my partners received seven-tenths. . . . In passing through Birmingham, I called upon a man who is considered one of the first in the trade there. I showed him one of the articles; he seemed much excited; he put his hand up, and said, "If any man will tell me how that is done, I will give him £100." When I afterwards told him it had been done at one blow, he said, "We could not do such a thing without fifty blows and ten annealings." They actually make that article at the rate of ten a minute in France, and he would not, I believe, make ten in an hour. . . . The invention to which I referred is a mode of raising goods from plates of metal by the process called "stamping." In France, even a common watering-can has no seam around the bottom, nor a seam up the side. The articles which I showed the Birmingham manufacturer were drinking-cups, like a horn-cup, and a glue-kettle, with its pan complete: they are a deal better done than we do them, and at less than one-fiftieth of the cost as respects labour. . . . Yes; on the average no patent begins to pay under a period of from seven to ten years. . . . In the case of my self-acting mule, . . . the invention was nearly ten years before we received any remuneration for it beyond our outlay. . . . The self-acting mule was made in consequence of a turn-out of the spinners at Hyde, which had lasted three months, when a deputation of masters waited upon me, and requested me to turn my attention to spinning, with the view of making the mule self-acting. I said that I knew nothing of spinning, and therefore declined it. They called a second time, that was on the following Tuesday. I declined again; but before seeing me on the third Tuesday they saw my partner, the late

Mr. Thomas Sharp, and requested that he would do what he could to induce me to turn my attention to it; on the third visit which they made, I promised to make the mule self-acting. . . . Under certain restrictions, it would be desirable to grant patents for the importation of inventions. You would grant patents in such cases for short periods?—Yes, for seven or ten years. . . . The moment that invention was made public, would not any machine-maker have taken your secret from you, and made it at a lower price?—Certainly.

Mr. Warren Storms Hale, a manufacturer of stearine and composite candles.—The first of the improvements which have taken place in candle-making proceeded from Monsieur Gay Lussac, the celebrated French chemist. I was not the means of introducing it into this country, but I was about the second who adopted it. He took out a patent, in the year 1825, for separating the tallow of animal fats. . . . M. Gay Lussac, not deriving any profit from it, allowed it to become public property. . . . There are Palmer's candles. To show how a patentee can pay himself if it is a good invention, take the case of candles with two wicks; the patent has expired. I commenced making them immediately the patent expired; that was the means of reducing the price immediately, and there are now two candles which he has patented, the one with three wicks and the other with four, and there is a difference to the public of three-halfpence a pound, which is a very great profit, of course, to him, and which I do not complain of, because he has the exclusive right; and while he has the exclusive right, the public are paying three-halfpence a pound more for those than in the case where the patent has ceased; therefore it is not the payment of a few pounds which would be a hardship upon a person who has invented a valuable invention. . . . If it is a patent of sufficient importance to induce a person to grant licenses, it must be a very productive one. . . . Does not it sometimes happen that years elapse before a discovery is known and appreciated?—I think that may apply in some cases, but in very few, according to my experience. At one time it was thought derogatory for a respectable person to advertise. . . . In the case of Price's Candle Company, they applied to Parliament for a bill, which, after some opposition upon my part, passed, with some alteration. At that time they possessed themselves of eighteen patents. They are now working them, and are now applying to the House again for three additional patents. . . . In the case you refer to is there any difficulty in obtaining licenses upon reasonable terms? —They would not grant a license. . . . Do you conceive it would be desirable that in all patents there should be a clause requiring the parties to grant licenses upon reasonable conditions?—I am not a patentee. If a person could work his own patent, I do not see why he should not have the benefit of it; at the same time, when it becomes a matter of such great magnitude that he, with eleven others, cannot work it, I cannot see why the public should not partake of the benefit. . . . You have stated that the patent for the three-wicked candle had been a very profitable one?—Yes, so the double wick was in the first instance; immediately the patent ceased there was a reduc

tion of at least a penny a pound to the public. There are now two patents, one for three-wicked candles, and the other for four-wicked candles, which are still patented.

Mr. Benjamin Fothergill, mechanical engineer, of Manchester.—I have been connected with the house of Sharp, Roberts, and Co. for about twenty years. . . . I am consulted upon various patent inventions. . . . You are not of the same opinion as Mr. Roberts, namely, that it would be desirable for every inventor, at his own risk, to register his invention without any previous examination?—No, I am not; I think we should have nothing but confusion from such a system. Unless a clear line of demarcation were drawn, we should have everybody come for a patent, and there would be no end to litigation as the result of it. The system would be even more objectionable then than it is now. . . . I have no objection to a great number of patents being taken out, provided the subject-matter of the invention is good, and has not been patented before. . . . I think a Board of Commissioners, constituted as I before named, should have the power of withholding a patent where an invention has been the subject-matter of a prior patent. . . . The subject-matter of an invention ought to be worthy of the monopoly granted to the individual. . . . How long a period do you think should be given for making the specification perfect?—I think six months is quite sufficient. . . . There are cases where individuals, knowing that certain things have been patented before, will even attempt after that to bring forward a patent for the same subject, and in some cases be fortunate enough to dispose of their patent, though knowing at the same time it is the invention of others. That is the reason why I am an advocate for a tribunal constituted in the way I before spoke of, for examining what has been done in the different branches of invention, and reporting upon it. . . . I know instances where inventors have been treated in this way, and their inventions sold for several thousand pounds by the parties patenting them, without the original inventor deriving any benefit whatever. . . . I can only say that I consider the institution of a board of examiners, and the lodging of drawings and specifications at the time of making application for a patent, would be the most effectual method, for it would then be seen what the merit of the improvement was. . . . Your observation is intended to show that the person who has the chief merit to an invention is not always the person who meets with the reward?—In many cases that is so; take, for example, Westley, of Leeds. I should say his inventions have been invaluable in the flax-spinning trade; I allude more especially to his invention of the screw gill now in extensive use in the preparation machinery both of flax and wool, and also the introduction of his short spreading-machine, for which inventions he has not been remunerated, while thousands of pounds have been realised by the parties using them. . . . To this day Westley states that if he had had the means in his own power, and patents had been cheaper, he would have taken out a patent immediately, and secured the profit to himself; and there is no doubt but it would have paid him very handsomely. It has been

the means of saving thousands of pounds. . . . Have you observed that inventions have generally proceeded from practical men or operatives, or from scientific persons?—I think, generally speaking, from practical men and operatives. . . . Supposing an invention has been made use of in France or Germany, or in the United States, do you think that the importer of an invention which has been already used, and found practicable there, should receive a monopoly for introducing it into this country, or ought it not to become public property, which any manufacturer who feels the necessity of the invention may make use of without paying a tax?—Yes, I think that unless the individual who is the inventor take out a patent in this country, and secure the monopoly here, it ought to be open to manufacturers and the public generally. . . . I know parties abroad who have applied to me to learn if I could find persons to join them at the expense of taking out a patent in this country for inventions which they have brought out and patented abroad. I think such a regulation would prevent "trading in patents."

William Cubitt, Esq., President of the Institution of Civil Engineers.—It is a great question with me, upon the whole, whether all the benefits are equal to all the losses incurred by expending money upon patents, looking to the great legal contests which always arise if anything be really good. . . . People will always invent anything that is useful and good, if it will answer their purpose to do so, even without reference to a patent. . . . There is little chance of a workman inventing things which will be very useful which are not known at present, because they do not know what has been done. . . . Everybody complains of the patent laws, and nobody seems able to point out the remedy. . . . I do not think that persons would set themselves about scheming and contriving things in order to take out patents for them. I think that those persons who are able to make useful inventions, and who ought to be protected by patents, would of themselves scheme quite sufficiently for their own purposes, without any view to obtaining a patent. . . . The public should be considered by the laws and the law-makers. . . . It frequently happens that those things which cost the least, and are of the least real value or public utility, meet with a rapid sale; a great deal of money is made by them for a short time by keen inventing tradesmen, whether they are original or not. They last long enough by having a patent to keep others out of the market, but they themselves get paid for a thing which scarcely deserves protection; whereas those things which are very costly, like the invention or the improvement of the steam-engine, or turning the great powers of nature to account by new and improved methods, seldom or ever become remunerative, because they are too costly. People will not pay heavy premiums for using the patent right, but they will wait fourteen years, or whatever the time is, till the patent has expired, and then take to the use of it; but if it is a pair of snuffers, for instance, and the cost is very trifling, they will sell thousands or tens of thousands of them; the patentee will be well paid and themselves enriched, but the public would not be benefited. . . . Supposing in

any particular case there were an oversight, would there be any injustice in leaving the party to appeal to Parliament for a remuneration?—I scarcely know what to say to it; I think the less Parliament has to do with such matters the better, because they merge so much into trading and business transactions, in which every man ought to do as he pleases for his own benefit; if he takes out a bad patent, it is at his own risk and at his own cost. I have often thought about a board to examine inventions, and say whether they are sufficiently original for patents to be granted for them; but from the experience I have had of boards and committees, and so on, I very much doubt whether the thing would work well. . . . Would that degree of inventive talent have been expended upon agricultural implements if no patent laws had existed?—I think it would in that case. . . . If the patent laws were abandoned in this country, but patent rights were still granted in other countries, what do you think would be the effect upon invention in this country?—The patent laws in other countries would not affect this country, because they could do nothing in those countries which we could not go and see there; as society is at present constituted, no person holding a foreign patent could prosecute any one for doing what he pleased here. If inventions were made by ingenious people in this country, say in steam-engines or in any manufacturing processes, would not there be a tendency on the part of those inventors to communicate those inventions in the first instance to the United States, and by that means to give priority in the race of competition to the manufacturers there over those in this country?—I think not, because they could do nothing there under the patent which we could not do without the patent, if we had no patent laws; we can quite equal them, and beat them, I think, at present, in the execution of machinery.

Professor Bennet Woodcroft, Professor of Machinery in University College.—Do you think there is any natural tendency or propensity in inventors to keep to themselves their inventions, or have they a natural tendency to make them known?—The natural tendency of an inventive mind is to make the invention known. . . . Supposing an invention is old, is it not a hardship upon the rest of the public to be subject to litigation for an infringement of the right of an inventor who has invented nothing new?—It is very hard upon the public, and the public ought to be guarded against it by such information being made public. How do you propose to guard against that inconvenience?—By the publication of all known documents containing the history of inventions, particularly all patent documents. . . . I think nothing will check the infringement of a patent; I think all good patents are invaded.

Isambard Kingdon Brunel, Esq., civil engineer.—I have seen a great deal of the operation of patents. . . . My father . . . invented many things and took out many patents. . . . I have had frequently to negotiate for the purpose of defending myself against parties who have taken out patents for things I was using, or wished to

use. . . . Does not the present patent law encourage inventions to be made?—I believe that at present it practically discourages them, in that, while it appears to offer protection and ultimate gain to parties who are inventors, it leads to a considerably smaller number of inventions than would otherwise be brought out for the benefit of the public; and I believe that, practically, it involves very great loss upon the class of inventors as a body, a loss which, I think, they would not sustain if there were no patents or no exclusive privileges at all granted to them. . . . There is a very great clog put upon improvements now of patented things, by the possession of that monopoly by the patentee, and which, I think, deprives the public of more good things than the secrecy of unpatented things would do; it acts in this manner: it is very difficult now, with the immense number of patents that exist, to take out a patent in such words as to secure the privilege. . . . Do the original inventors of the electric telegraph derive much benefit from the present patent?—That depends upon whom your Lordship calls the original inventors. Messrs. Cooke and Wheatstone derived, I believe, a large sum of money from the electric telegraph; and I believe you will find fifty people who will say that they invented it also; I suppose it would be difficult to trace the original inventor of anything. . . . I dare not take a step in introducing any change in the manufacture of anything, because I am pounced down upon by one person or other who has patented something that resembles it. In your own case, if you have any workman in your employ who thinks that he has made a discovery, can he communicate it to you, and leave it to you to work out, or will he take it to somebody else who may enable him to obtain a patent for it, and so get an exclusive advantage?—In most cases it is as your Lordship last suggested, that the man's only idea is this, "Oh, I must take out a patent for this;" and if he came to me, I certainly should say, "I will have nothing to do with patents, and cannot help you." The chances are, and in practice it is so, that he immediately tries to find out some people who deal in patents, and to assist him in bringing this out as a patent, but always only if it can be patented. If no patent laws existed, do you think that at the time the discovery presented itself to the mind of this man, he would communicate it freely to you, and that you would make all the necessary exertions in your power to bring it into effectual operation?—I believe I should. I do not say that everybody would do the same; I think it would amount to this, that the man would think over it a little, and get it into a shape to do him credit, and then, if he had a good master, he would show it to him, and if he thought he could make anything of it, he would give the man a pound or two, which would be really earned, instead of hundreds being dreamt of but never touched. . . . I believe that one per cent. is very much beyond the proportion of patents that are good for anything. . . . The more you improve the patent laws, the greater the number that will be taken out. The number would be so great, that it would be impossible from any verbal description to be able to form an idea whether your invention is included in what another man has patented or not. . . . I think that might operate for a year or two, but only for that time. Other countries must drop their patent laws too,

if we do, as we should, by the next post, get the thing free. The patent must be in America as well, and as clearly defined, as in England, and which, according to our laws, must be sufficiently clear that a workman can make an apparatus, or a commonly intelligent chemist can follow the description in the specification. If that is done in America, in the same definite way, we should soon have the thing in England. . . . Speaking of concurrent inventions, you would say that that was by no means the best invention which wins the race?—I believe it is rarely so; the chances are entirely against it. I believe it is rare that the man most able to work it out, and who really has arrived at the best collection of ideas upon the subject, is the patentee. He generally finds himself anticipated by some more rapid projector?—Yes. . . . He ceases to feel any interest in the thing, and rather throws cold water upon it. . . . The result of your evidence is, that you are very decidedly of opinion that the whole patent system should be abolished? Yes, I think it would be an immense benefit to the country, and a very great benefit to that unfortunate class of men whom we call inventors, who are at present ruined, and their families ruined, and who are, I believe, a great injury to society.

Henry Cole, Esq.—I think if the public were free to plagiarise or pilfer inventions which result from the labours of inventors, the same principle might be extended to the results of every other class of human labour. . . . The public say to him, "Tell us your secret, and we will assure you against robbery." That seems to me to be the real view of the question. The Legislature steps in, and says, There being these two facts, the right of the inventor to keep his own discovery to himself, which is impregnable, and the wish of the public to get at and use that discovery, and to know all about it; you have to make the two desires mutual, and accordingly you make a kind of *bargain* with inventors. . . . You mean that he should, in the readiest manner practicable, have a right to obtain a patent, and then, that the effect of that patent should afterwards be whatever the law might determine it to be?—That is my view.

Matthew Davenport Hill, Esq., a barrister.—Have you ever paid attention to the law of patents?—Very great attention; I have been a good deal engaged in that part of the practice of the law. . . . Is not there another inconvenience inflicted on the public, namely, that the first patentee sometimes buys up subsequent patents for the purpose of suppressing them, in order to make his own machine still available?—Yes. . . . When actions are brought for evading patents, have you generally observed that the verdicts of juries have been in favour of the patentees?—The verdicts are almost uniformly for the patentee. . . . There is a strong bias in favour of inventors. . . . As between him and the defendant, it almost always happens that justice is on his side; as between the patentee and the public, it does not always happen that his patent ought to be declared a valid patent. . . . Whatever the plaintiff may have done, however he may have become possessed of the invention, so far as the defendant is concerned, it is

believed he has gained his knowledge from the plaintiff; that is the feeling of juries generally. . . . It results from that that a large proportion of the most useful inventions are patented, when they ought not, in justice to the public, to be so?—I will give your Lordships an instance: I was counsel against a patent for an invention for covering the interior surface of cooking and other vessels with enamel. The state of the facts was this: The invention had been made half a century before the patent was taken out; but at that time the cost of the materials for enamel was so great, that commercially the invention was useless; scientifically it could be performed, but commercially it could not. But the great progress which had intermediately been made in chemical manufactures enabled the materials to be supplied very cheaply indeed at the date of the patent. The former invention had been forgotten, and a re-invention was made. Now it was quite clear that that former invention would, upon being proved, invalidate the patent. The judge nonsuited the plaintiff upon some point which it is immaterial to mention, and afterwards, the matter was arranged between the parties; the defendant taking a license, which is a very common termination of patent disputes, it not being to the interest of either party to throw the invention open to all the world, but, if they can, to agree among themselves. . . . The parties then agreed, and there was an end of the litigation. . . . As the law at present stands, a patent might be granted for a less time than fourteen years; and it therefore would be nothing new in principle, though in practice it would be new, to grant a patent for a less term than that of fourteen years. . . . Do not you think that granting short patents for imported inventions would have the same effect that you contemplate the patent laws generally to have; would not it have a forcing effect, so as to introduce into this country inventions in use in foreign countries at an earlier period than they would otherwise come into use here?—Yes.

Mr. John Mercer, a calico printer, and have been so between thirty and forty years.—Have you ever taken out any patents yourself?—Yes, I have. . . . In manufacturing neighbourhoods, such as ours, within a few miles of each other, if one is before the rest in anything, they are all watching him. I will mention a case: We had a colour called gray, the invention of which was a very peculiar thing, and a very good thing for us while it was a secret; but one of our own servants was induced to steal it, and we had to put him in prison for it; we had to guard the place in which we kept our things, lest parties should get at the secret. In the case of the gray which you say was stolen, had not that invention been patented?—No, it was not; we printed a great quantity till the secret was stolen by one of our servants; it was analysed, and the secret was discovered; parties soon ascertained of what it consisted. . . . After the colour was stolen by the servant, was the price of the articles rendered much cheaper?—It is usually the case; but my memory will not enable me to answer that question in this particular case. . . . Would not the man of the character which you describe as being likely to invent be likely to get higher wages as a workman, if his master were to find that he was constantly

suggesting improvements in the mode of carrying on the business?—Yes, but in the practical and scientific part of the business the servant often is superior to his master, and frequently the master could not afford to take out a patent, so that for many valuable discoveries neither servant nor master gets the value of profit by the invention. Supposing you had never taken out a patent; you say the result of your first two inventions was to place you in partnership with another man, in some way or other the ability you showed would have put you in better circumstances even without a patent, would not it?—That is so. . . . Still you made money by your first discovery, which you did not patent?—A great deal was made by it.

JOHN LEWIS PREVOST, Esq., Consul-general for Switzerland, a merchant.—Is there an absence of invention in that country?—There is a good deal of invention, particularly in the watch-making trade. The process of manufacturing soda-water was invented at Geneva, was not it?—Yes, by Mr. Paul. . . . From your knowledge of Geneva, do you think there would be any risk in abolishing the patent law altogether, leaving this country in the same position that the Canton of Geneva is in in that respect?—As a matter of opinion, I think that abolishing the patent laws would be the best course. . . . Have you found that the absence of patent laws in the Swiss Confederation causes the Swiss manufacturers to be defeated in foreign markets?—No. . . . There is no want of persons to import them into Switzerland, although those persons thus importing them obtain no monopoly?—When a patent is taken out in France or England, the process is published; therefore it becomes the property of the public in Switzerland: the Swiss have access to the French or English patents. In that way the Swiss have the benefit of the invention without the charge of the license?—Yes. . . . I think some men are gifted with the power of invention, and will invent, without reference to patents. . . . I have an impression that the number of inventors in Switzerland is in proportion to the number in other countries.

WILLIAM WEDDINGE, Esq., a native of Prussia, a member of the Board of Trade and Commerce, and at the same time a member of the Patent Commission.—We merely grant a patent for a discovery of a completely novel invention, or real improvement in existing inventions. . . . If he does not set it to work, does he lose his patent right?—Yes, if he does not respect the admonition. . . . He is obliged to mention it to the head of the police in the town where he is residing, or in the country: he must mention that he has put it in execution, and he then receives a testimonial, which he is obliged to send to the Minister. . . . Are there in Prussia many infringements of the patent rights of patentees?—Very few. It seldom happens that another manufacturer invades the right of a patentee?—Very seldom; generally they prefer to get the permission of the patentee. . . . The decision as to the infringement is entirely an affair of the police?—Yes, only the discovery of the infringement. The police report to the Minister of Trade and Commerce?—Yes, if the parties are not satisfied with the decision of the police.

LIEUTENANT-COLONEL REID, Lieutenant-Colonel of the Royal Engineers.—Are you the author of any scientific work?—A work on the Law of Storms. . . . Your opinion is against the granting of all patents?—That is my opinion. I think the time is not come now, but that the time will come when the sentiment will generally prevail. From reading attentively, particularly the Report of the Committee of the House of Commons in 1829, which is nearly all in favour of the present views as to the expediency of cheap patents, I confess I came to a diametrically opposite view to most of the evidence given there. I was very much struck at finding that Mr. Redfield, who is a man of high reputation in the United States, entirely coincides with the opinion I had formed in the interval between writing to him and receiving his answer. . . . Have you paid any attention to the subject of whether, supposing the existing patent law to continue in its present or an amended state, it would be desirable that patents taken out for the United Kingdom should extend to the colonies?—On that subject I naturally thought a great deal. My opinion is, that it would be well to leave it to the colonial Legislatures to adopt any improved patent law or not, or to modify it, as they may think best suits the colonies which they belong to. Are they subjected to any inconvenience at present in consequence of the law of patents extending to them?—Yes, I think they are. I may take, as an example, the centrifugal machine lately used in the sugar manufacture. The planters in the West Indies are obliged to pay a royalty of sixpence a hundredweight upon all sugar which is made, besides paying for the patent. Colonies of foreign countries which may have no patent laws, by importing those machines from the United States, would have a great advantage in competing with us. If Barbadoes, or any of our West Indian colonies, were unshackled by the patent laws passed in this country, they would be able more cheaply to import this machine, and compete with the more advantage with slave islands. I would, therefore, recommend that any patent law now to be passed should not extend to the colonies. . . . I understand you to say that you were led to your present conclusions by an attentive study of the evidence taken before the Committee of the House of Commons in the year 1829?—Yes. I have had no practical knowledge myself of the working of patents. What were the circumstances which struck you most in that evidence as tending to show the inexpediency of the present patent system? I think I can only express myself in general terms, that, after reading attentively the whole Report, I was not convinced by the arguments which the advocates for the patent laws put forward. I certainly began reading with a conviction favourable to cheap patents; but before I read to the end of that volume, I had come to an opposite conclusion. Did not reading that evidence strongly impress your mind with the multiplicity, the extent, and the unavoidable character of the various difficulties and inconveniences which attend the existing patent laws?—There is no doubt of that. Did not it also impress you with the conviction of the impossibility of making any effectual struggle towards overcoming those difficulties?—I think so.

RICHARD PROSSER, Esq., a civil engineer in Birmingham.—Have you taken out patents?—About twenty, I think. . . . You think that there would arise no inconvenience to the public from a great multiplicity of patent rights upon every possible subject?—I do not think there would; one patent supersedes another. . . . Who generally make the inventions which are patented?—The majority are men who think they have an inventive turn, and when they have ruined themselves, they find out they have not; there are very few men who take out a patent twice. . . . Whatever may have been the origin of the law, do you consider that in this country, looking to the progress which manufactures have made, a manufacturer would not, unless somebody else had taken out a patent, and so got the power of taxing him for it, use a foreign invention which would enable him to produce more manufactures at a cheaper rate?—I think not, because other manufacturers would begin to compete with him when he had been at all the expense and all the trouble of proving that it would succeed; he would then have his workmen enticed away from him. The first manufacturer would do it at a serious expense, which the second manufacturer would avoid. . . . Is not it a hard thing upon me, supposing I am a manufacturer who have been employing a process for twenty years, to find myself dragged into a court of justice to defend my right of doing so, against a patentee who has merely taken the trouble of registering a patent for an invention which is worth nothing?—I do not see that it is, if the patentee has done it innocently. Supposing he does it fraudulently?—Then the only remedy is to make him pay the costs. Even supposing he did it innocently, would not it still be a hardship upon the individual who had previously used that process for a long period, to be obliged to resort to litigation to defend it?—Yes, but it would be equally hard upon an innocent man, who had spent his time and his money upon what he believed to be his own invention, to refuse him a patent. In that case it is his own act?—If a man took out a patent for an invention of which he believed himself to be the first inventor, and it was afterwards proved that he was not, the patent might be repealed. In that case, all the inconvenience which would arise would be, that he must prove that he has used the process for twenty years previous to the grant of the patent. . . . Does not the renewal of a patent depend upon the power of the party to satisfy the Privy Council that he has not been remunerated?—That he has not been sufficiently remunerated; I have known a patentee go to the Privy Council, who stated that he had got upwards of £70,000 by his patent.

SIR DAVID BREWSTER, K.H., LL.D., Principal of the United College of St. Salvator and St. Leonard, St. Andrews.—How would you ascertain the novelty of those ideas?—By means of a Board of Commissioners. . . . There would be a better way of getting it into this country if our Government would do what other Governments do, send some individual into foreign countries to look after the progress of the arts and sciences there, and report it to the Government. The Emperor of Russia has an individual in this country, who has been in all the workshops here and on the continent, to see everything that is done,

and to carry every invention which he sees to St. Petersburgh. Important inventions may exist abroad, and we may know nothing of them for years, unless there be an application for a patent. . . . It is, I think, a great mistake in this country that the Government do not take a deeper interest in these matters. . . . Enormous advantage, if it be true that advantage is derived from the importation of new and valuable inventions. If Russia imports such inventions, she undoubtedly acquires all the benefits which they are calculated to yield. Though Russia has imported those inventions, have the manufacturers of Russia thriven in proportion?—They have thriven, and they are thriving. It is a difficult thing to compare the effect of new ideas upon manufactures; there may be other causes which may keep down and depress those manufactures, even though the Russian Government takes the means of promoting them; but it cannot admit of a doubt that it must be for the advantage both of science and the arts that the Government should take an active part in promoting their interests in every possible way. . . . You think there is no inconvenience in there being in existence a great many useless patents?—Certainly none.

M. Louis Wolowski, a Member of the National Assembly of France, Professor at the *Conservatoire des Arts et Métiers*, and Professor of Commercial Legislation.—A proposal has been made to the Chamber to extend the period of patents to twenty or twenty-five years, of which I do not approve.

James Meadows Rendel, Esq., a civil engineer.—During the twenty-five years that I have been in practice, I have frequently felt the inconvenience of the present state of the patent law, particularly with reference to the excessive number of patents taken out for frivolous and unimportant inventions, which I think are much more embarrassing than the patents that apply to really important inventions. . . . I have found them interfere in a way that very much embarrasses an engineer in carrying out large works, without being of the slightest advantage to the inventors, excepting that in some cases a man who takes out a patent finds a capitalist (however frivolous the invention) who will buy the patent, as a sort of patentmonger, who holds it, not for any useful purpose, but as a means of making claims which embarrass persons who are not prepared to dispute questions of that sort. I think that in that way many patents are granted which are but of little benefit to the real inventor, serving only to fill the coffers of parties who only keep them to inconvenience those who might have occasion to use the particular invention in some adjunct way which was never contemplated by the inventor. . . . I have frequently found it to be so. For instance: after you have designed something that is really useful in engineering works, you are told that some part of that design interferes with some patent granted for an entirely different purpose, and which might in itself be frivolous, but important in the new combination; and one has such a horror of the patent laws, that one evades it by designing something else, perhaps as good in itself, but giving one infinite trouble, without any advantage to the holder of the patent. I have frequently found this to be the case. . . . As I

believe that it would inflict great hardship upon many deserving individuals to do away with patents entirely, and that the public are not prepared for such a thing, I think that we must endeavour to find out the best remedy we can for that difficulty. I certainly have often thought that it would be a very excellent check upon the avidity which ingenious schemers show for patents, if, after they had deposited a specification defining the principle of their intended patent, the subject could be investigated by competent people, who should say whether or not there was sufficient originality or sufficient value in the project to justify a patent. I do not see any other remedy for what is really a very great evil. . . . There was an invention some years ago of a file, or rather two files, placed at right angles to one another, for sharpening black lead pencils, instead of cutting them; that was patented, and, I believe, the patentee sold the patent for a very large sum of money. That is the class of things I was speaking of; merely two rough files about an inch long (short files) placed at right angles to one another, and between the rough surfaces the pencil was introduced, and rubbed between them, to sharpen it. . . . I think that the only justification of a Board at all is to remove out of the way a vast multitude of useless patents that are of no benefit to the inventors, not the slightest, and a great inconvenience to the public; and it is on that account that I think that if a court of the kind I have been supposing should be established to investigate a patent before it is granted, it would do good. Have you had your attention called to the question of patents in the colonies?—No, except as engineer to the East India Railway. I know of no patents which affect us. We had a little inconvenience the other day. We wanted to manufacture articles patented in this country, and we had to pay patent rights. It was a question whether we had not better buy the iron in India, and avoid the patent rights; and those cases, I think, are constantly occurring. The patent laws not being applicable to India, people will not unfrequently order things to be manufactured in India to avoid the license dues in this country; and the consequence was, that I made an arrangement with the patentees at about one-half of the ordinary charge for the patent in this country.

Joshua Procter Brown Westhead, Esq., a Member of the House of Commons, Chairman of the Inventors' Association for the Amendment of the Patent Laws.—I think that the sum specified by the Inventors' Association with which I was connected, appears, on the whole, to be reasonable and proper; that, I think, was £10 on the application for a patent; £10 at the time the patent is granted; and after the lapse of three years, a further payment of £40; and at the termination of seven years, £70 more, or altogether £130. . . . Are not those discoveries made by persons of a higher class, and with greater objects, than the persons by whom ordinary inventions are made?—Yes; there are some minds that never can be compensated for their efforts by pecuniary reward; they look for fame. Sir Humphry Davy and Sir Isaac Newton were stimulated by love of science and of fame; money had comparatively little charm for them. Would not a

much poorer or a much less educated man be desirous of obtaining the approbation of his fellow-men, if there were no positive inducement to keep his invention secret?—Yes; but nearly all men, who are connected with communities where the object of living seems almost to be that of making money, fall into that vein of feeling, and whenever they are stimulated, it is with the hope of acquiring money. Though the love of fame might stimulate some men to exert themselves, do not you think also that the expectation and hope of deriving some beneficial interest would operate as a great additional incentive to exert themselves to perfect an invention?—Yes; certainly I do. As to disclosing an invention, that would entirely depend upon the feeling of the party. With regard to Crompton, who was the inventor of the mule, he was most anxious to have kept his invention to himself, and would have been content to work it in his own garret; but the fact that he made so much better yarn than anybody else induced inquiries, and he found it impossible to conceal from the world the fact that he had an improved machine. He had no patent, but was ultimately rewarded by a Parliamentary grant of £5000. That was invented not under the stimulus of a patent?—No, nor yet for fame. He invented it to manufacture yarn in a superior manner, with the intention of maintaining himself. . . . I do not think it desirable to limit the number of patents, by shortening the term of the grant; but I think it very desirable that the public should not be annoyed by having the use of anything prohibited, as it were, by law, when there is no justifiable foundation for a patent. . . . Then, as respects the limiting of the number of patents, that should be done, I think, by the investigation that is proposed to take place. . . . A large number of vessels have been furnished with patent screws by the Admiralty. The whole amount of horse-power applied to such screws by the Admiralty is upwards of 12,500 horse-power. The Admiralty have paid at the rate of £2 per horse-power for the patent right on 2420 horse-power, and they decline to pay upon the remainder. . . . Is there any other point which you have to observe upon?—Another point which has been brought to my notice by parties interested in patents, is the question of an extension beyond the term of fourteen years, as is now usual, on the assent of the Privy Council.

Mr. Webster.—The usual term was seven years; there may be a second term of fourteen years, but there have been only two cases of extension for fourteen years; generally it is about five.

Mr. Westhead.—The complaint of the parties is, that on appearing before the Privy Council, and obtaining an extension of a patent, on the ground that they have not already received sufficient remuneration, they are put to all the expense of fees, just as though they were taking out a new patent.

Matthew Davenport Hill, Esq., Q.C.—While I am on the subject of provisos, if the Committee will permit me, I will call their attention to one against which I have a very strong opinion, and that is the limitation which is contained in all patents of the number of persons who may be interested in the patent, which is now twelve.

Before the time of Lord Denman becoming Attorney-General it was five; when it began to be five, I really do not know, but I think it was almost as soon as the Statute of James had passed. I cannot myself see any reason for a limitation, or for any interference with that kind of property as to its sub-division. What is the argument usually adduced in favour of that limitation?—It is supposed that persons will congregate in numbers, and thus, by their united influence and their united capital, gain some advantage over persons trading singly; it is a part of the class of objections which belonged to the notions of political economy that were prevalent in the reign of James I., but which are not received at the present time. Is it supposed that so large and powerful a body would take advantage of having the monopoly of an invention to refuse to grant licenses to any other manufacturer, and obtain the sole monopoly of the manufacture in which they are engaged for the term of years during which the protection lasts?—Perhaps it may be supposed so. You think that there ought to be no restriction?—None at all; and I believe that the Legislature practically acts upon that view, at least in many instances, because it is in the habit of passing private Acts to allow joint-stock companies to purchase patents, notwithstanding this clause, as in the case of the Telegraph Company, and in the case of Price's Candle Company, which passed the Legislature during the present Session, and so forth. But I must ask your Lordships' permission to add one suggestion; that with regard to this class of questions, a very important one for your Lordships' consideration will arise, and it is this: Whether you will, by an Act of Parliament, interfere with the power of the Crown in putting those qualifications, or any qualifications which it may deem right, into patents, or whether your Lordships will think that the rights of the public would be sufficiently guarded, and the convenience of the public service also consulted, by expressing some opinion in any Report which you may choose to make upon this subject, as to the manner in which a discretion should be exercised, without absolutely putting a bar upon the exercise of that discretion?[1] . . . When the Commissioners of the present Exhibition offered prizes, they offered a stimulus for artificers to employ their time and their money, that is to say, their capital, in producing some article in a degree of perfection, which the ordinary demands of trade, it was supposed, would not otherwise have produced. I will trouble the Committee with this further illustration: Your Lordships are aware that in the early part of the last century, about 1714, an Act passed, establishing the Board of Longitude, and giving authority to that Board to offer several prizes (the largest being £20,000) for a mode of finding the longitude within certain given limits. That prize stimulated, as we all know, Mr. Harrison to almost a life's labour, a labour of thirty years and more, in producing his chronometer, for which he obtained, eventually, the £20,000 prize. There then was an artificial diversion of capital, but it is one which has never been

[1] This part of the evidence is suggestive. The reason for the limitation lies deep. Its *principle*, if seen, would be recognised as sound and strong.

condemned. . . . Another illustration: Possibly some of the noble Lords at this table may have been members of a society which was founded by Lord Brougham in the year 1826, called "The Society for the Diffusion of Useful Knowledge." I was a member of it from the first, and I know that at the time to which I refer, it was not credited by the booksellers and publishers that there was so great a desire in the minds of a very large class of the working population of this country for literature suited to their wants, as, it afterwards turned out, actually existed. Whoever is acquainted with the state of books for the people at that time, knows that an inquiring man who had not had the advantage of a regular education, could not find books suited to his purpose. The Society attempted, and with some success, to supply this demand for popular literature, and in a very few years its very success made its further existence unnecessary; that success proved, to the satisfaction of the booksellers, that there was a large market to be supplied, and then, actuated by the ordinary motives of commercial men, they entered and supplied the market. The Society then suspended its operations, and has never been called upon to recommence them. I appeal to these facts, for the purpose of showing that it may require an artificial stimulus to institute commercial experiments, which, when they are made, show that there was a demand for the article, which might have been profitably supplied in the ordinary course of trade, if an individual or a firm had had sufficient capital, commercial courage and sagacity to explore it for themselves. But inasmuch as if any private person had tried the experiment, he would have had to bear the whole of the expense if it failed, and, on the other hand, if it succeeded, he would be immediately elbowed by a crowd of competitors, it appears to me that it must be almost obvious that there are and must be many channels for profit which are not opened, simply because there is no sufficient stimulus to try the first experiment. . . . I will add, that it lies upon those who advocate any particular bounty to take the burden of proof upon themselves, and to make out a very strong case. . . . I was counsel for Mr. Muntz. I speak from memory, when I say that at one time he had seven suits upon his hands, including those at common law and in equity; and he did not get rid of this mass of litigation till within two years, or within two years and a half or three years before the expiration of his patent. Now, I believe, thoroughly, that inventors would gladly compound for a shorter term of patent right, if after a certain time of probation their patent was unimpeachable; say the public should have a right to impeach their patents for two or three years after the patents had been granted, but that then it should not be open to do so.

John Horatio Lloyd, Esq., a barrister.—An extensive practice in reference to patents. . . . The conclusion to which I have come, unwillingly I must say, is, that I consider the patent laws objectionable in principle, practically useless, and even injurious. . . . I think inventors, as a class, would be much better without them. In the first place, you stimulate and incite a class of men who hardly need it, who

are themselves naturally of a sanguine turn; you incite them in pursuit of a shadow, which is continually apparently within their grasp, but continually eludes it. I find, in fact, that for one inventor, or supposed inventor, who succeeds, there are fifty, or perhaps a hundred, who fail; and although the history of invention may be a record of progress and of triumph, I suspect the biography of inventors would be a very tragic story indeed. My experience, and I have had a pretty large acquaintance with inventors as a class, leads me to the conclusion that this incitement operates injuriously upon them; it is like seeking a prize in a lottery; the man is continually putting down his stake in the hope of getting a prize, and of course in ninety-nine cases out of a hundred he gets a blank. If all those persons who make inventions which are not useful are injured by the false stimulus which has induced them to do so, how stands the case with regard to the inventors of true and valuable inventions?—It is, of course, an unpopular opinion to express, and one which one gives with great diffidence and hesitation; but even in that case I think they would be better without the bounty, granted, or intended to be granted, in the shape of a monopoly. The diffidence you express has reference only to a courteous consideration of the parties concerned, and not to any doubt in your own mind?—Not to any doubt in my own mind, but simply to this, that any man who expresses an opinion which is contrary to the general current of opinion, ought to express himself with diffidence. How do you imagine an inventor would obtain a reward for his ingenuity, and a compensation for the loss of time he has incurred, if he did not obtain the monopoly which is supposed to reward him in a pecuniary sense?—I think there are many considerations which must enter into the question. In the first place, the class of meritorious inventors is a much narrower one than people suppose. Of the few whom I have ever known who were really meritorious inventors, I do not think I have known one who has derived material benefit merely from the monopoly given to him by the patent. They have derived benefit, but they have got it in other ways, quite independently of letters-patent. In this country, and in the state of society in which we are now (I am not speaking of an early state of society, where it may be necessary to stimulate and encourage, but of an advanced state, like the present), there is no kind of talent, practically useful, which does not command its market value. I know practically, that persons who have the inventive faculty do turn it to good account; that they do, without letters-patent, receive sufficient encouragement from those whose interest it is to reward and encourage them. Of the larger establishments in the manufacturing districts of Lancashire, there is scarcely one in which mechanics, known to be of inventive talent, are not regularly kept. Those men are continually observing and continually suggesting; they are valuable to their employers, and they are remunerated accordingly. If you take a man out of that category, and propose to encourage him by giving him a monopoly for every improvement which he may strike out, in the first place, you prevent his mind from following the bent and direction which it has received; you stop him suddenly; you fix and stereotype him in one idea, and

thus you not only deprive the public of the advantage which it would have from his following out that train of thought, and working upon till he brought it to perfection, but you injure the man himself; you divert him from that which is his legitimate occupation, and the legitimate exercise of his peculiar faculty, and you set him dreaming about making a fortune. I speak, of course, always with diffidence; but so far as my observation goes, there is no man who has a practical talent that will not find his reward for it. It is not monopolies which make Watts and Stephensons and Brunels; and to come down lower, it is not by letters-patent that you can best reward the humble mechanic who makes and communicates valuable improvements. One object which you said was thought to be obtained by the granting of patents was, that it induces persons to make their inventions known to the public?—If you look at it with respect to the public only, it seems to me that you do not want that inducement. There will always be persons who will invent, and an inventor will always communicate his inventions. It is a necessity of his nature that he should do so; and even if he did not, inasmuch as invention is not a creation but a growth and gradual development, there will always be found some other mind about the same time which will have hit upon the same idea, and the public will not long be deprived of the benefit. The truth is, the idea will be communicated whether you have letters-patent or not, either by that person or some one else; whereas the evil on the other side is, I think, obvious. You rather check the disposition to communicate than encourage it, because the moment you give a man an inducement to protect his invention by letters-patent, and an exclusive privilege, that instant his object is not freely to communicate it to the public; he begins rather to consider how he can best disguise and keep away from the public that which is the real merit and principle of his invention; so that you rather do harm than good in that respect, as it seems to me. . . . What are the principal objections to the system as regards the public?—It seems to me that the one I mentioned before, that you check and retard the progress of invention as respects the inventor himself, is an important one. Secondly, you impede and obstruct other inventors. With the present swarm of patents, for every day there is a fresh litter of them, a man who is really desirous of making improvements finds himself obstructed at every step; he is in constant danger of falling into some pit-fall, or stumbling upon some other man's invention. He cannot make progress in the line that his own mind would direct him in, but he must look about and see, "Am I touching upon this man's patent? Am I trespassing here? Am I quite safe in going on in this other direction?" In this way the public does not get the best invention which it might; it gets that which a man can give without subjecting himself to the tax of a license or to a lawsuit, for touching another man's supposed invention, some crude, imperfect, undigested idea perhaps, but yet enough to prevent his treading upon the same ground. . . . I think the natural tendency of a man who fancies he has hit upon something new, is to communicate it in some shape or other, either through the medium of others, or by publication on his

own part; the public is sure, sooner or later, to be made acquainted with it. Are not all the discoveries in science, which are discoveries of principles rather than of their practical application, now daily communicated to the public, under the stimulus of the public reputation, to be obtained by making such discoveries?—It seems so to me; I do not think there is any great discovery of modern times which has been kept back for any long period. Those discoveries only, which, having an immediate practical application, and therefore are susceptible of being made productive of profit, are the inventions to which persons wish to apply patent privileges?—Precisely so. That being the case, do you think, in the present active state of the public mind, there is any danger that any such invention, if not made known under the premium of patent privileges, would be finally and entirely lost?—I think not. Do not you think that if any particular and great invention were lost in a particular case, in the existing state of the public mind, there being a practical demand for some such discovery, you may safely assume that such a discovery would be made a second time?—I feel confident that it would be so. The danger of the loss of inventions through non-publication merely amounts to the danger of some delay in the re-discovery of them; that is the full extent of the evil, upon any supposition, is not it?—It would seem so from that reasoning. It seems to me that there is a little misunderstanding in the public mind generally, as to what an invention is. An invention I take to be a different thing from a discovery in the sense in which the noble Lord speaks of it. An invention is, for the most part, the application of some known law, or some principle, to a new subject, so as to produce a novel result. Take Appold's centrifugal pump, for example; there is nothing whatever novel in the principle. The centrifugal force is a thing practically known to every boy who has hurled a stone from a sling; it is the application of that law to the lifting of water in which the novelty consists. Now this is a good illustration of what I consider to be the irremediable defects of the patent system. Suppose Appold had thought fit to patent that invention (which he has not done), what could he have patented? Not the principle, not only because such a patent would not be good in law, but because it is clear you could not make a principle the subject of a monopoly; not the result produced, for that is not a manufacture. He could only patent Appold's pump, that is to say, a particular machine by which, in a particular mode, water is lifted up. That is a meritorious invention, no doubt, because the idea of applying the centrifugal force to driving water into a confined reservoir, and so up a vertical pipe till it reaches a certain level, is a very pretty and novel idea; but if he came to patent it, he would be attacked on all sides, and the more useful and valuable the invention, the more it would be attacked, and the more infringed; and how could he protect himself? He must, as I have said, patent this particular machine; but there is scarcely a part of that machine, if there be any part, which is not perfectly well known, and familiar: even the idea itself is not novel. The fan-blower to a furnace is the same thing, the only difference being that there it is air which is collected at the centre, and forced out at the circum-

ference of the wheel, instead of water. The common rotatory bellows is the same thing, therefore he could not protect that. The steam-engine, or wheel turned by hand, which gives the rotatory motion, and so generates the centrifugal force, clearly could not be patented. The forcing of water by pressure, or a power of any sort, up a tube to a higher elevation, is not a matter that could be patented; it is perfectly well known. So that if you take the invention to pieces and analyse it, there is scarcely a thing in it which is novel. I doubt whether even the combination itself could be made the subject of a patent; yet here is clearly a meritorious invention. Now, supposing the inventor had been a poor man, and had desired to protect his invention, see what he would have been subject to: First he must have gone to the capitalist for means to construct the machine and bring it before the public; he must have incurred a considerable outlay in order to obtain the patent; that is the first outlay, and by no means a trifling one. But when speaking of amending the patent laws by reducing the cost, people forget that there is a vast deal beyond that which the inventor has to contend with before he can secure to himself the exclusive privilege. Here is a machine which anybody, by a little change of combination, may construct, so as to make it appear a different thing; it may still be a forcing pump; it may even be an application of the same force to the same purpose, and yet it is not the same machine; possibly he has to litigate with that person. After half a dozen lawsuits with people who infringe his patent, he is himself attacked on the ground that the patent is not novel, and he has to meet that attack; he may succeed in one or two cases, he may fail in another. The greatest satire I have ever known passed upon the patent laws, I found the other day in a pamphlet published by one of the most eminent practitioners in that branch. He says that, as a general rule, where men are plaintiffs, and sue for an infringement, they succeed; where they are defendants, being sued under a writ of *scire facias*, they fail. Well, the patentee goes through all that ordeal, and last of all, at the end, perhaps, of the term for which his patent is granted, he finds himself, if he were a poor man, reduced to beggary; if he were a wealthy man, much poorer than when he began. I have seen that so often to be the result, and so painfully, that I cannot divest myself of the conclusion to which I have come. It has sometimes occurred to my mind whether a tribunal might not be suggested which should give, in a less objectionable shape, bounties to those who are meritorious inventors; I have thought about it a good deal, for these things have been for twenty years passing through my mind, but I did not find it practicable according to the best consideration I could give the subject. . . . If I were called on to make suggestions, I should not be unwilling to do so; but having a strong opinion that nothing can remove the objections of principle, and that ultimately you will hardly have done much good, perhaps rather have aggravated some of the evils by attempting to amend them, I should not feel disposed to volunteer any suggestions of that kind. . . . Disappointed men lay the blame upon the wrong shoulders. I do not think the fault is in the law, I think it is in the

system. . . . In giving this opinion against the law of patents, can you have any personal interest in the abrogation of that system?—Not the least; I am in the habit of drawing specifications, and in the habit of advising upon them; what I have stated as my opinion is, in fact, a conclusion forced upon me. I have occasionally expressed this opinion, and have found certain persons whose judgment I respect agree with me in it. . . . Do you find great difficulty in drawing specifications?—Exceeding difficulty. It is impossible to over-estimate the difficulty. Does that difficulty arise from the instructions of your client, or does it arise from the nature of the subject generally?—It arises from the nature of the subject mainly. I could point out what the exceeding difficulties are. You have to avoid, on the one hand, such generality as will bring you to a principle only. On the other hand, you must avoid that particularity which would lead to easy infringement. You are to keep off everything else which has been done and has been made the subject of a patent in the same direction. Therefore, what with qualifying, and what with particularising, and what with seeking to make the matter as comprehensive as you can for the benefit of the inventor, and what with the inherent imperfections of language itself, and the difficulty of accurately expressing technical matters, the task of drawing a specification is one of extreme delicacy, and even nervous responsibility. And at last there are very few which go out free from danger. Nobody can be said to be sure of a patent till it has been tested by the ordeal of a trial, or two or three trials. . . . Is there any other observation which you wish to make to the Committee?—It occurred to me at one time that there might be a council or a board, such as the Royal Society or the Society of Arts, and that inventors might be encouraged to submit their pretensions to such a board, who might report upon them, and recommend them for State bounty. The practical difficulties which occur upon that seem to be these: Either the investigation is *ex parte*, or it is not; if not *ex parte*, and you invite objectors by public notice, the only persons who would come to object under such circumstances would be rivals. You would thus practically arrive at the same evil which it is sought to avoid, viz., litigation upon a disputed patent, and that before a tribunal even less competent to dispose of the question than the existing tribunals—not less competent in respect of knowledge, but because it would have less means of arriving at a conclusion upon facts, and no means of ascertaining all the facts. The inquiry itself would be conducted without principles, if one may say so; and again, not having the character of a judicial proceeding, it would be subject, unconsciously and unintentionally, to influences which do not and cannot affect judicial tribunals, so that you would seldom obtain a satisfactory result. And then, as it seems to me, there is no criterion by which you can determine the merit of the inventor. Some men will suddenly and without any labour conceive and mature an idea which may be very valuable, and may claim to be rewarded for that invention, and perhaps properly, because the utility may be considered to be the true measure and principle of the reward; there are others, again, who expend a life, and devote their energies, their time, and their money,

to the pursuit of an object which, perhaps, when attained, may not be so valuable. The question then arises, whether all this should be taken into account in estimating the claim of the inventor to a bounty.

CHARLES MAY, Esq., of the firm of Ransomes and May, Ipswich.—I know a case now of a patent which contains that which is good, but which, I believe, might be used entirely as an obstructive patent to a further improvement, and it is a patent which has not been used. You are both an inventor and a patentee yourself?—Yes, I am; I have taken out a considerable number of patents. . . . My own experience as to what I may term, not legal costs, but the patent agent's costs, is that they may vary from £40 to £100 in addition to the fees. . . . I think there is only a very small proportion of the number of patents which even pay their cost; some few pay enormously. . . . Does the payment generally find its way into the pocket of the real inventors?—Yes; I think fairly so. There will be some cases in which inventors have sold their patents, and others have taken them up, but I think that in these cases the inventor himself would never have worked the patent; therefore he is benefited by the capitalist taking it up. . . . Have you never been attacked for the infringement of other persons' patents?—Never; we use a vast number of patents, and have a great many brought to us and offered to us in various ways. Our constant rule is, even if we know a patent is bad, if it is but useful, always to pay for it. I never intentionally infringed a patent. The cost of getting into Chancery is such that no one would incur it who could avoid it. Are you liable to infringe a patent without being aware that you are so doing?—We are, to some extent, liable to that. I think we once or twice have had a case in which we infringed without knowing it; but immediately on being told of it we made terms. . . . There are some patentees who are very obstinate, but as a general rule we have no difficulty in making terms. You state that you are not inconvenienced from the necessity of avoiding patents, because you purchase the privilege of using them?—I would not say we are never inconvenienced, but no serious inconvenience arises; we do sometimes find a little difficulty in the way, and it obliges us to negotiate. It rather sets our wits to work to try and devise something better. . . . I think the public get served on the whole at moderate prices for new inventions, and that new inventions are brought forward; at the same time, I am quite ready to admit that the thing has been very much abused, and I think the whole manner of granting patents has been very much the cause of that abuse. Do you think that the bounty which a patent-right presents to invention is requisite in the present advanced state of ingenuity, and in the present very active condition of the public mind upon that subject?—That is a large question, which I confess has been before my mind a great deal; and, as I have before stated, if the subject were broadly and fairly broached among all inventors, as to whether patents should be entirely abolished, I think, as holding patents and as being an inventor, I could look at the thing in an unprejudiced manner, but I doubt whether so large a change could possibly be made hastily. I

think if that event come to pass, it must be slid into, as it were, rather than be entered on by any violent measures. The capital, and the various interests vested in patents, I should think, must amount to a sum which would be almost incalculable. . . . Men of high standing, not pursuing a thing for their livelihood, would promulgate to the world a great deal of what is beneficial, as is now done; but I very much doubt whether some important branches of manufacture would be carried out, except under a sort of guarantee that the result of their labour would be secured to them for some limited time. . . . The most important inventions, I think, as far as my experience goes, have arisen from persons in their own line of business carrying out some new ideas in that business which they are at work at for their livelihood. . . . The class of inventors are certainly the creation of the patent law.

The Right Honourable the Master of the Rolls, and Mr. Solicitor-General, Members of the House of Commons.—When you state that you think, practically, only those functionaries whom you first named would take an active part in the proceedings, do you mean that they would take an active part in drawing up rules, or do you mean that a still smaller number would act ministerially, with regard to granting patents?—It is to be observed, that they are to be united with certain other persons whom the Queen is to appoint to be Commissioners. I have no doubt, practically, it would be found that those persons so to be united with those functionaries would be the persons upon whom the labour would principally fall, and that, in fact, the others would only be occasionally employed for the purposes of checking them, or giving them any assistance which, from their knowledge, might be found necessary or convenient. You think it would be necessary to have some legal functionaries of that description to check the other examiners, even though it should have the effect of somewhat diminishing the responsibility of the other Commissioners?—I think it essential that you should have some one to check the Commissioners, and for that purpose it seems most natural to employ the persons who have hitherto been most conversant with the subject of patents. . . . The ministerial duty will fall upon the examiner who is to examine the objections made to patents, and upon the law-officers, to whom there is to be an appeal. . . . It appears to me that it would be desirable that you should require that man to state that there had been some user during that long period. I have been told of a case, though I cannot give it as a fact in evidence, of a useful invention in oil for lamps, making them give a very brilliant light. It was thought to be exceedingly useful, and the patentee had a very large sum offered him for his invention soon after it came out. It has been bought up, and has never been used; and the patentee has discovered that it was bought up by the gas companies, the public being thereby deprived of the use of it.

Mr. Webster.—I know it was said in the case of gun cotton, that it was bought up by the powder manufacturers.

To the Master of the Rolls.—Do you see any objection to a condition

requiring user being introduced?—No. In your opinion, is it possible to devise a system of patent law which shall confer advantage both upon the inventor and the public?—I think the principle of the patent law is very defective. I think it is a wrong principle to reward inventions by giving a monopoly; and I also think that the inventor does not get the real benefit of the patent. In the greater number of cases, I believe that the person who takes out a patent, and who makes the patent useful, is some one who finds out the little thing at the end which just makes it applicable and useful. All great inventions, I think, are arrived at by a long series of steps; and those persons who have made the discovery of the great principle upon which they are founded, are not the persons who really benefit by them; I think the system is defective in principle.

To Mr. Solicitor-General.—Does your opinion upon this subject coincide with that of the Master of the Rolls?—It is a very wide subject, which appears to me to require a great deal of consideration; it is connected with the question of copyright and many others, which involve many very important considerations.

QUESTIONS addressed by the Committee to JOHN LEWIS RICARDO, Esq., a Member of the House of Commons.

Are you a patentee?—I am, a very large one. . . . The result of my experience and my observation has been a conviction that the whole system of granting patents at all is very injurious to the community generally, and certainly not of any advantage whatever to the inventor; I consider that it is in a great measure a delusion upon the inventor to suppose that the patent privileges which are granted to him render his invention more valuable than it would be, supposing there did not exist any monopoly with regard to it. Do you know of other persons who would support that view of yours?—I believe it is generally supposed, and I have heard it said that all authorities, both legal and economical, are in favour of a departure, so far as regards patents for inventions, from the strict rule of political economy, which inculcates that there should be no such thing as a monopoly; but I have taken some trouble to look into the question, and I do not think that that opinion is borne out by what is exactly the truth. M. Say, who is one of the greatest French political economists, says, that "he considers a patent as a recompense which the Government grants to the inventor at the expense of the consumer." He says further, "Ce qui fait que les Gouvernements se laissent entraîner si facilement par ces mesures, c'est d'une part qu'on leur présente le gain sans s'embarrasser de rechercher par qui et comment il est payé, et d'une autre part que ces prétendus gains peuvent être bien ou mal, à tort ou à raison appréciés par des calculs numériques, tandis que l'inconvénient, tandis que la perte affectant plusieurs parties du corps social, et l'affectant d'une manière indirecte, compliquée et générale, échappent entièrement au calcul." Then there is the opinion of Lord Kenyon, which I would also quote, that was expressed in giving judgment in the case of Hornblower against Bolton. He says, "I confess I am not

one of those who greatly favour patents, for although in many instances, and particularly in this, the public are greatly favoured by them, yet, on striking the balance on this subject, I think that great oppression is practised on inferior mechanics by those who are more opulent." Lord Erskine stated that the "ideas of the learned Judges had been very different as to the advantages to the public since the Statute giving those monopolies." And Lord Bacon, in that part of his works entitled *Advice to Sir George Villiers*, says, "'Especial care must be taken that monopolies, which are the canker of all trading, be not admitted under the specious pretext of public good." I have ventured to quote these authorities, because I know it is generally stated that all authorities, economical and legal, are in favour of the system of granting patents for inventions. Will you describe your own practical experience as to how you think the present system affects the public?—The most obvious way in which it affects the public is, that during the term of a patent a patentee can charge a higher price for the article which he manufactures than will give him a fair trade profit. Naturally his object in obtaining a patent at all is that he may have the whole control of the market. Of course he uses that control to charge a very high price for an article which otherwise would be manufactured for a much lower sum. How does the system affect the question with respect to the competition between foreigners and the manufacturers of this country?—I am speaking, of course, of patents as they regard this country. The system affects this country, in my opinion, very injuriously, because, if a thing here is worked under a patent, whereas abroad it is worked under a system of free competition, naturally the article would be much cheaper abroad than it is here. That tells more particularly in any process of manufacture. Supposing there be a patent for only one part of a manufacture, all the manufacturers of that article abroad may use the process of the patentee; whereas only one manufacturer in this country, the man who holds the patent, is enabled to use that particular process in making the article in which the whole trade competes with foreigners in third markets. . . . My opinion must be still stronger that no invention should be imported into this country and used as a monopoly, because I conceive that the only possible excuse (though it is one the validity of which I do not admit) for granting a monopoly would be that it encourages English inventors. I do not know whether it is worth while to call the attention of the Committee to a circumstance which happened long since, showing how the course which I have just mentioned in respect to competition in any particular trade works. When the French East India Company was first established, they had a monopoly for trading with the Indies; they found, notwithstanding that they had the whole trade in their hands, they failed altogether. . . . The whole East Indian trade was directed upon the Netherlands, and France lost the trade completely, which went into the hands of her competitors. That is an instance showing how free-trade will always work cheaper, better, and with greater advantage than a trade under a monopoly of any description. That affects rather the question of general monopolies than the monopoly granted to an inventor, does

not it?—I look upon the question of a monopoly with respect to a particular trade as being in exactly the same situation as a monopoly respecting any particular invention. The object of a patent is to monopolise a particular trade. Any charter granted to a company for any particular trade, in my opinion, is in exactly the same position as a patent granted to an individual for any particular machine or manufacture. . . . You stated that you yourself were possessed of a great many patents. Are all those patents which you use beneficially for the purposes of the public?—No. I am speaking now more particularly of the company of which I am chairman, the Electric Telegraph Company, in which I have a large interest. Many of those patents have been bought by us simply to avoid litigation; it is always much cheaper to buy a bad thing, and have it as one's own, than it is to litigate it when it is brought into competition against you, because though it may be a worse thing than you have already, yet still, in other hands, it interferes very much with the monopoly you have in respect to your patent. It is necessary for a patentee to litigate the infringement immediately that it is put into practice, and therefore he makes this calculation: As it will cost me £3000 to bring an action against this man for an infringement of my patent, and he offers to sell me his patent for £2000, I think I had better buy it of him than incur the expense of the action. . . . Between the years 1837 and 1848, there were on an average 450 patents taken out every year, for which a sum was actually paid at the offices for taking out the patents of £217,460. The average now is upwards of 500 patents a year, which will make something like £250,000 paid in ten years for patents; this does not of course include the expense of experiments and getting up specifications, and the enormous amount which is expended upon law, and paid to patent agents, and in defending patents afterwards. It is impossible to estimate this even approximately, but it must be very enormous. How is that money to be recovered by the patentee?—It can only be recovered by taxing the community to that extent. A man always calculates his profit according to what it cost him to manufacture the article. If he has paid £10,000 for his patent, it is quite clear he must receive interest upon that £10,000 before he can make any profit; and if he has invented half a dozen things, five of which have failed, and the sixth succeeded, he must take the whole of the six into his calculation before he can fix such a price upon his article as would give him a profit. It seems to be admitted by the Government, and by all Governments, that it is not fair to allow anybody to fix his own price for an article which he sells: there is, I believe, generally a clause in most grants of patents by which the public service is exempted from the operation of that particular patent, so that one injustice, the injustice of allowing the seller to fix his own price, is met by another, which allows the Government, as the buyer, to fix its own price in anything relating to the public service. I will take, for instance, the case of the marine glue, and Morton's patent slip, and several other cases, in which the Government have paid not the slightest attention to the rights of the patentee, but reserved to themselves the power of fixing their own

price, which seems to me to be a kind of admission that the whole system is one which is not quite fair to the public, as it is shown by that that they do not consider it fair to themselves. I wish to call the attention of the Committee to this fact, that it is generally supposed that the clause in the Act of James, by which patents for inventions were not exactly instituted, but continued, was introduced with a view of encouraging invention. It seems to be rather an anomaly that the Act which abolished all other monopolies should have instituted and recognised this one. I have taken some trouble to look into the matter, and I think it is quite clear that the object of continuing the patent privilege to inventors only was for the purpose of raising revenue, and not for the purpose of encouraging invention. There were certain exemptions which were made in respect to monopolies which were already in existence: there was one exemption which had, in respect to certain charters, been granted for printing; I believe there is one monopoly still in existence for the printing of bibles and prayer-books. There was an exemption in respect of saltpetre, gunpowder, and cannon-balls. Now those manufactures belonged to the King, and he sold gunpowder to the public at his own price, and maintained his monopoly simply for the purpose of revenue. There was another monopoly of alum: the monopoly with regard to alum was granted, originally, in the time of Henry VII.; it was granted for the importation of alum; but after that, a discovery was made by which they were able to manufacture alum in this country, and the King took the monopoly of this trade into his own hands. In 1608 there was a patent granted for manufacturing it in England, and he of course exempted that, when he abolished all other monopolies. The glass monopoly, which was another exemption, was one granted to one of the King's favourites; and also that for smelting iron with coal; that was granted to Lord Digby. And there was another monopoly granted in 1625, the year afterwards, to the Duchess of Richmond for making farthing tokens, which could have nothing to do with encouraging invention. Immediately on the passing of the Act of 1624, a great many of the most absurd inventions were brought out; patents were granted for every one of them. There was one "for making compound stuffs and waters extracted from certain minerals to prevent ships from burning in fights at sea;" for that grant 40s. a year was paid into the Exchequer. There was another "to multiply and make saltpetre in any open field of four acres of ground sufficient to serve all our dominions." There was another "to raise water from pits by fire." There was another "to make hard iron soft, and likewise copper tough and soft." There was then "an instrument called the Windmate, very profitable when common winds fail, for a more speedy passage of vessels becalmed on seas and rivers." There was one called "the Fish-call, or Looking-glass for Fishes in the Sea, very useful for fishermen to call all kinds of fishes to their nets or hooks, as several calls are needful for fowlers to call several kinds of fowls or birds to their nets or snares." I give these as a specimen of the sort of things for which patents were granted. I could give fifty more equally if not more ridiculous. All these paid a yearly rent into the Exchequer,

more or less. It seems to have been almost arbitrary what amount should be paid, but those patents were granted on payment of a yearly rent; so much so that it was supposed, and it is stated by Macpherson in his *Annals of Commerce*, that the King derived £200,000 a year from those patents which he had granted. Not only did he grant patents for inventions so absurd as these, but he granted patents, among other things, for publishing lists of the prices of different articles; a patent for importing horses, another for exporting dogs, another for bringing water to London; and there was one, I believe, for letting out sedan chairs, and various monopolies of that kind; so much so, that there was a great deal of discontent in the public mind with respect to all those monopolies and privileges which were granted. Accordingly, in the year 1639, there was a proclamation—the date of the Act being 1624—in 1639, fifteen years after the Act was passed, there was a proclamation abolishing a great many of those privileges and patents. The preamble of the proclamation states, that "Whereas divers grants, licences, privileges, and commissions had been procured from the King on pretences for the common good and profit of his subjects, which since, upon experience, have been found to be prejudicial and inconvenient to the people, and in their execution have been notoriously abused, he is now pleased to declare these following to be utterly void and revoked." Then there follows a long list of privileges and commissions which had been granted, and among others, it states, "All patents for new inventions not put in practice within three years from the date of their respective grants;" so that it seems quite clear that the object of the patent privilege for inventions, which was enacted in 1624, was not so much for the encouragement of inventions as for the purpose of raising a revenue independent of Parliament altogether. . . . I have heard of a great many plans to avoid law expenses; I have myself been engaged in, and had the management of, very large undertakings, where the object has been in every possible way, and by any practicable arrangement, to avoid legal expenses. I have always found lawyers enter most readily into any such arrangements, because they are quite satisfied that your attempts to avoid law generally end in more litigation than you would have in the natural course of things. [!] . . . The first thing an inventor does is to take the invention to a party who is engaged in the trade to which his invention refers. In nine cases out of ten he sends him away; he then shows it to somebody who does not understand anything at all of the trade; that has happened to myself. The parties who take it up are not in the trade, and they bring out the invention in opposition to the trade themselves. They have great difficulties to contend with, and it must be a very good invention if it succeed. I think experience will show that in most cases where any very large and extensive improvement in manufactures has taken place, it has not been through people engaged in the trade, but people totally distinct from the trade itself. . . . By means of the patent system you create two distinct interests—the interest of the workman in opposition to the interest of the master. The natural course would be, and what I think is the fair and proper relation between master and servant, that when the workman sees any improve-

ment in any part of the machinery, he should tell his master of it; and if it is adopted, I think in ninety-nine cases out of a hundred, certainly in every case in my experience a reward has been given to him, in proportion to the utility of his invention or his improvement. If his employer will not do that, he refuses at his own peril, for it soon gets known that this workman has improved this or invented the other, and therefore he is put at his real value. Every manufacturer is anxious to get him into his employ, and he would command exactly what is the real and proper value of his ingenuity in the labour market. As the case now stands, instead of working in that fair and more agreeable manner both to the master and to the workman, the system is, that the workman is always setting his wits against his master to supersede something that his master has got. Everything is now done by machinery, and unfortunately nearly everything under patent, and there is no patentee and very few manufacturers who do not hate the very sight of anybody who can improve or invent. They discharge a workman sooner for inventing an improvement than for anything else. They do not want any improvement made; they want to work by the machinery they have, and they do not want any improvements, because they know they will have to pay for those improvements a monopoly price, or if they do not, they will be taken from them, and sold to some one else to come into competition with them. . . . It is incredible the number of inventions which are made which have been invented before. In the case of the Electric Telegraph Company, the company hold a very large number of patents, because they make it a rule, if a man offers reasonable terms, to buy any invention, however bad it may be, sooner than litigate it. They find it is much cheaper to pay black mail than to litigate an invention which may be set up against them. It has happened to us, not once, but I think twenty times, that a man has brought to us an instrument of great ingenuity for sale; we have taken him to a cupboard, and brought out some dusty old models, and said, "That is your invention, and there is wheel for wheel, generally." Nevertheless he has, in fact, invented it. The ideas of several men are set in motion by exactly the same circumstances. . . . I will not, at the same time, venture to assert that the Royal Society, or gentlemen of great scientific attainments, might not be able to discriminate in such matters. I think those gentlemen themselves are far more entitled to reward than many of these inventors; those great scientific men are generally the originators of all great inventions which are made. They undergo a great deal of labour, and are at great expense of time, and they discover certain scientific principles, which principles they disseminate without fee or reward. They are published in Mechanics' Magazines, and all the papers which mechanics read. Those men adapt them, and then come for a patent to obtain the reward. . . . Do you think the stimulus of the patent system necessary for the purpose of producing inventions useful to the community?—I must say I do not think so at all. If one looks back to the times when the most important inventions were produced, they were all made without any patent at all, so far as we can discover;

for instance, arithmetic, writing, and all the first great inventions to which we are all so habituated, that we scarce think they have been invented any more than the flowers or the trees: they were mighty inventions in their time. All those were produced without any stimulus of patents. . . . It appears to me that it is the natural bias of man's mind to go on improving; improvements do not come all of a sudden. An invention does not come on a sudden; it is born of the various elements by which a man is surrounded. If a man lives in a factory his mind is naturally turned to the improvement of every process he sees, and no manufacturer would fail to improve that process; no mechanic would fail to make suggestions to his master for the improvement of that process, even supposing there were no patents at all. All the great inventions now are made without patents. . . . I do not believe that if you were to promise to Mr. Stephenson or Mr. Brunel a monopoly in engineering inventions, you would stimulate them one bit more than they are now stimulated by the honourable rivalry which they have one with another. You stimulate the making of bedsteads, and beer, and belts, and bands, and blocks, and bedding, mentioned in the Index to Patents, and all that kind of thing, but you will seldom find a patent taken out for any wonderful and extraordinary public improvement; it is simply those trivial things which patents are obtained for. If your Lordships will take the trouble of looking over Carpmael's Index, you will find the absurd things which patents do encourage; and it is something humiliating to know that people think it worth their while to take out patents for them at all, and that there should be a law to enable them to do it. . . . If you admit patents at all, I have no doubt that there are many tribunals far more competent to judge of the merits of a patent than those before whom they are now argued. . . . We have expended nearly £200,000 in buying patents and litigating them; but we find, after all, that the original patent is by far the best, and the most suitable for practical purposes. You gave a large sum for that patent, did not you?—Yes, £140,000. . . . Among those patents which you say are useless in themselves and alone, have not you found some which you have applied to your own advantage?—Yes; there is one patent of Mr. Bains, for which we gave £8000 or £9000; although it did not quite come up to the expectation we formed of it, it has proved useful in combination with other patents.

LETTER from the RECORDER to the MAYOR OF BIRMINGHAM.

44 CHANCERY LANE, LONDON,
6th November 1850.

It is quite clear that the whole system of our patent laws requires revision. It had its origin in times very different from our own, when the principles upon which it ought to be framed were little understood and less regarded. . . . I scarcely need remind a gentleman so conversant with the commercial history of patents as you must be, that an inventor, instead of arriving in port when he has completed his invention, has to encounter most of the difficulties and all the

perils of the voyage—difficulties and perils which he has the more to dread, inasmuch as it rarely happens that he is well fitted, either by nature, education, or circumstances, to cope with them. The structure of his mind, the training, the habits of life, and very often the humble position and scanty means of the inventor, place him under great disadvantages in the struggle which he must undergo before he can bring the most valuable invention into such public use as shall make it yield him a profit. For this contest a new set of qualifications must be brought into action. The party who bears the expense of a patent, who works it, and protects it against invaders, should be in possession of considerable capital. He should be a man of enterprise and wide connections; he should be endowed with commercial courage, steeled against a weary course of disappointments and pecuniary losses, and ready to follow his adversaries from court to court. In short, he should be gifted with unvarying resolution, and an eye steadily fixed on ultimate results. He must be content to be ridiculed as a wild speculator until the patent becomes a source of profit; and when that event arrives, he must forthwith expect to be robbed by pirates, consisting, not unfrequently, of the very individuals who had made him their butt. Nor must he forget that the law itself is an ally, sometimes dubious, and always costly—doubt and expense being legal incidents, capable perhaps of diminution, but which I fear it is beyond the reach of human wisdom ever to abolish. As, then, to invent demands capabilities distinct from those required to carry an invention forward to commercial success (and not a little repugnant to them), it should seem very much to be desired that provision should be made for enabling these tasks to be readily separated, so as to be undertaken by different hands. It is obvious that the present state of the law raises great obstacles to this division of labour between the inventor and the capitalist. . . . It must then, I apprehend, be tolerably clear that some institution is permanently required of the nature of an inventors' mart, in which, for a limited period, inventions may be deposited with a similar privilege to that proposed to be conceded to the exhibitors of next year. I am very sure that such an institution would be hailed as a great boon by our fellow-townsmen, among whom, as you well know, are to be found many individuals whose inventive talent is not combined either with capital or the other requisites for commercial success. . . .

M. D. Hill.

Extracts from THE REPORT OF THE COMMISSIONERS APPOINTED TO INQUIRE INTO THE WORKING OF THE LAW RELATING TO LETTERS PATENT FOR INVENTIONS. 1865.

BENNET WOODCROFT, Esq., F.R.S., superintendent of specifications.—I think that if there was a simple mode of quashing bad patents it would be a great improvement. I think that that is a most important thing. The system of preliminary examination has been tried and found wanting. It is in operation in Prussia. It is now going on in America at an enormous expense, and the Chief Commissioner wrote me to say that it was a very inadequate system, and a very unfair one, that a man's patent might be knocked on the head the next day. . . . There are a great many patents which I may call still-born, and nobody takes any notice of them; you would have a coroner's inquest sitting upon still-born children; but in the other cases it is only where there is a mischievous patent, a bad patent, where a man forces what belongs to the public upon the public again! the public detect it very soon, and it can be put all right. A *scire facias* is a very expensive round-about process. If an invention has been clearly published and given to the public, I think that it belongs to the public, if it can be shown that it has been published in an English book before; I can recollect cases of that sort. . . . The patentee must have one of the machines at work in the country before the end of two years?—Yes. That is a very unfair law. If an Englishman takes out a patent in one of those countries for a steam-engine, he must carry a steam-engine over and have it at work. . . . I may mention the extraordinary invention for wool combing instead of carding. From a fleece of wool you can separate the fibres and take all those of equal length from the longest to the shortest and lay them side by side separately. It is a very curious machine. The poor man who invented it died deeply in debt, and he had been labouring, to my knowledge, for twelve years; it was only during the last few years of his patent that he could get it to work.

Mr. Grove.—The best patented inventions are frequently those which come latest into use?—Yes. The poor man in the instance which I have named had struggled and lost a large sum of money by it.

WILLIAM CARPMAEL, Esq., a patent agent.—*Mr. Attorney-General.*—Is not the opponent very frequently, I might almost say generally, the holder of a patent?—Very commonly.

Chairman.—Does it ever happen that opposition is raised at this stage by manufacturers or other persons who may consider that they would be impeded in their operations by such a patent being granted for the particular article?—No; I hardly know an instance. . . . On the other hand, the law-officers have said to me, True it is, there are matters here which will interfere with your patent if they are worked without your license, but there are also other matters here which are

represented to me to be such important improvements, that it is my duty to grant the patent, and leave the parties to their remedy. . . .

Mr. Waddington.—It is only in a very clear case that the law-officer refuses the application of an inventor?—Yes. . . .

Chairman.—If, in the great majority of cases, as I understand from your statement to be the fact, there is no opposition, what security against abuse is gained to the public by the circumstance of this inquiry taking place?—That the grant is made upon an intelligible document—beyond that nothing. . . .

Sir H. Cairns.—As an alternative I put to you this proposition: Do you consider it desirable that before a patent is granted there should be a preliminary public investigation into the merits of the invention which is alleged, its novelty, and every other detail with regard to it which would constitute the validity of a patent when granted?—That would be, in fact, according to my judgment, trying a patent cause before a man gets his patent. . . . I can imagine this state of things arising, that if such were the practice, there would be very many cases of trade and individuals in trades constantly opposing, so that none but a rich inventor could ever hope to get a patent against such a phalanx of opposition. . . . Parties in the particular trade would always oppose the grant of a patent. I might mention one town, with respect to which it is not too much to say that no invention could ever be applied for without a certain body in that town coming down and opposing it. . . .

Mr. Grove.—Would you grant a patent without any restriction for anything which the law now calls an invention or an improvement, provided it be fairly described on the face of the specification?—Undoubtedly. I believe that that is the least of the evils; that it is better to grant a patent upon the risk of the inventor as to whether his invention is new and useful than to attempt to investigate his invention, which may never come to anything, and yet if the investigation is made in every case it would cost a great deal of money without a proportionate benefit to the public or to the inventors. . . .

Sir W. Erle.—How is it that there are large bodies with large funds and great skill ready to contest every patent unless the patent is an enormous nuisance to them?—Whenever a patent is of large value and absorbs a large portion of that particular trade, and manufacturers have to pay a large patent rent if they wish to use it, they count the cost of paying the patent rent or fighting the patent, and endeavouring to get it without. That is in the case of a successful and valuable patent, but there are persons who are ready to fight every patent?—I have not found it so in practice; that is not so in any branch of manufacture, so far as I am acquainted. There are occasions where a trade will join together in a common purse to fight an important invention, but I do not know any such instance as your Lordship has suggested. . . . There is nothing in the present law which would enable you to do it; it must be by Statute in some shape or other. . . . Does it exhaust the question of novelty to look through publications?—They have the specifications of this country, of France, and of every other country. Does that exhaust the question of novelty; might there not be a prior user of

an invention of which you would not find any trace in publication?—It would not exhaust it at all. The same manufacture might be carried on even within 100 yards of the examiner, and he know nothing of it; in fact, an examiner could never be informed of all that was being done in the workshops of the country; such preliminary investigations could only be carried on at a large cost to the country, and yet be of no use afterwards in the investigation when the patents come to be tested in a court of law. . . .

Mr. Grove.—You would grant a patent for a thing, although it was notoriously old to the knowledge of the parties granting the patent and to all the world. You prefer that as the least of two evils?—That is the least of two evils, so far as my knowledge goes, as no one can be injured by a patent that is notoriously old. . . . I think that a number of unimportant patents being granted is a small evil compared with a preliminary investigation of each application. . . .

Sir W. Erle.—Does not the whole of that exclusion of frivolous patents depend upon the skill and integrity of the patent agent?—Very largely. Assume an unskilful or an unconscientious patent agent, a multitude of frivolous patents would be poured in?—It does not depend primarily upon the agent, but upon parties who are determined if they can to get a patent. There is no obstruction which you can put upon certain men which will stop their having patents if they can by any possibility get them. . . . You will very commonly find, that wherever a patent agent raises objections or difficulties against a party taking out a patent, he goes off and gets one himself. Men have such an affection for what they consider a new invention, that nothing will stop them from getting a patent; they will not investigate, they will not take the ordinary care of a man of business. There are certain classes of inventors, or men who imagine themselves to be inventors, whom you cannot restrain from taking patents. . . . I do not think that there is any great evil to the public; the evil is to the parties who are silly enough to incur the expense of them. . . .

Sir H. Cairns.—Suppose that I have been manufacturing by a particular process for the last twenty years, and that according to that same process I have filled my repositories with a large stock of goods, and that a few weeks ago, without my knowing anything about it, some person has gone and got a patent for that identical process which I have been following for twenty years past, and that having got that patent he sends me a solicitor's letter, to inform me that he is the proprietor of that process, and that no person else must use it, and that he understands that I have filled my shop with goods made according to that invention, as he terms it, and that he will commence proceedings against me unless I surrender, or pay him a royalty; is not that an evil?—It is an evil; but it is the same as with any other property. A man may make a claim to it, and you must resist it. You would answer by your solicitor, who would say, "My client has been doing that which he is now doing for twenty years, and therefore he declines taking any notice of your communication." But it might result in a lawsuit?—It might result in a lawsuit; and if he added, "And you are at liberty

to come and see how he has at all times manufactured the article," I do not think that the claimant would proceed with a lawsuit if he had an honest adviser; and if he did, the costs to the manufacturer would be very small indeed if he confined himself to the one sufficient defence —that he had done the same thing long before the date of the patent.

Mr. Grove.—Take the case of frivolous patents as there are now, such as a patent for a shirt frill, or for the shape of the rim of a lady's bonnet. Suppose that the patent is taken out for certain new fashions in bonnets, or in shirts, and that the patentee writes and says, "This is my invention;" it is an invention for a very minute thing, and a considerable sum of money may be thrown away in defending your right to have these shirt frills, or these ladies' bonnets?—I know of no remedy for those sort of things at all. . . . I advise every manufacturer, as part of his library, to have a copy of every specification that comes out relating to his particular manufacture, and that is one of the greatest benefits of publishing the whole of the specifications. . . . No profits are made out of the printing; those documents are marvellously cheap. . . .

Chairman.—Do you consider that the expense which is at present incurred in taking out a patent operates as any considerable limitation upon the numbers taken out?—I think not. I think that the first cost now errs on the side of being too small, rather than of being in excess. . . . The first payment is £50 at the end of the third year. . . . We may take it, I think, that irrespective of any fees which may be paid to the patent agent, the expense of getting a patent in the first instance, in an unopposed case, would be about £25 or £30?—£25, and if it is opposed it would be about £30. The stamp-duty in getting a patent, including the complete specification, is £25. . . . If it had been put up higher in first cost we should have had less of those patents which Mr. Grove has referred to, namely, for frivolous matters which we should all be glad to get rid of. I think that we should have less of them if the inventors had to pay for them. I ventured to predict before the Committee of the House of Lords in 1852 that we should have a large quantity of those patents, and we have them, and that is by reason of the very cheapness at the outset; but I do not say now, Go back to a large sum, though I advocated a larger sum in those days. . . . There might be modes of dealing with patents by which you could call them into question inexpensively; that is to say, less expensively than by a writ of *scire facias*. . . . A very expensive remedy. . . . It is an expensive process, and the party who puts the Crown in motion, if successful, gets no costs?—Just so; he gets the pleasure of working the invention with the rest of the public, he being a public prosecutor out of his own purse. . . . I can remember a time when we used to go into Court to try a patent cause in a comparatively simple way, and there was not half the paraphernalia which there now is. We got through it in the course of a few hours, and people were quite as well or more satisfied than they are now when we are three days or a week in trying a patent cause. . . .

Mr. Waddington.—Are not proceedings by *scire facias* very rare?—In modern times they are very rare, because the patentee has the reply.

Formerly the Crown had the reply, so that up to a very few years ago no patents ever stood a writ of *scire facias*. . . . The new system of pleadings as carried out largely increases the cost of patent actions coupled with the circumstance of the publication of all the specifications, which allows of a mass of supposed defence being readily got up, and thereby largely increases the expenses. . . . I presume you mean that a reference is made easily to those various specifications by industrious and ingenious persons, who see whether from a great mass of specifications they cannot pick up some one or more which may bear upon the case, although they may not have been in any one's contemplation at the time of the infringement?—Precisely.

LEONARD EDMUNDS, Esq., clerk of the patents.—*Patent Agents.*—The patent agents have become a numerous body, but they are under no discipline or control whatever, either as to conduct or capacity. . . . I would suggest that all patent agents hereafter admitted to practise in the Patent Office should undergo an examination by the Incorporated Law Society to test capacity, the Society being empowered to call in one or more mechanical engineers to assist in the examination. That patent agents should be formally admitted to practise in the Patent Office by the Master of the Rolls, on certificate of the Incorporated Law Society, as solicitors are admitted in Chancery. That they should take an annual certificate. . . .

WILLIAM SPENCE, Esq., a patent agent.—*Mr. Grove.*—Have you found in your experience that the cheapness of patents has induced a number of poor people to give up their normal trades and occupations, and that that has led them to dangle for some years after an imaginary invention, or at all events an invention of very little value?—Yes; I am by no means an advocate for cheap patents. . . .

Lord Overstone.—You think that a patentee is the best judge in the first instance of the utility or novelty of his patent; he forming that judgment subject to the consequences of judging erroneously?—I think that the present system of taking the grant upon his own responsibility as to all those points is the best. . . . Do you consider that greater facilities ought to be given than at present exist for the repeal of invalid patents?—Yes; I think so. I think that is required as a sort of balance to the present system of granting a patent on the allegation made by the applicant. . . . It has appeared to me for some years that we have been getting into an artificial mode of trying these cases by an excess of scientific evidence. . . .

Mr. Fairbairn.—You prefer the evidence of practical men to that of scientific men?—Yes, I do. . . .

Mr. Grove.—Suppose the case of two parties who raise an issue and whose interest it is to impede and obstruct one another, those parties have, or one of them has, funds at his command, and it is thought more desirable to have scientific evidence, because it produces a greater effect upon a jury, you could not, I suppose, by any law, prevent them from having that scientific evidence?—No; but I think it produces

more effect upon juries than upon the Court, especially assuming the Court to be strengthened by the aid of scientific assessors. . . .

Chairman.—Is it your opinion that in practice inconvenience arises from patentees refusing to allow other persons to use their inventions on the payment of a certain sum?—Occasionally. You think therefore that there is an abuse to remedy if the remedy can be found?—Yes; I think so. . . . In the case of a compulsory license being matter of law, the need for it would very seldom arise, for I think the fact of its existence would prevent the necessity for the exercise of the law. . . . I think that a patent monopoly is of that nature that the patentee is supposed to be willing to give the public the benefit of his grant, in the exercise of it. . . . There are cases in which the patentee would resist any amount of price. . . . In the present day there are not many for broad principles; the greater number are for improvements, are they not?—They are for improvements, but still they often involve broad principles. It is to be remembered that, owing to the extension of commerce, an invention which is scientifically narrow may be commercially broad. . . .

JOHN SCOTT RUSSELL, Esq.—You have probably had to defend patents of your own?—No; I have not defended any of my own. I have never made of mine more than a mere registry of priority of invention. I have not made mine a source of money, but I have suffered in this way from patents: I have gone on in the course of my business, doing my ordinary work, and I have found other people taking out patents for what I was doing without calling it an invention, and then prosecuting me under the patent they had taken out for my own inventions, and it appears that there is nothing to prohibit them from doing that. But if you were able to prove that you had been carrying on an invention, whatever it might be, at the time when the person claiming to hold a patent for it took out his patent, would not that relieve you from all difficulty in the matter?—It would only give me the pleasure of defending a lawsuit. . . . I should be very glad to see the patent laws entirely removed, but I fear that that would be attended with injustice to many other people. I am afraid that we cannot altogether do away with all right of a man to his inventions, and therefore I should be most happy to put all my inventions into the same kettle with the rest of the world, and leave the matter free. . . . I will, with your permission, make a suggestion of a practical nature upon that subject. At present, shall I say, the officers of the Crown make a bargain for the public with a patentee. They say, If you will give us your invention, we, on the part of the public, will give you a practical monopoly for a certain time. I think that it would be good to add to this first of all a power of discrimination, and, secondly, a power of making a price; that is, making a bargain in which price should be an element.

Sir William Erle.—You mean a compulsory price?—Yes. For example, suppose a preliminary court of some kind has been constituted, a man brings forward an invention for an improvement of iron, and the preliminary court sees no reason why it might not turn out a

very valuable invention. Now I complain that you give to this man an unlimited monopoly, and leave him to make any use he pleases of it. I ask you to make a wise bargain for the public, and to say, Very well, we think it good; we will not give you an unlimited power, but if you will say that everybody shall use this at 1s. a ton, we think that the public might be benefited by it, and we therefore will grant you your patent in consideration of a fixed license to use it at 1s. a ton. I say that if you make a bargain, as you do now for the public, I should like you to make that bargain better and more thorough. If I gather your meaning rightly, the two amendments of which you have expressed yourself in favour are these—first of all, a preliminary investigation before a patent is granted, and next, what is generally called a system of compulsory licenses, by which a patentee should be precluded from keeping his patent for his own and sole use?—With this addition, that of fixing then and there the preliminary price. . . . I do not wish at all to conceal the great difficulty of that case, but I think it most desirable. I do not see why a public Court should not be constituted in which that case might be thoroughly tried, and in which it might be tried with this pecuniary bargain or limited license as one of the issues to be tried. . . . If they were so discontented I should refuse to give them a blind monopoly; and let this be remembered, that they come asking you to give them an unlimited power over me; for if I, by any chance, happen to stumble upon their invention, and come to you, I think you would have a right to say, I must see what use you are going to make of your power before I give it you. . . . Many most meritorious inventors under the present patent law are utterly ruined, enrich others, and never pocket a farthing themselves; therefore the present law is as unjust as a law can be in its practical working. . . . I think that the unlimited power given by a monopoly to an inventor has this practical effect at present, that when an invention has been made the subject of a patent, everybody shrinks from it, everybody runs away from it, everybody avoids it as an unlimited evil, because the person who has the monopoly can subject you to a most expensive prosecution, and can charge you a most inconvenient sum for what you have done, and can punish you in every way for having touched his invention; whereas if you would take away that power of unlimited monopoly, and tie him at once to a small limited sum which he would have power to levy, the inventor would have this great advantage, that nobody would be afraid of touching his patent any longer, and instead of avoiding the patent because it was a patent, knowing that we should only have to pay 1s. a ton for a very great benefit, we should at once examine the patent, take to it kindly, and prosecute it as far as we could, knowing what the limit was of the difficulty and risk that we were encountering; and so, I believe, you would make the public take kindly to patents instead of regarding them as a great evil. . . . Do you mean that at present the dread of approaching a patentee is so great that persons prefer to forego the use of an invention which may be very convenient to them in their business, rather than make a mere application to a patentee to know what he would charge for allowing his invention to

be used?—That is continually the case, and for this reason, that the very application that you make to the patentee immediately raises his ideas, and immediately makes him conceive that he is going to get a a great haul, and that immediately puts you into a difficulty, and to a correspondence which will probably cause you great inconvenience hereafter. . . . It certainly is the object of many patentees to get their patent tried, and it is the object of many other patentees not to allow their patents to be tried, but to constitute them practical monopolies. If, therefore, a man encouraged a new invention, it is very probable that the first use that would be made of it would be to turn it against himself. The circumstance of my having cultivated a man's patent would put it into his power, when I had devoted a great deal of attention to it, at once to come down upon me with a very heavy charge, unless I had made, from the beginning, some special bargain with him. . . . I think that a Court composed of a good lawyer, one or two good mechanics, and one or two good chemists, could filter the mass of patents to a very great extent, and could, at first sight, render to an enormous number of inventors a great benefit. . . . In a case where the value of the patent was a matter of doubt they would grant a patent?—Yes. . . . I propose to make it more of a bargain than it is, and that you should say, Now, we are willing that this should be a monopoly, provided you make it very beneficial to the public at the price at which you offer it; we will give you a patent for a new process of making iron if you offer it to the public at 1s. a ton, but if you ask from the public £1 a ton for it, we will not give it you. . . . I complain of the authorities who grant a patent making a bad and blind bargain for me. I think that they make a one-sided bargain for me, and I want them to make a better bargain for me.

Lord Overstone.—You mean for the public?—. . . A patentee looks generally to a much larger use of his patent than afterwards takes place, and therefore if you fix it, say at 1s. a ton for a new mode of manufacturing iron, a man knowing the number of millions of tons that are manufactured in this country, and sanguinely believing in the value of his invention, would, at that moment, be willing to make a very low and good bargain with you; whereas, if he has found some person unknowingly using his patent, and being caught in a trap, he becomes immediately unreasonable and exorbitant. . . . If you grant a patent, you, representing me (the public), I should insist, before you part with my liberty, upon your making a good bargain for me. . . .

Lord Overstone.—With regard to the interests of the public, is it not the fact that patent monopolies are granted for two purposes, one to stimulate the activity of inventors, and the other to secure to the public the publication of their discoveries?—Yes; for both purposes. Do you think that your plan would be as efficient to accomplish those two results as the present state of the law?—I think more so. . . . The patentee would be greatly benefited by a discriminative patent. . . . I know very few men whose inventions are worth anything, who do not desire to have discriminative patents granted instead of indiscriminate patents. . . . That which was manifestly not new and

manifestly not useful; those are the two cases in which I should reject patents. . . . I think that they ought to have a moderate and fair stimulus. I do not think it is for the good of the public that when a valuable invention is discovered, some one man only should be permitted to manufacture it. I am quite sure that if half a dozen houses were permitted to manufacture an article, even although paying a large patent right to one, that the improvement of that article would advance much more rapidly. . . . There are a great many patents of that kind taken out for boilers of steam-engines, and boilers of steam-engines admit of a very enormous variety of shape and proportion without damaging their efficiency. The consequence is, that it is hardly possible at this moment for a man having to scheme a boiler for a new situation or new circumstances, to avoid putting his foot in doing so into a trap which somebody has previously set for boilers. It does not follow because it is a patent that there is any merit in it; it does not follow because it is a patent that it should not suit some particular circumstance which may arise, and yet as an invention it has no merit at all. I would say, therefore, that nearly the whole of the patents for the boilers of steam-engines at this moment are of no practical value to inventors or to the public, but they are continually getting every man who makes a boiler into a scrape with some patentee, because almost every conceivable form of boiler having been previously patented, and bit of a boiler, one cannot make any sort of boiler without infringing some man's patent. That is the case of the most numerous and most valueless patents, which are yet full of injury to the public, and do no good to the authors. . . . After you have got one good screw with the largest possible merit of contrivance, you could invent 150 other screws, every one of which should differ from the original, and no one of which should possess any real merit; and yet it would have this effect, that you could not set about making a screw for any particular case without infringing some one of those 100 patents, and that is an unmitigated evil. . . .

Vice-Chancellor Wood.—Suppose your scheme were adopted, would it not have this great advantage, that by a system of compulsory licenses you would encourage the invention of real improvements, because a person, as you are aware, by the present law, cannot for fourteen years use an improvement unless he has a license to work the original patent; and would not your scheme, therefore, if adopted, very much facilitate improvements by giving parties an opportunity to bring their improvements into immediate action?—I think it would very much facilitate them, and in this way: You might see a very valuable patent, and you would say, Now I cannot take that, because some person says, I have patented this, which is a little bit of that; but if I knew that I could get that for 1s. or £1 a ton, I should immediately add this to that; and so you might have a machine which was overlaid by thirty or forty patents; and provided those thirty or forty patents were, as I have supposed, at 1s. a horse-power, or 1s. a ton, or some such easy price, every man's invention could in this way be instantly brought in to help every other man's invention. If I were to undertake a negotiation of that kind, involving half a dozen patents,

I do not believe that I should ever make an arrangement with them all to enable me to introduce the invention. . . .

Chairman.—Do you consider that in such a Court as you propose there ought to be any one to represent the interests of the public as against an intending patentee, because otherwise a patentee would come with a strong *ex parte* case, and there would be no one to state what could be said upon the other side?—I think that a Court consisting of a lawyer, two mechanics, and two chemists would, from their very nature, sufficiently represent the public interest. There is an aversion, I think, in the minds of skilled men to admit that to be an invention which is of no value, and I think you might consider those four or five officers of the public sufficiently the friends of the public, and I think you might, therefore, entrust them with the making of the bargain. . . . I have no doubt that the value of a discriminative patent would be reckoned so great that the fees of such a Court would be paid with the greatest pleasure in order to obtain a discriminative patent. Therefore the Court would be able to appoint two competent persons to report to it whether an invention was *prima facie* useless, or not new, or only a trivial matter. . . .

Vice-Chancellor Wood.—You are of opinion that that, coupled with a moderate license, might diminish the tendency to litigation?—Yes. I think it would bring the public and the inventors together, for it must not be forgotten that at the present moment the public and inventors view each other with a kind of hatred, and I want to bring them together. I think that nothing but making them reasonable will bring them together. . . . Therefore it would not only be taking upon itself to declare that an invention is sufficiently valuable to deserve a patent, but it would also declare the precise degree of value to be attached to the invention?—A price is to be fixed that will allow an inventor to live on the user. . . . Has it at all occurred to you to consider patents for products for which the inventor has seen a small but limited use, and that the product has been applied to an unforeseen use, and has produced immense profit which was never anticipated?—Yes. You are aware, probably, with regard to the screw, that six or seven patentees did combine, and divided the profits arising from all the patents in proportion to what was considered to be their respective merits?—Yes; and I am obliged to you for suggesting that example to me, because they did in the end agree upon the great screw question just to do what I am now recommending. They appointed arbitrators, and among the half-dozen rivals they had great difficulty; but with difficulty they screwed them all down to a moderate special royalty, and the moment they had done that, this unremunerative patent became a prosperous one, and they all divided a little money. I believe that you would, by moderating the charge made by the patentee, effect a union between the public and him, which is wanted. . . . Have you known cases of patentees with a good patent, and in which there has been what may be called a dishonest attempt to destroy it?—Yes; I have known both on a very large scale; for example, there was the great hot blast case. I was engaged in that from the beginning in the capacity of arbitrator; and in that great hot blast case the whole

litigation arose from the ironmasters, who were making enormous sums of money, wishing to get rid of a very small patent rate per ton, which had accumulated to an enormous sum in consequence of the success of the patent. The expenses in the hot blast patent case amounted, I should think, to more than £100,000. . . . There was the famous case in the wool trade. A large number of men engaged in that trade combined to litigate that patent; and at the same time that they combined to litigate it they combined to evade it, and to use machinery derived from it. They intended to evade the patent, and by a combination there was an evasion practically of the patent. An enormously expensive and massive litigation followed, and they drove the owner of a most valuable patent into much easier terms than he deserved, and after they had got it into their own hands they made enormous sums of money of it.

Sir W. Erle.—They made enormous profits after they had got it into their own hands?—Yes. The merit of that patent was, I believe, unknown until Lister's invention brought it into great practice?—Quite so. . . .

Lord Overstone.—Suppose the case of a person travelling in some comparatively barbarous country, who observes a process which he is sagacious enough to know is really a most important medicinal process unknown in this country, that he possesses himself fully of the nature of it, has practical evidences of its effects, and brings it to this country. Do you think that such a service as that should entitle him in justice to some patent privilege upon grounds of public policy?—I think it might entitle him to a public reward, but, as a matter of policy, I should not therefore extend a privilege to imported inventions. I think the cases put are very strong, but very exceptional. . . .

Mr. Grove.—That is to say, you would make it incumbent upon a patentee, when he came to make his second payment after the three years, to make out a case before a Court, and also at the end of seven years, and so on?—Yes. I hold that that is not a new principle, for you at present do it beyond the fourteen years.

Chairman.—With this difference, that an extension beyond fourteen years is, as I take it, altogether an exceptional proceeding, and a very rare one?—Not rare. The applications are extremely numerous, but the cases which are successfully established are comparatively few. . . .

Mr. John Platt, a very large manufacturer in Oldham.—It has been sometimes stated that the price of a patent in a very great measure has prevented a poor man from taking out one, but I believe that that is entirely a fallacy. I know from my own experience, as I am often in communication with working men who have any inventions, that the price of a patent is never any difficulty, and the money is always found for them. . . . If a proper preliminary investigation was made by scientific men, nine out of every ten applications in my opinion would be refused. . . . It is positively dangerous for a person engaged in business in a large way as I am, considering the number of patents that are granted so indiscriminately, I say it is very difficult for a person to carry on business at all, for the present system seems to be to grant to all applicants patents, leaving the parties to fight it

out in the country afterwards as to whether there is novelty or not.

Mr. Grove.—Would you carry out the question of the value of the invention to any extent. Suppose, for example, a very frivolous invention, such as an inkstand of a new shape, would you grant a patent for that, or for a toy?—I do not say absolutely that. But that is the question, whether you would put any limit, or grant patents for any things, such as tooth-brushes or hair-brushes?—I should certainly refuse frivolous patents such as those indicated. . . . It is your opinion, then, that a tribunal might be constituted, consisting partly of judicial knowledge and partly of technical knowledge, which should be sufficient to exercise a complete control over the question of the novelty of a patent, and in a manner to be satisfactory to the public?—I think so. When patents are opposed I know that very great good has resulted; for when the cases have come to be tried, the knowledge of the opposition has been of very great service, as the parties have been then obliged to give a more detailed description of the inventions they are applying for, and that has limited them very much in their application. . . . I think there are so many patents granted that it is a great question with me, I confess, if patents for these combinations are to be granted, whether it would not be better to abolish the patent laws altogether, as it becomes such a nuisance in conducting a large business. . . .

Sir W. Erle.—There are two classes of patents, patents for products, and patents for improvements in machinery. As to the last, where it is a new combination of old parts, you would exclude that claim from patent right?—Yes.

Mr. Grove.—For instance, the jacquard loom you might call a combination of old parts, because no part is absolutely new; but you would hardly say that the jacquard loom was not a good subject for a patent?—No; but it is a new application. . . .

Vice-Chancellor Wood.—Are there not some large manufacturers who like to keep the monopoly of a patent in their own hands, who obtain money and go on manufacturing without granting licenses to others?—Yes; and I think it is a very unwise policy, and it often gets defeated. . . . I might, for the sake of illustration, take Mr. Whitworth's gun; in a case of that kind he might wish to keep it entirely in his own manufactory, and refuse to let any one take out a license, and in refusing to do that great public injury might result; but still, that is a very extreme case. In every sort of monopoly right a complete power over the monopolised articles is invested in the holder of that right, but the ordinary price is found to be a sufficient inducement to bring his conduct into harmony with the public interest; is not that equally true with regard to patents as to every other form of monopoly?—I think so; I think that his own interest is predominant to all others. I should not object to a clause myself, but I do not think it is necessary.

Mr. Grove.—Another plan has been suggested, namely, to make it a stipulation at the time of granting a patent, as in railway acts where maximum tolls are mentioned, that the patentee shall grant licenses for a certain maximum price. The first plan suggested was that where

a patentee refuses to grant a license, the tribunal should adjudicate upon the price; the second plan was, that in granting a patent a clause should be put in, so to speak, stating that a certain maximum toll should be taken upon granting licenses. Should you object equally to that?—I see greater objections to that than to the other, for when a patent is granted, it may be worth very little, but afterwards it may turn out to be very valuable, and in fixing any amount it might be too little or it might be too much. . . .

Vice-Chancellor Wood.—Another suggestion was this, that at the expiration of three years, when a person is obliged to pay an additional fee, there should then be power, after a patent had been worked, instead of the renewal being obtained as a matter of form, to require the patentee to make either a fresh application or an application of such a kind that he could not obtain the renewal without coming under terms to grant licenses?—There is no question that at the end of three years it is then determined whether a patent is either valuable or not; the extent of the value is no doubt ascertained by that time, although there are many instances in which that is not the case. . . . Any person having travelled in a foreign country and observing an invention there which is not used in England, may take out a patent for it as though it was his own, on the ground that he is the first person to introduce it into this country?—That is very objectionable, I think. . . . I think that all countries now have got patent laws more or less, and if there is anything discovered, it is made known immediately to the public. . . .

Mr. Grove.—Have you at all thought of the point which has been suggested, of making it incumbent upon the patentee at the expiration of the third or seventh year to apply to a tribunal for a further grant so as to make it something analogous to the prolongation before the Privy Council; that is to say, to grant a patent for a limited time, making it incumbent upon the patentee to come before the same tribunal again for a continuation of the grant?—There is no doubt that it would be a great advantage at the end of seven years, three years would not be of much service; it depends a great deal upon what conditions you attach to it. I have had one or two patents at the end of fourteen years which have been renewed before the Privy Council for five years. My question was rather whether it might not be desirable, particularly with regard to some classes of inventions which are comparatively unimportant, that the patent should expire unless the patentee satisfied the same tribunal that the patent deserved to be continued for, say, more than seven years?—I think that that is a very important suggestion. . . .

Montague Edward Smith, Esq., M.P., Q.C.—I think that it would be expedient to make the preliminary inquiry a little more stringent than it is at present, but I do not think that it would be possible to have a perfect inquiry or to make it final, . . . because you cannot give such a notice as would bring everybody whose interests are likely to be affected before the tribunal which has to decide. . . . It must be to a great extent an *ex parte* inquiry. . . . And the public has no

organisation by which it could protect itself habitually against unfounded claims?—There is no such organisation, and we all know the difficulties of giving such a notice, even when it is honestly intended, as will embrace the whole subject of the invention, and of course there would be every endeavour on the part of persons who had not really invented a new thing to mislead by the notice which they inserted. . . . In several cases in which I have myself been counsel, very great inconvenience has arisen from the multiplicity of patents which an inventor has had to wade through to see that he has not been anticipated. A man who is making an honest improvement where there is a great multiplicity of specifications existing scarcely knows where to tread without probably encroaching upon some slight improvement which has been previously made, and which may be in itself a very small step in advance of that which has been done before. As far as I have seen, every man who makes any change whatever in a machine, which he thinks at all beneficial, takes out a patent for it, and embraces probably the whole machine, and leaves you to find out where his little improvement is. . . . I think that the great difficulty in the patent law has been introduced by the decisions. . . . As far as I have seen, I think that letters-patent are granted for improvements which are scarcely sufficient in degree to justify the grant of a monopoly. . . . There have been some things which have been useless, and which have been abandoned afterwards as useless, but which have been held for a very considerable time *in terrorem* over other inventors and improvers: then, at the last moment, when a patent is coming into Court it is abandoned and disclaimed under the present law. . . . Do you not think, at the same time, that if you have given him a monopoly of an invention which is useless, the monopoly is of little value?—It is of little value in itself, but it is very often of considerable money value, and works considerable injustice to honest inventors, who would rather settle, or even take a license upon reasonable terms, than go to the expense of defending an action which may be brought against them, and which involves very considerable cost. . . .

Vice-Chancellor Wood.—It has been suggested that the patentee might be required at the end of three or of seven years, as might be judged best, besides paying his fee for getting a renewal as he now does, to justify to a certain extent his patent, that is to say, to show that it had been beneficially employed, would you think that a desirable course?—That is a novel course. Practically, that would involve a tremendous struggle at the end of three years. . . . In my opinion, fourteen years is too long. I think that ten years would be long enough, with the power which the Privy Council has of lengthening the term in cases of great merit. . . . Is there a desire on the part of the jury to discharge themselves of the responsibility of coming to a decision by suggesting a reference to arbitration?—Certainly; I have a case now before me which was referred simply from impossibility of trying it, it was so difficult; and another case was referred to Mr. Lush, a case between Sir Frank Crossley and Mr. Bright.

Mr. Grove.—And there was a third case in which the jury interposed, namely, Wheatstone *v.* Wilde?—Yes, and in the case of Betts *v.* Menzies,

in which I was engaged, which was tried before Mr. Justice Erle, then a judge of the Court of Queen's Bench. After a trial of six days the jury brought in a verdict, but some of them accompanied it with the remark that it was very unsatisfactory, for that they believed that they did not understand it; and Mr. Justice Erle said upon that, "Well then, gentlemen, I am afraid that that remark of yours has rendered our week's work of no value." . . .

Lord Overstone.—Your impression is that trial by jury is altogether inapplicable to that class of subjects?—It is. . . . Civil engineers have a very lucrative business as witnesses sometimes, have they not?—Yes; but in other matters besides patent causes. . . .

Chairman.—Would you not rather put it in this way, that to grant patents with a restriction of compulsory license is, in fact, not to grant a monopoly, but simply to give to a man a certain definite amount of royalty upon the use of his invention?—That is so. It is very much like saying, you shall get so much from the public for your invention and no more; in fact, you take away the notion of property.

Sir H. Cairns.—Would it not also involve the necessity of fixing a price for the patented article, for the patentee might be entitled and be disposed to manufacture himself all that would be required?—It would be so. . . .

Mr. Richard Roberts, an engineer for many years.—Have you had some experience in resisting patents that were claimed by other parties?—Often. . . . The most paying patent that I ever had was nine years before it paid for itself the cost. What was that, the self-acting mule?—Yes; and there was another thing, the planing machine. I had no patent for it, for I could not afford it; but it was nine years before we made more than two, although everybody who came was allowed to see it, and hundreds saw it; some of them were the most sagacious men we have, such as Fawcett of Liverpool, and Hick of Bolton; but I had a difficulty in inducing them to have the planing machine, which I urged them to have; some people will not buy new things. . . . By new things do you mean things untried?—Yes. . . . The patentees are not persons to pay an exclusive tax, and they are more generally poor men, managers of works, who are most likely to invent. . . . Would you grant a patent to every applicant, and leave them to become dormant from the fact of their being inapplicable to any useful purpose?—Yes. . . .

Chairman.—I think you have been speaking chiefly of patents for engineering and mechanical matters, where considerable outlay must be incurred in the first instance before the invention patented can be set up?—Yes, I refer to those more than any other. When you say that patents do not pay as a rule for nine or ten years, you do not speak of all classes of patents?—No; because in the case of an improved button, a person does not mind trying one suit of clothes with new buttons on, every one being of the same mind, and the patent pays very well. . . . In the cases of those patents to which you have referred, did you abandon them in consequence of the heavy payments you would have been compelled to make under the provisions of the

law?—Yes. . . . I do not know that I should ever get anything for the patents on account of the difficulty of getting the inventions introduced. . . . I want to have the payment to stand in the way of those who would rush at a patent upon the first idea, without giving it fair consideration. . . . I know that persons have taken out patents, and have persisted in doing it, when they have been told by very competent authorities of the valueless character of them. I know of one instance in which a person was shown the very article that he was producing, that had been done and presented to the Society of Arts every year for a number of years consecutively. . . . You are aware that many patents are now taken out for advertising purposes, and taken out for very trifling and insignificant inventions, involving no real principle of novelty?—Yes. . . . I would rather that the payment should be made first, that they may be sure they will have to pay. . . . Take the case of the self-acting mule; we should not have spent thousands upon a thing of that kind for the benefit of others; and there are many inventions as to which persons have to expend very large sums, for there are many things that cannot be seen through all their parts without experiment. . . . I do not think there is much secret trade, but I know this, that no trade can be kept secret long; a quart of ale will do wonders in that way. I can give the Commissioners one instance. A party had some power looms, and he thought very highly of them, but he had made an improvement and was about to get about 300 or 400 of them put up. He sent his patterns from Staleybridge to Manchester to have castings, and he sent a box with the patterns in, in order that they might lock them up every night; but the day after they were sent to Manchester a person came from Staleybridge to me and told me of this fact, but he said, "You shall have the first set if you like to have them," but I declined. . . .

Lord Overstone.—Looking at the whole question generally, do you think that the existing state of the patent laws inflicts any grievous injury upon the public?—I think it does. . . .

Matthew Curtis, Esq., Manchester.—There are a great number of patents taken out either by working men or by overlookers, the class slightly raised above them. . . .

Mr. Grove.—Have you known any patents which are known to some manufacturers in the trade to be old, but which have been run to their full length and made a source of profit to the inventor by frightening other people not acquainted with the subject?—I believe there have been such cases. How is a tradesman, for instance, who is threatened by a patentee, and who has a comparatively small interest in the manufacture, to meet the threat by a patentee in the case of an invention which he may believe to be old or not patentable, and yet which he has not sufficient interest or pecuniary means to contest?—It is one of those matters which is extremely difficult, and we want a fresh tribunal for trying patent cases to meet that point. I may state that I have in one or two cases given £200 to a party for the use of an invention, in which I have told him at once that what we used was not an infringement in any shape or form; but rather than run the chance of going to a tribunal where I was fighting with a man of straw, I have

consented (thinking it was prudent to do so) to pay £200. . . . In one case I had two grounds; the one was that I had not infringed, and the other was that I believed his patent was invalid. . . . If you have an inquiry, I think it better to have it a public one, because then you would have this advantage (or probably it might ultimately lead to it), that manufacturers in the same line of business might feel it worth their while to examine what was coming out, and if they knew of a point, they might, to prevent themselves being hereafter put to trouble, feel disposed to spend £5, £10, or £20 in opposing it. . . . Many parties in trade have made alterations without being aware of their being patented, and when they have used them for a length of time, they have found that the patentee has come upon them and made a claim for patent right. . . . I know in my own case, we have taken out a number of patents, and frequently those to which we have attached the least importance have become the most valuable, and, on the contrary, from those which we have expected large things from we have reaped comparatively no advantage. . . . I think there is a patent for a knife for opening oysters, but the public are not bound to use it. . . .

Mr. Hindmarch.—Supposing a patentee to be living in France, and a person in Limerick to be infringing his patent, might not that go on for a considerable period without the patentee knowing anything about it?—There is no doubt there might be hardships in it. . . . If the patentee has now the power of coming against either the maker or the user, then I would limit it to one, giving him his option; but I would not let him proceed first against the maker and then against the user for the same thing, when he has already obtained damages. But when a person is using a machine which he knows to be patented, he must expect to be called up by the patentee whenever he chooses, must he not?—I believe so; but I believe that it has never been decided. Is a person in his position justified in making use of a patent, knowing that it is a patent, without coming to terms with the patentee?—If the law is undecided on the point he is. He takes his chance.

Sir Francis Crossley, Bart., M.P.—You think generally that the law, so far as it relates to the cost of patents, is satisfactory?—I do. . . . a patent was taken out for simply putting india-rubber at the end of a glove so as to make it tight round the wrist; that might have been considered a frivolous patent, but I believe that it was thought to be a very good one in the trade, and it was new and useful. I think that it would be rather difficult to draw the line. . . .

Mr. Grove.—It has been suggested that in the renewal, the Court, or whoever renewed the patent, should as it were fix the maximum; that just as in an Act of Parliament you give a power for tolls up to a certain point, so here the patentee should have his patent renewed upon condition that he granted licenses, but at a fixed sum, so much per ton, or so much per spindle?—That is where the difficulty would be; when you came to "per" the difficulty would be to fix that amount, because there are so many patents in one machine for various improvements in it, that to say how much the sum is to be for the particular

patent which you are going to let expire if the patentee does not grant licenses, would be very complicated and very difficult.

Mr. Hindmarch.—Besides that there are parts of machines, there is a patent for the whole of a machine, and the use of a part may be an infringement; it would have to be decided how much was to be paid for the whole, how much for a part, and how much for each part?—Yes, you would, I think, get into such difficulties that it would not be simple enough to work well.

Mr. Fairbairn.—How would you deal with the case where a manufacturer has a patent for a particular machine and he wishes to employ it exclusively in his own manufacture and to grant no licenses at all if it is to his interest to do so?—I think it is rather a hard case not to allow him to do so, if he wishes to do it. Would you make it compulsory for him to grant licenses?—No, I am against a compulsory license.

Lord Overstone.—Your view, as I understand it, is this, that the temptation of price never fails to place at the command of the public the fullest supply of an article which can be produced?—Yes. . . . I would not say that there are no exceptions. . . .

Mr. Grove.—Might there not be this interest on the part of the English public, that if England granted no patents to foreign inventors, foreign nations would probably reciprocate, the consequence of which would be that a great many English inventions would be restricted in England and open abroad?—Yes, that would be the natural effect. . . .

Mr. Forster.—Do you not think that the public are in some cases afraid to use inventions (at least, a part of the public) because they do not like to incur the risk of an action for infringement?—Yes; that is why I want to make it more simple. . . . Would there not be this, that he would obtain a monopoly over what was old, except in cases in which the public were to challenge his right to use it?—The parties infringing would, of course, have to make themselves informed as to what was new and useful. Would it not throw upon the public the necessity of doing a thing which it is not just that they should be obliged to do?—There might be a little danger of that, but I think that the balance, looking at it in one way and the other, is in favour of the position which I have taken in the matter.

Mr. Grove.—Is every tradesman to be bound to scrutinise all specifications, which we may assume, for our present proposition, have a great deal of useless and old matter in them, and to find out what portions are good?—There might be some danger in that.

HENRY REEVE, Esq., for the last twenty-five years Registrar of the Privy Council.—Their Lordships have always said that the first condition for extending a patent must be the ingenuity and merit of the invention. The second condition must be a certain amount of public utility, inasmuch as very ingenious inventions have been sometimes brought before them which did not appear to have been sufficiently worked, so as to be regarded as useful inventions. The third and most important point of all in their Lordships' consideration has been the inadequate remuneration obtained by the patentee. These rules

they have always laid down, and have generally endeavoured to enforce; of course on all these points a certain variety of opinion may be entertained, particularly as to the remuneration. Many cases have come before the Privy Council showing an absolute loss, and these are the easiest to deal with. There are also cases not unfrequently of a certain amount of gain having been realised, but a gain which the patentee deems quite inadequate to the merit of his invention; on that point opinions may more or less differ. . . . A patentee must show that he has exerted himself in every possible manner; that he has done all that lay in his power to bring the invention into public use, and to make the world acquainted with it, and also to obtain that amount of custom which a meritorious invention may determine. With your Lordship's permission I will read a few words from a judgment recently pronounced by the Master of the Rolls, with the full concurrence of the other members of the Judicial Committee, which will have far more weight than anything I can say upon this point:—"The grounds upon which their Lordships grant extensions of patents all have reference to the inventor himself. They are, in the first place, to reward the inventor for the peculiar ability and industry he has exercised in making the discovery; in the second place, to reward him because some great benefit of an unusual description has by him been conferred upon the public through the invention itself; or lastly, because the inventor has not been sufficiently remunerated by the profits derived from his strenuous exertions to make the invention profitable. All these grounds proceed upon the supposition that the invention is a new and useful invention." . . . Do not you suppose that in an unopposed case it would always be in the power of a patentee to make out a plausible case, and to show that his failure was not due to any fault of his own, where it was solely *ex parte*?—That, with the assistance of able counsel, he seldom fails to do. . . . Of the 62 applications for prolongation which have been granted, 23 were opposed and 39 were unopposed; of the 46 applications which have been refused, 26 were opposed and 20 were unopposed; of the 29 applications which have been withdrawn or abandoned, 18 have been opposed, 11 unopposed. It appears from these figures that the proportion of successful applications is far larger in those cases which are unopposed than in those which are opposed. . . . There was a remarkable case a short time ago, Betts's patent for capsules, in which the Attorney-General estimated the profits at about £10,000, and thought that amount of profit was as much as the invention deserved; but their Lordships were not of that opinion, and they extended the patent for five years. . . .

Chairman.—Do you think that that is a satisfactory mode of proceeding; do you think it possible for any court, in a majority of cases, really to get at a knowledge of what a man has gained or lost by a patent?—I should say that it is almost impossible to arrive at an accurate and certain knowledge. In the first place, patentees, who are very often men of genius, but not men of business, tell the Court that they have kept no accounts; on the other hand, they may be men of business who are engaged in other trades, perhaps as manufacturers

and the accounts which strictly appertain to the patent are mixed up with the accounts of the other business, whatever it may be, which they carry on. It is exceedingly difficult, therefore, to discover how much appertains to the invention, and how much appertains to their ordinary pursuits in business. . . .

Lord Overstone.—Can you state in those cases in which the Judicial Committee has appointed a special accountant to investigate the accounts of an applicant what has been the result?—The result in one case was that the petition was rejected. Has the result of such investigations been such as to give confidence to the Court in the efficiency of those investigations?—I think it has. . . . There have been cases in which their Lordships have been dissatisfied, and have expressed their dissatisfaction, with the modes in which the accounts have been presented to them. . . . Mr. Betts was the inventor of a sort of metallic compound, which is produced by rolling; it was an ingenious invention, and he is also, I believe, a very large manufacturer of those capsules that are put over bottles to contain liquids or pickles. I do not know that it was practicable to distinguish what attached to the invention of this metal from the manufacture of his capsules; that was one of the difficulties which their Lordships felt in that case. . . .

Chairman.—If the inventor has not made out of his invention as much profit as he expected, and as was possible perhaps under better management, is that any reason why the public should be, so to speak, fined by being deprived of the use of the patent for an increased number of years?—In my opinion it is not. . . . It rarely happens that anybody invents anything wholly; all inventions are dove-tailed and joined into one another, and the possession of a link in the chain of invention very often stops and circumscribes the utility of all the rest; therefore whenever a patent of merit and value is about to expire, there are many persons anxious to avail themselves of it, and frequently, I believe, its expiration sets to work other inventions which could not be used as long as that patent existed. . . . The other day a man applied for the extension of a patent for a carpenter's brace, which is a mere tool. I believe the invention consisted in making it revolve on one point instead of on another; it was a very small affair. Their Lordships were of opinion that it was too inconsiderable a matter to exercise their jurisdiction upon, and they dismissed the petition; but in that case there was really no evidence of merit at all. . . . It is argued that it is the interest of the public to encourage invention, and that you encourage invention by extending patents and renewing them when they have been unsuccessful, although meritorious; but I think that this indirect effect is exceedingly remote, and in point of fact it must be acknowledged by any person who has watched the administration of this law, that the sentiment which prevails in the minds of those persons who have administered it has been one of compassion for meritorious patentees who have not met with an adequate reward. It is rather an application *ad misericordiam* than anything else; consequently an advantage has been given to an individual at the expense of the public. . . .

Chairman.—Is not that precisely the case of an invention having

been largely used, and in which a direct reward by the State might have been privately granted?—Yes, precisely. Mr. Bovill's invention was precisely one of those which was of use to all millers, but peculiarly useful to the Government. In the meantime the effect of the extension, although Mr. Bovill was entitled to all consideration, is that it enables the patentee to charge a royalty of 6d. a quarter on all the corn ground in Great Britain by millers who may think it desirable to adopt his plan. . . . The determination as to the duration of that temporary monopoly must necessarily be an empirical act, for you can upon no principle decide that seven years is more proper than eight, nine, or ten years, whether the period for which it is granted is the period which will give the inventor his due remuneration can only be known by experience, is not that so?—Yes; but if that doctrine were to be acted upon, the law would have, or some administrative power would have, to adjust the terms of the patents in every case, for they all differ; one man may be largely remunerated in three years, and another man may not be remunerated in fourteen years. But that period being settled generally by law, is it not expedient, for the purposes of justice, and also for the full accomplishment of the principle of stimulating invention, that there should be in some competent tribunal a discretionary power, in special and strong cases, to correct the defects of that empirical process of fixing the period for which a monopoly is granted?—That there should be some such power, I think, must be admitted: it existed in Parliament before the present jurisdiction of the Privy Council was established, inasmuch as in some few cases Parliament interposed to grant new patents. It might also be converted, as was suggested by the noble chairman, into a reward by the State to a great public benefactor; but you must deal with these exceptional cases as they arise. . . . It might be suggested that, whereas the issue of patents generally is now a matter of common right, very little controlled at least by the Attorney-General, something in the nature of a controlling body, partly judicial and partly scientific, might be created, that would exercise some control over patents, both in the original granting of them and also in renewing them. If such a body existed, and if it were armed with great authority and great judicial strength, I should say that if any body was to renew patents, such a body would be the fittest to renew them. . . .

Mr. Grove.—Have you ever considered the question whether, if patents were granted for shorter periods, for seven or ten years, with a power then to prolong them for fourteen or fifteen years, that would meet your views; that is to say, supposing a patent to be remunerative within a reasonable time of its inception—ten years might be long enough—and if it met with great trade opposition, or with peculiar circumstances which did not bring it into profit till after ten years, then to give a power of extending it on to fourteen or sixteen years?—If that view was adopted, of course it would apply very largely, and to an immense class of patents. . . . I have no doubt that there are numerous instances of patents which are of no use, but which stand in the way, and are used as a means of litigation to embarrass other inventions. . . . The Act of Parliament, the 7 and 8 Vict., c. 69,

expressly provided, by a declaratory enactment, that assignees were to be equally competent to receive extensions of patents with the patentees themselves. . . . The Privy Council have laid it down that a commercial company holding a patent is not entitled to the same amount of consideration as a patentee or an inventor. In the case of the Electric Telegraph Company, they had purchased Mr. Wheatstone's patent for £30,000, consequently the patentee was adequately remunerated; he did not petition for an extension of the patent, but the company which had invested this sum of money, as they had not gained so much advantage as they anticipated, applied for an extension of the patent. . . . Their Lordships declined to prolong the patent. . . . The personal claim and merit of an inventor have a very large share in the extension of a patent.

Alfred Vincent Newton, Esq., a patent agent for a considerable number of years.—There is one class of patents which I always thought should be absolutely refused, namely, patents for obvious applications. I may take, for instance, the same example that I have used before, and as it is no longer a patent there is no harm in it, namely, the use of alpaca for covering umbrellas. I think that it should be open to any one to make an obvious application of any manufactured article that is to be purchased in the open market irrespective of any patent, simply because there is no invention in it. . . . My experience of attempts to repeal patents leads me to the inference that patents are not subjected to the ordeal of *scire facias* proceedings unless of great commercial value. . . . The present system of testing the validity of a patent is as bad a system as we could possibly have. . . . Passing on to the subject of licenses where a patentee has obtained a patent, do you think he ought to be under compulsion to grant a license for the use of it?—I think he should. . . . Do you think that the Court could be safely entrusted with the decision of what is the price which the patentee ought to charge for the license he grants?—I think so. One-third of the saving effected by an improvement has been deemed an equivalent price for its use. This is not applicable to new manufactures; in that case the terms of the license are of little consequence to the patentee, provided they are not too high and not exclusive. The lower the terms in general, the larger the gross amount realised. If, for example, the patentee sells the article at 20s., and charges 5s. as a license fee, and the licensee can pay that fee, and get a reasonable profit on the manufacture, that would be a proof that the license fee was not in excess; but if he could not manufacture at a fair profit and pay that license fee, then the fee would be in excess. . . . Why I am rather strong upon this point is because I have seen so much folly in the refusal of licenses. I introduced the sewing-machine into this country. I sold it for a small sum, and I offered some years afterwards to the owner of the patent as much license money as £10 per machine, and that was refused. I am now granting licenses for a sewing-machine (an improvement by the original inventor of that machine) where shillings are considered an equivalent for pounds in the first case; and I know that in the United States, where sewing-

machinery has thriven more than here, very small royalties have produced enormous sums of money to the owners of patents. Another case in which I was concerned some years ago well marks the folly of a patentee in refusing a license. A poor man invented and patented the making of "cock-spurs" (supports for dishes and plates while submitted to furnace heat) by means of dies, and established a small business upon the manufacture. Some years later a gentleman improved upon the invention so far as to make the cock-spurs 500 at a time instead of singly. The earlier patent being brought to his notice, he desired to make terms with the original inventor, and offered him a liberal sum, together with the sole right to sell the new manufacture in his own locality (the Potteries). He could not, however, be brought to accept these, or indeed any terms; but, contrary to advice, commenced an action for the infringement, and was cast by reason of an unimportant claim in his specification proving untenable.

Robert Andrew Macfie, Esq.—Do you think that sums of such a magnitude are ever paid for the use of patents as to constitute a heavy tax upon the article?—There are constantly in all trades important improvements being made. That is the case in our own trade. Perhaps there is no trade more open to improvement than our own; and therefore I am quite certain that a day is coming when we shall have patents which we require to use, as in time past there have been such patents. The monopoly gives such power to the patentee to demand a large sum from us that we must yield to his demand, but we have no assurance that our rivals abroad have any royalties of equal amount, or even any royalty at all, on the goods they send to the British market made according to the particular invention; and every one knows that the Custom-house will not impose any charge on importation to counterbalance the advantage of exemption from, or lower rate of, royalty. The result is that we shall be exposed to competition with other sugar makers and refiners, who will not have to pay what we must have to pay annually. I may say that a few years ago the British colonies were excluded from British patents. An influential gentleman connected with the West India Association was shrewd enough to see that the sugar colonies would by such an exclusion get the full use of patents for which we at home have to pay, and he prevailed on the Legislature to alter the law accordingly, reserving to the colonies the power of granting patents or not as they chose. The result is that the colonists are making use of inventions for which we pay—inventions published for their or the world's benefit, under the promise or stimulus of a right to tax us; they are among the parties with whom we have to compete. So with reference to the continent, we have no assurance that the persons who do patent inventions on the continent will charge our rivals there the same as we have to pay. On the contrary, the law does not even require them to give the use of their patents in the United Kingdom on any terms at all. If, for instance, a Frenchman had a very important sugar invention, he might take it out in Great Britain, and he might say, "Not a single British sugar refiner shall have the use of this patent."

. . . It is a common thing for a refinery to refine 5000 tons, and not quite uncommon to refine from 10,000 to 20,000 tons a year. £1 a ton is a charge very frequently made by inventors. If their inventions had been worth anything, we should have required to pay that £1 a ton. We might be obliged to pay several parties a royalty of that amount. The duty on brown sugar is 12s. 8d. a hundredweight, that is, £12, 13s. 4d. a ton, so that the following would be the state of matters: We should be paying not only the Customs-duty to the State, but a large duty to the patentee, equal to probably 10 per cent. or 20 per cent. of the Customs-duty, and therefore constituting to that extent a protection in favour of foreigners, not a protection in favour of our own country. . . . Ours is a very complicated business. We have not merely the ordinary patents to pay for steam-engines and for economising fuel, and so forth, but a number of chemical and mechanical patents applicable to sugar specially; for a number of those we have been asked from 1s. to 3s. a hundredweight, and we may have to pay any day three of them simultaneously.

Lord Overstone.—Do you think that it would be an advantage to abolish the patent laws altogether in this country?—I should like that exceedingly, but I have no such aim, and I have very little hope of seeing it. The injury of which you complain, namely, being compelled under the patent laws to pay a large duty in this country from which the foreigner is exempt, would only be met by the actual abolition of the present patentees' rights?—By the abolition of the present system; but if the Commission will allow me, I may mention two ways in which the difficulties that I have stated might be mitigated, by one of which ways, indeed, they would be entirely removed. The first is the proposition of the Liverpool sugar refiners. At a meeting of our trade we adopted certain resolutions which I had the honour of sending to this Commission. Our proposition was that every patent affecting our trade should be valued at some early time, or say, within three years; that for three years the patentee should have a monopoly; and that after three years the patent should be cancelled as soon as the parties subject to the payment of fees would make up the valuation price, or as soon as the various fees or royalties which they have paid should amount in the aggregate to the valuation sum. The other proposition is, that the Chancellor of the Exchequer should be empowered annually to put at the disposal of the patentees for the previous year a large sum for them to distribute by a committee of their own among themselves, so that the nation should, in fact, purchase every invention which any inventor thought proper to make known; a monopoly might, however, be conceded for a short time, say three years, to give the inventor a start.

Chairman.—Putting aside the latter alternative for the moment, and taking the former, do you think that it would be possible to ascertain the mercantile value of the patent—that is to say, its value to the owner—within the first three years after it is taken out?—I have no hesitation in thinking it is possible. There might be differences of opinion as to the principle upon which the valuation should be made. I would not take into account the maximum profit to himself which

the patentee might realise by granting licenses under the monopoly system; but the question should be, what is a fair remuneration, taking into account the cleverness of the invention, and perhaps also the expense incurred in perfecting it, and the advantage to persons using it. . . . If I understand you rightly, that would not be a valuation of the patent, because such a valuation would proceed on an estimate of the worth of it to the owner. You propose something different, namely, a certain reward, fixed upon wholly different principles, to be given to the patentee in lieu of the patent?—Very much so. I propose, in fact, a valuation of the invention rather than of the patent. Do you think that it would be possible to fix the value of any invention in a manner which would prevent endless complaints and objections, or inequality and injustice?—I think it would be. I see no difficulty whatever that may not be overcome in carrying out the proposition of the sugar refiners.

Lord Overstone.—What test and standard would you use for the purpose of ascertaining the value of an invention before it could be brought into practical use?—I would allow the party three years' monopoly, and his experience during those three years would, I think, be a perfectly sufficient test and standard. Are not the cases numerous in which an invention, ultimately proving useful to the public and valuable to the patentee, has failed altogether to develop its utility or value during the first three years of its existence?—No doubt; but in such exceptional cases I think it would be quite fair that patentees should have the right to postpone the time of valuing, the public, nevertheless, after the three years, enjoying freely the use of the patent. . . .

Mr. Waddington.—Whom would you have to settle the value ultimately?—The Government; the Board of Trade, perhaps, might fairly be trusted to appoint valuators. Do you think that that option of buying up an invention, which was your first proposition, would be likely to be acted upon extensively?—In our trade universally.

Mr. Fairbairn.—Would it not be difficult to ascertain the value of a patent in such a limited period as three years?—I can only speak of our own trade, but I see no difficulty in doing it in a much shorter time than three years. Such a case as the Howard vacuum pan I would make an exception, but I would allow in all cases where a particular inventor preferred it that the valuation of his invention should be postponed. . . .

Chairman.—Has it ever occurred to manufacturers to form associations among themselves for mutual defence against frivolous patents?—I think not. What is everybody's business is nobody's. The manufacturers of this country are very neglectful in these matters. I do not think that there is much combination among manufacturers. I understand the plan proposed by the Liverpool sugar refiners to be this: That a patent may be allowed to remain in force for three years, that at the end of that time it is to cease, and that the inventor is to be remunerated by the trade using his patent, the price to be paid being fixed by the Board of Trade or some Government officer?—The system proposed by the Liverpool sugar refiners contemplated a valuation and an extinction of the privileges as soon as the price stated in

the valuation is made up either from a common purse or from royalties paid. Would not that system imply a greater degree of combination among the manufacturers than has ever existed for such purposes?—So far as it was to be paid from a fund among themselves it would involve combination, but so far as it was to be made up from the royalties which they had severally paid it would not imply any combination, properly so called. . . . Perhaps it might be modified in this way, that the valuation should not be made till the parties paying royalty demanded that it should be valued. That would reduce the number of cases to the few in which it would be demanded. It would be only in a large trade such as our own that the demand would be made.

Mr. Hindmarch.—Would not it create a great deal of expense and require elaborate machinery to ascertain the collective amount of all those royalties?—I do not think so. I would just require that a patentee or assignee of a patent should keep a record of the amounts which he has received for the use of his patent from other parties. If any party had paid him a sum as royalty, and if it were not to be found in his books, I think that improper absence of it from the account would be a strong ground for denying him the remuneration. . . .

Lord Overstone.—The whole object of your plan is to diminish the sum which parties pay for the use of a patented invention?—That is the great object; I have stated that we are repeatedly asked, under the monopoly powers which the patent laws give, £1 per ton. Our trade is one of those that are conducted with a small margin, compared with many others. At one per cent. profit we are remunerated. If we pay five per cent. to the patentee, where is our one per cent. profit? Are the Commission to understand that it is your opinion that the trade of this country cannot now afford the expense to which it is subjected by the charge involved in patent rights?—It is hard, or impossible, for British manufacturers to compete with others who may not be so burdened; many trades may be able to do so, but as a general rule it is unfair and hurtful, and in some cases it will extinguish trades. You do not state any practical instance in which that impossibility of the English merchant to compete has exhibited itself?—The number of years is small since free trade was introduced; till free trade was introduced the difficulty did not arise. It is clear that if before that we had a protection of say 50 per cent., we could stand say 20 per cent. for patent royalties. . . . Manufacturers have to pay their license fees when they are carrying their business on at a loss. . . .

Chairman.—I understand your objection to patents altogether to be that they constitute a protective duty to foreigners against the British manufacturer; but in considering that it is necessary to take all attendant circumstances into account. Have you considered how far your greater command of labour, machinery, and coal, and your greater facilities for the disposing of your goods compensate for the disadvantage so incurred?—No doubt those circumstances go to a certain extent in our favour. Still that does not excuse the Government for putting us knowingly on an unfair footing. . . .

Mr. Fairbairn.—According to your theory, if patents were to be registered in the way which you describe, and to be rewarded with medals or a honorarium, do you think it would suit the patentees? It would not remunerate the patentee who had spent a large fortune to bring his patent into notice, would it?—I would be pleased rather than otherwise (because every one likes to see his neighbours thriving) at a handsome sum being devoted annually by the Government to the rewarding of inventors; and there might be the addition I have already spoken of, of a medal or an honourable recognition, which the inventor might be able to advertise, and say, this is an invention which has been honoured by the Government. Have you ever contemplated any plan of reimbursing that money which might be expended in that way by the Government?—My impression is that £200,000 a year would be a most handsome remuneration to inventors, while the present system costs the country, I should say, nearly £2,000,000 (besides the chance of losing some part of our manufactures and also of our export trade); not that the patentees themselves receive any more than a fractional part of that sum. I think one very serious consequence of the patent law is that we lose facilities for perfecting our manufactures by every manufacturer not being at liberty at once to avail himself of all improvements. We have not the power of combining inventions that are naturally connected and might be mutually helpful, and still less have we power to avail ourselves of these gratuitously, as our rivals in some other places have, and therefore we may be distanced in the race of competition with other countries. . . .

Lord Overstone.—If any large annual sum were paid out of the Exchequer to remunerate a certain set of patentees, would not that be in principle and practice a Government bounty in favour of the trades benefited by the particular patents?—It would, but with this qualification—that the advantage which those particular trades derive would go entirely to the public; therefore the manufacturers, or the trades who got the benefit, would merely be the channels for conveying the benefit to the public. I contemplate a yearly grant of not more than £200,000 at the utmost. I may be permitted to observe that it is of the essence of a patent to be a bounty to particular persons, and the reverse of a bounty to other persons (who may be engaged in the same trade), which is really objectionable.

Mr. Grove.—Do you think that it would be possible to make adjudications of those money grants to inventors so as to give anything like reasonable satisfaction? We found even in the awarding of mere honorariums at the International Exhibition a grievous amount of complaint. If, as you propose, substantial pecuniary benefits were given to inventors, would there be any chance of your being able to do so without creating great general dissatisfaction and rivalry?—In order to avoid that, I propose that the inventors of each year should have the right of nominating their own valuators and their own committee, so as not to make it a Government affair. . . .

Chairman.—Is there any other point upon which you wish to make any suggestion to the Commissioners?—Another suggestion which I

would venture to make is, that if a system of buying patents for the public internationally were carried out it would be very advantageous; that is to say, if the various Governments of Europe and America were to abolish all exclusive privileges, and were each to grant a certain sum per annum for inventors, it would be much better for the interests of the several nations. . . . With respect to patents generally, the subjects of patents are of many different kinds. There are articles ready for public use. There are articles ready for use by manufacturers, but which are only helps towards making other articles ready for public use. There are raw materials. There are processes. There are principles. All those ought to be dealt with differently. That persons should have the power of extorting from manufacturers, shipowners, miners, agriculturists, etc., any amount of payment by royalties upon the use of those different kinds of patents is very hard. I would not pronounce it a great hardship that the inventor should be at liberty to preserve the monopoly, and charge as high a price as he pleases, for a novel mustard-pot or carpet-brush, or any article for family use. It is a very different matter when, by inventing any manufacturing apparatus, or process, or raw material, that the progress of trade requires all the makers of some extensive article to employ, he embarrasses them in their operations by refusing licenses, or charging prices which are burdensome and hurtful, or wrongous, and introduces disparity of terms and treatment, which is an almost inevitable characteristic of the system now in operation. Find now-a-days a new trade, such as the original toleration or sanction of invention monopolies (at a time when all other monopolies were made illegal), apparently contemplated, and few will object to its being fostered or distinguished by exclusive privileges. It is wholly a distinct proposition to continue a system that has become almost universally, or at any rate far too often, a means of letting one person interfere with other persons' established trades, and with their liberty to conduct these trades to the greatest individual and national advantage. What is the case of manufacturers is, more or less, the case of shipowners, miners, and agriculturists. Then, again, I think that it would be well to consider who are the different parties who make inventions. Is it workmen chiefly, or their masters, or tradesmen whom masters employ, or *savants*, or mere schemers, or persons who deal in inventions and who make a sort of trade in looking up new ideas? Or is it invention importers we have to do with? Very different treatment is due to those several parties or classes. In the case of workmen it is pretty clear that they would rather have a bird in the hand than two in the bush; they would rather have a positive though moderate Government grant than the prospect of a large sum at some uncertain future. The most important thing to be borne in mind is the advantage to manufacturers of being free to use whatever they think fit. To revert to my own business for illustration. It is impossible, with so many as 400 patents taken out within a very few years, for sugar refiners to make themselves acquainted with them all. They must frequently be exposed to the risk of using other people's inventions without knowing it. That is not a very

pleasant situation; practically it is impossible to master the various patents which have been taken out. . . .

Mr. Hindmarch.—Would it be a very expensive thing to you to buy copies of all the specifications which come out in any one year relating to your business?—Certainly not; I do not think that it would cost much more than 20s. a year altogether. Do you not know that a great many manufacturers in this country do that continually?—We buy a good many specifications ourselves. Therefore you have no difficulty in ascertaining what patents have been taken out in your business?—The difficulty is to understand them, and also to bear them in recollection for ten or twenty years. I have only to plead on behalf of manufacturers that some plan should be devised by which, while the inventor shall be properly rewarded, the manufacturer shall be properly protected. I have no wish that inventors should want any honorarium, or any profit which is fairly their due, but we want some plan by which we shall be put on a fair footing with our rivals. So long as we pay what our rivals do not pay the footing is not fair. It is very hard indeed that a party should have the power of refusing the use of an invention which it is important for a manufacturer to have; he might say, "I have an ill-will against you, I will not give you a license on any terms, yet I will give it to your neighbour." A foreigner might take out a patent, and he might say, "I will not give it to any Englishman."

His Grace the Duke of Somerset and Rear-Admiral Robert Spencer Robinson.—*Chairman, to the Duke of Somerset.*—I understand that your Grace appears on behalf of the Admiralty for the purpose of stating the effects upon that department of the working of the present system of patent law?—Yes, I appear to bring under the notice of this Commission the great inconvenience to the Admiralty of the present state of the law. . . . The patents seem to be given too vaguely and too widely; and again, as has been said, when a person has a patent he makes no use of it himself, but only watches till he can catch somebody else in his hook. For instance, it was but a few days ago that an ingenious plan was proposed to us for moving the shot along a ship at a certain height from the deck. It was said that you could thereby bring the shot to the different guns more easily, and as we are now using very heavy shot, this was an object. But we are immediately told that there is a patent for that purpose, that Messrs. Laird and Cowper have taken out a patent for a sort of railway suspended to deck-beams, and that if you move anything along by a railway hanging from above that is an infringement of their patent. Now that seems a simple thing, and it is a thing which, as it appears to me, ought not to have had a patent granted to it, because there is no great invention in it. . . . There are, however, numerous cases where there is no patented article for sale, but where a claim is raised for the use of some patented mode of construction. In shipbuilding these claims are repeatedly raised. A patent has been obtained, but never worked; it lies dormant for years, until the inventor perceives some opportunity to set up a claim, trusting that the words of his specification may be

ample enough or vague enough to serve his purpose. In some such cases we have been advised rather to pay a sum of money than incur the expense of contesting the validity of the patent. In other cases we have contested the patent. Mr. Clare, for instance, under a petition of right, claimed many thousand pounds. We incurred large expense, and although the Crown gained a verdict with costs, Mr. Clare was a pauper, and the Crown had to pay. . . .

Mr. Fairbairn.—The evil arises from the number of patents, and not from the number of inventions?—Quite so.

General John Henry Lefroy, on behalf of the War Office.—Some time ago we proposed to fire gunpowder in a compressed state; a gentleman said that he had patented the right of compressing gunpowder, and that we must fire our gunpowder in a granulated state, and not in a compressed state, and we were obliged to have a delay of some time before we could ascertain that. What length of time?—A few weeks. We got rid of the claim by compressing our powder without the use of any adhesive cement, which the patentee employed. It was held to constitute a substantial difference. But had the employment of adhesive matter been necessary, Government would have found itself debarred by this patent from the use of gunpowder in form which is sometimes of value where great power is required in a small compass, and which suggested itself wholly independently of this patent the moment an occasion arose. . . . Sir William Armstrong, I think, has not taken out patents?—Yes, he has; but he resigned his patents to the Government, and the Government is or was the holder of his patents. . . . I think that no patent should debar the Crown from varying the form or material of cannon-shot at pleasure. These things arise; I am unable to say that they lead to an obstruction, because in ninety-nine cases, perhaps, out of every hundred we do not pay attention to the objection, but there is every intention on the part of the individuals to obstruct us, and to extort money if they can. . . . If you were able to work your business without the patent law being a tax upon you, as you say it now is, would you not, in so far as you got that special exemption, be put in a favourable position as regards Sir William Armstrong?—Yes, undoubtedly. If a Government department can make a thing under a patent without paying a royalty to the inventor, it must be deemed so far an advantage over those people who must pay a royalty. . . .

Mr. Forster.—In the case of any inventions or improvements which are made in the War Office establishments, and their manufactories, do you make use of the patent law yourselves,—do you take out patents?—It was proposed in a single instance that the Secretary of State should take out a patent to prevent a patent being taken out by anybody else, and being used against him in a little matter which we thought original and of importance, but it was not taken out.

Mr. Grove.—Under what power, statutable or otherwise, do you dispose of bounties in the shape of rewards to inventors. Is it solely discretionary, or under what power do the War Department, for instance, give the large sums of money which they think are proper

rewards to inventors for their inventions?—It is entirely in the discretion of the Secretary of State. In the last few years there has been a small sum provided in the annual estimates; previously to that the sanction of the Treasury was obtained in every instance.

Sir H. Cairns.—Do you allow persons who are working for you in your Departments, if they come upon an invention, to take out a patent themselves?—There is no existing regulation against it, and it has been done in many instances. You are aware, I suppose, that most of the Railway Companies who have large manufactories have a standing law that all inventions by their work-people shall escheat, as it were, to the company?—The Commissioners will probably allow me to read a short passage from a report of the Ordnance Select Committee on this subject in answer. What I am now about to read originated in these circumstances:—An officer employed in the manufacture of small arms devised and patented a small improvement. He afterwards died, and his widow claimed a large sum of money for the patent, in consequence of this small improvement having been adopted, although no such claim was made by him at the time; the War Office desired the Committee to express an opinion with regard to the inconveniences arising from that state of things. The passage in the report of the Committee is as follows:—"With respect to the patenting of inventions or improvements of manufacture by servants of the Crown, who have been indebted for their opportunities of devising such inventions or improvements to employment in connection with manufacture, supply, or expenditure, the Committee conceive that the first remedy is a moral one, the displeasure of the Secretary of State, proceeding to the length of dismissal from civil employment, if necessary, when such patents are applied for without his permission; and that all suitable opportunities are taken of affirming the principle that it is contrary to the honourable understanding subsisting between the Secretary of State and those employed under him, that officers or others should patent anything against the interests of the public. The second remedy might be to make all such patents invalid on proof that the inventor or party beneficially interested was, at the date of the registration, in the employment of the War Office or other military department, and neglected to obtain the sanction of the Secretary of State to his application to the Commissioners of Patents." That was the recommendation of the Committee. Has anything been done upon that recommendation?—Not that I am aware of; no legislation has been based upon it.

Mr. Forster.—Was a royalty paid in the case to which you have alluded?—A sum of £1500 was paid to the representative of the patentee.

WILLIAM CARPMAEL, Esq.—*Chairman.*—You appear here, I think, on behalf of the War Department?—At the request of the War Department. You are the author of a book on patent law?—Yes. . . .

Lord Overstone.—Are you aware of any strongly expressed cases of dissatisfaction and complaint on the part of the patentee at the prices awarded to him for the articles thus taken by force of law?—No; I

have known many inventions used without license from the patentee by the Crown's officers, and many disputes arising in consequence; but compensation has been given to the patentee for the use of his invention. . . . Can you state any particular case of excessive demand on the part of a patentee for an invention used by the Government?—In the late case of the Queen at the suit of Clare, £500,000 was asked by the patentee for a supposed use of his invention on board six of Her Majesty's ships. Assuming that he was right, and that the Government had used his invention, I think that that would have been an enormous sum for any merit there was in his invention, supposing there had been any. But as it turned out, what he asked the remuneration for was not his patent. . . .

CHARLES M. CLODE, Esq., Solicitor to the War Department.—One gentleman, for the expanding or minie bullet, asks £500 a year. Another, for an incendiary system of warfare, asks £50,000. Another gentleman will sell his patent for strengthening guns for £500,000; that case I have just quoted. Another gentleman asks £5000 for a projectile, and a royalty of 9d. on each shot. Possibly there is nothing more deceptive than, in a large department like the War Department, assessing a royalty for its consumption; for in the case of minie bullets or many other things where a royalty is placed upon consumption it is found to be enormous. When we rewarded Mr. Pritchett for his minie bullet in 1853, and endeavoured to take out anything like a scale, we found that the consumption of the article was so enormous that you could not reconcile what was ultimately given for it with any figures. Another gentleman asks £15,000 for the invention of a projectile, or £10,000 for the license. The next case that I have is a material for making the fittings for limber boxes; £1000 is asked, or 1s. 6d. per piece for the article when used. Here is another invention for shells; £8000 is asked. The next is an invention for muzzle-stoppers for cannons and rifles; £10,000 is asked for the patent. The next is a plan for suffocating troops in tents, for which £12,000 is asked, and a note is put to the effect that it is too absurd for the Ordnance Select Committee even to investigate. The last which I have upon the list is an invention for waterproofing paper, for which £5000 is asked. There have been no pains taken in selecting these cases, and I merely quote these instances to show how extremely difficult it is to approach an inventor for the purchase of the patent before using it. I could show the Commissioners by the returns of the War Office that we have paid larger sums for patents which we have never used than for valuable inventions in constant use.

Sir W. P. Wood.—Have you been much inconvenienced by threatened litigation?—Certainly. . . .

Mr. Waddington.—You were never stopped by injunction?—No; we have generally gone on and run the risk of what may happen. . . .

Mr. Grove.—So that a foreign Government could make use of our patent laws to shut out the inventions from this country?—Yes.

Lord Overstone.—Supposing that a person in this country invented a gun which was vastly superior to any other gun in existence, and

patented it in this country, and then refused to sell the use of that patent to the Government of this country, but sold it freely and exclusively to some other Government, would that be practicable under the law?—I apprehend quite so.

Chairman.—Nothing but the interference of Parliament could prevent its being done?—No; it is entirely his own; he may do whatever he likes with it. In the extreme case which has been suggested it would be necessary to have a special Act of Parliament?—Yes; but I could show the Commissioners that we have not unfrequently perfected men's inventions; and because they have not received the precise sum which they thought they were entitled to, they have sold their inventions to foreign Governments. It once happened that a man's invention was perfected by the officers of the department, and expense was incurred on behalf of the public, and he then insisted upon certain terms; and in the letter in which he insisted upon them, he told us that if we did not give them he would go to the Emperor of the French and get them. . . .

Mr. Grove.—Has this case ever occurred, that you have been secretly practising something, and somebody else has patented it?—Yes, questions have often arisen of that kind as to priority of invention. If you practised it in secret that would not avoid letters-patent?—No, it would not be a publication.

Frederick Augustus Abel, Esq., F.R.S., of the War Office, the head of the Chemical Department.—There is only the question of inventions made by Government officers themselves. This appears to me to be a question which might not come within the pale of any general arrangement made with regard to private patentees, and it may be a somewhat difficult question to know how inventions of that description should be dealt with. It is necessary, on the one hand, that the Government should be protected from the piracy (if I may use the term) of such inventions as had been worked out by Government officers; at present the only method of doing that is by securing to the officer himself a patent right for that particular invention or improvement. On the other hand, it is also not only advisable but just, that the officer himself should be protected against the public in the case of an invention to which he has given great time and thought.

Mr. Hindmarch.—Do you propose that in cases of this sort, namely, of an invention made by a Government officer, the Government should have the right to use the invention free, and that the inventor should have a patent as against all the members of the public?—Exactly so; that as regards the public he should stand as a private individual, but that in reference to the Government, as he is their servant, and has been engaged in their employment in working out the subject, the Government should have the free and uncontrolled use of it without any conditions. . . .

Extracts from THE 1871 REPORT OF THE COMMITTEE OF THE HOUSE OF COMMONS ON LETTERS PATENT.

MR. WILLIAM ROBERT GROVE, Q.C., F.R.S.—*Chairman.*—I think you were a member of the Royal Commission on Patents, which sat in the year 1863-64?—I was. . . . I have had a good deal of experience of patents for many years. . . . Taking the present state of the law, my impression is that we should be better without it. I think the excessive cumbrousness of it, and the extreme irregularity and uncertainty in the effect of decisions on the subject, and the considerable trouble given to manufactures and commerce, particularly of the smaller character, are so great under the present system, that although perhaps I am not theoretically in favour of the abolition of patents, if a good mode of granting them could be devised, I think no patent law at all would be better as compared with the present system. In the early periods of the patent law, inventions were rare, and persons who made inventions had generally few competitors; therefore they devoted a considerable amount of time to the maturing of their inventions, and the inventions stood out with considerable distinctness one from another. But as time went on, and particularly when we come to the present century, with the rapid increase which has been going on in every branch of scientific inquiry, and the facility for scientific adaptation, they crowd on each other so, that in fact it is impossible to define where one invention ends and another begins. That leads to this difficulty: We will suppose there are twenty-four inventions running over a certain period, and running into each other; we will suppose that litigation ensues between C. and D., who are neither the first nor the last in our alphabet: assume that C. has added an important improvement to the invention of A. and B.; there is no mode at present devised, nor can I suggest any mode, by which you can give C. a limited protection equivalent to his invention. You must either give him such a protection as virtually places the trade at his mercy for fourteen years, or you must give him none at all. If you were to protect him to the exact extent of his patent specification, that would be infringed with impunity next week; and if you protect him beyond that, you cannot lay down such lines of demarcation as would break off that protection when we came to M. or N., when the invention, considerably departed from, but still involving something of C.'s invention, has got into other hands. C. has made an ingenious and valuable improvement on the invention of A. or B., which probably, if C. had not made it, in the present age of competition somebody else would have made within a month or six months; therefore because C. happens to be the first to make it, and succeeds in litigation, you give him who has only made one step of that kind either a monopoly of the trade or

nothing. I have never heard of any means by which you can effectually give fair and efficient protection; that is to say, not too much and not too little. Another very important matter here is the power of money. We will suppose that C., a patentee such as I have described, is either a wealthy man, or has been enabled to persuade capitalists to take up his invention. Now, if that invention, although not great in itself, be an invention sufficient to command future improvements upon it, it will be worth the while of those persons who take it up (for enormous fortunes are occasionally made by patents, though but a small number are profitable), I say it will be worth the while of the capitalist, or of the inventor, to spend, say, £1000 a year on litigation, as I have heard it often said, "to keep the thing alive." I do not very well see how you can prevent that by our present system or without a very considerable change. Then, who is to represent the public as against all this? It is worth the while of the patentee, or of those who take up his patent, to spend, say, a thousand a year, in litigation; but the defendant, or the person whom he attacks, probably has not got a thousand a year to spend, or a tenth part of it; and if he has, he fights not for himself, but for the public. Therefore there is this question for him: "Shall I go on spending a thousand a year until the case reaches the House of Lords, when even if I should succeed I have gained nothing for myself, and have only thrown the invention open to the public?" That is a very serious consideration, and it is a real practical question which I have seen in operation. I am now perhaps more frequently concerned as counsel for plaintiffs than for defendants, and I am rather speaking against what my professional interests would have led me to say; but it has long seemed to me a serious grievance, and a very difficult one to meet; that is to say, the extreme expense of litigation, the enormous interests which one side has, and the probability of a return for the outlay in litigation, whereby the litigation becomes merely an investment of capital; and, on the other hand, no such encouragement, and consequently no likelihood of anything like an equality of reward. One of the things which are not sufficiently looked at in this matter is, that the evil of the Patent Law is divided among a large mass of the public, it is frittered away, and therefore cannot be very pointedly represented; whereas the evil to the inventor (when you get, as you do get, very hard cases) is a single case which is an apparent strong grievance. A man makes a valuable invention, the patent for which, by some technicality, is upset. The grievance is an abuse which strikes the world very much; but the disseminated injury to the public, on the other hand, by obstructive patents is so minute when spread over the whole of the community, that it is unobserved. Another evil there is which perhaps merges into the same question, which is the enormous number of patents which are granted for comparatively trivial things, some of them very ingenious inventions, and some of them very frivolous. I enumerated a few in my evidence before the Royal Commission, but one could give a long catalogue of them. There are inventions for pocket-books, inventions for portmanteaus, and inventions for every article of dress almost, and things of that small kind. It seems to me a very great hardship, that when an

enterprising tradesman who has made a new pattern of a lucifer match-box, or a clasp to a pocket-book, or something of that kind, and has laid out £50 in such an invention, and fitted his shop windows with specimens, gets a letter from a patentee stating that he has infringed a patent. The man goes to his lawyer, and sometimes to counsel. In that case what are you to advise? I have had many such cases. I will assume that you think he has a good case; but at what cost are you to advise that man to litigate it? You can hardly put the probable cost at less than £1000; £500 would be uncommonly cheap, and a very exceptional case indeed. I generally advise the man to knock under, to destroy his pocket-books, or to put old clasps on them. I say, "The remedy is worse than the disease; you will have to fight a thing in which your antagonist has a strong interest, and by which he will make a fortnne." I have heard of £20,000 a year being made by a trivial invention, if it happens to be a thing which the public must have, therefore the antagonist is almost certain to go on with the case up to the House of Lords, and then possibly there may be further litigation; there are very few people know what patent litigation is. There are one or two very notorious suits which I may mention without prejudice. Bovill's patent, in one form or another, in the shape of separate trials, came before the court more than thirty times. The patent was ultimately sustained, if I may even now use the word "ultimately," and after it had been prolonged for five years by the Privy Council, and after the expiration of the prolongation. Of course, I am not expressing any opinion on the merits of the case one way or the other, having been counsel in it. Mr. Bovill's patent was for improvements in the grinding of flour; Mr. Betts's was for capsules of lead thinly coated with tin by pressure, the capsules being for keeping down the corks of bottles, but I do not think that the particular subject-matter of the patent affects the question much; the question is, whether the patent is sufficiently profitable to the patentee to bear litigation of a lengthened character. Mr. Betts's case went up to the House of Lords, and was there argued; the Court of Queen's Bench, from which it originally came, having reserved their opinion as to whether a new trial should be granted in the event of the House of Lords deciding the case in a certain way. The House of Lords did decide in favour of the patentee, and the Court of Queen's Bench granted a new trial. The case was compromised, but had the new trial gone on it might have again gone up to the House of Lords, and the process might have been repeated over and over again. So in Bovill's case, the same questions were constantly agitated between Mr. Bovill and the different defendants, because, by law, a decision between A. and B. against B. is not binding in an action on the same subject-matter between A. and C., and therefore as fast as there was a fresh infringer, that fresh infringer had the right to raise not only all the points previously raised, but any fresh ones. Now, unless we alter our laws entirely (which might not be desirable), and which would be very difficult, this power of the purse is inevitable, and I do not know of any mode of stopping it. I have often been asked to what lengths I thought the litigation could go, and I have never known any answer

but the exhaustion of the purse. . . . The patentee gets a verdict, and he brings another action at a subsequent time, and then the opponent has found out some other anterior publication in the British Museum, or something done at Manchester or Leeds which anticipated the patent, and there is nothing to prevent his bringing it forward; and so the matter may go on for ever; I do not see any mode of stopping it. For instance, if you were to do what has been proposed on several occasions, that is to say, if you were to have, after a certain amount of litigation, an irreversible patent, you would get into difficulty; I mean that the difficulty of stopping it would probably arise in any conceivable state of the law. I have never known, in all the literature which I have read, or all the discussions on this subject that I have heard, a satisfactory mode suggested for preventing this; it is in the nature of things that it should be so; but with regard to granting irreversible patents after a certain period of litigation, assuming that a patentee has a patent, and he obtains a verdict, and the judge certified, as he is entitled to do, that the validity of the patent comes in question, it has been proposed (it was proposed some years ago by, I think, The Inventors' Advocate Society) to make the patent irreversible after a certain number of trials. Irreversible as against what? You have only ascertained in that particular action that A. and B. did not anticipate C. in their publications. First of all, I will suppose that it is *bona fide*, but I believe there would be a great deal of trickery and collusion, and that sham actions would be brought; but I will assume that the first action has succeeded *bona fide*, and that the judge certifies that the validity of the patent came in question. As soon as that is published to the world, or soon after, it is, perhaps, discovered that the patent which was believed to be new is in some parts of the country as old as the hills, for I have known that occur often; I have known a case where after twenty years an action was brought on a patent, and it was proved not only that it was old at its inception, but that for many years before that (a member of the Committee was concerned in this case) a machine, the description of which would have been *literatim et verbatim* the same, had been used in this gentleman's factory, and the original full-sized machines were produced in Court. Now suppose there were an irreversible patent, how are you possibly to say to persons who had used in their factories the machines for a very long time: "You shall not use them, because you did not happen to hear of this patent," and you do not choose to spend your money in defending the case? I believe that it is an absolutely impracticable idea; I say it with great deference, but I have considered the subject a good deal, and I believe that an irreversible patent is an impracticable thing. . . . There would be two questions still remaining. First of all, Indefeasible against what? because novelty is a question of degree, and you may say that it is indefeasible as against the person who has put forward A. and B., but the next infringement will involve other questions, so to speak. The construction of the patent must be viewed with regard to a particular infringement, and you get a new infringement whether ingenious and purposed, or honest and *bona fide*, and then you have to consider whether this comes within the construc-

tion of this indefeasible patent. Bovill's case was for what was said to combine the effect of the blast and the exhaust passing through mill-stones to blow away the powder they call stive. The Court of Queen's Bench decided that it was a good patent; subsequently Mr. Bovill proceeded against the persons who only used the exhaust, using what, I think, was called the natural blast, performed by the mere revolution of the stones; but the antagonists said, "It has only been decided that the added blast going in, and the exhaust drawing out is Bovill's patent, but it has not been decided that the mere exhaust is," and that occasioned many years of litigation. Suppose that they had an indefeasible patent after the first trial, what was that indefeasible patent for? For what species of combination was it an indefeasible patent? The second question was never thought of until the facts arose; where then is your indefeasible patent? Was it to be indefeasible against everything that Mr. Bovill said it was indefeasible against, or were the Courts to judge of the extent of it? Every cause of litigation would have arisen in Bovill's patent after the first case if it had then been decided to be an indefeasible patent (Bovill and Keyworth was the name of the first case). After the decision in that case, if Bovill's patent had been decided to be an indefeasible patent, not one step of the subsequent litigation could have been fairly prevented by it. . . . The question of infringement would always arise, even if an indefeasible patent were granted, after a dozen trials?—Just so. . . . As you have mentioned the specific case of Bovill and Keyworth, . . . would the seller of the flour, as well as the person who ground the flour by a method which infringed the patent, be violating the patent law?—Supposing the product to have the slightest peculiarity of character, it has been decided that the seller of the product infringes the patent; but, curiously enough, that question supposing the product to be an ordinary product, and the machinery only to be patented, has never been absolutely decided. It was argued this session in the House of Lords, in the case of Betts and Neilson. That was an action for using capsules alleged to be an importation from Scotland to England; and the question was put: Supposing the capsule to be an ordinary thing, and the patent only to be for the manufacture, what then? In that case the very question was put, I think, by Lord Cairns: "Supposing a person sells flour, and it is only common flour, could you prohibit that man doing so because it was made by Bovill's patent?" That question remained unanswered. The case was ultimately settled on the decision by their Lordships, that the infringing capsule was proved to be made by Betts's process itself. The other might be a nice question. A case came before Vice-Chancellor James, which was a somewhat parallel case, where a man had a particular mode of making tinfoil; it was made abroad, and imported to England, and here sold. That was held to be an infringement of the patent; but there, again, the question you ask was not decided, because it was proved in the suit that the tinfoil differed from ordinary tinfoil; but as far as I am aware, the case of a well-known product, *pur et simple*, made on the Continent by a patented process and sold in England has not been decided. So that there is no telling a merchant importing flour

from the United States, or France, prepared by Bovill's process, might or might not be the infringer of the patents in this country?—Yes; I do not think I am wrong in saying so, because we had to ransack the cases quite recently, in this case of Betts and Neilson.

Mr. Macfie.—I was favoured some weeks ago with a copy of *The Chemical News*, where it was stated that an *obiter dictum* of the judge indicated very strongly his leaning; that he held that an article manufactured according to the patent, if it could be proved to be so manufactured, would be unsaleable in this country; do you think that is so?—Assuming that there is a patent for a process, the patent for the product can only protect the production of the product by a given process; you cannot patent a mere thing, a wax candle *per se*, or gold, or silver, or copper, or anything else; it can only be held to be patented if made in a certain way, or by some particular process.

Chairman.—The same product made by other means could not be protected?—Just so. I may add that I think that paragraph in the paper probably referred to Betts and Neilson's case. I do not think it was quite to the extent of an *obiter dictum* of the judge; it was rather a question to the counsel in arguing it. It might have seemed to involve that idea in the mind of the noble Lord who asked the question, but I was counsel in the matter, and as I was keenly on the watch for any fresh view of the subject, I do not think it could have gone beyond that. . . . At the time I was a member of the Royal Commission on Patents the Courts were crowded with patent cases, and at that particular period when I gave evidence before that Commission, there were a vast number of cases postponed,—some few by the action of the parties, and some by the action of the Courts, saying that they had not time to go into them. At the present moment patent cases are, compared with that period, comparatively rare. . . . There have been a great many more decisions by the judges in favour of the defendants on the ground that the invention of the plaintiff was not the subject-matter of a patent. . . . If you suppose that inventions are few and far between, each invention will stand out in relief from the previous invention. For instance James Watt's invention of a separate condenser would stand out pretty well in relief from Newcomen's invention of the steam-engine with the condensation in the cylinder itself. But when we come to the present racing system, the inventions come so close on each other, each new invention treads so closely on the heels of another invention, that you can hardly set down lines of demarcation. Now the law is, that you cannot take out a patent for an application of a known thing to a cognate or similar purpose. For instance, I could not take out a patent for applying a lock used on a door to a window. . . . The more scientific the mind of a judge, the less likely he is to think that an alleged invention is an invention. He sees the facilities for invention, and how easily a man may make, in his own mind, a particular invention, and therefore the scientific judge would view the patent with less favour than a judge who knew nothing of the subject, and who was staggered by the apparent novelty of the invention. . . . I am now dealing with the existing state of things, or with any state of the law under which what is called invention should

have letters-patent granted to it. My own belief is, that this was not the original intention of the law, for when the Statute of James proposed to preserve a monoply by letters-patent to the first inventor of any manner of manufacture, it did not, I think, mean what we now mean, that is to say, any change in the manufacture of, say, corks or buttons, but it meant rather a new process of manufacture, such as the power-loom or the Jacquard loom. The early cases rather bear that out, and the fact of the Crown referring the question to its law-officers for their opinions showed that the original contemplation was that the patent should be regarded as granted *ex mero motu* by the Crown and not as a matter of right. The present notion that the inventor has absolute right to a monopoly is a very crude one. I hold that it is a matter of favour which ought to be (if it can be) exercised with discretion. The words of the patent and the words of the reference to the law-officers very much bear out that view. . . . Inventions were at the time of the Statute few and far between, and patent litigation had not then assumed any dimensions. The law-officers of the Crown, in the reign of Queen Anne, first insisted on the specification of a patent, in order that the public might know what they were prohibited from using during the time of the patent, and that at the expiration of the patent they might have the full knowledge of the invention. . . . It would be considered a grievance for the Crown not to grant a patent for what is alleged to be a new invention. The question whether it is a new invention or not is the substantive ground of nearly all the litigation. If a man asked for a patent for mould candles, that would be rejected of course, but it would be impossible for the law-officers of the Crown, without giving more time to the subject than they now do, to decide on the point of novelty, except in very obvious cases. The three grounds on which patents are commonly litigated are, first, Novelty; whether the man is the first inventor, and whether the idea itself is new, with regard to publicity; secondly, Infringement, which merges or mixes itself up almost always with the question of novelty; and thirdly, the Subject-matter of a patent, . . . whether, in other words, it is an invention, or whether it is not so purely a mere application of an existing thing to a similar subject, that it is no invention at all. The matters which come before the law-officers of the Crown are more frequently questions of breach of faith than anything else. . . . That is to say, with respect to whether a master has taken an idea from a servant, or a servant from a master, or one tradesman from another. . . . Is there not this difficulty, that a patent being granted on the deposit of a provisional specification, which is kept secret, and there being no person to represent the public, there would be a very considerable chance against an opportunity occurring for any one to prove that the same matter had been previously patented; is not that so?—It is so; the title only is known. The latter difficulty occurs throughout the whole of patent litigation; but it is very difficult to say how it is to be remedied, there being nobody adequately to represent the public. . . . It is a vein of ore, so to speak, running among that portion of the public that are affected by it, and who is to trace that? I cannot conceive any mode of doing it. . . . Who knows when a paten-

tee claims an invention for an addition to a loom, for instance, how many are affected by it? You must have a separate representative of each branch of the interest. How is the law-officer of the Crown to know whether glycerine, or whether some of the compounds of aniline are new or old; how is the public interest to be represented in such a case? Take this very thing; take the discovery of dyes produced by aniline. A chemist discovers a substance obtained from coal-tar, aniline, and that by treating it with certain substances, a very beautiful colour is produced. I believe that the original man who discovered that process obtained no patent for it, and probably he could not have got one. As to the number of patents running into each other, I do not think I should be wrong if I said that there were a hundred on that subject. The merit, of course, was in the original discoverer who obtained no patent. All those people compete, and at last one of them, partly perhaps by merit, and partly by purse, carries on the litigation to a certain extent, and obtains the command of the trade; and so it is with a vast number of other inventions.

Mr. Orr Ewing.—I think you are wrong in saying that the original discoverer in that case had no patent; was it not Mr. Perkins?—No I think he was not the first discoverer of it; he was certainly the first person who took out a patent for it, but I do not think that Mr. Perkins was the first discoverer of the original fact.

Chairman.—Hofmann at least was before him, I think?—I think that before Hofmann a French chemist discovered the fact of the production of this colour; but Mr. Perkins was the first who took a patent for it in a practical form. Hofmann, I think, discovered another class of colours. However, that is quite sufficient as an illustration. Take, for instance, a number of applications of voltaic electricity and magneto-electricity; neither Oersted nor Faraday could have obtained a patent for their discoveries, but they have now many applications to the telegraph and other purposes, and there are many patents on the subject. . . . Then taking into account that distinction, that the discovery cannot be protected by a patent and the application can, how does that affect the argument that inventions would not be made if the protection of a patent should not be granted, seeing that discoveries are made in spite of the want of protection?—With regard to a great number of inventions, I believe that they would be made without any patent at all; and that brings me to what perhaps should be the second branch of the question, namely, the desirability or the contrary of having letters-patent. I will now, with the permission of the Committee, give my notion with respect to why it would be desirable, if it could be done satisfactorily, of which I have great doubt, to protect certain classes of inventions. There are some inventions, such as those I have been naming, trifling ones, which are certain to be taken up by the public as soon as they are known: if a clasp to a pocket-book is ornamental and convenient, you will have hundreds of tradesmen who will instantly take it up; but suppose I invent a new mode of iron or copper smelting, to practise which would involve an alteration in plant, and new instruction of skilled labour, and a vast number of other changes, everybody involved in those branches of

manufacture will have a direct and almost paramount interest in not adopting my invention, because he must incur very great expense on what may be a problematical thing, and must encounter a new series of competitive oppositions; and when people in the trade have done all that, the patent being for a new thing, in all probability it would be improved in a very short time, and they might have to take out a license from another patentee; consequently there are certain classes of inventions in which it is an inevitable consequence that trade competition and human inertia will produce opposition, or at least neglect. . . . It is the greatest inventions that are the least likely to be taken up by the public, and it is the greatest inventions from which at present we have no means by our Patent Law of severing the minor ones, and for which we really require Patent Laws; because for those great inventions you ought to have some means of giving the inventor what I may call a fulcrum to work on, so as to induce him, or the capitalist who backs him, to force his invention on the public. . . . Most of the honourable members of the Committee will perhaps agree with me that the notion of Government rewards is quite out of the question. . . . You might suggest a number of things, but you would come ultimately to this, whether you could not effect your purpose by something like letters-patent; that is to say, by making the invention reward itself. Though of course that is a very unequal and irregular reward, . . . I consider it entirely a matter of expediency. I do not in the least recognise a right in it; we should obviously launch ourselves on a sea of difficulty if we did. The merit of the great scientific man whose discovery leads to a thousand valuable inventions is immensely greater than that of the man who takes a single valuable commercial step; but though we give the former some titular honours, we should pay the physician for saving the life of our child far more dearly than we would pay a man for discovering the law of gravitation. . . . If you could sever those great and valuable inventions from the minor ones, and grant letters-patent for the former, you would benefit the public, because you would have the patentee, or those who took up his invention, interested in promoting the invention, enforcing it on public notice, and they would never do that unless they could get some profit by it, though the profit would be limited for a period of years. I should almost say that the larger the invention the longer the time it takes to force it on the public, because the greater the change in the existing interests of the manufacture must be, therefore the larger the invention the less likely it is to command a reward in a limited time, and that would lead up to what is done in other countries, and what I have thought a desideratum, namely, not having a hard and fast line, and granting all patents for fourteen years, but granting some for a longer and some for a shorter time. . . . If I grant a man a patent for three years, then he cannot prolong it further, and the public is only deprived of that invention for three years; but if I grant it to him for fourteen years on condition of his paying £50 at certain times, the public has no power, because he can keep the patent up for the fourteen years. . . . Suppose I thought patents desirable (which I do not for these minor inventions), at all events I would limit them. If a man came for a patent

for a pocket-book or portmanteau, I would not give him a patent for a long term of years; I would say: this is an ingenious thing, and if you are to have a monopoly, it should be similar in character to one for a new design, say for three or five years. . . . It is one of the extreme irregularities of the working of the system that a very trifling patent makes a very large fortune sometimes. . . . It often happens that when you get a patent prolonged, the prolongation is the really valuable part of the patent; the money then comes in in floods perhaps. . . . The law is that the patent is not prolonged if the patentee has had sufficient compensation; but patents are actually prolonged when he has made very considerable profit. There have been thousands of pounds made in some notorious cases, . . . where the Court was aware that large sums were made; but it was considered that the patent was so valuable that the sum was not sufficient to compensate the patentee. . . . The higher the invention and the more it differs from the existing practice, the longer will be the time of suspense; and the smaller the invention, and the more easy the application, the more rapid will be the time. I will take a patent, long ago expired, I believe—the solar lamp—in which there was a perforated disc just put above the wick of an ordinary argand lamp. That was said to be a very profitable patent, and it would come into operation immediately, for every man had only to send to his lamp-maker to get the disc put on; and as there was no outlay, if the patentee charged a penny or twopence a disc, he would realise an enormous fortune; everybody could apply that improvement at once. Do you know of any really great inventions which came rapidly into use?—I cannot call to mind any; I should think that Betts's invention came as quickly into use as any one that I recollect; but it is not for me to say whether it was great or small, as I was counsel in the case, though, no doubt, it was rather an important thing.

Mr. Orr Ewing.—The hot blast came rather quickly into use, did it not?—That was an easy adaptation to existing things; you had only to heat the tube through which the blast went.

Chairman.—So that the importance of an invention is not always measured by the difficulty of the process?—No; but still this would be an exception. Mr. Betts had this advantage, that he was a capsule-maker by trade before, and therefore he had his manufactory all ready for the new invention; he had not to persuade the public into it, for he kept the thing very much in his own hands. . . . I should first of all explain why I say I should not be disposed to grant patents at all for small or trivial inventions. I think, irrespective of the question of trade and of the Government, it is more ministerial to inventive facilities and to progress in small manufactures that there should be, so to speak, free trade in those things. When I had more time to devote to chemistry, electricity, photography, etc., than I have now, I doubt whether there was a single day, certainly not a week, in which in my amateur laboratory I did not infringe patents, and in law I was liable; because in law everybody who uses a patent is liable as an infringer. I do not believe myself that there is a single working chemist now, or a single experimental manufacturer, who every week or month does

not, and must not, infringe many patents. I cannot devote myself to improvements in photography, I cannot find out how to obtain better means of etching photographs without, in all probability, infringing patents. It is a matter which Sir William Armstrong complained of very much before the Royal Commission appointed to inquire into the working of the law relating to Letters Patent for Inventions in 1863. Sir William Armstrong said: I cannot freely experiment in my laboratory without infringing a patent, and I cannot make a new form of the breech of a gun, but I am told that I am infringing a patent. It is a great difficulty that a man of an inventive mind, more or less, who is working out a subject not perhaps of commercial interest, but merely for the purpose of the result to the world, and having the reward of being considered an inventor, cannot work in peace and quietness; therefore I think that the multiplicity of those small patents is a very serious injury indeed, and it is an injury which is the less observed, because, as I have hinted before, it is spread over a large surface, and a great deal of it is under the surface. We do not see the petty annoyances which are occasioned by the multiplicity of patents; we see the injury to a great inventor who loses, or who is refused a patent, but we do not see the evil to the public and to inventors caused by the multiplicity of patents for many manufactures; therefore I should say, if you do continue the system of granting patents for everything which courts of law decide to be an invention, then, by all means, have some rough means of limiting them to a term of years. . . . But for my own part I would rather only grant patents for important inventions. . . . Without being tied down to figures, I should say, if you divided those 3000 or 4000 by 30 or 40, and granted 100 patents in a year, you would grant as many as is desirable. . . . The balance of good and evil, I think, resulting to the public, would be that it is better to reject occasionally inventions, which may turn out good ones, than to flood the world with inventions which may hamper trade and commerce to a very great extent, and lead sanguine inventors to ruin. . . . Take the split-ring for a watch-chain. At the time that was invented it was very clever; but I would leave that sort of thing open to the ordinary run of inventors, and I am certain they would invent such things quite as quickly, and probably more quickly, than they do now. . . . With regard to the larger inventions, the first question the tribunal would place before itself would be, "What does it purport to be? never mind at present whether it is practicable or novel." We will say that it purports to get rid of copper smoke; that deleterious smoke which devastates whole tracts of country, destroys vegetation, and injures animal life through the vegetation which graminivorous animals feed on, and is an abominable nuisance. Now suppose a patent was applied for for such an invention as that, I should say that was a fair question to be entertained. Secondly, I should ask myself, How does it purport to effect that? Is it plausible or not? If I could form an opinion for myself, I should form the best opinion I could from the specification; if not, I should ask some scientific person as to his opinion whether it was probable that it would produce the result anticipated; I could do no more than

that on the inception. Nothing but experiment on a large scale could ultimately decide that question; but I would examine it, and if possible, see it experimented upon. If I found that the object was a great desideratum, and that the specification gave a probable means of getting at it, then I should only ask one other question, and that would be, "Is it *prima facie* new?" That is to say, is it not obviously old? Has the thing ever been tried before and failed, or succeeded? On that you could not pronounce a final judgment. It does not strike me that it would be an insuperable difficulty for a lawyer, we will say, accustomed to analyse evidence, and assisted by the opinion of the person who claims the patent opposed by anybody who had an interest in opposing it, and by an expert or two examined on both sides, to ascertain whether it was *prima facie* an invention promising success. Of the result to be obtained he could judge for himself. The means of attaining the result he must get out by evidence in examination; but I think he might reasonably judge. On that being done I would grant letters-patent; not finally, of course, but a patent as it is now granted at the patentee's risk. Of course, the patentee would then have an advantage which he has not now, namely, that this species of preliminary inquiry would be to some extent an advertisement, and to some degree a guarantee; because the invention would have gone through a preliminary sifting. . . . You might possibly obtain some such tribunal as I am shadowing forth, and at the same time you would also have some slight degree of variety. . . . Do you anticipate any special advantage from the tribunal for granting patents and the one for hearing patent cases being constituted in a similar way?—No, but we cannot hope to get two separate and efficient ones; in some suggestions which I published many years ago, before the Royal Commission sat, I suggested a tribunal for both purposes, and in my evidence before the Royal Commission, finding out that there was a feeling against the same tribunal both granting and trying, I recommended only a tribunal for trying; at that time the Courts were almost at a dead lock with patent cases. But I think that there is no chance of obtaining two separate efficient tribunals. . . . It should be constituted of a judge or judges, not inferior in rank to the present Common Law Judges. . . . I do not think it is desirable on the question of granting patents to multiply appeals. If we had such a tribunal as I have suggested, every patent case which failed would be appealed. Though I would not refuse an appeal I would make the appeal exceptional; we have, I venture to think, a great deal too much appellate jurisdiction in this country. The power of the purse is, so to speak, predominant when you multiply appeals; a rich man can always appeal, whereas a poor man cannot. . . . It is playing at double and quits, which I think is very bad; but if we had what I may venture to call an inferior tribunal, you would have in every patent case an appeal if one party concerned was rich, therefore you would have the matter virtually decided by the appellate court. . . .

Chairman.—Do I understand you to say, that you would to some extent make the granting of every patent a contentious proceeding?—I would. In other words, I would to some extent try letters-patent at

their inception instead of trying them after they had gone on at some length, or, when unopposed, the Court should insist on a good *prima facie* case.

Mr. Orr Ewing.—Would you propose to allow the parties who would be affected by a patent to show cause against it?—Certainly; otherwise you would not get the public well represented. . . .

Chairman.—How would you apprise the public of the subject-matter for which the patent was demanded?—That is a question I have considered, and which involves one difficulty, which is not obvious, but which must be met, and that is the question of publicity. It would be impossible fairly to conduct these inquiries in private, because it would lead to no satisfactory result, and it would be practically a very inefficient way of doing it; only the title would be published, which commonly gives no information. You would then never have before the tribunal for granting patents the real struggle, and there would be much complaint on both sides; it would be complained of by the petitioner if his patent were refused, and it would be complained of by that portion of the public affected by it without warning if the patent were granted. Then comes a very great difficulty, and one which I do not pretend can be thoroughly solved; that is to say, that you must oblige the patentee to divulge the discovery to begin with. Of course you can easily protect him; he would only do it subject to its not being public property if the patent is granted; but if the patent is not granted either by the first or the appellate court, his secret becomes public property,—you cannot prevent that. You cannot shut up an invention and return it into secrecy if you refuse the patent for it. . . . I would allow the provisional specification to be published so that the opponents might know it, with protection continued until the Court came to a decision, and then of course continued on if the patent is granted; if not, the invention becomes public property. . . . They would only grant a patent for a new and important invention; if it be not new and important the patent is refused, and the man loses that which he ought not to desire to gain. . . . My assumption is that the tribunal is to get rid of trivial patents; that is, only to grant patents somewhat as the Privy Council now grant prolongations for inventions on strong cause being shown. . . . That was very much canvassed in the Royal Commission, not only publicly, but privately among ourselves. It was said, How are you to judge of triviality? what may be trivial to one mind is not trivial to another. My answer to that was, that I judge of that as I do of any other question of fact. . . . A man says, "I may keep my invention secret." I answer him, representing the State: "Keep it secret, and, if you can, get a benefit from it; you have the right to it; but if you come to me to ask for a monopoly, I have a right to impose terms; I do impose terms by the present law: I make you publish your invention." And in the proposed case, I should say: If you come to ask for a patent, you must run the risk of making your invention public, provided you do not satisfy me or the appellate court that it is an invention which should be patented. . . . It must be done by a rough-and-ready mode. It is of no use shrinking from the difficulties; we are dealing in the whole of this inquiry with a balance

of difficulties. No doubt it might sometimes be a hardship on the patentee; a patentee might say, "Here is an invention, which, by keeping secret, I might possibly practise and get a reward for." Now, I believe that there are very few inventions which can be kept secret of the kind which would be likely to obtain a reward. I do not recognise the hardship of a man having an active brain being obliged to keep secret the efforts of that brain; but, if he wishes to obtain public recognition for his secret, he must accept the public qualifications on which he obtains that remuneration. . . . It is more easy to keep chemical inventions secret than mechanical inventions, but it is not easy to keep the former secret if they are worth anything. You may keep a patent medicine secret, because that is a complex thing, and analysis will not tell you its effects on the stomach; but with regard to other products it would be very difficult to keep it secret. A witness told us in the Patent Law Commission that a quart of beer would get at any such secret almost. I do not agree with that; I think the mere mode of making a particular thing may often be kept secret. Take the thing, for instance, which the late Mr. Cooke, of York, was celebrated for, namely, grinding and polishing object-glasses for telescopes; that is a matter of extreme difficulty and of extreme importance. I believe when he had gone through his ordinary laboratory processes of grinding, he had a little room of his own where the finishing touches were given, which he kept secret. . . . But there are very few of what I may call patentable inventions that can be kept secret. . . .

Mr. Howard.—Mr. Bessemer's original business, a bronze manufacture, is a secret which has been kept, is it not?—I cannot say; no doubt there are some cases of that kind. . . . I thought more at one time of the evil of secret inventions than I do now; the more I think of it, the less I think a person can be able to keep such secrets in the present day. In the olden time it was comparatively easy to keep an invention secret, but I do not think that it would be easy now. . . . I should certainly grant a patent for Howe's sewing machine. How far I should grant a patent for other improvements I cannot answer until they came before me in a specific form. But, no doubt, the first inventor of the sewing machine would be entitled to letters-patent. . . .

Chairman.—I think that unless you obtain a mode (you cannot of course lay down an exact rule for it) of only granting patents for such inventions as it is desirable to have patents for, you had better abolish patents altogether; that is to say, if you cannot devise such a mode; and I am very doubtful about my suggestions on the question of what I may call the construction of such a tribunal; but, at all events, I would try that as an experiment before I abolished patents, and if it did not succeed, then I would abolish patents. . . . If there is no choice between the present system and abolition, I say that abolition is better, but I consider the thing worthy of a trial; life is short and art is long; and if, after a reasonable trial, say, for forty or fifty years, the thing is not found to succeed, then I should say, abolition. . . . Do you think that the public would lose very much if the encouragement to inventors

offered by the granting of patents were to be withdrawn?—I think that they would lose nothing in the common run of inventions; but I think the public would have occasionally serious losses by there not being sufficient encouragement to manufacturers to push important inventions. . . . I cannot but think that if any one large country gives up letters-patent, other countries will be obliged to do it; that is to say, the advantage gained in competition in many respects would be so great, that other countries would be obliged to do it. . . . I have seen that where a man has made a really good invention, the provisional specification and the final specification are generally substantially the same; it is only with the more fishing inventions that there is any great difference. I am in favour of giving up provisional specifications, and I am not for ante-dating letters-patent. . . . By the Patent Law Act of 1852 that was altered, and the patentee was given the right to begin and end. Since that period I believe there has been only one patent which has been repealed; practically speaking, it has been impossible to repeal a patent. . . . The inventor or owner of the patent comes first and employs an ingenious counsel; he tells the jury what a hardship this is: "If you let the patent pass, you do no harm, since if it is good for nothing anyone can infringe it, but if you destroy it you take away all the patentee's chance, etc. etc." That argument well opened by an ingenious counsel with the first and last word, always touches the good nature of a jury, so that repealing a patent is impracticable if not impossible. . . . This reminds me of another very formidable objection to a tribunal of examiners, and persons of the class which I have been considering, or indeed to almost any tribunal which is not of a very high character. Of course you cannot prevent a man who has a strong interest in the subject, and who has friends, from employing ingenious counsel. I need scarcely point out to the Committee the inevitable evils resulting from the counsel being superior to the tribunal. . . . You cannot have anything worse than having the Bar very much stronger than the Bench; you cannot produce a greater injustice. If you had a tribunal of this description, I do not hesitate to say that with the interests involved the Bar would be much stronger than the Bench, and that it would be absolutely fatal to justice, for they must do one of two things: they must either knock under, or they must resist, and both would be equally bad. . . . I think it would be a good thing that an officer appointed by the Patent Office should give notice to the patentee, say a month or six weeks before the time has expired for the payment of the fees, something to the following effect: "If you do not pay the fees on such and such a day, your patent will expire." It is done in every other similar affair, and insurance companies and clubs do the same thing. . . . You think that a man, however poor he is, if his invention is worth anything, or likely to be worth anything, seldom fails in obtaining assistance from capitalists? —Very rarely, I should say; but, of course, we do not see all the cases of failure. However, I think, practically speaking, it is so. I think you must throw something on the patentee's energy; you cannot expect that a man who goes to sleep can get on. Supposing you very

much cheapened the cost of obtaining a patent, do you think that that might have some tendency to increase the number of frivolous patents? —Yes, I think it would have a great tendency to increase the number of frivolous patents; and I believe it would increase very much the number of people who are rendered miserable by supposing themselves to be inventors. . . . If the present system is continued for granting patents for inventions, without reference to their importance, then, I say, you should only grant them for limited periods; but I think it would be better not, perhaps, to make it absolutely discretionary; that is, not to say that it should be for one, two, three, four, or five years, but to say positively three, seven, or fourteen years, . . . with a power of renewal on cause shown. . . . I think it might be a great boon to the public and the patentee if you could cut off obviously old patents in their inception by a fair inquiry. . . . You cannot try the question of novelty until the public have all come in; in fact, like the question of indefeasibility, it must be left open to the last dying moment of the patent. . . . Contests would only take place in cases where the patent appeared to be valuable and where it was opposed. . . . In proportion to the increase of expense, so, as a general rule, would be the remuneration of the patentee. The trade will never combine together to oppose a thing which does not alarm them; it must threaten their interests. If it is a thing which is obviously not new, or a thing which is not important, there would be no combination. . . . As to the clap-trap in novels about enabling the poor inventor to fight his own battle without or with State assistance, it is nonsense; the thing is impracticable. . . . What, in your opinion, is the great evil to the community of the valueless patents that are now taken out?—The great evil is, that it is an absolute trammel on industry, trade, and improvement. A man cannot introduce a new fabric into his shop without running the risk of being attacked by some patentee who has a far greater prospect of reward, and far more money than he has. But if it is a valueless patent, and there are thousands of utterly valueless patents, why should any one be attacked?—But the inventor does not think so, and he brings his action, and puts the tradesman to the cost of defending it. But if the invention is of no value, why should anybody trouble himself about having an action brought against him?—He cannot help troubling himself; I speak of cases that have occurred. Suppose I am a maker of portmanteaus, and I devise a new form of portmanteau, or one which I think is new. I put it in my shop window; I make £20 worth or £50 worth of them. I put them in my shop window, and a patentee writes to me and says: "I observe you are ininfringing my patent." I look at his patent; I go to my patent agent or counsel, and he says, "The man's patent is a bad one." I write back and say, "Your patent is a bad one; therefore, I shall continue the portmanteau in my window." The next thing I get is a writ in the Court of Queen's Bench; I come to the trial prepared at much cost with my evidence, but before I get to the trial I shall have a great many other expenses, and when I get there I find arrayed against me two or three exceedingly ingenious counsel. I may succeed in obtaining a verdict, but it is almost as likely that it may be against me. What I thought

was an anticipation in the specification turns out not to be an anticipation; perhaps there is a new trial, and I must go on, and pay extra costs. But if the patent is in itself a valueless patent, I cannot see why the man who has infringed it unwittingly should go on?—He has already expended a sum of money, and he must either burn all those portmanteaus or carry it out. A manufacturer makes a number of portmanteaus. He is threatened by the patentee; if he sells those portmanteaus he must be dragged through the Courts, and must spend a good deal of money even if he succeeds in the end, and proves the patent to be utterly valueless. Suppose he has made a certain number of portmanteaus, if he chooses to sell those portmanteaus and fight the action, he must spend his money, but surely he need not burn those portmanteaus. He might make some arrangement or alter his mode of manufacture, might he not?—That is, in other words, he must pay money to the patentee. . . . What harm is done by a man taking out a patent for a valueless invention?—A new form of portmanteau may be very valueless in one sense; but it may from its fashion or otherwise command a sale. . . . No patent is ever upset on the ground of inutility. Taking the most useless inventions, if the slightest utility can be proved, the law protects them so much, that pleaders in these cases scarcely ever plead inutility, because it frequently gives the plaintiff an opportunity of puffing his invention, and there is no chance of success for that plea; but there are other senses of the word utility which are very important. A patent may be really useful, that is to say, it may confer great benefit on the public, though that might be a question of degree. But there are many patents which are useful in the sense of bringing a profit to the owner, and other persons who are in the trade, but which many persons would call useless. Take an actual case, a patent for making chignons of wool. Anything more useless in the high sense of the word than to stuff a great mass of sheep's wool at the back of a woman's head can hardly be imagined, but we are told that the patentee and the tradesmen made enormous sums of money by it. Therefore they were extremely useful in one point of view, and there was a great fight on the right to use Russian wool, with regard to who should supply tons of that wool to the public in order to enable women to hang it on the napes of their necks. . . . I think when I used the word "useless," I meant useless as compared with what letters-patent ought to be granted for; in fact, I used the term in the sense in which I used the term "trivial" or "frivolous," in other parts of my evidence on Thursday last, meaning that which was not the proper subject of a State privilege. Take the makers of a vast number of articles of manufacture of that order; to my mind it is a very trammel upon trade that men should be put in the position that they must either get rid of their stock or pay a person a price for the invention who they think has no right to it, or contest the patent where the patentee has a great interest in laying out money for that purpose, while they have next to none. Though the injury is spread over a large portion of the public, I think it is very great in reality, though we do not see it in detail. . . I did not quite sufficiently express myself upon one evil of the

multiplicity of patents: that it is an evil to the inventors themselves; and it is, perhaps, as serious as anything else to the public. I mean where there are, say, twenty patents where one only should be, and which, were they properly concentrated, would make only one fair patent. There are a number of poor men, each thinking that he himself had made the important step, and they are led into the struggle, and each defeated man thinks the other succeeded by mere luck, or by getting capitalists to assist him. I do not think it is known how many men are ruined by that kind of struggle; I mean men of clever inventive faculty. Each of them naturally thinks that his invention is the important one; and then you get twenty patents running into each other by insensible gradations, and they get into a struggle of this kind, and the best part of their lives are wasted. . . . If the improvement was a great one, I would grant another patent, but if it was a slight one, I would let the first patentee have the benefit of it. . . . People will never give up inventing or improving, except it be such an improvement as requires them to use expense and energy to force it on the public. Suppose two tradesmen are rivals in trade; if a man can obtain the pre-emption of an improvement for a month or six months, it is his interest to adopt it. . . . I recommended a public inquiry in the first instance. Now the disadvantages of a private inquiry are very serious indeed. First you cannot have a private inquiry so arranged that the trade can be warned, and be there to oppose. You keep the invention secret, and all you publish is the title, and the title is purposely made vague. It is called, for instance, an improvement on the steam-engine; the consequence is that you really get no effectual opposition. The only opposition you generally get is that of some man who gets some inkling of what the applicant has done, or some case of breach of faith. Suppose you were to say you will have a tribunal which should prosecute a private inquiry, of course that would not affect my evidence as to what kind of tribunal it would be; but a private inquiry would be worth nothing. The mere title would be published, and the mere communication of the provisional specification to that private body would not warn the public to be there to oppose. . . . Practically he would always establish a *prima facie* ground for his patent when there was no opponent, because there would be nobody interested in getting up a case against him, unless you had the two parties present, one on each side.

Mr. Johnston.—Have you turned your attention to the question of licensing and the desirability of compulsory licensing?— . . . A limited premium would be better than the present system. I am not in the least opposed to compulsory licenses if they would work. I think I said in my evidence before the Royal Commission that the best plan was that of Mr. Scott Russell. It is a fluctuating matter; a patent changes in value, much depending upon subsequent inventions and the course of trade. Take the case of Young and Fernie. It was said by the opponents of the patent that the enormous value and merit of Young's patent lay in his use of bog-head cannel coal, and that if it had not been for the discovery the patent would have been of comparatively little value. Now the discovery of that which would

make a patent more or less valuable to a great degree, but which had nothing to do with the invention, would alter the rate of the licenses very much. . . . For a small class of inventions a very small amount would do; for a rapidly remunerative article, such as, for instance, the solar lamp, a halfpenny or a penny a-piece would bring in a large reward. But take another patent not used by a dozen persons in the country: in that case you must give a large maximum. . . . I was once counsel for a plaintiff in a case where we lost the verdict, but the publication of the case, and of the man's manufacture, had so large an effect that when I saw him a year or two afterwards, he said that though the verdict cost him £1000 or £2000, it was the best investment he had ever made, and that his trade had increased to such an extent that it had been quite a boon to him, although the invention had been thrown open to the public.

Mr. Dillwyn.—Do you remember any case in which the public have been debarred from using a valuable invention in consequence of the Patent Laws?—Yes, during the time of the patent. Absolutely?—Yes; I know several cases where great complaints have been made, that the patentee has not allowed any one to use the invention.

Chairman.—Do you mean that he has not used it himself either?—No; he used it himself generally. Those have been, generally, cases where the patentee has also been the manufacturer. Then he charges a prohibitory price for the article, I suppose?—He charges very much too high; at all events, he charges high prices, or grants no licenses. In answer to the question of the Honourable Member, I may state a fact which shows that it is not an unfrequent practice, namely, that in petitions to the Privy Council for prolongation, the person preparing the petition always, if he possibly can, puts in a clause that the petitioner has been willing to grant licenses on reasonable terms: that being an invitation to the Privy Council to look favourably upon his case. . . . If a monopoly is given to a patentee, it rather discourages invention, does it not?—In many cases it does, and in the instances which I have given no doubt that is so. . . .

Mr. Pim.—Do you believe that there is any useful invention at all that would not in time be made without a patent?—"In time," perhaps they would, but time is a great question in the matter. There are some inventions of a large character that might take fifty or seventy years to come into use, but where, by giving the inventor some powerful means of pushing his invention, or rather of being rewarded for his invention, it might come into use in ten or twenty years, or less. . . . Now, I will ask you whether that would not be affected by the fact that a man newly starting in business would naturally make his manufactory on the very newest plan, and whether that would not give him some advantage, even if there were no patent right, and leave others to follow his example?—Very likely at the first start a man would take the newest things he could find, but when he got into a good established business he would become a conservative in those matters, and would be very unwilling to change anything, and therefore you would only get new inventions started by new men, so that, unless you obtained a constant influx of new men, you would have much less

chance of new inventions. . . . With regard to the patents which are worthless to the public, are there not a great many patents which are valueless to the inventors?—An enormous number. I have been speaking quite as much in the interest of the so-called inventor as the public. I believe they do a great deal of harm to the inventors, because they induce a number of sanguine men to devote a very large portion of their lives to them. They also introduce a neck-and-neck competition instead of leaving a person to take years to mature his invention, as was done in the olden time. . . . Twenty or thirty to one may be considered as some rough approximation; but to look into the injury to the inventor is a very difficult matter. You see a few cases of success, but not the numbers of failures. One very often hears that every one succeeds according to his merit; but I think that is one of those popular fallacies which arise from our not seeing the cases of failure. . . . If France and Prussia had no patent law, we could not shut up all the inventions in England which were commonly free in Prussia and France. Therefore the common run of inventions would be open at once; and then the other country which had no patents would get your great inventions, even if you shut them up in your own country. Therefore I do not see how you could continue to work at such a disadvantage with another country. My impression is, that the rest of Europe must give them up in that case. . . .

Mr. Macfie.—It has been said that a very strong impression was made upon the members of the Commission in favour of abolition, or, at all events, in a sense adverse to the continuance of the present system of rewarding inventors; is it fair to ask whether the public have rightly interpreted the report in that sense?—I do not think that it would be quite fair to answer the question, and perhaps it would not lead to much if I did. I certainly have heard *aliunde* (not at the Commission), that one or two of the members of the Commission were so impressed. Some other members certainly retained very strongly their impression in favour of letters-patent, and an intermediate number remained in abeyance, considering that they had not sufficiently heard the subject discussed; but I think I may add, that the tendency of the evidence was to impress the Commission with the extreme difficulty of satisfactory legislation on the subject. So far as that may be an argument for abolition, no doubt it did impress them very much. . . . With regard to scientific men, I do not think the patent law much affects the higher questions of science. . . . Some few scientific men of eminence have made money by patents, and others have been damaged by them; but I do not think it has much effect, for the common inventions of useful things for trade and commerce are what scientific men care very little about in general. . . . The alternative is that you must have the rewards given by comparative strangers. It is very difficult to adjudicate upon such matters. If honours were conferred unsought it might be well, but I fear this is the exception in practice. . . . You now encourage a good many poor men to sacrifice the little they actually have, and I see no mode of rewarding the poor man except one consequent on his being enabled by the merit of his invention to get some man

of capital to start it, giving him some premium upon it. . . . I have taken the quantity of sugar refined annually by a particular sugar-house in Paris, and I find that even at one per cent. *ad valorem* upon the goods that they turn out, on a very moderate calculation, the royalty would amount to between £35,000 and £40,000 per annum. Two questions occur to me upon that; first, Whether in that case it is not obvious that one per cent. would be much too high a royalty to be practicable? and secondly, Whether you do not think that the exemption, we will say by the Paris sugar refiners from such a royalty, simultaneously with liability to it on the part of all the British refiners, would be a great wrong to the manufacturers of this country, to the commerce of this country, and to the labouring population of this country?— . . . That again goes back to the general question; if you could obtain the same amount of good sugar manufactured, unquestionably I think you should not have patents. . . . When you come to the enormous complexity of the patent law, I can think of no workable international system of patents. . . . By a common application that should not have been patented at all, and which has been upset on the ground of want of novelty, the parties were said to make £20,000 a year. . . . Then you have observed no proportion between the magnitude of the reward received by patentees and the value of their inventions?—Scarcely any, only a very rough proportion if any. I should say that there are patents which, really, so far from being valuable, are actually injurious. I have mentioned the frivolous case of the chignon, and I may mention another, a soap patent. I was concerned once in a patent case for introducing water into soap as much as possible. One of the witnesses said that the great problem was to make water stand on end; the object of the patent was, in fact, to sell to the public water for soap. There are a great many patents which were really injurious to the interests of the public, but which form a very considerable source of profit to the patentee. You are aware, perhaps, that a respectable Liverpool merchant once applied for a patent for manufacturing chicory in the form of coffee-beans; was a patent actually granted for that?—I cannot tell. . . . I think I have heard that there is a desire on the part of patent-agents to say that a patent might, and ought to be, held valid though it has been published abroad and used abroad, provided it has not been published and used in the United Kingdom; how far does that desire agree with the actual state of the law?—That *is* the law at present. In order to prove that the patent is void on the ground of anticipation, whether in a book or other document open to the public, or by prior user, it must be proved to have been used or published in some part of the United Kingdom. . . . With regard to Bovill's process, I think he charged a royalty for the use of his patent. First, do you remember the amount of that royalty, and how much *ad valorem* it would come to on the value of Bovill's flour?—He varied the royalty himself at different stages of the patent; he did what many patentees do, he charged a higher royalty where the parties litigated and put him to great expense than where they did not. But in a case where I was myself counsel, I would rather not say much. If I said anything in favour of

Mr. Bovill, it might seem as if I was prejudiced in his favour; and if I said anything against him, it might be regarded as a breach of confidence. I hardly like to ask you whether it is correct to state that Mr. Bovill was not the inventor at all of the process, but saw it abroad?—That formed a great question in the case. I think I ought to say this, that I do not think Mr. Bovill was ever accused of having plagiarised the invention, but one controverted point of the evidence was that he had seen things abroad which had suggested to his mind divers improvements. . . . On page 6, Mr. Attorney-General asks you, "If it appears on the face of any document that the invention has been before used, we do not, of course, allow it;" does it not appear to you that there are a great many inventions that are in constant use in manufacture, as to which you would look in vain for any document descriptive of them?—Yes; I apprehend the reason is, that in a kind of tribunal, like that of the Attorney-General, which examines in secret, so to speak, they can only go on manifest and obvious printed evidence. . . . I have heard an eminent man connected with the Government say that he had tried to get quiet merit rewarded; but he found, practically, that it was the most pushing people who obtained the rewards. . . . If a man is a perfectly innocent vendor, and says, "I knew nothing about your patent," the patentee seldom proceeds against him. . . . When they cannot get hold of the infringer, they tell the vendor, "Either you must desist selling, and pay me something reasonable for what you have done, or else put me in a position to bring an action against the man in the background." . . .

Mr. Platt.—I think that granting a patent for a half-made invention leads to a good deal of litigation and injury to the inventor and the public. You think where the patent was complete at the time of the application, then if the patent was really granted, there would be something *bona fide* for the public to depend upon?—Yes, and the examination would be a kind of guarantee to the inventor. I think he would have a fair position put before him. . . . I do not know whether it is desirable to get a class of men to devote the whole of their time to practical inventions, but if it were I should still say that a great limitation of patents was desirable, because it would enable men to devote more time to particular inventions, and prevent the neck-and-neck race which now exists. . . . Should you be surprised to hear that I know a gentleman who has retained for the last thirty years the secrecy of his invention?—No, I am not surprised at that, but I should expect such cases to be rare. Of course, he has the right to do that. I think I have stated that there are a good many arts and modes of manipulation that are kept secret. . . . If his invention is one which the public can fully appreciate, fourteen years would give him time enough; but whether or not you should legislate for exceptional cases to the contrary, I will not undertake to say. . . . The general result of my experience is, that where persons are active, then in the last two or three years of the term they obtain considerable profit.

Mr. H. Palmer.—Is there any reason to suppose that if you create all these difficulties in the way of obtaining patents, inventors will take

their inventions to other countries, where there are greater facilities given to them?—No; it may be so in a slight degree, but that of course is a matter which you must meet; I do not think that the cases would be very numerous. I do not think that persons would expatriate themselves for the extremely problematical chances of taking patents to another country, of the laws of which they were ignorant. . . . I could name patents of a most trifling character which have made large fortunes,—a slight improvement in a dye, for instance,—but I would leave those things to trade competition. . . . I do not recognise it as a function of the State to seek out and reward merit, and I do not think it can do that. Practically that would apply to the copyright of a bad book, would it not?—If it could be done it would be no harm, but bad books may be said to refuse their own copyright, at least most of them do. There you do no harm, whereas inventions often stand in the way of each other.

MR., *now* LORD GORDON.—If I felt sure that the public would lose nothing I should say, abolish patents. Is there any risk of the public losing the benefit of them in the event of patents being abolished in consequence of the inventors working out their inventions in secret?—Not much. There was some risk when trade mysteries were more easily kept, but with the immense skill of our present scientific population it is not so. . . . Do you not think that a sum might be fixed in granting a patent which would be a fair remuneration to the patentee, and that in the event of that sum being realised by the royalties, the invention should cease to be the exclusive property of the patentee?—I am afraid that it would give rise to a good deal of manipulation of the amount received, and you would have to inquire into the real remuneration, and then you would have an inquiry into each case, what was really profit, and what was not, and what were the expenses the inventor had gone to. But still it would be better, would it not, than a system which gives immense profits to a person for an invention, which has not cost him much trouble?—If you could so organise it; but that is the difficulty. There is quite enough litigation at present connected with patents, and this would introduce new sources of litigation. Would it be advantageous to the public, do you think, that there should be a public officer appointed for the purpose of looking after the interest of the public in any such investigation, with a view to forming an opinion with regard to what amount of remuneration the patentee should obtain?—I am a little inclined in favour of that. At the Privy Council the Attorney-General or his deputy watches the case of the prolongation of a patent, and opposes it if he thinks fit, in the interest of the public. It might be a desideratum if you had such a tribunal as I have suggested, and could afford to pay an officer, who should be a very high officer, quite free from all suspicion of undue influence. . . . No; I mean a *bona fide* action, where the person sued for infringement finds he is involved in an expensive litigation in a matter which does not affect him very much, and lets judgment pass against him for a consideration?—I have known several cases of that kind of compromise. I could hardly say they were very poor persons; but I have known cases where a com-

promise has been effected, by which the person opposing the patent has been paid a round sum of money not to disturb the verdict.

Mr. Macfie.—It appears to me that the mode suggested by the Honourable Member is one perfectly practicable (and I speak as one who is acquainted with manufacture); the idea, as I understand it, is this, that a party when applying for a patent should record what is the expense he has incurred in his experiments, and he might record also the losses he has made before he got his manufacture established. An understanding might be arrived at that he also should keep a record of the various royalties that he had received, and that it should be competent for the manufacturers to associate together, if they please, or one manufacturer by himself, and to go to the Court and say, "Such a sum has been altogether paid by the trade for the use of this invention." Suppose it has now reached £100,000, you could in that case look at the notes that you made at the time, and then calculate a reasonable valuation, and see if it did not reach your idea of what would be a fair remuneration. It appears to me that this would make the reward much more proportionate to merit than the present system; does not it occur to you that if that could be arranged it would be an improvement?—I do not say that it is absolutely impracticable, but I do say that it is very difficult. It constantly occurs before the Privy Council that the patentee is also a tradesman, and you have to try and sever the profits of the patent from the profits of the trade; it is a cumbrous inquiry. Have you thought of any system by which a number of persons could combine? At present a manufacturer is often at a loss whom to apply to when he wishes to make use of an invention. Tom, Dick, and Harry, and thousands of persons have other improvements: have you considered any plan by which a party could say, "For all these inventions together I will pay such a sum of money into Court; divide it amongst yourselves, but do not keep me from the use of your inventions until you have settled matters about which you differ amongst yourselves"?—That is a new idea. In that case you would have to measure all the different interests relatively; and I do not know how you could make it work. You said that one or two per cent. on the profits of inventions might be a fair reward in some cases, did you not?—Yes. But is it not within the range of your experience that inventors generally expect a very much larger proportion of profit than that?—Yes, it is very natural they do; and one can quite sympathise with them, because they do not see the enormous difficulties of the system, and they look only to what they have themselves done in the matter.

The Right Honourable Lord Romilly, Master of the Rolls.—*Chairman.*—I think, my Lord, you took considerable interest in the preliminary steps for the amendment of the law of patents, which took place in the year 1851-52?—Yes, I took a good deal of interest in the matter. And you gave evidence before a Select Committee of the House of Lords on the Patent Law Bill, which was introduced in the year 1851?—Yes. . . . Are patents frequently "avoided" on the ground of the invention not being the proper subject-matter of a

patent?—Yes, unquestionably. But if it is a valuable discovery which produces profit it is always the subject-matter of a patent if it is new. That would be the guiding rule for the decision?—Yes, that would be the guiding rule. I had a case before me which I said was not the subject-matter of a patent; which was a patent that a man had introduced for making spring hoops for ladies' dresses, and that was displaced, amongst other things, by producing a picture by Hogarth, who had drawn exactly the very thing; they were crinolines, in fact. That was on the ground of want of novelty?—No doubt it was on the ground of want of novelty. . . . I do not think it was a proper subject for a patent. . . . I do not say that if it were found useful to distend ladies' dresses, something in the nature of crinoline might not be the subject-matter of a patent. . . . Can you conceive any reason why it should be an expensive thing, and why it should be left to individuals to bear the expense of repealing an invalid patent?—No. But that is the state of the case at present, is it not?—Yes, that is the state of the case at present. But you must bear this in mind, that all patents go on by steps. It is very rarely indeed, if ever, that one man makes a great invention, but he invents something which is added on to something else, which goes on till at last somebody finds the key-note, that sets it all alive. Of course, he cannot do it without using all those other patents which are practically useless by themselves; and that is the great difficulty in considering those questions now. No man invented the steam-engine, as it stands at present; but hundreds of minds have gone on making gradual improvements in steam-engines. But the man who added the key-stone is in the position of not being able to turn his invention to any account, unless he obtains the consent of the people who preceded him?—To some extent that is so, but still the thing is that he gets all the benefit, whereas the man who made the first discovery would get nothing. . . . I was thinking of the discovery of lighting the streets with gas, which was unquestionably a very valuable discovery, but the person who made it died, I believe, a pauper; and also of the electric telegraph. . . . I do not see any remedy for it. . . . Whereas, at present, unless some private person intervenes, a bad patent will stand until its expiration?—Yes, it is always granted. And always continued for the fourteen years?—Yes, and always continued for the fourteen years. To the detriment of the public?—The public may contest a patent, of course, as soon as it appears, but it gives rise to litigation. . . . If a patent were published abroad, taking into account the facilities of communication which exist now, would you deem that a publication in this country, or would you require proof of the publication in this country, in order to invalidate a patent?—If it were proved to have been published in another country, I think I would take that on the same footing as a publication here. You would assume that it was known here if it were known abroad?—Yes; I had a case before me in which it was disputed whether a patent was published in this country or not, in which there was enormous litigation. It was the patent by Mr. Bovill for utilising the small dust made by grinding flour, and they said that this process had been invented abroad, and that it had been published in this country.

One of many instances brought forward to show a publication in this country was a volume sent to the British Museum, which nobody, I believe, had seen. I did not think it was the precursor of the patent; but the publication which was relied upon was merely the sending of this volume to the British Museum. Would you hold that to be a sufficient publication?—I could not help holding it so upon the decided cases. If it had been at a bookseller's where everybody might have bought it, though nobody did buy it, that would have been a sufficient publication. . . . One of the most useful inventions of modern times is that of the person who discovered the art of making interminable sheets of paper. Probably some of the members of the Committee may not remember the time when you could not have one very large sheet of paper, but had to join sheets in case of need. A man discovered the art of making sheets of paper of any length. That patent was invalidated on a trial before Lord Tenterden on account of a little defect in the specification. That man had spent a very large sum of money on his invention, and I think the Government gave him a pension, but he was very nearly ruined by the invention, though he made the fortunes of a large number of persons, particularly in those cases when a stamp was required to be affixed only on one sheet of paper. If you make them give the specifications as speedily as you can, you then probably invalidate certain patents which, if you wish patents to continue at all, ought to have remained valid. Do you not think that the present mode of granting patents is, to a large extent, a fraud on the public? —Certainly, I have no doubt of it; and they are made use of as such. I have had many instances of this. I have had many cases before me of persons who have insisted on patents, and induced opponents to give way because they could not stand the expense when the patent itself was plainly worth nothing.

Mr. Cawley.—Is your Lordship prepared to recommend to the Committee any special amendment in the law of patents?—No, I cannot say that I am prepared to recommend any special amendment in the law of patents. I have given evidence upon this question before to the effect that the patent law had better be abolished altogether. . . . I think you had better abolish it at once, but not without providing the means of rewarding persons who have made considerable inventions and discoveries. Would you propose that those persons should be rewarded by the State?—Yes, by the State. The tax on the country would be much less than it is now. I suppose the Committee have got returns of the existing expense. I do not know the amount of the taxation of the country in consequence of the patent law at this moment, but I know that it is a very large sum. At all events, your Lordship thinks that it would form an ample fund for such a purpose? —Yes; but of course that would all come out of the Consolidated Fund. But does your Lordship think that there would be no difficulty in assessing the proper cases for reward?—I think the three persons who were suggested as Comissioners would assess the reward perfectly well. . . . Would your Lordship think that it would be desirable to have any preliminary inquiry more strict than that which is now exercised by the law-officers of the Crown, before the patent is granted?

—If you retain the system of patents, I do not know that you could have any other inquiry than that which you now have; it is very difficult to say, but if you could accomplish it effectually, and with the confidence of the public, it would be a good thing. . . . I have no doubt that the feeling in favour of patents is very strong throughout the country, but I think it is an erroneous and injurious opinion.

Mr. Gordon.—Where it is a useful patent it is always sure to be litigated. For instance, there was Mr. Bovill's patent for utilising the small dust of flour, which has been contested for years over and over again. . . . Where it is not useful, sometimes there is the oppression of the poor man by the patentee, is there not?—It is so simple to take out a license and pay a royalty. The inventor says, "If you will pay a small royalty, I will refrain from molesting you; if not, I will file a bill in Chancery for an injunction, and you will have to contest the patent." . . . It is very difficult to induce a man to see the merit of an invention which would be very injurious to him. Without intending to do anything which is not fair and right, he does not see the novelty of it. He would say everybody knew it, but no one thought of using it. You constantly find this feeling in courts of justice, where there is no intention whatever to do what is felt to be dishonest.

Mr. Pim.—It was pressed upon the Committee that patents should not be granted for frivolous or trifling inventions. I think I see, with regard to the Commission which sat in 1862, your Lordship was asked that question, whether you thought patents ought to be refused because the subject-matter was frivolous, and your answer was to the effect that the line could not be exactly drawn, was it not?—I think so. . . . But if that could be done, you would consider it a great advantage, would you not?—Yes, I should consider it would be a very great advantage.

Mr. Macfie.—And I have further understood that the Statute of Monopolies prohibits the working of a manufacture, but does not in any way prevent the vending of the manufactured article. Is it not your Lordship's opinion that notwithstanding this, vending is now prohibited by the actual administration of the Statute of Monopolies?—I should think not; I think that the Statute ought to be construed liberally, and that that is the disposition of the Courts. The Courts do hold that the vending of a patented article is illegal, but in the words of the Statute of Monopolies I find no prohibition. I find the words there are, "The sole working or making of any manner of new manufactures within this realm, to the true and first inventor, and inventors of such manufactures, which others at the time of making such letters-patent and grants shall not use," but there is not a word prohibiting vending. That Statute was passed before the union between Scotland and England. I presume there was nothing in the state of the law to prevent a manufacturer in Scotland bringing articles made therein into the southern kingdom and vending them?—But giving the monopoly of manufacturing such articles would be useless if you allowed a person to manufacture them in an adjoining country, and to come here and sell them; consequently the Court always holds

that as a violation of the Statute. Suppose I am at liberty to make any particular article, and that nobody else may make it in England, if a man makes it abroad and comes and sells it here it is a violation of my patent. In Prussia I understand that view does not prevail, and, in fact, in the majority of cases importations are permitted; is that so?—I do not know. Lord Coke used these words, that there must be *urgens necessitas* and *evidens utilitas*. I presume that no longer are those two requirements observed?—It must be proved to be useful. The three grounds of finding fault with a patent are that it is not new, it is not useful, and that there is imperfect specification. If you prove any one of those three things the patent is worth nothing. . . . Suppose I was a manufacturer, and I had used a particular invention in my manufactory, it being open to thousands of workmen, any one of them having an opportunity of seeing it, but it had never been patented, would it be competent for any person to patent it, and to preclude me from using it in my own manufactory?—I am of opinion that it would not. . . . With regard to the meetings of the Commissioners, whose duty is it to summon the Commissioners to meet?—Generally speaking, Mr. Woodcroft mentions it to one of the Commissioners, and the Lord Chancellor summons them. Practically, Mr. Woodcroft does the duty of the Commission, does he not?—Yes.

Mr. Thomas Webster, Q.C., F.R.S.—I have had a good deal to do with the subject-matter of patents generally. . . . The discussions about the great Exhibition of 1851 led, in the course of the year 1850, to the subject of patents taking a very prominent place; and then a Committee was formed, of which Sir William Fairbairn was the Chairman, and a large number of queries were sent out to some 500 persons in order to obtain their views, and upon those replies the case was prepared on which the Bills of 1851 were founded. There were three Bills altogether in 1851. There were two Bills originally introduced, one by Lord Brougham and the other by Lord Granville; and then a third Bill, which was a consolidation of those two Bills. It was a compromise, I suppose?—Yes, a compromise. . . . In 1852 two Bills were again introduced, one by Lord Brougham, and the other by the representative of the Government (which had changed in February 1852), by Lord Colchester, I think, which was substantially the same as the Bill of 1851. The reason of there being two Bills was, that Lord Brougham was anxious to do something to amend the law with regard to patents, and he only introduced his Bill for the purpose of forcing the Government on to do something. . . . You have used the words "creating a property in inventions," but was there not always a property in a patent?—Yes, there always was a property in a patent when it was granted, but then that was subject to all the contingencies of the grant. . . . The essential feature of the new system was, that there should be property in invention, and protection at the will of the applicant, from the time of the application, provided he complied with the statutable conditions. . . . You have spoken of the alterations made by the House of Commons in 1852; will you kindly state to the Committee what the chief alterations were?—The

main alteration was the taking out of the Bill the clauses of reference to examiners or commissioners, before the case went to the Attorney-General, which was compulsory in all the Bills of 1851, and in the Bill of 1852, as introduced from the House of Lords, compelling the law-officers of the Crown to employ some person to examine, that is to say, depriving them of original jurisdiction, and making them a court of appeal. . . . The marginal note of the third section is, "The commissioners to appoint examiners, and to make rules and regulations, and to report to Parliament." "It shall be lawful for the commissioners from time to time to appoint a person or persons as examiner or examiners for the purposes hereinafter mentioned, and to revoke such appointments." And Section 9 says, "The provisional specification shall be referred by the law-officers of the Crown to one or more of the examiners for the time being under this Act, and the examiner or examiners, being satisfied that the provisional specification describes the nature of the invention, shall give a certificate to that effect, and such certificate being approved by the law-officers of the Crown shall be filed, and thereupon the invention therein referred to may, during the term of six months after the date of the application, be used and published without any prejudice to any letters-patent that may be granted for the same; and such protection from the time of publication is hereinafter referred to as provisional protection." That reference was taken out because those examiners were subject to the regulations of the commissioners, and it was left to the law-officers' discretion, with power to do that which the examiners were to have been compelled to do. . . . I believe that so far as the granting of patents goes, if the spirit of the Act had been carried out, nine-tenths of the objections which are now made could not be made. . . . In your opinion has any evil resulted from that change?—I think great evil has resulted from that change, because, as Lord Romilly told you the other day, it has practically left the present system as it was before 1852, with regard to the granting of patents. . . . Except so far as the provisional protection goes, the present system is the same as it was before 1852. . . . The number of patents for England under the old system was about 500 a year. . . . After 1852 the number of applications amounted to 3000 or more, which has resulted in about 2500 patents now; and out of that 2500 I have no doubt that more than one-half, and perhaps three-fifths, would have been stopped with the consent of the applicants, if they had been admonished, so to speak, by the system which was compulsory under the Bills of 1851, and intended to be established under the Act of 1852. . . . A difference has been attempted to be drawn by the objectors to patents between what is called patent-right and copyright, but in principle they are, to my mind, identical; they are the embodiments of some idea or principle in a material form. There is no property in an idea until embodied, whether it takes the form of manufacture, or whether it relates to the fine arts. In no case is there any property until it is embodied in some material form; therefore, with regard to the principle, namely, that it is an application of mental labour embodied in a material form, I cannot conceive for an instant that a difference can be drawn. . . . Take the printing machine

of Applegarth and Cowper, which was a failure almost; they gave it up in despair, simply because as the inking-roller left, there was always a burr on the type which got on the paper. It struck them to shift the roller, and make it leave the type obliquely, and the consequence was that there was no burr. The success of printing by power was then complete, and due simply to that fact, that they set the roller obliquely instead of at right angles. . . . I remember the late Mr. Roberts saying, with regard to a mule, that the patterns for one particular motion had cost him £500, and that if he had produced them without protection, they would have been colted to-morrow, that was his phrase. . . . I do not see why there should not be a variation in the length of the term for patents. . . . If you have patents for different terms, the practical course would be to grant them for those terms with a power of extension, on application, analogous to what you have now for terms beyond fourteen years. I do not see why you cannot grant patents for shorter terms; there is no doubt that a very large number of the patents now granted are really for designs. Mr. Grove referred, I think, to what he called the shape of a match-box, and if you take the trouble to look through the lists printed in the Quarterly Abridgment, you will see that a great number of matters there contained are obviously no inventions at all that should be the subjects of patents; some very probably may come within the term "designs," to which the term copyright is applied, simply because it is acquired by mere registration. The duration of such copyright is too short, but fourteen years is too long for a number of these matters, which, if the rule were rigidly applied, are no inventions at all. With that qualification, and giving a power of extension to that tribunal, which Mr. Grove referred to the other day, there would be no objection whatever to patents for short terms. . . . It would give sufficient encouragement to the inventors, sufficient protection, and, at the same time, probably adequate remuneration. . . . With regard to a practical instance of the bad effect of these worthless patents or frivolous patents, I am yet without examples. . . . It is much against the interest of the patentee to charge extravagant prices, it being the essential principle of invention to reduce the cost of manufacture; I am, on the whole, sceptical of the effect of the so-called monopoly prices. . . . I have heard on unquestionable authority, that it does so operate; all I say is, that when the matter has been pressed, instances have not been forthcoming. The Honourable Member for Leith made a notable admission, that out of 400 sugar patents, he was not aware of any one being obstructive; and Mr. Grove said the other day that he could not trace that patents had been in any way obstructive to the advancement of science. I do not deny that where a large number of patents get into the hands of a capitalist, they may be used prejudicially, and perhaps create monopoly prices; but when I look to the fact that a number of patents in one hand enables the person to give to the public the best thing, I think that by the patent law the public are gainers. Take the Permanent Way Company, which was very much scoffed at by a late Chief-Justice, and called monopolising; what was the result? Having got into one hand all the patents with regard to the permanent way, the fish-joints, and so

on, they gave at one price the best thing that anybody had ever yet invented. . . . You think those people become what, in political language you might call beneficent despots?—Yes, they do. There is a very eminent firm which was pointed at by a late Lord Chief-Justice, the Crossleys of Halifax, as persons who were eminent sinners in the way of having a great number of patents; I think they were very beneficent despots; and although there was a good deal to be said, and there was, I know, great litigation between them and another eminent firm, I believe the result was a great reduction of prices, and great improvement in the manufacture of carpets. . . . Do you think that it is possible, in these days, to keep inventions secret?—In one class of certain chemical patents perhaps it is, or in certain processes where, by the alteration of something at one stage, you give a finish which could not be got without it. But as a general rule, with reference to mechanical inventions, it is quite impossible. There is a large class of cases in which the result shows the means; those cannot be kept secret. But take as an instance the invention of vulcanised rubber; the thing was done before any one knew how it was done; but when it came to be disclosed, an ingenious chemist, by great care, found out how it was done. The power of secrecy must be limited, I think, to chemical patents in this day. I do not think people can work much in closed rooms now-a-days, and we should scarcely ever have such a case as that of Crumpton of Nottingham making lace in a closed room, and people getting up to the windows to find out the process. . . . In that very case of the cone for telegraph cable, under this rule the inventor had put in something more than simply the cone, but not certain rings above the cone which he included in the complete specification, and a very large portion of that most expensive litigation was founded entirely on the distinction drawn by the counsel on the trial between the means that were not included in the provisional specification, but were included in the final specification. . . . Under the operation of this rule, patentees are recommended, besides the nature of the invention, to put in some of the means; they very often have not the means that they would like to rely upon. In that very case they could only try it by sending a ship out to the Black Sea, and it was by an actual experiment of that kind that the invention was tested. A man may be satisfied in his laboratory, or his study, that it is a very important improvement, yet he cannot prove it to the extent that would satisfy a capitalist, except by tests made on a scale which cannot be done without provisional protection. . . . Sir William Bovill had special mechanical acquirements, but some of the law-officers dislike the thing entirely. . . . Mr. Newton could tell you how often aid is called in. I believe it is only in a very few cases. . . . The Act is silent as to what was to be done with the provisional specification, with regard to its publicity; but in the discussion that took place, you will find that it was supposed that the provisional specification would have become in some degree an open document, at, say, four months after its deposit. It was found necessary with regard to foreign patents that the provisional specification should not be open from the first; according to the old law two months were allowed for each country for the patent,

but the result was that they all slipped into six months. It was held that there ought not to be a publication in one country before another, and that is how the six months grew up. That was continued because it was found in many cases that the six months was not at all too long to allow a person to experiment for the perfection of his final specification. But it was certainly supposed that before a patent was actually granted, some publicity would be given to the provisional specification, or some opportunity to a rival inventor to know what it was. . . . At present the public is entirely in the dark with regard to the nature of an invention, until six months after the provisional specification is deposited?—Yes. In the meantime, probably, a monopoly has been granted?—Yes. Do you think that that state of things is desirable?—No, I think not. . . . If a person happens to have obtained a knowledge of a prior application, and applies for a patent, and gets his patent sealed first, that patent so sealed on the second man's application has been held to deprive the first applicant of his rights; not in a clear case of fraud, but that has happened in more than one case, to my knowledge. That is a very recent decision. . . . It took us all, at least me, very much by surprise. . . . But would you not say that in certain circumstances the public is the rival to the inventor?—Theoretically, no doubt it is so; but I think that the public are not injured by a patent in that way; it can only be through increased prices, or through the possibility that others may become inventors at some subsequent time. I think it is a speculative matter; but in theory, any one of the public is interested in every patent. But at all events, if not the public, all the persons in a particular trade, who may not wish to become patentees, are interested?—They ought to have the right of opposing; that is to say, any person in that particular trade ought to have the right of opposing, and they have that right in fact. But they ought to have an opportunity as well to know what there is to oppose, ought they not?—I think they ought; I think the inventor ought to have protection as he has now from the first, on his own application; but before he actually gets the patent sealed, there should be an opportunity to persons in the trade of coming in and opposing, and such, no doubt, was the intent of the Act of Parliament; otherwise, why are those advertisements issued at every stage? but the Commissioners have done nothing to enable those advertisements to bring forth fruit. . . . The provisional specification cannot be seen, except by the law-officers of the Crown, or by some person directly interested in it, and it is carried to this extent, that where there is an opposition before the law-officers of the Crown, you have A. and B., who are rival claimants, confronted before the law-officers; but very often the provisional specification is not even then shown. We have agreed that that kind of secret bush-fighting ought to be given up, and so far as I am concerned, it is generally shown, but it is a matter of discretion; but if a person resisted, of course the law-officers of the Crown would have to hear one person in private, and the other person in private. . . . Absence of any skilled assistance to the law-officers of the Crown, either in the shape of technical Commissioners or examiners, has been complained of, I believe, by the public?—Yes, it has been the subject of

repeated memorials. . . . Mr. Grove suggested to the Committee that patents might be granted for different periods, according to the value or importance of an invention. You have already given your opinion upon that head; is there anything else you wish to state with regard to that?—No; I think they might be granted in that way with advantage. There would be some difficulty in the first instance, and there would be all kinds of objections raised to putting them into classes; but I think it could be done with great advantage, subject to a power of extension. For instance, with regard to the class of patents that have been spoken of by yourself and others, would you say that in combination patents generally, the term should be shorter?—Take for example the sewing-machine, and another case, the self-acting mule, which was much litigated: one of those was a matter of high mechanical art; I think with regard to machines the time should not be shortened. But the question of compulsory licenses comes in here. I think any real objection to the length of the term for a patent on the ground that you may interfere with a manufacturer, who perhaps might have made the invention, is met by the question of license. Can you illustrate at all the principle upon which you would grant a shorter or a longer term for patents for inventions?—I think what have been called small and frivolous inventions are in point here. Reference was made to the shape of a portmanteau, but that is not the subject-matter of a patent at all; a large number of those things are not the subject of patents. The chignon and the hoops which were mentioned are not manufactures in any sense of the word; they are not inventions that should be the subject-matter of patents. Everything is an invention in some sense, no doubt,—a new design is an invention; but you must have technical language to express particular classes of things. Take a clasp on a lock, a thing merely giving manufacturers a little preference in the trade; that would be one class of things that might have a shorter term, but I do not found that recommendation on the objection that was taken, that persons were interfered with by legal proceedings; I throw that entirely out of the case. But I refer to small inventions; such as a spur, for instance, and a number of things of that smaller class where there is not much invention. . . . I do not know that I should say that every manufacturer should have a license, because he had found a rival trader who had an advantage in the market, because he had a patent, for that would probably be cheapening production. I think the cases of the disadvantage at which an existing manufacturer has been placed, and of his having himself made an invention, are quite distinct. In the latter case I think there should be a license. . . . I have heard them say that there was so much trouble about it that they would rather give it up than patent it or defend it if litigated, thus buying peace at any price. . . . I have suggested in reference to Heath's case, that it would be a very expedient thing that the Privy Council should have the power to value a patent, and buy it up at once, rather than give an extension of the term. There have been repeated cases where juries have assessed damages at once. It has been given in evidence that in a particular trade 15 per cent. was a fair profit in the ordinary course of business, and 10s. per cent. on

the patent right, and the jury have given that 10 per cent. Then inventors have granted a license, and what they have taken in one case would be a kind of guide in another. If a person set his back up and said he would give none at all, that would be a contentious case, but I believe it would be exceptional, because it is to the interest of the patentee to grant a license; I think that the number of persons who refuse to treat for a license is very few. Take a case which will be familiar to you, namely, the introduction of wooden bearings for the shafts of the propellers of marine engines by Mr. Penn. Take a valuable marine engine worth £20,000, which is not, I believe, an extravagant supposition. The actual cost of the improvement, either plus or minus, being £50 or £60; would it be possible in such a case to fix a maximum royalty in the letters-patent?—No, it would not; but I think the test to be applied to that case would be, first of all, the amount of labour and expense in the invention, and the saving by reason of it; no doubt, that is a difficult case where you have not the test of actual sale, as you have in the case of a commodity like a hat. . . . But all that would be much better done after the invention had been put into practice, would it not?—Quite so; no one would trouble himself about a thing until the thing had become successful; that is one reason why I object to anything like an elaborate inquiry at first before a tribunal, because you are doing at a large cost what you might not have to do more than once in fifty cases. . . . My opinion is, that persons having an interest in a particular manufacture should be at liberty to apply to the Commissioners for a license on terms to be settled by an arbitrator. . . . There was a strong case, Walton *v.* Lavater, in which I was concerned, where certain things had been imported from abroad, and I believe it turned out afterwards that the defendant had some knowledge of the articles alleged to be infringed, but he might have been made liable for selling those things in the street, he having no knowledge whatever of those things being the subject of a patent; that is the law. I remember a case about the manufacture of copper, where the copper was bought and sold in the ordinary manner in public market. And it was not different from other copper by appearance or by analysis?—Just so; that was held to be an infringement. I think in those innocent cases a man should not be held liable for selling an article unless he refuses to say where he obtains it from. . . . You might proportion the length of time for which you would grant a patent in some degree to the probability of the inventions being made independently within such and such a time?—That is one element, no doubt, that applies to existing manufactures, but it is wholly inapplicable to totally new things. Take for example the electric telegraph. What was there to induce people to apply the laws of electricity to telegraphy? It was not an existing manufacture at all; those are the persons who cause the greatest revolutions in trade. For such inventions you would grant the full term, I suppose?—Yes, with a power of extension. With regard to the effect of the abolition of patents upon our trade in neutral markets, have you anything to state to the Committee on that point? . . . The spinners in this country may not have, by the supposition I put, the opportunity of obtaining

the best machinery?—Take the case of Heilmann, a Swiss, who patented here that beautiful system of carding wool by drawing out and separating the fibres, and drawing the longer from the shorter ones, detaching them rather than combing them. That machinery was made to a large extent abroad. That particular case was large enough to apply the test to, namely, whether the woolcombers of Zürich, or any other place in Switzerland, where the machinery might be made without patent right, were at an advantage in the foreign market by reason of that to an extent which placed the woolcombers and others at Bradford at a disadvantage in supplying the same markets. . . . Other countries abolishing patents, and we retaining them, at the end of the six months an invention divulged by the specification of a patent taken here, and which would be subject at least to a royalty, would be perfectly free for any one to use abroad, would it not?—Yes, no doubt that is perfectly true with regard to existing manufactures. . . . Would you say ninety-nine out of a hundred?—No doubt.

Mr. Macfie.—Lord Granville said, that although he was personally opposed to the granting of patents, yet he was sure the public were not ripe for that. . . . Then take the sugar manufacture, a manufacture which is carried on upon the same principle, and for the same markets, in the colonies and in the United Kingdom; that change tended to make the manufacturers of sugar in one part of the empire gain advantages on the one hand, or bear burdens upon the other hand, that their competitors, also subjects of the Queen, were not partakers of or liable to?—No doubt, theoretically, that was so; but I take it that the advantage derived from the succession of improvements was such that that would disappear, and that sugar can be made at Liverpool or Leith quite as cheaply as anywhere in the colonies by reason of the subsequent improvements. There was thus a stimulus given to invention by the granting of patents, and the burden imposed for producing this stimulus was borne by that portion of the sugar manufacture which was carried on in this country; but a large proportion of the resulting advantage and profit was obtained, or was to be obtained, in the colonies that did not choose to spend thousands of pounds to obtain any sugar patent?—Probably that would be so, but I do not know that, as a question of cost, it has been proved. . . . There are sugar manufactories in Canada, and there is a demand for Canada in the mother country; the Canadian patent laws are more restricted than those of the mother country. As a general rule, there is no such thing as a sugar patent in Canada. To that extent the home manufacturers of Canada had advantage in supplying their own markets over the manufacturers of the mother country?—No doubt, theoretically, that may be the result. . . . With regard to recent inventions, one of the great improvements in sugar manufacture was the application of centrifugal machines to drying, which was a very obvious thing when once suggested, and the amount of invention was small. I think that is one of the cases in which time would have insured the invention being made; but I apprehend, notwithstanding all that, there would be no prejudice to the trade from anybody not being able to have a license for that. Perhaps you are aware that several parties did independently, and without

knowledge of one another, take out patents for that invention?—Very likely; that is just a case which a proper system of inquiry would have prevented. I can quite understand when that idea was first started, because we have had it in washing machines. I should say if there had been several patents within the six months in the office, it would be proper to refuse them all unless they agreed. . . . Another very striking thing is, that almost no profit from this application reached those parties who were probably the most meritorious, namely, the inventors of the centrifugal machine itself. When they patented their machine for drying cloth, they did not think of the application of it to sugar. The result was that their patent did not cover the application to sugar, and it was only in an accidental way that they obtained any benefit by that application?—The patent could not have covered all those things; that was the application of a law of nature to drying. There is of course a clear distinction between a discovery and an invention. A great natural principle is common property, but each particular trade would require special modifications, and of course the arrangement for cloth would be different to that for sugar. They never could have been included in the same patent, because that would be equivalent to tying up centrifugal force. That was the very principle in question in the case of Seed and Higgins; you cannot have a patent for a law of nature. I think a great deal of the discussion that takes place in this matter arises from that confusion. The discoverer is more like Ampère and Oersted, who discovered magneto-electricity, and electro-magnetism. Professor Faraday took an important part in that, but Professor Wheatstone applied it to the electric telegraph.

Chairman.—Why should not a man have a patent for a discovery?—Some of those high scientific men would scorn it; they would say they would rather have a ribbon. But taking it as a matter of public policy, what do you say?—I do not know why he should not, except that without regard to his merit or his labour, he is only discovering something that was created for all mankind; it is a law of matter with which matter was endowed; he is only revealing those laws, but they being revealed, applications are wanted. Is not the revelation of those laws, as well as the application of them, a fit subject for reward?—No doubt; and it is rewarded in another way; Faraday was not a manufacturer, but a discoverer.

Mr. Macfie.—We have been adverting to changes introduced distinguishing one part of the British Empire from another. And I now wish to direct your attention to a change which was introduced in the year 1852, which removed a distinction between one part of the British Islands and another. It would seem from a return that Parliament ordered two years ago, that in the year 1852, there were 53 patents granted for Ireland, and 523 in the same year for England?—Yes. Up to that time, therefore, inventions made in England and patented in England only were available for the use of our fellow-subjects in Ireland?—No doubt. And now, they are put upon the same footing as English people, are they not?—Yes. That is to say, you have one patent for the three countries, instead of three?—Yes. But the effect is, that the manufacturers in Ireland and Scotland are subject to a great

many monopolies that would not have affected them if the law had continued as it was before, are they not?—Yes. In other words, they are liable to be deprived of the use of certain inventions, or to pay a higher price for the use of certain commodities than they did before, are they not?—They are not deprived of anything that they had before. Patents do not deprive you of any rights. The theory is, that a patent creates something that did not exist before. With regard to the old monopoly, it was a grant of something in existence, such as the sale of sugar and salt; in fact, there was hardly anything that was not a subject of monopoly in the olden times, and there the public were deprived of something; it is one of the incidents of a monopoly, named by Lord Coke, that it raised prices; that is to say, it deprived people of what they had before, and the whole experience of them is, that they cheapen prices. If it is an existing manufacture which is improved, a man makes it cheaper, and he must generally sell it for less money, or else, the old people go on in the old way from the *vis inertiæ* of mankind. As the manufacturer is enabled to cheapen the cost of production, he sells the article cheaper to the consumer. The advantage of the invention is this, that the article is made cheaper, or might be made cheaper than it was?—Yes. And the object of a patent is to allow a part of this cheapening to be enjoyed as a remuneration by the patentee?—Yes. In other words, during the duration of the patent, the whole amount of the cheapening is not enjoyed by the public?—Yes, that is a consequence of it, but that is not the object; the object of the patent law is to stimulate invention, and the consequence is that the reduction in the cost of production is shared for a limited time between the manufacturer and the public during the time of the patent, but after that the public get the whole of it. To that extent then the people of Scotland and Ireland are liable to pay a higher price for commodities than they would have paid if they had not been subject to the restrictions of the patent law?—But they had not got the commodities; the commodities did not exist,—your patent creates the commodities, or it makes the same commodity cheaper or better. I am speaking not of the justice or injustice, but of the fact?—But I deny the fact; they had not got the commodity. But the patent was granted for England, and the enjoyment of a monopoly in England caused the introduction of a new manufacture; but then the secret was no longer a secret. The manufacturers of Scotland and Ireland were able to use those inventions that were patented in England, and not in Scotland and Ireland, and were therefore enabled to supply the people in Scotland and Ireland cheaper?—No doubt that is theoretically so; but take this very invention of centrifugal force; suppose it reduced the cost of the manufacture of sugar by 100 per cent., in Scotland or Ireland they had not got the sugar so made, and that was a new commodity to them. I wish to call your attention to the case which, as I understand it, existed before then. A monopoly having been granted in England, but not in Scotland or Ireland, there was nothing then to prevent an English consumer, notwithstanding the monopoly in England, from being supplied from Scotland and from Ireland, with articles made according to the invention in those two countries; in other words,

to such an extent as Scotland and Ireland were free from patents, to that extent they were defending the people of England by keeping down the exclusive monopoly of profit that might have been levied by the English manufacturer?—No doubt that is so. And before the union with Ireland, and before the union with Scotland, that was pre-eminently the case, because, I presume, before those dates there was no possibility of getting, as we now do, or as was done even thirty years ago, patents extending to the two sister countries; there was no prohibition of importation into England of articles manufactured free of patents in the two sister countries; there was no restriction on importation into England of articles manufactured free of patents in the two sister countries, was there?—There is no doubt that there is a theoretical advantage and disadvantage in the relative positions of the two countries; but my position is, that it is after all theoretical, and that facts have not been ascertained to support that theory. Then under free trade, that which was formerly done as between Scotland and Ireland, on the one hand, and England on the other, is being regularly done as between any foreign countries that have not patents and the whole of the British Islands, is it not?—Yes; no doubt. So that any article patented in this country can be manufactured in Switzerland and Holland, and sent to this country?—Yes. But would the law prohibit the sale in this country of articles made in those two countries on the principles of any patents existing in this country?—Yes; that has been so decided, within the last month, by the House of Lords. That is assuming that they were proved to be made according to the system that was patented in this country. Then on whom does the *onus probandi* lie? Suppose I am a merchant in London, am I bound to prove that this article which is imported has not been made according to the inventions, or does the proof lie upon the patentee in this country?—The proof lies on the patentee in this country; that has been decided. But he has perfect power to drag me into a law court, has he not?—Yes. Suppose I reside in some rural village instead of in London; where would the case be tried?—Where the plaintiff pleased, except it was a case of extreme hardship upon you from special circumstances. The fact is, that the plaintiff has the right to choose his own court, and in such cases his own venue; but the judges will change them occasionally. As a general rule, the cause ought to be tried in the place where the cause of action arises. Therefore, as a general rule, if the plaintiff lived in London, he would have the right to bring you to London to have the case tried. He would have the right to bring me to London, though I lived in John o' Groat's?—Yes, theoretically, no doubt that is so; but you would not manufacture sugar at John o' Groat's, I think. But it might be shoes, or candles?—Or soda, perhaps. At all events that is a difficulty, but it is a difficulty in the general law that is not peculiar to patents. Suppose I am brought from Wick or Inverness, and the case is tried in London, at great inconvenience to myself and very great disadvantage to my business; if I am found not to have infringed is there any way in which I can gain compensation?—None whatever; it is a consequence of the system that the plaintiff is at liberty to try the case pretty much where he

pleases. From your knowledge of manufactures (which is very extensive), do you think, as a general rule, it is possible, from the inspection of a manufactured article, to say whether it has been made according to a particular invention or not?—In some cases it is wholly impossible to say. For instance, it is impossible for a person to say if a particular process has been employed in the manufacture of sugar; where the product is a common thing, it is often impossible to tell. Take the manufacture of iron, how can you say whether it is made by the Bessemer process or not, except it is a quality which has never been seen before; no doubt there is a large class of cases where the result gives no means of judging of the manufacture or process that has been employed. . . . Suppose the Legislature of this country resolves to give an exclusive privilege to the proprietor of a book, or the composer of a piece of music, there can be no doubt whatever who is the party entitled to it, can there?—No. But I apprehend that if the country were to do the same thing with regard to inventions, there must frequently be an intercepting of the first man by a second comer?—No doubt that must be so in the very nature of things; a book or a portrait is merely a type of the mind or face; and inasmuch as no two minds or faces are alike, the embodiments cannot be alike. . . . I believe that now the customs' officers stop all books, and at one time they used to stop designs. But there is no difficulty in the identification of those things; the eye at once judges whether one picture is like another, and the ear judges if one piece of music is like another; but when you are dealing with a body of three dimensions (to return to my previous illustration), then it is a question of fact of a very different nature, and the identification is not so easy.

Sir Roundell Palmer, M.P. (*now* Lord Selborne).—I became Attorney-General in the year 1863, and continued so until 1866. I had been Solicitor-General from the summer of 1861, so that I was a law-officer of the Crown, on the whole, for nearly five years. . . . I have been concerned in a good many patent cases of importance. I have not the kind of specialty in patent cases which Mr. Grove and Mr. Webster have. . . . I have formed an opinion very much agreeing with that which I see has been expressed by Mr. Grove before this Committee with respect to the evil effects of the present system of patents, and that it certainly would be better to abolish them altogether than that the system should continue substantially as it is. To that extent I entirely agree with Mr. Grove, but I am less sanguine than he is with regard to the possibility of any improvement of the present system which might remove the existing evils. Mr. Grove himself not being very sanguine about it?—I should infer that he is not very sanguine about it. . . . You may divide patents into two classes, speaking broadly (of course there are shades between): first, what we will call the frivolous; and secondly, what we will call important patents. With regard to the frivolous patents, I look upon them as a simple abuse of the power of the Crown, with regard to the grant of monopolies under the Statute of Monopolies; and that abuse, so far as it has any effect, must have an effect purely and solely mischievous and

obstructive to legitimate freedom of trade, in articles which should not be so obstructed; how far it has that effect in practice nobody seems to know. But it must be presumed that it has such an effect, otherwise we should not have so many patents of that kind taken out. You spoke of the power of the Crown; it is no doubt advisedly that you did not make use of the word "duty"?—It is practically treated as a duty. The system has grown on us insensibly without the opinion of Parliament having been intelligibly taken on the subject. It is now treated as a matter of right, unless the law-officer of the Crown sees reason to stop the grant of a patent. I am not aware of any period of time at which the subject has really received distinct consideration from the Legislature. . . . Taking the law as it stands, do you believe it possible for the law-officers of the Crown to refuse patents, except when the conditions of the Act of Parliament are not fulfilled?— . . . I do not think the question of degree of importance and usefulness was considered at that time to be a matter upon which the law-officers of the Crown could refuse a patent, if the thing was, in itself, the proper subject of a patent. I do not think we ever felt that we could go into the question of novelty, where there could really be any question about it, in my day. . . . I remember some one applying to me to grant a patent for putting advertisements into the newspapers; that is to say, advertising in a particular form or manner. It appeared to me that a suggestion of a mode of advertising in a newspaper was not a manufacture or invention in art, in the proper sense of the patent law, and I refused it, of course. There were some other cases of the same kind, where a particular mode of computation was suggested,—an artificial method of computation, not involving the use of any machinery, but a particular manipulation of figures,—cards expressing a given thing; those appeared to me examples of things that were not proper subjects of patents. Then there would be another point, following upon the decisions of the courts, which say that an application of an old thing to a new purpose is not the subject-matter of a patent, provided that the new purpose is quite analogous to the old purpose, and that there is no element of special skill or adaptation in the matter. I remember having before me a patent for using some other material, neither alpaca nor silk, but of very much the same character, for umbrellas; it appeared to me that the application of a similar material, not applied before to making umbrellas, was clearly an instance of the application of known means to a known object, although it was a new material. . . . I always gave the patent, if I had any serious doubt about it; it seemed to me that I was not to take on myself the office of judge in a doubtful case. . . . If I thought that a technical adviser would assist me I did; but that is hardly a subject on which technical advice would assist me. . . . Did you ever consider whether it might be advisable that patents should be subject to investigation by scientific men before reaching the law-officers of the Crown, or conjointly with the law-officers of the Crown?—I never saw reason to believe that such a system could work satisfactorily either in the view which I take of the law, or in the view which is taken of it by its advocates. . . . You may have a class of men (in this case a much larger class) among

whom you could find persons who had, in that respect, the confidence of the parties, and, according to the nature of the subject-matter, you could choose the assessors. That seems to me a much more satisfactory mode of dealing with the matter than to make them, in any sense, judges, or give them any independent authority; and I think much better than making them witnesses, which is a very vicious system indeed . . . It is not a satisfactory mode of administering justice that you should put into the box, to fence with the difficulties, a man who understands the subject very much better than those who are to decide upon it. . . . The judge may be unwilling to confess the extent of his own ignorance on the subject, and therefore in reality he gives more confidence sometimes to one witness than another on a subject which he himself does not understand; and that, according to my experience, is generally when the evidence is in favour of the patentee. . . . The witness is always asked questions about them; the documents are put into his hands, and he explains the documents in his own way, always favourably to his party; then, if other patents are said to be anticipations, he takes them up and pooh-poohs this, that, and the other, and says there are such and such discrepancies, and with great skill confounds the immaterial with the material, and the relevant with the irrelevant, and in that way contrives nearly always to deprive of all practical value everything like an anticipation in writing; of course anticipations in practice do not depend on this, but even there the evidence will often tend to show distinctions and differences which may turn the scale in favour of the patentee. . . . Men usually reason and persuade themselves into taking a particular view of a matter. . . . I think it is the very worst description of evidence which can possibly be imagined. . . . I agree with what Mr. Aston has said in a very able address on the subject at the Manchester Institution, that it would be far better to nail the patentee down at once to what is really his invention, and to make a bargain with the public for a real definite invention at the time you give him his right; in other words, to abolish the provisional specification, and require a complete specification once for all, which should be a definite thing, and which should be itself investigated carefully at the time it is given. That would be a decided improvement. Again it would be a clear improvement, as the commissioners recommended, to abolish altogether as the subjects of patents, in any case, importations of foreign inventions by other people than the first inventors. I also think, unless you adopt Mr. Grove's suggestion, which perhaps might be a good one, of giving various terms, that the system of prolongation is not satisfactory, and on the whole had better be got rid of. But those are, in my judgment, mere palliations of the evil, leaving the main objections very much where they were. . . . Mr. Webster maintains that it is a very right thing to give a man six months to perfect the invention which he pretends to have made, and on the strength of which he asks for the privilege. To me it seems to be most unreasonable; if a man has not completely made the invention, I cannot conceive why he should have that protection in anticipation of it. It leads to a great number of evils in my judgment, one of them being the attempt to make the complete specification indefinitely wider than

the real invention may be, so that it becomes very ambiguous, misleading, and perplexing. I observe, in the examination of Mr. Webster, that there was a question put to him which I thought very pertinent, about a printing machine patent, Applegarth and Cowper's, where that which was the very essence of the thing was discovered after the inventor had applied for his patent, within the six months. I cannot see the reason of all that; somebody else might have discovered the same thing within the same period, and would lose the benefit of it. . . . In the event of requiring an invention to be completely stated before you granted the patent, would you publish the specifications and allow people to come and oppose before you actually granted the patent?—Supposing you maintained the system, subject to that alteration, then I think the right course would be, when a man had lodged his complete specification, and when it had passed the law-officer of the Crown in proper form, to treat him as having obtained the right, subject to its being afterwards proved that he ought not to have it. . . . People who know something about what is going on, or who know their competitors in the race; those people, and only those people, would practically come in to oppose within any short limit of time; that never could be a substantial protection to the public. I do not mean to say that it might not cut off some superfluities; it might; the law-officers of the Crown do it now to some extent, and they might possibly do it more; but you never can conduct a litigation satisfactorily with only one party to it. . . . I should like to have a very stringent safeguard against that system of claiming too much. They appear to be generally framed on the principle of sweeping everything into the net that they can, and then relying on the ingenuity of counsel and scientific witnesses in case litigation follows. . . . The general rule is to use as evasive and ambiguous language as possible, with a view to play fast and loose, according to the exigencies of litigation; to give it as wide a scope as they can, for the purposes of infringement, and as narrow as they can on questions of novelty, . . . reserving the power of disclaiming if they feel themselves in danger. Or, as recently happened in a case which I argued in the House of Lords, disclaiming in terms which afterwards they will try to twist round in the same manner. . . . I should be against allowing disclaimers at all, on just the same principle as I am for a complete specification and not a provisional specification. If a man has made an invention, having those conditions which the law requires, his bargain should be made with the public once for all. I cannot conceive that he has any claim to more indulgence. . . . I should think that those who take the inventor's side would consider it very arbitrary that some one scientific person should sit in judgment, and at his will change the terms and cut out one thing and allow another, and so on; that would not give satisfaction to the inventor, and I do not think it would be of any real substantial advantage to the public. Have you considered Mr. Grove's suggestion, that patents should be granted in the first instance for varying terms?—If patents are to be granted at all, I should say the shorter the better. In whose discretion would you leave the fixing of the term?—I should say leave it with the law-officer of the Crown. Would you not think it desirable

that he should have skilled assistance in fixing the term?—If a question arose, I do not think it should be fixed arbitrarily without communication with the parties. . . . Assuming the provisional specification to be retained, would it in your opinion be desirable to publish it before the patent was granted, so as to give persons an opportunity of coming in to oppose?—I see plain objections to that. . . . Supposing you publish the provisional specification, you immediately set other people's brains to work on the details of the very same matter, and then there would be a new contest as to who first invented this or that detail. All that would be got rid of, of course, if you adopted the plan of making a man invent the whole thing first, and obtain the privilege afterwards. . . . I should not be disposed to do more than allow such corrections as clerical errors, and things of that kind, which you allow to be corrected in a deed. In a deed you may correct things which are mere mistakes, but I see no sound reason why a patentee should be allowed to patch up his specification if he has not given the public a sufficient description of his invention at first. . . . I do not recognise at all the principle as having any foundation whatever in reason, that an inventor has any abstract right whatever of property in his invention. That appears to me a perfectly fallacious idea; I look upon it solely as a question of the public interest. . . . The doctrine of equivalents appears to me to sin much more in favour of the patentee than the absence of it would sin against him. Have you considered Mr. Webster's suggestion to the Committee, that leave should be obtained from some authority, probably the law-officer of the Crown, before an action for infringement of a patent can be brought?—I confess that I incline very much against any such suggestion. All suggestions of that kind tend simply to multiplying the steps and stages of litigation. . . . Mr. Grove pointed out in his evidence that in patent cases the same cause might virtually be tried a great many times *en première instance*?—Between the different parties! Yes; no doubt that is one of the inherent difficulties of the matter, and whether there are any means of curing it except arbitrary means, one does not know; but one inherent difficulty is, that while the patentee is one person, the public are millions who are not all united together; they cannot unite in defence of their rights; they are not identified with any particular infringement, or with any particular defence of other people. . . . In Betts's patent there was a trial at Warwick, in which a man who had come for some other purpose to the assize town, being in court, heard the evidence given. He said, "Oh, I know something about that." He was put into the box, and the verdict was given, very much on his evidence, against the patentee, on the matter of novelty. This man's evidence was given again, and submitted to various tests in subsequent litigations about the same patent, and eventually thrown aside as worthless. To treat a patent as entirely invalidated by an accident of that description, the litigation not being conducted by the public, or by a public officer, might be unjust to the patentee. . . . But the evil would be capable of cure by appeal, and was cured on appeal in that case?—No, not on appeal; that was in another suit, or in two other suits. In that particular case

there was not even a new trial. Betts and Clifford was the name of the case, but it was never tried again, at least not that action. . . . That might have been done, but it does not quite follow that it would have succeeded. . . . Now, in truth, the public is mulcted, so to speak, in subsequent actions by the result of what is thought a satisfactory trial of a former action in which the patentee succeeds. I mean that if the judge certifies that the merits of the patent have come into question at the trial, the effect of that certificate is that a fine (wholly unprecedented in any other branch of the law) is inflicted on any subsequent litigant who dares to litigate as to the novelty or utility of the same patent. He is mulcted in costs as between solicitor and client.

Mr. G. Gregory.—And he may have had to lose his action, may he not?—He not only may, but usually, in what I have seen of patent cases, from the way in which an action may have been settled, it is even a probable thing; an action might have been virtually settled, and yet such a certificate might have been granted.

Chairman.—I think the judges are extremely apt to treat questions of infringement in a manner unfair to the public and favourable to the patentees. I do not mean to say that the rulings of the judges are not perfectly good law, but the law has been strained very far, and things which are, as it seems to me, fairly capable of being regarded as substantially different, are held to be infringements when they cover a small part of the ground of a patent. In the case of Lister and Leather, which is a well-known case, and where the patent was for various combinations of machinery for the combing of wool, the decision was laid down that if you take any new and valuable part of a combination you are infringing the patent, though you do not take the complete combination, and though the patent is for the combination. That seems to be a very questionable principle indeed, if a patent is for a combination, to say that it is always to be treated as a patent for every ingredient in that combination which is new and valuable in itself, though the whole thing is different; it is a case in which the judicial interpretation practically enlarges the privilege. So again in some other cases. There is a case now *sub judice* in the House of Lords relating to glass furnaces, which will illustrate what I mean, whatever may be the ultimate decision. In the glass-blowing trade it was usual to use very large pots, which were attended with many inconveniences, in the furnaces, and a patent was taken out for using a tank instead. When the glass is melted in the tank it is liable to be destroyed at the sides or at the bottom, and it is important to counteract that. A gentleman specified for a tank that will have air at a certain distance from the bottom, and then hollow walls and sides all round, letting the air pass all round so as to cool the tank; of course there being a fire on two sides, of which the flames meet at the top, the air passes through those hollow channels between the two fires of the tank as well as in the other places. Then another gentleman used a split bridge between the two fires, with the effect of increasing the combustion above, but also with the effect, as it is said, of cooling at those particular points, though he does not cool anywhere else; and there-

fore there is a thing substantially different, producing in a particular place the same effect to a certain extent. That is said to be an infringement, and it is not a bad illustration of the kind of thing that is frequently in contest on the question of infringement; that is to say, where something is said to be used, and is often *bona fide* used, I think, for a purpose more or less different, and certainly in a manner substantially different. Not unfrequently it is a better thing, and yet if it goes over a portion of the same ground it is treated as an infringement. In this case is the tank a moveable vessel?—No, it is a great built-up thing. . . . All those things belong to the present state of the law, and many people would no doubt think that if the law of patents should remain, those things, all or some of them, ought to remain also. . . . Your opinion generally is adverse to patents?—Yes. Will you be kind enough to state to the Committee briefly your reasons for that opinion, taking into account what I feel sure you will admit, namely, that sometimes patents are beneficial to the public?—I see that that is the opinion of men who know very much more about the arts than I do, and therefore I will assume (not being thoroughly convinced of it) that that is the case. My reasons are very much those which are contained in Mr. Grove's evidence. I almost think it might be sufficient to refer to that evidence; but perhaps I might illustrate from some of those great cases in which I have been counsel the impressions which I have received with regard to the working of the law as against the public. Now I mentioned that I thought you might divide patents broadly into what (to use a strong term) may be called frivolous patents, and those which may be called important patents. I have put down five cases in which I have been for the defendants, all of which certainly belonged to the important class; there was Mr. Bovill's patent for mills, Mr. Penn's patent for the bearings of screw propellers, Mr. Betts's patent (which in essential importance ranks lower, but at the same time it has been very acceptable to the public) for capsules, Mr. Young's patent for paraffine oil and paraffine candles, and this one which I have just alluded to about glass-blowing. All these are useful and important matters, and great values are at stake in them, I suppose particularly in Mr. Bovill's patent, Mr. Betts's patent, Mr. Young's patent, and the glass-blowing patent now in litigation. If you are to have any patents at all which *bona fide* relate to important manufactures, these seem to be within the spirit and intention of the act of King James. Now, in every one of those cases, I think I can perceive something which really intercepts from the public more than the public gain by it; and also, these and other cases show how very nearly impossible it is to prove any patent, which is commercially successful, bad on the ground of its not being new. To take the case of Betts, I see in the course of the evidence given before this Committee, it has been suggested that either a scientific tribunal or the law-officer of the Crown, or whoever made the preliminary investigation, might, by comparing previous specifications with any new application, form an opinion as to whether the alleged invention was new or not. But in the case of Betts it was actually laid down in the House of Lords that, even if the two patents and the descriptions were in the same identical terms, one,

being a good many years before the other, without evidence to go to a jury, the judge could not decide that the one was substantially the same thing as the other; that is to say, even if the words were the very same, there might be at different periods a different technical sense for the words, or something of that kind; it was laid down that, without evidence, the mere comparison of two documents would not authorise any judge to say that the one thing was the same as the other. Of course if that were so, no preliminary inquiry could show it either. But I will go beyond that, and take not such an extreme illustration, but what really happened in that case itself, and which is a very good illustration: I mean the case of a prior patent which did actually describe everything which, to the common apprehension of mankind, would go to the particular invention; that is to say, that by rolling lead and tin together with a hard pinch, and repeating that until they adhered, you might produce a useful compound. It did not appear that the original patent had succeeded; and another patent was taken out many years afterwards by Betts, which dealt with exactly the same thing, but differed from the first by proposing to laminate separately lead and tin, and then put them together, suggesting that certain proportions were what the inventor found the best; and in that way a good manufacture was produced. All the elements of the case were in the first patent, and nothing but experiment to discover the best proportions was necessary, which experiments would naturally be suggested to any one who read the first patent. But Mr. Betts, accidentally, as he said, hit on those proportions, and then he patented it, and he excluded, I cannot tell how much, but I strongly suspect that he practically excludes everything that might have been done, and to some extent, according to the evidence, had been done, under the first patent. Mr Betts, in his specification, also said, "I know the same thing has been done, or attempted to be done, by fusion, by pouring one metal on the other, and I do not claim that." It had been done, not so as to produce an equally fine article, but an article fit for coffin-plates and coffin-lace. There was evidence of that. A company started who tried the system of fusion (pouring one metal upon the other), and succeeded in producing a merchantable article in that way. Their proportions, as far as thickness is concerned, were substantially the same as those of Mr. Betts's patent, and that was held to be an infringement. I should have said until that case was tried that nobody could possibly have formed an opinion that a man might not have used the fusion process with any proportions. The public were in possession of almost the whole of the information; quite enough for any one who understood such a thing to act upon the first description,—in fact nothing but experiment was wanted. Then when that alleged infringement took place, the disclaimer of the fusion process was still held good; yet the fusion process, when the same proportions were adopted as in Betts's patent, and when the effect was to produce adhesion only in the first place, and afterwards, by rolling, a more perfect cohesion, was held to be an infringement, though not one word was said in Betts's specification about the difference between adhesion and cohesion. There it seems the public lost more than it gained. In Mr. Bovill's

case there was a very important object, namely, to get rid of the stive in mills, and a great many people had been in search of what was so much desired. The evidence was plain in that case. Every means that he used, including the fan, was used in various places and on the same principle; but the rule had not been laid down distinctly, that the blast which was admitted was to be exactly counterbalanced by the fan that carried the hot air away. The description on the surface of the specification was so very far from clear, that to common apprehension it would seem to signify that there must be an artificial blast and not a natural one merely; and it was left to experiment to discover where the precise balance between the admitted blast and the counteracting ventilation was obtained. But the fact was that Mr. Bovill worked it, and he had mills in which he carried on the invention successfully, with other improvements combined with this, and it made a good manufacture. The success of a thing is always the test. When it succeeds the thing is held to be new, and all previous experiments go for nothing; the very things which people had done in previous experiments would be held no doubt as infringements under this patent.

Mr. J. Howard.—Are you not aware that Mr. Bovill built the mills for the very purpose of experimenting and perfecting his plans?—No doubt. My impression is derived from the evidence in the case. It is a very common element in cases of that kind. In his manufacture I think he used other improvements of his own, besides what were in the patent: certainly he used the artificial blast, which he had described, and which was not used by the infringers. But the success of his manufacture went to prove the utility of the patent, very little attention being given to the points of difference between his actual processes and those of the infringers. That Mr. Bovill had succeeded was indisputable, and that other people had not previously succeeded in any important degree was equally proved. But all that he did was on the track of what had been tried before, and the very means that he used were the same. All he did was to hit (so to speak) the bull in the eye, and to seize the precise point necessary for success. I cannot help thinking that that was a matter which would have been necessarily and soon discovered under any other system; and that it did not require a system of reward by way of monopoly. It was very hard that he should be able to exclude all but those who would pay his price for licences for fourteen years. Then take Mr. Young's paraffine. It was as clear as possible from the books produced, that his method of operation was merely the method which all chemists used for the purpose of producing a distillation of that kind; that is to say, the lowest heat which was compatible with the bringing over of the products. A great German chemist, Reichenbach, had actually described with regard to this particular substance of paraffine, the substance and the means of obtaining it by distillation at a slow red heat. He had used beechwood, and, I think, coal; but his experiments with wood had been defective, and he had no suitable coal, and no commercial results had come from it. But there was the book and the plan, and the only thing really wanted was to find a material which would make it commercially worth while to operate in this way on the article; and until that was found out by Mr. Young, no one had

worked out Reichenbach's information. Mr. Young got hold of a new mineral in Scotland, the Boghead coal or Torbanehill coal, which is extremely rich in those oils; and then he patented the whole thing, there being nothing whatever in his process except the use of a slow red heat. That mineral was, of course, existing in nature, and yet he obtains a patent for this; but it might easily have been discovered on analysis that the mineral was suitable, and any one might have set to work to do the thing without any patent at all. He does not get a patent for the use of the mineral, but merely for the use of this very process which Reichenbach had described, and to obtain the very product which Reichenbach described.

Chairman.—Do not those cases rather argue against the patent law as it stands, and against its interpretation by the judges, than against the practice of granting patents?—Those are the most valuable patents that I know of; no patents have recently come into litigation of equal value; they are the great new manufactures which have been introduced, and probably you might add the screw propeller, and the steam-engines, and so on; where you have a number of people each making a step, the ultimate success comes to the man who happens to make a particular step in advance of the others, though all are in the race. I recollect when I was a law-officer of the Crown there was a kind of current of inventions going on at the same time, and out of the patents which you had to pass, probably all of them, during a certain period, except a few insignificant ones, would divide themselves into families according to the wants of the public at the time; sometimes it was guns, or cannons, or shipbuilding; whatever, in fact, the public were in search of at the time. It showed that the current in the arts had its own law, and determined itself, and that the people who wanted those things were all set upon finding them out. I cannot help believing myself, that that is always going on in such a way that, whatever invention is really valuable is certain, in the present condition of our arts and manufactures, to be reached for the sake of its value, and not for the sake of the patent. Take the case of Mr. Bessemer's invention for producing steel from cast iron; the development of the process, I believe, cost the inventor £30,000, and his licenses probably two or three times as much in addition before it became a profitable manufacture; do you think that such a manufacture would probably have been brought into operation, except some protection had been granted to the inventor?—Of course any opinion that I may give on the subject with regard to a particular case is of no value in comparison with the opinion of persons acquainted with the manufacture; but I think, this being an important matter and a valuable manufacture, that if there were no patent for it, Mr. Bessemer would have had sufficient motive for making the invention, and that the manufacturers with whom he communicated would have had sufficient motive for taking it up, when they became aware of it, and making a profit of it.

Mr. Platt.—With regard to the illustrations you have laid down, I wish to ask you this: Granting what you say, that all those inventions would naturally have come to the public in time (it might have been in thirty, forty, or fifty years), do you not think that the fact of those valuable

inventions having been given to the public thirty, forty, or fifty years sooner than they would have been if there had not been a prospect of reward by means of patents is to be considered?—That is a very speculative question; and there again any opinion I may form is, perhaps, of little value: but judging from what I saw when I was law-officer, my impression is that the demands of the time will determine generally the current of invention; and that those demands will be met, not for the sake of patent rewards, but for the sake of what is to be done in the arts and manufactures according to the wants of the time. I think we find there is usually a race going on in prosecuting improvements at the time when circumstances naturally lead up to them, and not sooner or later, whether patents are granted or not.

Mr. Attorney-General.—It has been suggested to this Committee as a remedy for many, at all events, of the evils of the patent law, to constitute a tribunal, composed, for example, of a barrister and two scientific judges, who should institute a preliminary investigation; are you of opinion, or not, that such a tribunal would, in any material degree, do away with the evils of the patent law?—My opinion is that it would not in any material degree do away with the evils of the patent law; that it would be burdensome to the patentees is clear, and I think it would be an investigation in the dark, and that even the addition of the scientific element would not make it less so. . . . I cannot conceive that if the tribunal had to act on the principles on which the courts of law now act in determining questions of novelty and infringement, it could be of any use. It might be a very different thing indeed if you did what I have no hesitation in saying would be the next best thing to the abolition of patents, that is to say, sweep away entirely the notion of a patent being a matter of right, and revert to the principle of its being a matter of grace and favour simply; so that in a case where the Crown is satisfied that there is something of substantial merit and value to be given to the public, the Crown, for the sake of gaining that something, would be willing to give a patent. In that case I think such a tribunal as has been suggested might be very useful. But so long as the notion of a patent being a matter of right to the inventor remains as it is, I do not think it would be of any advantage, or that it would give any satisfaction at all. I understood you to say that you agreed with Mr. Grove in thinking that it might be possible to grant patents only in a few limited cases where the invention was manifestly one of great importance, utility, and benefit. But Mr. Grove appeared to think that if that were so it would be desirable to have a somewhat similar tribunal to that which has been shadowed forth; you do not, however, share that opinion?—The difference between me and Mr. Grove on that point is just this. I could not make out very clearly whether Mr. Grove in that part of his evidence had in view a judicial, or a purely discretionary proceeding; it seems as if he held that after all it was to be a kind of judicial proceeding, and that there was even to be an appeal. I do not agree with that. I do not see how, on judicial principles, you could satisfactorily administer so large a discretion as that. It would seem excessively hard to those who did not succeed; the very principle of judicial procedure implying that, subject to certain

conditions, the thing should be done. As I have said, previously to actual experiment, you would be investigating in the dark, and premature publication might be prejudicial to the inventor. Then your scientific men might have their bias or suspicion of bias, and they might not equally command the confidence of all other men of science. I do not think Mr. Grove intended that scientific men and lawyers should be united in one tribunal, and I agree with him there. The judges should take scientific men as mere assessors or witnesses, but I think that such a tribunal must work worse than the prolongation jurisdiction of the Privy Council does now. That, although in many respects an arbitrary and unsatisfactory tribunal for the purpose, yet has this advantage, that its decisions are founded on experience, which shows how far a patent has succeeded, and whether profits have been made. But this tribunal, in the first instance, would have to go upon mere speculation. . . . If you do not abolish patents altogether, I should say it would be the best thing to treat it as a matter of grace and favour for patents to be granted in cases where the inventions are deemed to be exceptionally meritorious or useful. . . .

Mr. Macfie.—You have mentioned that the present state of the law has grown upon us insensibly, and you have also stated that the law has been strained very much?—I should not like that word "strained" to be misunderstood. I do not mean strained by any decisions on the part of the judges which are not right in point of law; I merely mean to say that the practical result of the administration of the law on this subject has been, that it seems to me to have rather enlarged the idea of the privilege in all directions. I think we have an illustration of that in this, that interruption of trade was considered at one time a reason why patents should not be granted. I have read somewhere that that idea in the olden time was carried so far that an improved system for manufacturing caps and bonnets was considered unpatentable, and that a patent, after having been granted, was nullified because it interfered with manual labour. That could not be done now, but in the olden time the paramount idea was interference with trade. The Statute of Monopolies says, that patents shall not be granted if they are "contrary to the law" or mischievous to the State, by raising prices of commodities at home, or hurt of trade, or generally inconvenient. Have you any remarks to make to the Committee on that view of the case?—I think, certainly, that the Statute contemplated the kind of discretion which I have been speaking of. Then, on the whole, supposing all the suggested reforms could be adopted that are likely to be practicable, still retaining the patent and monopoly system, would you think, to use a common phrase, that the game would be worth the candle, and that the advantage to the public would compensate for the considerable embarrassment, the great expense of law pleas, and the retardation of new improvements, that would in many cases result?—I should like to advert in answering that question to the advantages to the State which you have mentioned, because a great deal depends upon what they really are. I do not think that they are anywhere really better stated than in Mr. Aston's ab[illegible] publication. First of all it is stated that the patent law stimulates invention; but I think the felt need of improvements in the arts is th[illegible]

true stimulus of invention, especially in times when invention has made great progress. The second point is that patents induce people to communicate their inventions instead of keeping them secret. I observe Mr. Webster says that he does not think mechanical inventions can be kept secret now, though he said he thought perhaps chemical inventions might be kept secret. I should have thought that, of the two, the mechanical were the more easy to keep secret, because you might shut up your mill; whereas, with regard to a chemical invention, analysis might be capable of discovering it, or where analysis was not in point, the knowledge which must exist among all chemists with regard to the chemical means of producing certain effects; but on the whole I do not think that secrecy resulting in a valuable manufacture could be carried on to an extent seriously important to the public. Particular cases may be mentioned, yet I really do not think it is a matter of much practical importance. I was rather struck with another point which Mr. Aston mentions in his publication, namely, the advantage of a registry of inventions, and a market for inventions. I lay aside the question of the market, because the trade or manufacture is the natural market for inventors who have invented anything valuable, and they will generally have the same means as they have now of knowing where they ought to go with their inventions, namely, to those to whom it may be worth while to obtain anything valuable, and to pay for anything valuable; but until a thing is tried, of course there is not a general market or consumption for it. The inventor must search out his own market, and he would do that without a patent. With regard to the registering of inventions, I do not deny that that is useful, but I do not think that the advantage of it compensates for the loss. On the whole, my conclusion is, that the public loses much more by the obstruction to the arts and manufactures which comes from the multiplicity of patents (particularly of those patents which move step by step), than it gains by any of those things; therefore I am for abolishing patents altogether. But if there were a discretionary power of rewarding by a patent exceptionally valuable and important inventions, or what might be deemed so, I do not see so strong an objection to that. You stated that the limited time during which opponents might come in never could be a satisfactory protection to the public; will you be kind enough to inform the Committee what amount of protection the forms of the law do really give now to the public?—They give no other protection than this, that the public may always put the patentee to bring his action. The protection afforded by the preliminary inquiry before the law-officer of the Crown is very small; indeed, I think it can hardly be said to be any protection at all, it is rather holding the patentee to the performance of the conditions with regard to the provisional specification; in fact, it is that and nothing else. I find in the Statute of Monopolies, or rather in the old patent grants, there was a limitation that only five persons could participate in the enjoyment of a grant; could you state to the Committee what was the probable object of that restriction, which is now completely set aside?—I cannot see any useful object in it. What is supposed among persons cognisant of the subject to be the motive which the State has for giving these monopolies

to Mr Bovill, Mr. Penn, Mr. Betts, Mr. Young, and so on?—The motive of the State, I suppose, was that expressed in the Statute of James, namely, to obtain valuable manufactures, which otherwise might not be introduced into the realm; and these seem to be as much like such valuable manufactures as any instances that I know of of late years. Therefore I mention them as showing how many persons were on the same track, and that probably those inventions, which were valuable, would have come to the State at no great distance of time if those patents had not been granted. The advantage to the public was probably the motive, but have you considered how far the abrogation of free trade, the reduction of duties, and the opening of our markets to commodities and machinery made abroad, affect the possibility of continuing the patent system, even in the modified shape suggested by Mr. Grove, reducing the number of grants for inventions to about 100 a year?—I do not see very clearly that free trade goes far to settle that question. If you had foreign countries without patent laws, it would be very difficult, if not impossible, for a great many reasons, to maintain patents here; but if not, it is, I think, almost begging the question to put it on free trade. Those things do considerably obstruct the freedom of internal trade and manufacture, that is to say, the free use of knowledge which previously was, and would otherwise continue to be, common property. But the other side of the case is that patents are good; they are said to be good, because they obtain for the public knowledge which otherwise they would not possess. I have never been able clearly to understand the state of the law with regard to the patenting of a principle. It is always said that it is impossible to patent a principle, but then you can obtain the monopoly of the principle by patenting one particular application of it; what is your opinion about that?—I think the law on that subject is very difficult to understand, because those who imagine that inventors ought to have the right to some legal privilege on account of their inventions, would be more consistent if they went on to say that the prime discoverers of those principles in nature which are capable of useful application ought to have the monopoly of those discoveries. For instance, take Harvey and all the medical practice founded on the circulation of the blood; in reality he was a great discoverer, and those who came afterwards are using the knowledge which he communicated to the public. If that were really the principle, that you were regarding the discovery as a property, which on grounds of natural justice should be protected, I do not see why the discovery of the principle should not be protected as much as its adaptation; it is very hard to draw the line. Take as an example Crane's patent, where the hot blast having been patented by Mr. Neilson, and there being anthracite coal too hard to be burned in ordinary furnaces, Mr. Crane patented the use of anthracite coal with the hot blast; in other words, he taught the world that with the hot blast anthracite coal might be usefully burnt, which would not burn without. That was the subject of a patent, but it was very much like patenting a principle. A former witness was asked a question as to whether it would be a practicable and useful limitation of the privileges granted to inventors if the maximum amount receivable from licenses could be fixed, so that when he

had received that sum in royalties the patent should lapse, or by some process of law be made to determine; what do you think of such an arrangement as that?—It is quite impossible to do that without dealing very arbitrarily with somebody or other. Have you thought of the system of compulsory licenses, and whether that is advisable or not?—Yes; I think as a general rule it seems reasonable that a man should be required to grant licenses; but it may possibly happen that the only conditions on which he can bring his invention into work may be inconsistent with it; for instance, the only way of doing that may be by inducing some great capitalists to spend a great deal of money in setting up a manufactory to work out the merits of a particular patent, and they may be unwilling to do that unless they have the sole power of working the patent themselves; such things, I believe, have occurred. And, besides, unless you fix the terms on which they should be granted, it would be nugatory to say that compulsory licenses should always be granted. Have you observed any proportion between the receipts of a patentee and the ingenuity of his invention, or the expense of his trials?—I should say none at all. So far as I know, the most successful inventions are by no means those which have involved the greatest difficulties. Can you mention cases in which a very large amount of costs had been necessarily incurred by plaintiffs and defendants in litigation?—Yes; in all the cases I have mentioned that has been so. I should be very sorry to conjecture the sums which may have been spent in some of the cases; I hear it said that the costs in Bovill's patents would be about £15,000. I should have supposed that they were much more.

Chairman.—Is it the fact that Mr. Bovill, in his evidence in one of the suits, stated that he bought the original invention from a Monsieur Bonglaux, of Leghorn, for £10,000?—Not the invention for which that particular patent was taken out; I think he bought something from Monsieur Bonglaux, for which he took out his first patent; but the patent litigated was not the first patent, if my recollection is right. But in that case, as well as in many others, there was a great deal of doubt with regard to how much the patentee had learned from what he had seen abroad; there was evidence with regard to what had been done abroad, the drawings which had been brought to this country, and so on, only it fell short, as such evidence always does fall short, of the point. In the case of Hills and Evans, Lord Westbury laid down, in a very forcible manner, a rule which shows that anticipation is very nearly impossible, because if there is any room whatever left for additional ingenuity to make the thing more perfect, it is a sufficient subject for a new patent, and a new patent which practically comprehends all the former things. But was not this an instance of a very large investment of capital in the hope of obtaining the protection of a patent, which investment otherwise would not have been made?—That is too speculative a question for any one to answer, but certainly I should say that a gentleman who was in a situation to make that investment would have had a sufficient inducement to do it without any patent, that is to say, if he was in possession of a good process, and a better one than other people. Even if his neighbour were at liberty to do it to-morrow

without incurring any particular expense?—Yes, because he would get a start of all other parties. Of course he would not obtain the same amount of profit as if the patent turned out a success. But this great expenditure is incurred before it is at all certainly known how far it will answer as a commercial thing; the commercial success comes at the end and not at the beginning. All this expenditure is incurred beforehand, manifestly, not with a view to licenses to other people, but with a view to the manufacture itself. But if the risk of great loss were incurred, that is to say, the risk of what I will not call piracy, but imitation, it would surely be less probable that the first expense would be incurred, would it not?—If the invention did not answer commercially, there would be no risk of piracy or imitation. The mere fact of an invention being a great success is a reward in itself.

Mr. Macfie.—Is it not understood that that process of Mr. Bovill's had been introduced on the Continent before it was introduced in England?—So it was said, and some evidence was given leading in that direction, but it was thought that it was not exactly the same thing, that is to say, that it was not brought to the precise point of definition that Mr. Bovill brought it to. I think that the definition was found out by the results, but I should say that, apart from the working of any mill, his specification was not likely to be understood by people of ordinary sense in the way in which it was construed. While you were a law-officer of the Crown, had you experience of the necessity of defending the Crown against claims from inventors that you thought unwarranted and improper?—There was a single case in which we tried the question whether the Crown was bound by a patent. That was the case of Feather *versus* the Queen. We understood from the War Office and the Admiralty that they were besieged by patentees, that the Constructor of the Navy could hardly build a ship, or that the army could hardly choose any weapon, without coming into conflict with some one who said he had patented some part of it. And it became necessary to see whether they could not shake themselves loose of those things; and it was decided that the Crown was not bound by the patents. Of course every subject of the Crown is in the same position as the Crown itself, so far as individual interests are concerned?—Yes; other things being assumed to be the same, namely, that you have a particular art or manufacture, in which the wants of the art or manufacture are continually leading to experiment and improvement which will cause great multiplication of patents in that branch, and that the multiplication of patents will be liable to become obstructive at every step to those who are making improvements on their own account.

Chairman.—But we may take it that the Crown in cases of very meritorious invention would grant rewards to the inventors?—Yes, the Crown, I presume, would do so, when it was conscious of making use of an invention which it found to be meritorious and valuable; but the Crown would be in a very different position from infringers generally, because the Crown would not at all recognise the right of the inventor if it did not feel that it was indebted to him for what it was doing; if it had got in some other way at the same thing, it would not at all recognise a man who came and said, "What you are doing is in my

specification." The Crown being itself judge in its own case, which individual members of the public are not under the patent law?—Yes.

Mr. Pim.—If it were made a common thing to grant patents very freely and frequently, then great dissatisfaction would arise, and it would be felt to be a matter of personal favour. If it were really a rare and exceptional thing, then it seems to me that it would probably be done in a manner which would not lead to that kind of objection; of course it would require that there should be a *bona fide* investigation beforehand, but then, I think, an investigation depending on discretion in the end might be conducted by means which would not be satisfactory, if it were a judicial operation. Supposing the existing law to be continued, and patents granted as a right, it is objected that there are many frivolous and trifling inventions, which do not deserve to obtain patents: you also agree with Mr. Grove that some inventions, even if they obtained patents, should have them for very short terms; now, do you think it would be practicable for any tribunal that was appointed, either the law-officers of the Crown alone, or with the assistance of scientific assessors, to discriminate in those cases?—There, again, I should think it must be made a matter of absolute judgment and discretion; that is to say, it must be understood that what they considered frivolous or what they considered trifling, should be rejected as a matter of discretion; that being so, I do not think there should be much difficulty in it. . . . Take, for example, a new shirt button, a new stock or frill, or things of that kind, things which really belong much more to the category of designs than inventions; those I would reject and set aside at once. You can have no idea of the multitude of them. You have expressed your opinion to the Committee that patents are not on the whole beneficial to the community?—That is my opinion, certainly; I think the chief effect they have is against the public, and I think that the effect in favour of the public is one constantly diminishing. I was going to ask you whether, taking into consideration the whole expenditure of time and the expenditure of money that falls to patentees or inventors with regard to obtaining patents, and in sustaining them, you think on the whole that they are a benefit to the whole class of inventors?—I should doubt it extremely; but it requires much more knowledge of the particular details than I have to enable me to answer that question. Would you apply the same principle that you apply to patent right to copyright?—I am rather glad you have asked me that question, because it gives me an opportunity of stating my reasons for thinking that the whole reference to copyright, and other kinds of property, is essentially fallacious; there is no species of analogy between patents and any other kind of property. Mr. Aston goes much further, and treats it as like the appropriation of land, or the appropriation of any other natural substance, which is capable of being taken out of the common stock of nature, and appropriated by individuals. But if I may be permitted to deal with the subject in that broad way, first I would say that land and all natural products are, in fact, capable of appropriation and separate possession, and what is more, can only be used at all events at one time by means of appropriation and separate possession. The whole of the world cannot be using the same substance, or thing, or

piece of land, at one and the same time; appropriation therefore arises in the course of nature, and the law sanctions it only as a particular mode of regulating what is naturally necessary if you use those things at all. But knowledge is capable of being possessed and used by the whole world at the same time, and all that is the subject of natural science is not only common to all the world, but the actual use of it by one man is in no way diminished in consequence of the use of it by another. It is like air, or light, or whatever else is universal and simultaneously capable of equal enjoyment by all. Knowledge cannot be confined or appropriated in any such sense. Now with regard to copyright, if you will give me a definition of an invention which will make it like copyright, by all means let it be protected in the same way; that is to say, if an invention consists of a set of arbitrary combinations, which no two men can come to alike. But a book is the simple creation of a man; it is founded, of course, on common intelligence and common knowledge, but the combination is a thing essentially unique which by no possibility any two minds can arrive at in exactly the same way, and therefore it is essentially a creation; and not only does it differ in its nature in that respect, but it differs in the result. You have never any difficulty whatever in identifying the thing; and you do not, by protecting any man's book, place fetters or limits upon the practical use of any kind of knowledge whatever, which other men previously possessed, or stop or impede their progress from one step in knowledge to another. You know one man's book, and you know another man's book, and if there is an accusation of piracy, the question is, whether one man has taken another man's book in his hand and copied out certain things from it, it being certain that no two minds in the world could have produced the same book. There is, no doubt, a class of books which gets the benefit of the protection which are less clearly, or less truly original, within the principle, such as directories, gazetteers, dictionaries, and the like. . . .

Mr. J. Howard.—Your own *Book of Praise*, for instance?—Yes, that is an equally good instance. But I think that even such combinations never could possibly come together by any accidental concurrence of two minds in the same way. Of course the doctrine of infringement in these cases is limited according to the nature of the work. Unless it were plain that a man had used the scissors on my dictionary, or whatever it was, and had copied from it wholesale, he is not an infringer; but in such cases the application of the doctrine of infringement is not practically difficult, it is a mere question of fact as to the use of the scissors, the book as a whole being the only thing which is protected, and the thing being a unique creation. But inventions are discoveries of something which is not the creation of the discoverer's mind; they are the result of the pursuit of common knowledge, for an end to which the laws of nature are simultaneously directing a number of minds, the whole result depending, not on the actual combinations and permutations of an individual man's ideas, but on that which is the common intellectual property of the whole world. For instance, take the case of making paraffine oil by the application of a low red heat. According to the known laws of distillation, if you are to get at

paraffine oil, all people must get it by the same means, and to the use of those means all students of the subject are guided alike by the same natural and necessary laws. No doubt you may suggest a patent for a machine which is arranged in a manner so purely arbitrary, that it is very much like a book. In that case it should be registered as a design (under the Copyright of Designs Act), which it would resemble. But if it is the accomplishment of a known mechanical object by mechanical means, resulting from the scientific application of natural laws to a natural substance, I say it is not at all analogous to the case of copyright. Though possibly no harm might be done if this discovery of natural laws, or the application of those laws to a useful purpose, were certainly the possession of one mind only; yet when you find that in its elements it is actually in the possession of many minds, and that many men's minds have a tendency to move to the same end, it seems to me that to allow one man to intercept it is to do what is as much against the right of those who are obstructed and intercepted, as it can possibly be in the favour of the man who gets the benefit. . . .

Mr. Gordon.—If you mean to substitute discretion for right, it might be all very well, and I should then see no difficulties in the way; but if you do not go on the principle of discretion, I think there would be a great difficulty in it, and a very great probability of the tribunal which is supposed to go on the same rules of law as the courts of law, administering different rules in that stage. With regard to frivolous patents, I do not think that such an elaborate machinery is necessary for the purpose; my impression is, that if it were understood that nothing should be patented but what was considered to be a substantially important and valuable art or manufacture, that indication alone expressed in the terms of the Act of Parliament would be quite enough guidance to the law-officers of the Crown, or whoever else might have to conduct an investigation in the same way as at present; and that they might be entrusted, when a patentee took a different view, to receive any proofs that he might wish to offer, and to judge according to those proofs quite as well as the more elaborate tribunal which you suggest. . . . Would not that operate as a check on frivolous inventions?—Yes; I only think that it is not necessary to take the trouble of establishing such a tribunal at all. I cannot help thinking that if you laid down a rule that patents are intended for such manufactures and inventions only as are deemed to be valuable and important, there would be no real difficulty of application, and you would not require to establish such a tribunal; but if you thought it necessary, of course that could be done. . . . But he would have heard evidence which is very seldom brought before the law-officers of the Crown?—Consider what kind of evidence would be applicable to such a subject. If a patent is of the class I mention, a new shirt-button, or a new kind of collar,—for instance, paper collars instead of linen, which were patented,—surely you want no evidence in such a case as that, because you perfectly well understand the nature of the case. Assume that there would be a considerable demand for an object, why should the inventor not go and register it? Do not such matters properly belong to the law of copyright and designs, rather than to

the law of patents? If the present expression of the law with regard to copyright and designs is not sufficient to include such things, it would be very easy to alter it and make it so.

Chairman.—Do you say advisedly that that would be very easy?—If you exclude the element of discretion altogether it would be altogether impossible. But I mean with regard to the alteration of the law of copyright so as to cover small inventions?—I should think it would; indeed I am not certain that any alteration would be necessary, but I cannot help thinking that it would be practicable, at all events. I do not speak of chemical products, nor of processes of manufacture, but of articles made of a particular pattern, form, or material.

Mr. Gordon.—You think it would be an improvement, at all events, that the granting of patents should be made rather a matter of favour on the part of the Crown than a matter of right on the part of the inventor?—Yes, decidedly; because then, without injustice to any one, you can reject those things which do not establish a case for favour, and confine yourself to granting patents to those which do. And the materiality or importance of the invention would enter into the decision, would it not?—I should say so.

Mr. Macfie.—I understand that originally patents were entirely granted as a matter of favour?—Yes; nobody can read the Statute of James without being under the impression that it must have been so.

Mr. Gordon.—In a case of doubt, the Committee have been informed that a patent is generally granted, and the result is, that there are now about 3500 a year granted. No doubt many of those things are bad, because there are prior inventions of some kind, or probably they do not comply with some of the conditions of the patent law; but is there not much injustice in granting such a number of patents, so that a patentee may come upon a person who has, as he says, infringed it, and that person very often, rather than fight the question, yields?—I should think that in those small matters it would be almost invariably the case, that if a person was making or selling an article without the license of the patentee, he would yield; because the thing cannot be worth a contest unless it should so happen that there was a large trade driving in it. Of course there are some things which might be fairly put in that category, and in which there might be a large trade driving, for example, crinoline. I should be disposed to think that all articles not involving the application of some new mechanical principle, but which really are mere matters of fashion, ought to be treated as within the class of minor or frivolous patents, and be separated from the rest. Articles of furniture would be another instance of that. I remember when I was in office that there were several designs for pocket-books, and things of that kind, where you really doubted whether it was the proper subject-matter of a patent or not. Would it not be advantageous that in discussions with regard to the validity even of patents granted, the Crown should be represented at the trial as representing the interests of the public, so that it might be seen that there was a fair trial?—I think unless the

Crown entered as a litigant, and went into evidence, the Crown would secure nothing that is not secured now. I mean the public interest with regard to getting rid of an alleged right in an invention?—I am not sure that that might not work well. Of course it would increase the expense of the litigation, and the great probability is that the Crown, generally speaking, would not enter into it, but would merely watch it as conducted by the parties. It might throw an additional weight of influence into the matter, but it would be against the patent. If it was a question of setting aside a patent, and the Crown joined in it, might it not be enacted that a verdict, at the instance of the Crown, should put an end to further claims?—Yes; and then it would be quite necessary that the Crown should be there.

Chairman.—Would it not be rather an absurdity that the Crown should first have granted a patent without evidence, and then bring evidence to repeal it?—Yes, theoretically. But practically?—No, not practically.

Mr. H. Palmer.—I think we gather that your idea is, that a preliminary tribunal, with a discretion, but not a judicial tribunal, would be a useful thing?—Yes, it would be a decided improvement, in my judgment, on the present system. . . . Suppose one man who was eminent in mechanical science was appointed, and one who was eminent in chemical science, would not that almost embrace every description of patent?—I do not feel at all sure that a knowledge of mechanical science, and a knowledge of chemistry, would cover the ground of art. The science of mechanics, or the science of chemistry, is a very different thing from a knowledge of art and manufacture. Take an example in science of the various patents relating to the electric telegraph. I suppose a man may have good chemical knowledge, and good mechanical knowledge, but may be quite incapable of judging of such a matter as that, unless he has given special attention to it. At all events he would be better able to judge than the law-officers of the Crown, would he not?—Yes, he would be better able to judge than the law-officers of the Crown; but they would otherwise have the assistance of men particularly conversant with the thing. I forget whether it was Mr. Woodcroft who knows that particular thing, or whether he brought a man who did; but I had more than once assistance on that subject from gentlemen who understood it thoroughly. As the law now stands, the law-officer of the Crown is empowered to call in scientific assistance, is he not?—Yes; and that is just what I did. . . . If it is the general sense of the public to try the effect of the patent system some time longer, that would be one of the improvements which I would recommend. When you gave the discretionary power, would you give it in an unlimited way, or would it not be a sufficient thing to use the words which are in the Statute of James, to embrace all the discretion which is necessary; those words are, "any manner of new manufactures," or these words which are in patents now granted, "so as also they be not contrary to the law nor mischievous to the State, by raising prices of commodities at home, or hurt of trade, or generally inconvenient"?—I look upon those as vague and impracticable conditions altogether, and totally useless. Then could

you use any word short of absolute discretion in any amendment of the law?—I do not see my way to anything short of absolute discretion. Would you propose to give any appeal from this preliminary inquiry, whether by the law-officer of the Crown or not?—I would not.

Mr. Howard.—I take it, if I correctly understand your evidence, that you object to the patent law on two grounds; first, because of the abuses, legal and commercial, which arise under the present system; and, secondly, because the granting of patents interferes with the legitimate course of trade; can you inform the Committee of any particular cases in which that has occurred?—Every one of those cases which I have mentioned is a case which illustrates that; the people that were defendants in those cases carried on manufactures in rivalry with the patentees, and they said that they did not want the information which the patentee had given to enable them to do so, and some of them proved that they had done the thing, more or less, before (or endeavoured to prove it), and that they had obtained information elsewhere to the same effect. All the knowledge they had possessed was rendered useless, and the application and further improvement of it was refused to them in favour of the patentee; that is the long and the short of it. Patents unavoidably cover, in those cases, more ground than the precise discovery of the patentee, and that excludes those who possessed all the knowledge leading up to some point, short of the patentee's knowledge, from the use of that which they knew before, because that cannot be used without carrying it on to a further step, and that further step swallows up the whole thing; every contested case of the novelty of an important patent would furnish an illustration of that. There are very rarely cases in which it is plain, as a matter of fact, that the thing never would have been done but for the patent, as if the people had gone straight to the patentee's specification, and done simply what he told them. The questions are usually much more complicated than that; it is very often doubtful how much of the alleged infringer's knowledge was really due to the invention, and it is generally clear that he is practically restrained from the use of other knowledge which was not due to it. I can quite understand that the business of those defendants might be interfered with, but are you aware that the public had a difficulty in having its wants supplied, although those patents did exist?—The public paid the patentee his price, and got it on his terms, no doubt. . . . I agree with you mainly on this point, but would you allow an inventor, as suggested by Sir Joseph Whitworth, and as is the case in America, to use his invention previous to his application for a patent; that is to say, would you allow him to take out a patent after he has had the invention in use for one, or two, or even three years?—That is a question of some nicety, and it connects itself with some other things which have passed through my mind, that is to say, whether or no if a man be the first introducer of a manufacture, and you want to reward him for it, it is important or not that it should have been somewhere published or used before. A case was tried the other day, namely, that of Heath's patent, to show that the public do not always get the benefit of discoveries which are used but not patented; because it was said that Heath's patent had been practically

used for some time before, and nobody was the wiser, and the public did not get the benefit of it, which shows that a use which would prevent a patent being good was nevertheless not generally known; in fact, that what would be fatal to the patent on the point of novelty had not had the effect of giving the public the benefit of the discovery. Supposing the principle to be laid down, that the man who first succeeds in giving the public the benefit of an important manufacture should be rewarded, even though that manufacture may not be then first used, what you suggest is within that principle, and is no doubt the strongest case in favour of the principle, namely, that the patentee himself may have been the only person who has used it; but I find it very difficult to draw the line in favour of the patentee at that precise point, because he might have been going on using it for a very great number of years; he might have been keeping it secret all that time; and you increase that time by fourteen years more if you give him the patent, while he has already got some part of the profit which it is intended to give him by the patent. My question was not directed to the case of a secret invention, but to a case where a man had made a machine for a particular purpose; what I wish to ask you is, Whether you would allow him, with a view to perfecting his invention, not only to experiment, but to use his invention, as is the case in America? Sir Joseph Whitworth has stated his opinion that, if that were allowed, far fewer patents would be taken out, as inventors would often find out the worthlessness of their schemes?—It would be very hard, in a case of that kind, to judge how many other persons may have got possession of the knowledge, and on the principle of the patent law I do not think that could be done; it might be done on the principle of discretion. If evidence was given that it had not gone beyond the possession of the patentee, in a case where it might be a very meritorious manufacture, you might extend it to that case, but not on the principle of right. With regard to the analogy between copyright and patent right, if you deny, which you have done, that the inventor has any abstract right in his invention, would you apply the same rule to copyright?—I think abstract right is certainly very difficult to predicate of any right which is in the strictest sense a mere creation of the law, which both copyright and patent right are; that is to say, when a man has published a book, the multiplication of the copies and the privilege connected with it can only be secured to him by law. To that extent a person might correctly deny the existence of an abstract right in copyright; but it is most reasonable, when a man has really created and brought into existence a thing which nobody else could by any possibility have brought into existence, such as it is, and when he is really in that sense the author and creator of the thing, I say it seems a very reasonable thing to give him that right of property in it. If an invention could be brought into strict analogy with that, if you could predicate that by no reasonable possibility could two minds hit on the same thing, then logic would lead you to the same result. I understood you to say that a book was the creation of the author?—Yes. I believe you will agree with me that the object of an author in writing a book is either the hope of pecuniary reward, or for fame, or to enlighten and

benefit the public; now, do not the same motives apply to inventors?—As far as motives go it is the same; but the thing is essentially different nevertheless. In the one case the author is not taking anything which belongs to any one else, or interfering with any other man's perfect freedom, and equal freedom in the use of the large field of human knowledge. The author, by combinations which entirely originate in his own mind, produces results which would have no existence apart from him; but the other man is seeking to appropriate elements out of the general field of human knowledge, which are as much other people's property as his own, and to obtain improvements entirely and exclusively for himself, which, if the law did not interfere, another man might have invented, and (what is more) which, by the operation of natural laws, there is a tendency for other people to invent. An author embodies his ideas in a book, whereas an inventor embodies his ideas in the specification (which may be called a book) and in the drawings; can you show that the one is not as much a creation of the man's mind as the other?—That is a very happy illustration for my purpose, because it enables me to make my meaning clear. What he has embodied in the specification and drawings might properly be the subject of copyright; nobody might pirate the specification and drawings, or send them out into the world as his own description or his own drawings. But now take the case of a book. Although I may not use my scissors and cut out passages in a book, and republish them as mine, I may appropriate the whole of the knowledge contained in the book, and make any use of it I please. The intellectual material of a book becomes *publici juris*, and is protected by no copyright; it is merely a certain combination of words written which are strictly and truly his, in a form which is really his own, which is protected. The ideas of an inventor are not his ideas in the sense in which the specification and drawings are his, and the author's book is his book. The ideas of the inventor are matters of science. It is, for example, the knowledge that a low red heat is the proper thing for the distillation of the hydro-carbons, and the knowledge that certain hydro-carbons are contained in certain minerals, and that the treatment of them by certain known means will produce certain results. Every one of those ideas is not Mr. Young's idea,—not the least in the world; but Mr. Young, by the use of those ideas which belong to the whole world, and which are in the nature of science accessible to all, and may be used by all alike, produces a certain manufacture, though the ideas are not his at all. The manufacture by law is made his, but inasmuch as other people, by the use of those ideas, might have arrived at the same results, and probably would, it is not at all analogous to the law of copyright. You may protect it for sufficient public reasons; but in one case you are taking from the public ideas which were common property, and giving them for fourteen years to one man alone; whereas, in the other case, you do not interfere with any idea that belonged to the public before or after; you allow the public to make full use of the book. You said that one evil of the patent laws was that one man probably won the prize, while those who had taken the previous steps go unrewarded, did you not?—More than that, they are practically excluded

from the possibility of following out the previous steps. But would those previous steps have been taken but for the hope of those inventors who took the steps reaping the reward of their labours?—Those are speculative questions on which my opinion is worth no more than other men's opinions; but it seems to me that the real inducement is not the hope of obtaining a patent, but the hope of profit. When you have got a patent, a man is very glad to take advantage of it; but the natural inducement to improvement, if a man is a manufacturer, is to carry on the manufacture for his own benefit, and if he is not, then to make a profit out of his invention by communicating with those to whom it would be advantageous. That is the way in which the thing generally works with regard to the "poor inventors" who are frequently mentioned, but with reference to whom the Committee have, I think, as yet received no evidence. The inventor is often not the patentee for any business purpose whatever, but he gets what it is worth a man's while to pay him, and it might be quite as much worth a man's while to pay him for securing the use of the thing in his manufactory as for a patent. It is very few people who practically find the money, except those who are going to work the thing. Would the "poor inventor" take the trouble to scheme without the hope of what all men work for, namely, wages?—I do not believe you will find one poor inventor in a thousand who has obtained any profit from a patent which he would not have got without it. I paid a working man £600 for a patent only last week: should you be surprised to hear that?—It is not for me to say what you would have done if there had been no patent law, but I suspect that, being a gentleman engaged in a large description of valuable manufacture to which the patent relates, you considered that the process was valuable to you, and that it was worth it. It is not for me to say what it would have been worth to you if you had not been able to secure it by a patent, but I think probably it might have been worth your while to secure it. There is another class of inventors, namely, men engaged in making great scientific discoveries of use to mankind?—Such men as Newton and Wheatstone. I am thinking rather of more homely matters, for instance, persons who have devoted themselves to the subject of cultivating the land by steam power. One gentleman who is deceased spent £30,000 (before reaping 1s.) in solving that problem, and which has proved of great advantage to the public by reducing manual labour, and in increasing the fertility or productiveness of the soil; would it be likely to occur in the nature of things that a man would spend £30,000 to solve a great problem without the hope of establishing a large trade by the help of patents?—I should have thought that the want of improvements of that kind among agriculturists would be a considerable inducement to those who had skill and knowledge to endeavour to supply that want, and that, if there were no patents, that would be inducement sufficient probably to produce the effect whether or no he would get more or less by his discovery. You think that that would be a sufficient inducement for an enterprising manufacturer to spend his time and money, knowing that the moment he succeeded in producing a marketable article, his next door neighbour would be able to imitate it?—There is perhaps a

little fallacy there in the word "moment," because for some time a man who has established a trade has an advantage over those who afterwards came into competition with him. I do not say that it is not a great advantage to be able to exclude competition. Sometimes it may be, though not always; but it is a real advantage to have had the start, and to have brought an article into the market with his trade mark and his name. I think that would be enough to induce him to do it though he had not the further advantage of a monopoly. There is an illustration of that which may be not without value. A great number of people who have patented articles which had sold well, go on calling them patent after the patent has expired, and they find an advantage in it. It is because the thing has obtained a certain reception as connected with their manufacture. I believe that is illegal, is it not?—No; if there never has been a patent, then to use a trade mark, which calls an article patent which had never been patented, is illegal; but if there has been a patent which has expired, it is not illegal to go on calling it a patent. To go back to the question that we were upon just now, the question of patents stimulating invention; in one business in which I am engaged, as well as the Honourable Chairman (that of agricultural machine makers), very great improvements have been made. Some firms in this trade never think of going to any expense in inventing or improving, they simply take the inventions of other people: on the other hand, there are many of these enterprising firms that keep a staff of men constantly for the purpose of experimenting and carrying out new inventions, and they do this with the view of keeping in advance of those men who have no enterprise and go to no expense; perhaps nature may have denied them the power of producing anything new Now the question is, Whether the great advances which notoriously have been made in the manufacture of agricultural implements would have been made but for the patent laws?—Of course it is a speculative question, and you know the facts much better than I do; but what you have described seems to me just the natural state of things, namely, that the most enterprising and able man would desire to keep in advance of the others, and use the best available intelligence to devise improvements, and give employment to those who are capable of helping them to do so, and that the enjoyment of the benefit naturally accruing to them in that way would be a sufficient inducement to them if there were no patent law. Of course I cannot say whether they would obtain a remuneration equal to that which they obtain now,—it may be that they would not, but even that is uncertain; and if I were so fortunate as to be in the situation you have described, I should think it would be worth my while to do the thing as well as possible, and to be known as a man who was constantly promoting good and new things in that line.

Mr. Thomas Webster, Q.C.—Whenever you have a run for inventions of a particular kind (there had been thirty or forty for velocipedes within that year), it is of constant occurrence that you have applications for substantially the same thing in the office at the same time,

the person who is most interested in it being wholly unable to obtain information upon it. . . . It should be the duty of some officer to examine more or less each application, and to vouch that there were not concurrent applications for substantially the same thing.

Mr. Macfie.—The Act of 1852 was extremely well considered at the time, and the preliminary inquiries that led up to it extended over nearly two years; but whether well considered or not, it has not been carried out in any way in the spirit, and hardly in the letter. In many respects, I think, the letter almost has been violated to the injury, not only of the inventor, but of the public and persons interested in similar inventions. To what extent do you think there is a change in the favour with which patentees are regarded from the reign of James the First downwards?—I think in the early days, as Sir Roundell Palmer stated, all those grants were matters of grace and favour, and nine-tenths of them related to the existing trades, such as the sale of wines, cards, and so on; and when those flagrant and illegal monopolies were repealed, patents were preserved, in fact as not being such monopolies; I think the change has been a recognition of property in invention. The Act of 1852, though it has not gone as far as some people suppose in creating property, yet recognises the right of a person who invents a thing to have property in it. . . . . Suppose a patent granted for the United Kingdom and no patent granted in Holland, or in Germany, do you think it would be for the interest of the United Kingdom to grant patents under those circumstances; do you think that the trade, affected or created, would come to the United Kingdom, and not go to the Netherlands and Prussia?—I do; the majority of good patents are a decided improvement on anything that existed before; it takes time to develop that patent, and the first person who adapts the invention to a profitable end is the person who reaps the profit. As a matter of policy, I should think it was the interest of this country to maintain patents, in the face of all the world that got rid of them; we should be always ahead of the existing state of manufacture elsewhere. I do not see how the principle has changed since the early times when they granted patents for this very purpose; the early patents recited that it was for the good of the realm that inventions should be introduced from abroad. Why is it not sound in principle now, if it was sound in principle then? Mr. Bessemer obtained a patent or patents for his very great invention in this country, but he did not in Prussia; he charged very heavy patent fees, ranging from 20s. to 60s. a ton on the value of his product. Do you think that the result of that was beneficial to the British iron trade; would it not have been much fairer, and much better for us, that there should be the same rates of royalty chargeable on the competing manufacture in Prussia, as upon the manufacture in this country?—I cannot adopt the term "fair;" I think it was to the interest of everybody that Mr. Bessemer should have his patent, and that it could not have been introduced except under protection, although it may turn out that in Prussia they have been using his earlier inventions, yet probably he has subsequent inventions, and has always been much

ahead of the others by his fresh improvements; but it is a question of fact whether the trade has been prejudicially interfered with. If it has, I take it that it is exceptional. The general rule would be that every improvement would place us so much ahead with regard to cheapening the production, that other countries would not reap any advantage by giving up patents; but that is a matter of opinion. It is clear, is it not, that the manufacture of iron without heavy royalties in Prussia, would enable them to supply the neutral markets, and perhaps the English markets, cheaper than the manufacturer in this country could do it who is subject to heavy royalties?—Yes; no doubt. I only assume that the progress in this country is more than the progress abroad. . . . One of the Honourable Members of the Committee suggested a plan (I forget whether it was mentioned to you), by which the maximum amount receivable by a patentee might be fixed at the time he got his patent, or at some other time, on the understanding that when he obtained this maximum, which should be liberal and sufficient as a remuneration and reward, I say that from that date, by some simple form, the payment of further royalties should be made to cease; have you considered whether that is practicable?—Yes; I do not consider it is practicable. I do not see how you could possibly fix a maximum that would be anything like a general rule; I think that the present system in that respect is much better. With regard to large inventions, they very rarely come into use until so near the end of the time, that the inventor is very rarely rewarded unless the patent is extended; Bessemer's case may be exceptional, but it is the exception, and not the rule. To carry out your idea of the inventor having had sufficient reward, I think that should be done by a power of repurchase for the benefit of the public. For instance, if any one of the trade said, "Now we will apply to some tribunal to have that patent valued, or to give us a license," I think that a system of compulsory licenses would work its own cure, because you would then get the inventor and the licensees face to face; and you would see whether the charges were exorbitant or not, and the proper sum to charge for the licenses, because it is the trade, and not the public generally, that are directly interested, and the trade can be easily got together. You have thrown out an idea that would be regarded with considerable favour in many quarters, namely, that there should be power of compulsory purchase of the use of an invention for the public; can you suggest to the Committee any mode of carrying it out?—Yes, by an analogous proceeding to what takes place in the Privy Council now in the case of an application for an extension of time. The man must prove what he has expended, what it cost him, what have been his general labours, his merits, and his difficulties in introducing the invention, and what he has received in respect of it. He says, perhaps, "That is an inadequate provision considering the outlay on one hand, and the receipts on the other." The Privy Council have the merit of the invention to guide them with regard to whether the remuneration, if any, is sufficient. If there has been none, they generally grant an extension; but assuming there has been a remuneration, as there has been in cases where the patent has been extended, then they consider

whether it is sufficient. It has been suggested that, instead of the Privy Council extending patents under those circumstances, they should buy them up. They grant an extension of time, say for five years; the man may get £1000 a year during those five years, and there would be no difficulty, in the interest of the trade, in arranging that, instead of the patent being extended, he should receive a lump sum capitalising that £5000. That system of purchase was very much discussed in the year 1851, but the periodical payments were adopted as meeting one part of the case, and the system of extension as meeting the other part. But I understand you to say that at any given time during the currency of the patent, the same principle might be adopted which has been suggested with regard to the extension of patents; in fact, that at some fixed or fortuitous time the parties interested, or parties zealous for the public benefit, might come to some court, and say, "Give us an opportunity of buying up this patent; let us have it valued." Now, could we not take into account, as a part of the purchase price, the amount of the royalties received by the patentee up to the date of the application?—Yes, certainly; you must have a debtor and creditor account of all the transactions of the patent, and you must have that in the case of a license, which is the basis of any system of purchase. The basis of a fair charge for licenses would be what had been the cost to the inventor, and what was the saving by the invention. Having obtained that as a basis of either the license or the purchase, you must have the outlay of the inventor in time and money, and the receipts in respect of the invention. Then how do you think the amount received from the licensees could be ascertained and verified; would you require the patentee to keep an account of all he received, or the licensees to give an account of all they paid, or both?—Both. You have a perfect system, so to speak, at all events it is a very good system, in the Privy Council now; it is done five or six times every year. There are two cases this very next Tuesday, in which the principle will probably be applied. The patentee shows his outlay in preliminary experiments, and his general charges against the patent, and then his receipts from the licensees, and then his own profits; or, if he is a manufacturer as well, they adopt some division. No doubt it is not strictly accurate, but it is a fair approximation with regard to what has been the cost and what have been the receipts and the reward, and which they think he ought to have. I presume that from Mr. Newton, or some other patent agent, we could obtain an answer with regard to this question; but I will ask you, Has any relation ever been observed between the general amount received by the patentees, and the cost, or the ingenuity, or the value to the public, of their inventions?—Oh dear no, it is a thing in which no correlation could possibly be established; it is a matter depending upon the special circumstances of the case. Then am I right in inferring that the system that you now so ably sketch out would bring us to something more equitable than the present system of random rewards to inventors?—If you now speak of the case of buying up patents, I do not admit that it is random or disproportionate. The division between the manufacturer's profits and the monopoly

profit, is done in a rough way, but it is not done at random. The whole matter is fairly considered; you can see the accounts at the Privy Council Office, and you will find that the expenditure in time and money is ascertained with great accuracy. What I meant was this: believing all that you now say to be true, is it not a much more equitable system in its results towards the public, than the results which now follow from the absence of such an arrangement, the effect of the absence of that arrangement being that there is no proportion between the merits of the invention and the reward obtained?—You have not the means of estimating that in cases of an inquiry such as this before the Privy Council; there are no means of knowing what A. and B., patentees, obtained; you have no means of getting at their trade accounts: in fact, they very often refuse to go to the Privy Council, because they would have to disclose their secrets of profit. So far as regards the pecuniary advantage, the pecuniary advantage that the inventor obtains varies as much as the invention can possibly do; but in the case of an extension of the term, you have the matter reduced to £. *s. d.*, as nearly as it can be. Of course you cannot value time and brain labour very accurately, but with respect to the question of outlay and receipts, you have the thing very accurately ascertained, and a fair and equitable adjudication made upon it by way of extension; I think it might be better to buy a patent up out of the patent fund, and I suggested that in Heath's case many years ago. . . . I think, practically, that a proper system of preliminary examination before patents were granted, and a proper tribunal to try them, would so discourage that excessive litigation which I am reminded Lord Westbury spoke of in the strongest terms in a recent case in the House of Lords in which he gave judgment, that practically patents would not be litigated to the extent they are now. So you would, in one sense, obtain an indefeasible title after litigation, though to grant it as a matter of right, I think, is a thing impracticable. The present system is an encouragement to litigation, and the uncertainty of the whole system is so great from the interposition of juries, and the number of courts, and other causes, that a defendant who has capital is encouraged to speculate on the chances of litigation.

Chairman.—Is that applicable to the defendant only?—That is applicable to both sides; there is no difference in that respect. . . . Before the granting of a patent there are forms of procedure in order to protect the interest of all concerned. So far as I can judge, the interests specially guarded by those provisions are those of rival inventors, those who are also turning their attention to the particular subject for which a patent is being applied for. Have you ever considered what change would be expedient, in order that the largest interest of all, namely, the interest of manufacturers, and the interest of the public, could be equally well guarded?—I think the interests of manufacturers and the public are identical; I speak of trade and manufacture in a similar sense. I think rival inventors and manufacturers also are in the same interest, because most manufacturers are interested in some way in patents. I do not understand what you mean by the rival inventors' interest only being protected; the Statute speaks of

persons having an interest. It may be said, and it has been said, that that means rival inventors; but that is not the true meaning of it, because, according to the theory and the practice also, any person who is supposed to have such an interest, has a *locus standi* to oppose the patent. That is both the theory and practice, though it has rather fallen into disuse since the new patent law, which was supposed to provide other protection. In a general way, if any person is working out an invention, and he hears of a patent being applied for in the particular manufacture in which he is engaged, he has some opportunity of looking after his own interest, has he not?—Yes; all applications are advertised. It is a feature of the new system that the application shall be advertised at every stage, namely, the granting the protection, the application for the warrant, and in fact every stage is to be advertised. The theory of the advertisement system, and the public being warned, was perfect, no doubt, but there has been no practice upon it; therefore, as I have mentioned, with regard to that case the other day, though there was all that expense of advertising incurred in pursuance of the theory under the Act of 1852, it bears no practical fruit, because you keep secret those documents during the whole of the six months, and therefore it is still a kind of speculation, as it was before. . . . What I understand you to say is, that it is owing to the absence of information in the advertisements made for the benefit of the public, that the public have not sufficient opportunity of knowing where the shoe pinches?—Yes. But is there not something far beyond that, and far more serious, namely, that the manufacturers, as a matter of fact, do not probably in one case out of a thousand ever see those advertisements. Let the advertisements be as minute and as definite as you think they can be, they would fail to attain their end, because the manufacturers would still fail to see them, would they not?—But that is their fault; any person interested in a patent would instruct his patent agent to look out. Suppose it was a case of improvement in velocipedes, any person who did not himself see the *Gazettes*, or did not see *The Commissioners' Journal*, should instruct his patent agent or solicitor to look out and give him notice; and having obtained that notice, he ought, at some stage or other, before the patent is actually granted, to have an opportunity of knowing what were the contents of the patent that was applied for. I mean he should have an opportunity of knowing substantially the contents, but not all the details. Now, velocipedes are made by engineers, are they not?—Yes. Do you mean that every engineer in the country should have a patent agent in London, whose business it should be to watch every department of engineering in which he was engaged, and to give him warning of any application being made for a patent?—No, I do not say that; but suppose I was a rival inventor, or a maker of velocipedes, and wanted to be informed of what was going on, I would either take in *The Commissioners' Journal*, and I would look down the list each week, and if I saw there was a patent applied for touching velocipedes, I would go on to the Patent Office, or I would have an agent whose business it was to read it.

Mr. Gregory.—You might enter a caveat, might you not?—No, you do not now enter caveats in anticipation; that was the vice of the old system, a kind of current caveat. That was advisedly done away with in the year 1852. The practice is this, that you make your application and obtain protection for a certain time, nobody knowing what it was; but anybody who saw the advertisement could enter a notice of opposition at the office; but it seems a farce to let persons enter notices of opposition without giving them some chance of knowing what they are opposing.

Mr. Macfie.—I think your argument, as far as it goes, is most conclusive, but I wish you to feel that that does not go practically to the root of the matter. I myself was engaged in manufacture, and during that time I tried both ways. I obtained specific notices from Mr. Newton for a time, and I also subscribed to that journal, which, I think, came out twice a week. I found it extremely irksome and laborious; it occupied so very much time, not to speak of the expense, to look through the lists, that I was obliged to give it up. The result was, that the firm of which I was a member became liable continually to applications being made for patents for inventions which were already in use. Now, is it not a condition inseparable from our present system, that persons must be in one or other of two positions, that is to say, either exposed to continual inroads on the free domain belonging to the public of known inventions, or else be subject to some expense, with a great cost of valuable time in scrutinising the thousands of inventions that are applied for annually?—I do not understand what you mean by "the free domain," for an existing practice, or an existing publication, can never be the subject of a patent at all. So far as the existing publication goes, it ought to be the duty of some official person to protect the applicant against that, and in protecting the applicant you protect the particular manufacturer. I think you are arguing from the abuse of the present system. You said that the result of an invention was to reduce prices; you did not, of course, mean that the result of a patent was to reduce prices?—Yes, I did certainly mean that; what I meant to say was this, that nine times out of ten you obtain a better article at the same price, or the same article at a cheaper price. If there were no patents, and the public had the free use of inventions, prices would, by the effect of competition, reach a minimum; but I fancy the effect of patents is to retard their reaching the minimum until the expiry of the patent?—If you had no patents you would have no inventions. According to the saying, you would kill the goose that laid the golden eggs. Of course I speak comparatively and relatively, when I say that you would have no inventions. . . . Have you considered what is the best way of protecting the public interest before the granting of patents? . . . By allowing the provisional specification to be open at some period before the patent was granted. You have told the Committee in very apt language, that at present a trial is a speculation on the ignorance of the judge and jury; have you any cases that would illustrate that?—I think almost every case, where there is any complication at all in an invention, which requires experts to explain it to the judge and jury,

is a speculation, because you have the plaintiff starting with a number of scientific witnesses, and there is a kind of practical difficulty in the defendant's way, if he does not call the same number of scientific witnesses to express their opinion. The present system has this great vice in it, that it allows witnesses to give evidence with regard to matters of opinion rather than matters of fact; and that would be checked at once by a judge with skilled assessors. . . . Take the principle of expelling the moisture from sugar by centrifugal force. The patentee who took out a patent for one machine could shut up the whole principle, could he not?—But you could not have two inventions for it; it might be a question whether the principle is the subject-matter of a patent at all: but how could there be more than one patent for it? You know much better than I do, but I should say there may be two or three patents with regard to the cleansing apparatus, and so on; but if you put it in that way, it is one simple idea that could not be the subject of two patents.

Mr. Pim.—The moment it is published, any one can copy it; the restriction of the right of copying, which is what creates the property (and it is the same in literature), is a municipal right regulated by expediency. . . . You have made suggestions for the practical improvements of patent legislation, which you considered would be an advantage. Did you mean that they would be an advantage to the public, or merely beneficial to the inventors?—To both; first of all to the inventor, as preventing unnecessary and profligate expenditure of money, on many things that are old, or have, at all events, been anticipated in the office at the time; it would be a saving of an enormous amount of money, time, and trouble to them. For instance, I have not the least doubt that anything like a preliminary examination to check the granting of patents would reduce the number by three-fourths. All those expenses would be saved, which would be £20 on 1000 applications; there is £20,000 a year at once. Then with regard to the public, as you restrict the grants, and make them more certain, you would have less of that litigation, or speculation, which has been spoken to, as existing in fact, by reason of the uncertainty that hangs over the present system. You have just now suggested an improvement in the law that would have the effect of lessening the number of patents that are taken out. Would you propose any means of restricting the granting of patents; I refer to the question of frivolous, or trifling inventions, or perhaps inventions which are merely slight improvements?—No; in order to be an invention it must be an improvement on something that exists, unless it is absolutely new, which very rarely happens; it must produce a better or cheaper article, otherwise it falls stillborn. You would not propose any means of restriction, then?—Yes, I would, decidedly. If you had the nature of every invention described properly in the provisional specification, and the inventor warned with regard to what had been done before, or was pending in the office, you would restrict patents to a very much smaller number, because persons would not throw away money on what was not new. But you would not restrict the granting of patents on the ground of frivolity or small importance?—No, I think not;

there are some things that are absolutely not the subject of patents, but I do not know what is meant by a frivolous invention, if it is properly the subject of a patent. We had crinoline cited, and the covering of umbrellas with a particular kind of cloth, but that kind of thing is not the subject of a patent at all. That is merely the use of a well-known thing in a well-known manner, and if the case were litigated, it would be upset, as has happened repeatedly of late for patents of that kind. . . . With regard to the printing machine of Applegarth and Co., you referred to the fact that it appeared to be a failure until the plan of an oblique roller was tried?—Yes. Was there a patent granted for that oblique roller?—No, I think not. I think Sir Roundell Palmer a little misunderstood me in that case. What I cited it for was this, as an instance of working out a thing which was apparently a small detail, but yet one of great effect on the result. I believe that until they discovered the means of getting rid of that blur in the paper, they had to throw away a considerable portion of the sheets (with the loss of trouble and labour), in order to get rid of the blur. That was my object in putting that question to you; it was to ask you if practically it will not often be the case that everything will depend on a small improvement, and that the invention will be useless except for that small improvement?—No, not exactly. The printing machine of Applegarth and Co. was not useless, but that small matter contributed very much to improve the working of the machine, though it worked well without it, but not so perfectly as with it. . . . The total amount of the money spent by an inventor on an invention is usually in excess of the receipts from it. But that is the case with all occupations in life beyond manual or ordinary skilled labour. The law, for instance, does not repay half what is spent upon it.

Mr. Orr Ewing.—You state it was your opinion that if the patent law was done away with, inventions would cease?— . . . I mean that important inventions would cease; that class of inventions which we specially desire to stimulate, and which are most for the benefit of the public. Do you mean rather that the schemers, and the men who try to make a profession of invention, would cease, or that the manufacturers of this country would not feel it their interest to improve their manufactures?—I think that the schemers would of course cease, because at present there is a class of skilled artisans and professional persons who, in the progress of practical life, see what is wanted, and employ themselves in making the requisite adaptations and appliances. I think, as a class, they would cease altogether, except so far as they might be in the employment of the manufacturer; you would destroy that individuality that persons now have in recognising a particular thing as their property, and in getting a livelihood out of it. With regard to the manufacturers, no doubt competition would lead them from time to time to make improvements, but they would have no object in introducing or making large improvements which probably would interfere very much with their existing machinery, because the greater the change, the less the interest of the manufacturer to introduce it, as it displaces existing machinery. Is it not the interest and the

constant endeavour of all manufacturers to improve the article they manufacture, and to cheapen the cost of production?—No doubt. They have a direct interest constantly in doing that?—No doubt. Would not that be a sufficient stimulus to them to reward inventive geniuses in their work, and to apply their own intellect in bringing out something novel, in order to surpass their neighbours, and in order to make more money?—It would be a stimulus, but I think not sufficient stimulus, and it would be no stimulus at all with regard to first-class inventions. It would be a stimulus for improving step by step the existing things, but then it would place the inventor entirely in the hands of the capitalist. If the inventor cannot have a property in his invention, he is simply in the hands of the capitalist or manufacturer. Do you think that any one in carrying on his business is prevented from applying any new idea of his own, because of his neighbour's likelihood of getting the benefit of it?—I do not think that people are so much like the dog in the manger as that, and they have a kind of affection for their own invention. . . . Should you be surprised to hear that the improvements in the processes of all the manufactures that I am acquainted with have been enormous, and that very few of those improvements have been patented?—I am very glad of the information, but I should apply the same answer to that, that they are small steps that the rivalry of trade would lead to, and not great steps in invention. . . . Have you ever known a working man who took out a patent without being supported by a capitalist?—I will not say that I have never known it; but inasmuch as most inventions must require capital, the capitalist must be associated, in some way or other, with the invention. The capitalist generally gets the lion's share of the profit, does he?—Yes, and I do not know that that is not right; there are many capitalists who behave extremely well to their workmen, but I insist upon the right of the workmen not to be at the mercy of the master. . . . Does the capitalist not receive more from the sale of a successful patent than the inventor?—I really could not answer that as a general question, but I should think probably it may be so. Then do you think that the patent law which results in such a way that the capitalist derives a greater amount of benefit from it than the inventor, can be a good law?—Yes, because the public have got the benefit of it; you have obtained a better article, or a cheaper article, which you would not have obtained without the law. I do not care to go into the comparative rights of those two classes. The public are benefited through the capitalist, and also through the inventor. It does not derogate from the law that the inventor may not be adequately rewarded; those are questions of the adjustment of rights which occur in the whole lottery of life; some people are most inadequately rewarded for very great inventions, and others are absurdly well rewarded for very small inventions. But you support patents because they stimulate inventions?—Yes. Therefore the larger the remuneration to the inventor, the greater would be the stimulus to invention?—Yes; but there is a great deal of illusion in this world, and inventors are lured on by hope. I have already stated that I am not prepared to deny that, taken as a whole, inventors

spend more than they get, but I should like to follow out some individual case of inventions which have been very remunerative, both to the inventor and to the manufacturer. . . . I do not mean to deny that in certain cases of established manufactures, where you have existing establishments ready to adopt improvements, there may be a commercial advantage to a country not having patents; it may be so, but that is a matter of fact that might have been and ought to have been ascertained; but I believe that the country that has the inventions would always be so much ahead of the country that was not the first to get them, that it would be able to compete with it in the market. . . . But you admit that, even if patents were done away with, it would still be to the interest of manufacturers to improve their manufactures. Now, suppose those manufacturers did not, as they would not, go to sleep in America, and suppose they did not patent improvements, how could it be to the interest of this country to maintain patents?—That is an assumption. . . . You say that manufacturers employ persons to invent, and I say it is not fair that those persons should be entirely in the hands of capitalists; but if you admit that the manufacturer has to employ those persons to invent, I think you concede that some stimulus is to be applied, and I think the inventor ought to be enabled to have a property in his invention. . . . When a patent is taken out, a specification is obliged to be lodged, is it not, which you wish to make more particularly descriptive than it is now?—Yes. . . . And therefore all the other countries that had abolished patents would obtain the immediate possession of the invention that had been made?—Yes. . . . You said that you were an advocate for compulsory purchase, after a certain period had expired?—Yes. . . . The rate would require revision; then, when any number of licenses had been granted, I would give an option to those licensees, on a revision taking place, or to the Commissioners of Patents, at the instance of their manufacturers, to buy up the interest in the patent instead of granting licenses. Who is to determine the value of the patent right?—Of course that must be done by arbitration. I should say it could be done, supposing you had special commissioners appointed, such as were contemplated in the Act of 1852, other persons than the law-officers of the Crown,—persons conversant with manufactures, some of them perhaps. Two referees might be appointed, one by the patentee, and one by the applicant, and a tribunal of three of that nature would be a very good tribunal to arbitrate on such matters. . . . It would be paid out of the patent fund; there is a surplus fund of £60,000 a year, which we call the Inventors' Fee Fund, and there is the accumulative fund of £750,000 more than that, accumulating at the rate of £50,000 or £60,000 a year, which I say is inventors' money, and ought not to go into the Consolidated Fund. I say, let the inventor have the benefit of it in the shape of a proper Patent Office, and employ the surplus in buying up inventions.

Mr. Hinde Palmer.—You would not have the question of utility a matter of discretion?—Certainly not. . . . I do not think that the cost of a patent is a very serious thing. . . . If the surplus of the fund annually is not enough to buy up the patents, of course there must be a

special grant for that purpose. You would have the purchase in that case come from the public funds?—Yes; in that case, I think on the principle of the purchase system, if you reduced the price in that way, the purchase would come from the public funds, because it is for the good of the public generally.

Mr. Macfie.—You stated that you saw no great objection on principle, or difficulty in practice, in allowing the royalty paid to be part of the purchase, so that you can conceive a case where there would be no grant necessary from any public fund, can you not?—Yes. . . . The subject of the application of alpaca as a covering for umbrellas was noticed by you in a former part of your evidence; was that patent actually granted?—Yes, I believe it was. It was clearly not the subject-matter of a patent; any law-officer of the Crown who had his attention called to it would refuse it.

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Mr. Theo. Aston, a Barrister.—For some years past I have had considerable experience in patent cases. In some instances I have known sums varying from £80,000 to over £100,000 paid for assignments of patents, which assignments have been registered. The licenses granted in respect of many of these patents produce yearly a very large sum, with regard to which neither the licensor nor the licensee would make or, as far as my experience has gone, would desire to make any complaint. . . . If attention be given to the average number of 2300 patents annually granted, and 590 maintained after three years, and 212 maintained after seven years, I do not think it is fair to say that there is an exceptionally large amount of litigation in relation to these numerous patents, when there are only eight and one-third cases annually decided, and of those only two and a-half appealed. The facts will speak for themselves. I should like, however, to call the attention of the Committee to the next two items. The total number of the common law cases of all kinds litigated and decided primarily in the same time amounts to 18,400, and the number of Chancery cases to 12,400. These are accurate returns, assuming the return for the year 1870 to be the average of the five preceding years. I am obliged to take it so, because the Judicial Statistics of the year 1870 have not been yet published. I have verified the five preceding years, and know that they are accurate; and assuming the return for the year 1870 will be about the same average as the five preceding years, then these figures are quite accurate. Out of, in round numbers, 30,000 cases litigated, and primarily decided, only eight are patent cases. I may also state, for the information of the Committee, that the judicial returns give the cases that are decided under ten or twelve separate heads, such as cases referring to trespass, and cases referring to various wrongs, and among these heads is one entitled "The Infringement of Patents." . . . My experience does not include Scotland. Does the return include Scotland?—It would include appeals from the Courts in Scotland when we have Scotch appeals brought here. But it does not include litigation in Scotland?—No; but I am justified in saying, that where patent cases occur in the superior Courts in Scotland, it is not unusual to consult English counsel in relation to them, as they are supposed to have

greater familiarity with those cases. I think I am right in stating that the cases that are decided in the superior Courts in Scotland are comparatively few. Do you not know that in Scotland we are often satisfied with the decision of the Sheriff's-Court, and carry it no further?—I was not aware of that. Does that return include Ireland?—No. . . . Is it your belief that this small amount of litigation does not arise from any peculiar dread of litigation with regard to patent cases?—I think that in many cases where litigation has been commenced, persons do not continue the litigation, because they are able to make certain arrangements, and I should be prepared to say that in many cases it is the object of their advisers to come to some arrangement to prevent the case being brought into the Courts, for you will see that the total number of cases commenced being 109, about one-half of them were taken into Court; that is to say, 50 of them were litigated in Court, so that the Committee will be able to judge of the proportion. . . . You are aware, I presume, that it has been thought that litigation in patent cases is avoided on account of its great expense, and avoided by what has been described as the payment of black mail?—I think that is very possible. In many cases the difficulties which attend the trial of patent cases, as they are at present conducted, are so great that common prudence would cause the patentee, on the one hand, or the person who is being sued, on the other, to come to terms rather than go into court. . . . I believe that the greater number of successful patents are those that are purchased, and I believe that would be the natural consequence of the purchase of a patent, because the purchaser always makes inquiries into the soundness and value of the patented invention, and exercises a discretion; and if the patent is acquired by assignment, that is *prima facie* proof to my mind that it is of value. . . . If, in all those cases, the improvements in question were, as it were, the natural result of supplying a given and acknowledged want, all that would have to be done would be to make the thing known, and then the invention would be, as a rule, generally adopted. In certain cases that may be so, but I am certain that if evidence is given, as I hope it will be given before this Committee, by patentees who have fought the hard fight of introducing an invention, it will be found that it is far from being sufficient to make an invention or even to publish it. It must be pushed into public use, and you will be unanimously told that the greatest difficulty the inventor has had to contend with has been encountered in introducing it to public use; not the making the invention, not the finding of a capitalist to support him, and not even fighting it in the courts of law, but the introducing of it to the public. . . . My own opinion is, that if Mr. Grove's estimate were doubled, it might be safely assumed to be correct. I have taken them in this way: I have taken groups of 20. . . . I came to the conclusion that in the majority of the groups of 20, more than two, and very often three, may be assumed to be valuable patents. . . . The Committee know that there are many inventions that cannot be perfected without an outlay of capital. I do not know in what way any person would be induced to spend, say, £40,000 or £50,000 in perfecting a particular invention unless he was sure of some return for it. Let us take a case in which the late Lord Chief-Justice

of the Court of Common Pleas stated that with regard to the invention in question, the patentee had spent £50,000 before he had completed and perfected the invention. That was the case of a steam plough. . . . Mr. Bovill's invention, which was the subject of long litigation, was founded on a prior invention which he bought. He bought the substratum of his real invention, relating to an improved method of grinding corn, for the large sum of £10,000, as appeared from the evidence in the Privy Council in a case in which I was engaged. The original invention for which so large a sum was paid was found to be of comparatively small practical utility. Further improvements were needed, and Mr. Bovill spent a large additional amount of money in making those further improvements and in experimental trials; but having completed his subsequent invention, and made it practically successful, he obtained a valuable patent. He then had to fight the hard fight of introducing it into public use. . . . They took a prejudice against the invention of Mr. Bovill, and would not allow fair trials of it to be made. . . . They fraudulently introduced into the flour that was ground a certain admixture, or fraudulently interfered with the working of the invention, and those officials had to be dismissed. . . . He said, "Now, I must preach my crusade and introduce my invention to the trade at large." He engaged intelligent agents, who went east, north, west, and south, but Mr. Bovill utterly failed for many years in inducing the trade to take up his invention. And although the sums he offered were, in some cases 3d., and in some cases 6d. per quarter on the corn ground, or a percentage on the saving of 25 per cent. in some cases, and 12½ in other cases, still he failed in getting licenses taken up in the trade at that time. . . . A great difficulty arises from the want of a proper examination of the applications that are made. . . . I would substitute either an official board of examiners, or I should prefer some such tribunal as that recommended by my friend Mr. Grove, an examiner of high position, who would be able, either by himself or by a staff properly formed and sufficiently experienced, to examine the applications that were made; and I would have the opposition to the grant of a patent made not on a secret and incomplete document, such as the provisional specification, but it should be upon a regular statement of the invention which should be made when the patentee is bound to deposit the complete specification, and that before the grant of the patent. . . . An examiner of experience, character, and standing, such as Mr. Grove referred to, would exercise a sound discretion, which would weed out a number of applications which ought never to have been made. . . . I do not think it would be possible at that early stage to determine whether an invention was absolutely wanting in utility or not, unless it were of a character so very trivial that, even supposing it to be useful in some degree, still the examiner or the board would be able to come to the conclusion (based on certain data which would very soon assume a definite form) that the application in question ought not to be granted. I think the apparent absence of utility would not of itself be assumed by examiners in that position as a good ground for refusing a patent. . . . It might be a ground of objection on the part of the opponent, but

whether the ground was tenable or not would be within the discretion of the examining board. I should quite allow an opponent to say it is not a useful invention, or it is not a new invention, or to urge any objection he liked. . . . The number of cases in which the granting of patents has been opposed within the last six years is only 109, and the average only 31; so that out of 3200 applications for patents, the annual average opposed is only 31. . . . The opposition is now conducted in the dark. . . . Assuming that trivial patents are to be granted (excepting that in extreme cases a discretion is to be given), then for patents of apparently slight importance, the patents should be granted only for a limited period. . . . I would have that complete specification both on behalf of the public, and also on behalf of the patentee, officially examined by competent examiners, who would pass it only when approved of. . . . I think the provisional specification may or may not be open. Upon that point, as far as my experience goes, I should be perfectly indifferent, because I would have the opposition not on the provisional specification, but on the complete specification, and that should be open; at all events, I would have the provisional specification open at the same time as the complete specification. . . . I think the six months of provisional protection might in some cases be shortened with advantage. No great harm would ensue from making all applicants proceed after four months' provisional protection. . . . There ought to be a proper examining board, or a proper examiner, who would have scientific or skilled advisers. . . . But do you think that it would be a good thing that the same tribunal which granted patents should also try patent cases?—I can see no objection to that, because the tribunal which examined them would be of a very high character. In that case, I suppose you would also adopt Mr. Grove's suggestion that the judge should call in skilled persons to advise him as assessors?—Certainly.

Mr. Peter Robert Hall Henson, clerk to the Attorney-General.—Does it often happen that before a patent is sealed you at all look into the question whether a provisional specification from some one else, claiming to have invented the same thing, is just then in the office?—No, I do not know that that happens. You never look at that?—No; that is beyond my province. Suppose within the course of a week two specifications were to come in describing an identical invention, it being obvious to you, as one of the public, that they were identical, what should you do?—I should not object to it on that ground, certainly.

Mr. Attorney-General.—You would call my attention to it, would you not?—I think not. I have always understood that previous law-officers of the Crown did not think it a question for them. . . . Suppose two applications came before you for a combination of a chemical or mechanical matter, how would you decide between the two different parties; the wording of the application in each case might be exactly the same, and yet the combination in each case be totally different?—I should not attempt to decide with regard to the novelty of the thing. You would grant both, would you?—Yes, if it were fairly stated, I certainly

should. . . . Considering that you grant two patents for the same invention, we will say possibly in the same week, I presume that you do not think the present law is a good one?—I have hardly applied my mind to that. Speaking off-hand, I am disposed to think not; but this is a question which one is indisposed to give an opinion upon off-hand. . . . I think I understood you to say that patents were not disallowed on account of the want of novelty?—Yes. . . . It might appear to you frivolous, but you would allow a man to go on with it if he chose?—An honest doubt is always resolved in favour of the inventor.

Mr. Macfie.—Have you had any occasion to refer to the law of the land, and to tell the parties who apply for patents that such and such a thing is not patentable by law?—I should never think of that; that would be going out of my sphere. . . . Am I right, or am I not right, in saying that there are certain inventions which the law of England regards as not patentable?—Then they are not inventions. In your practice you have never been in the habit of stopping anything because you considered it unpatentable?—Yes, occasionally we do stop a thing on the ground that it is clearly not patentable; but where there is the smallest pretence for a patent the doubt is resolved in favour of the patentee. . . . I will read you an extract from the Statute of Monopolies. Patents may be granted for "the sole working or making of any manner of new manufactures within this realm to the true and first inventor and inventors of such manufactures, which others at the time of making such letters-patent and grants shall not use, so as also they be not contrary to the law or mischievous to the State, by raising prices of commodities at home or hurt of trade, or generally inconvenient." Have you ever, since you came into office, received any directions to enable you to apply this law?—Certainly not; and I do not consider it necessary. . . . Take such a case as this. We were told, on the last day of the meeting of the Committee, by a witness, that patents have been granted for covering umbrellas with alpaca; would you have passed that?—I think I should; but I will say at once, if I were asked, quite apart from any previous practice, whether such a thing ought to be patented, I should say it ought not to be patented. Do you ever discriminate between what is a proper subject-matter for a patent, and a proper subject-matter for a design, and say to the applicant, "This is not the right thing to come to me with; go to the Design Office with it"?—No. I have that very often pass through my mind, but I do not act upon it. Do you consider yourself in any way, or the Attorney-General in any way, the guardian of the public interest, in contradistinction to being a mere guardian of the law?—I think not. . . . Those opponents are generally rival inventors, I suppose?—Yes, they are generally rival inventors; sometimes they are workmen. Occasionally a workman takes out a patent, and the master thinks he has stolen the invention from his shop; that is one cause of opposition. In other cases inventors who have been in communication with a capitalist or large manufacturer allege that the latter has stolen his invention; that is another cause of opposition. Take the case of steam-engines. Have you

ever had any opposition from the trade affected by patents for improvements in steam-engines?—No, not as a trade. Or by individuals who think that a patent will be injurious to them as tradesmen?—No, I think not; the usual ground of opposition is, that the alleged inventor has come by his invention in some way more or less dishonest.

Mr. Attorney-General.—It is comparatively seldom that he requires to come before me?—Yes, that is only done in one case out of a hundred.

Mr. Howard.—The Honourable Member for Leith asked you a question with regard to the application for a patent for a design, which application should have been made to the Registration Office; and I understood you to say that you passed those applications?—Yes; we do not object to them on that ground. We do not go into the question strictly, whether it is the subject of a patent unless it is a very flagrant case indeed. I believe that oppositions to patents are now comparatively rare?—Yes, I think I may say so. We have had forty-two oppositions, or thereabouts, in the course of about two years and a half.

Mr. Theo. Aston, re-called.—It was for a process of manufacturing glass with the apparatus. The specification when it came to the House of Lords received one interpretation which was pretty nearly the same as that put upon it by the Master of the Rolls. Now, in that case the patentee, owing to the difference of opinion that existed between Lord Justice Giffard and the Master of the Rolls, was put to an enormous expense, with months of anxiety and doubt, and up to the last it was a question whether he would succeed or not. Now I believe that had that specification received any official examination, I do not say it would necessarily have resulted in a sufficient specification, but it would have eliminated those points of doubt which enabled so learned a judge as Lord Justice Giffard on the one hand, and the Master of the Rolls on the other, to come to two different conclusions. . . . I quite agree with my friend Mr. Grove that the official board, or the official person who should conduct that examination, should be of a standing and eminence that would be beyond question, and also of capacity that would be beyond question. . . . You probably know that some of those scientific witnesses refuse to appear in the witness-box until they are paid a retaining fee, amounting to as much as a hundred guineas?—I cannot say, but usually they are gentlemen of very great eminence in their respective professions, and I am quite sure they could not come for small fees. . . . I think those inducements should be offered upon terms which would necessitate the practice of inventions in England that are patented by foreigners. The restriction I would impose would be similar to the restrictions which are now imposed in foreign countries, namely, that the patent should not be so granted that it could shut up an entire trade with regard to the subject-matter of the patent, but that there should be a condition imposed on the foreign patentee, that is to say, the obligation of putting in practice in England the invention for which he obtained his letters-patent. . . . Would you impose

that obligation equally on the foreigner and on the subject of the Crown in this country?—I think no harm would be done by that. . . . I do not remember to have met with what is called a suppressed invention. You do not believe in what at the last examination I called "fighting patents," to which expression you took some exception, because you said they had not been fought?—That is another thing; I believe there are such patents, but I do not believe that there are any patents taken out for a *bona fide* invention which intentionally is withheld from being put in practice. Has it come or not within your experience that the putting of those inventions in practice in foreign countries is very often little more than colourable?—No doubt the rule is evaded; but I do not think that it would be possible to do in foreign countries what is tried to be done in this country; that is to say, to seal up entirely a particular foreign trade. I do not think you could, by taking out a patent in France, prevent, say, the manufacture of combs of hard india-rubber in France, nor could you do that in Belgium. Now it would be very possible for a person in England to take out a process for the manufacture of a particular material, and he, having taken out a patent, could prevent other persons in England from manufacturing that material, while the whole of the material might be imported from abroad for the fourteen years. At the end of that time the patent expires, and if no works have been set on foot in England, then consequently that particular business would have had no start in England. And therefore the foreigner still keeps the lead?—The foreigner still keeps the lead. Can you give the Committee an instance of that having occurred?—I have surmises in particular instances that that has been done, but I should hardly be justified in naming cases. At all events it is possible under the existing law for that to occur?—It is possible under the existing law, and that possibility may be very easily prevented. You would require inventions to be put into operation within a stated time, and to be continuously worked in this country?—Yes; and I would make that the ground for repealing the patent. . . . Would you allow an invention to be patented in this country which was notoriously worked abroad without a patent, although there might not have been any publication of it here, in the sense of a published description? . . . That is a case which it would be very difficult to decide. I think under those circumstances it might be a ground for making an application to repeal a patent if a patent were granted for a foreign invention. . . . I think that that is provided for by the Statute of Monopolies. I could deposit a petition before the Privy Council, and on the front of my petition I could say, "This patent was granted to A. B., one of Her Majesty's subjects, and I am prepared to prove that that patent is injurious to the interest of the public at large," and if I could make that out by evidence, I should say I should succeed. You mean by establishing that the invention had been previously practised abroad?—Yes, and I daresay the Privy Council might entertain that as a ground for the repeal of a patent, for, at this moment, there are provisions by the existing Statute that would enable patents of that kind to be repealed by petition to the Queen, only no one has set in motion those proceedings. There has never yet been a case in which a

repeal of a patent has been granted on the ground that a monopoly was injurious to the subjects of the realm, has there?—There has never been a case of that kind to my knowledge; but I would not hesitate, upon sufficient grounds, to advise the attempt to be made to-morrow.

Mr. H. Palmer.—Is there not a provision inserted in all patents to that effect?—Yes, that is what I am calling the attention of the Committee to. In every patent which is now granted, that very provision to which reference has been made is almost in the same words repeated. . . . I confess that I was very much surprised to find that foreigners contribute to so very large an extent to the inventions that are patented in this country. . . . I will take, first, London. London, of course, being the chief centre of the official application for patents, sends a very large number of applications. Taking the years 1867, 1868, and 1869, I find that the total number of applications addressed from London during those three years is 2840, and the annual average 826. It must not be inferred that those inventions are all made in London, but they are applications registered by residents in London. I will put London out of the calculation, therefore, and I will take Manchester, New York, Paris, Birmingham, Dublin, and Edinburgh. Now the returns from Paris are, for the three years, 966 applications, giving an annual average of 322; from New York, 393 applications, giving an annual average of 131, and if with New York we take Brooklyn, from Brooklyn there are in the three years 54 applications, giving an annual average of 18: that would give a total of 447 from New York and Brooklyn in the three years, with an annual average of 149. Now take Manchester; Manchester, within the last three years, has sent 567 applications, with an annual average of 189. Glasgow has sent a total of 281 applications in the three years; annual average, 93. Birmingham has sent 377 applications; annual average, 125. Dublin has sent 53 applications; annual average, 17. Edinburgh has sent 122 applications; annual average, 40. All the other towns, in comparison with those figures, give numbers that are small. . . . Then Berlin has sent 35 applications; annual average, 11. Vienna has sent 24 applications; annual average, 8. . . . Allusion has been made before this Committee to cases where manufacturers have brought up patents, and especial reference has been made to carpet cases, where a very eminent firm in the north bought up all the existing patents, and threw them, as it were, into one common stock. . . . They offered the use of the consolidated inventions to the trade with the utmost freedom, and put all the applicants on the same footing. . . . A similar course has been adopted in other trades, where a number of patents have come into the hands of an individual association. And in those cases, so far from the consolidation of the patents being detrimental to the trade, the trade has been enabled under one licence to obtain the use of all the inventions so consolidated. . . . If it is decided that it is good policy to have some provisions for making unwilling patentees grant licenses, there would be practically no difficulty on this ground. By a reference to arbitration, it is very easily decided what, under the circumstances, should be done. I may say that a person who infringes a patent is bound to satisfy the patentee, if he

proved to be guilty of infringement, by giving him sufficient indemnity, and there is very little difficulty, generally speaking, in ascertaining what that indemnity should be. . . . I know a case in which a patent was bought in one year for £500. I think the second assignment was for as many thousands, and I am afraid to say how much the third consideration was. It was, I think, between £100,000 and £200,000. . . . The vendor thought he was very well remunerated, but the patent became afterwards of very great value. . . . Is not that table you gave in the other day a very strong argument in favour of a preliminary investigation?—I think it is; I think the necessity of a preliminary investigation forces itself on the mind after looking at those results.

Mr. Platt.—If the preliminary investigation was made law, do you think that the objections which a great many parties have now to the granting of patents would, in a great measure, cease?—I do. . . . Do you approve of Mr. Grove's proposal to this Committee with regard to the preliminary examination?—I think Mr. Grove's proposal would remove many difficulties. . . . In carrying out experiments, should I not come into conflict with him?—With regard to experimental use, it is questionable whether that would be an infringement or not. I will put it in this way: Supposing you were making experimental use of a thing with a view of obtaining a subsequent patent, it would be necessary for that experimental use to be made in private, otherwise you would endanger the subsequent application. Then I question whether any such experiment would be an infringement. . . . Great expenses are now caused by retaining the services of witnesses to inform the Court. . . . You were asked whether such an examination would not be a great expense to poor inventors; are not poor inventors very often fleeced now by the granting of patents which turn out to be old?—Yes, they are much more fleeced under that system than they would be under a system of examination.

Mr. Orr Ewing.—Do you agree with Mr. Webster that the money made by the inventor is less than the outlay on his invention?—I should not agree with that proposition. . . . You think that it is a source of income *in toto* to the inventor?—Yes, I think so. I have no doubt about it. . . . I think the majority of valuable patents do cost money; but if you take out of the whole number of patents those that are obviously of a trivial character, they do not, in many instances, cost much money; but assuming that we deal only with valuable patents, then they do cost much money before they come to perfection. . . . Do you know if a working man in a manufactory devotes his time to inventions at his own cost, or generally at the cost of the master?—I think he does it very generally at the cost of the master. The master goes along with him, and gives him an opportunity of carrying out any idea which he may have, and assists him in doing so, does he not?—No doubt. Are patents generally taken out on that basis?—Very frequently. I believe you stated that if the patent laws were done away with, outsiders would cease making inventions; what do you mean by "outsiders"?—I mean persons who make inventions that are very great improvements, and who are not themselves engaged, directly or commercially,

in the particular manufacture to which the improvements in question may be applied. . . . From connections which they may have with the trade, and from information which comes to them, I will suppose that the outside inventor is a person acquainted with the manufacture that he desires to improve. I am supposing that, instead of having his time and attention taken up in prosecuting any special commercial enterprise, he has leisure time; under these circumstances he makes experiments, and if there are abortive trials he is not disappointed, and he says, "I have expended so much time and money, and I can only get that money back by perfecting my invention." Now, a person engaged in trade would be very apt to give up sooner, and devote his time and attention to his business; I mean that he is not so likely to persevere as the outsider. . . . Mr. Bovill was not a miller; he was not engaged in the corn-grinding trade, and he made one of the greatest improvements that have been adopted by millers in recent times. The next one was Bessemer's case. Mr. Bessemer, I believe, was not an iron manufacturer; he was engaged in other pursuits, and he devoted his attention to the improvement of the manufacture of iron. Then, again, Sir William Armstrong was not an artillerist; and Sir Joseph Whitworth was not an artillerist.

Chairman.—James Watt?—Yes.

Mr. Macfie.—Is there any means by which the Committee could obtain information with regard to the proportion of disputes, in patent cases, that are settled by arbitration?—No, I think that is not possible; but there are not very many. I do not think that arbitration cases are very satisfactory. I think that the parties are much more satisfied with the decision of a court of law than that of an arbitrator. I suppose there are a number of causes why disputes between patentees and others are not more frequently brought before the Courts, such as the great expense, by which both parties are frightened?—No doubt that has a great deal to do with it. A doubt of the validity of the grant makes a person often knock under, even after threatening proceedings?—Yes, in many cases the patentee cannot get counsel to advise him to go into Court. . . . I know a paraffine oil case which took, I think, thirty-three days. . . . I think the costs of the winning side were taxed at upwards of £10,000. . . . There never was a case like it before, and there never will be another like it; there were twenty scientific witnesses on both sides always kept in attendance. But a person is continually exposed, if he contests a patent, to all those inconveniences, including the absence from business and the actual outlay?—Those are inconveniences which always attend the trial of all cases, whatever their subject-matter. I do not think that they are at all exceptional with regard to patents. . . . Is every manufacturer or consumer supposed to know of the existence of patents?—Certainly. It must involve a very serious amount of labour to any manufacturer, such as a small shoemaker in a country town, if he is required, before he makes a boot or a shoe in a particular way, to know all the patents in his line which have been granted for the last fourteen years; is not that so?—The Honourable Member is putting a very extreme case. A shoemaker would not want to know all the patents relating to boots

and shoes before taking out a patent; but if a shoemaker wanted to do in two hours what took him two days before, and wanted to avail himself of a machine to do it, he would know that he must pay a certain price for that benefit, and I should say he would expect first to pay the price of investigating what other people have done, and next, if he had made any invention himself, founded on improvements which other people had patented, I do not think he ought to object to pay a royalty. He might not know that an idea had occurred to others, and that they had taken out a patent for it, yet you say that the theory of the law of England is that he should know, and he is liable to be stopped in the use of his own invention, and to be brought before a court of law?—That assumes that which does not take place more than twice in a century, namely, that two men do stumble independently on exactly the same invention. Have you considered whether it is possible or desirable to assimilate the law of the United Kingdom with regard to patents to the law of other countries?—If the Honourable Member refers to a kind of international patent law, I think if that could be arranged it would be attended with great benefit, just as I think international copyright would be attended with very great benefit; in fact, everything which promotes international communication would be advantageous to the nations which participate in that communication. . . . You think they should not be expressly authorised to take into account the amount of competition from abroad, do you: would it not be rather hard that a heavy license rate should be payable in this country, and yet that the invention should not have been patented anywhere on the Continent?—There might be some apparent unfairness in that, but the arbitrator would take that into consideration without having it specially indicated. Would you not think it fair that regard should be had to the rate at which licenses had been granted to other parties in the same trade, in the man's own country. Take Liverpool and London, would it not be hard that there should be a higher rate exigible from one than from another?—I do not think that the arbitrator would direct a higher rate to be paid in one case than in another under these circumstances.

M. Eugène Schneider.—*Chairman.*—You are the managing partner and director of the great works at Creuzot?—I am managing partner. . . . The Committee, being aware that you were president of the Corps Législatif under the Empire, attributes to you also considerable legislative experience?—I am more of a manufacturer than a lawyer. . . . I think that a patent ought not to be an absolute right. . . . According to my opinion, a patent ought not to be granted except on conditions, and in cases absolutely exceptional, and after having been preceded and surrounded by such formalities as will afford a guarantee that there is an essential cause for the patent. No patent should be granted except after inquiries had been made, which showed that there was a real cause and reason why the patent should be granted in that particular case. . . . I think that a patent should be very seldom granted, and only when the object, when considered, is recognised to be exceptionally good. . . . The fewer the better, because I do not believe that in

industrial matters there is occasion for many patents. How do you arrive at that opinion?—In the first place, I draw a considerable distinction between the creations of art and literature, and what are called industrial inventions. According to my view, a creation of art or literature, a literary or artistic invention, is the man,—it is the individual himself; it is the soul, the spirit, the personality of the man who invents it. *The Barber of Seville* is Beaumarchais (the author) or Rossini (the composer of the music). Whereas in the case of what is called an invention in industrial matters, the product when it is completed does not represent the inventor; it is either a material revelation of a thing which is only a solution of a problem which has presented itself to every one, and which any one else might have hit upon, or else it is the work of everybody. In my industrial career, which is more than forty years long, I knew only a very limited number of cases in which an industrial invention belongs to any one in particular, represents a work of genius, and is at the same time a great service rendered to the public, and which would not have been the next day rendered by somebody else. . . . I scarcely know a single example of an industrial invention which has been rendered by any one which would not have been rendered on the following day by some one else. . . . I believe that in the immense majority of cases an industrial invention does not represent the personality, is not a personal property representing the man, and does not represent a service rendered to society, which is so personal that if the inventor had not come forward, society would not have possessed a short time afterwards the very same invention. . . . I am not of opinion that there should not be any patents, but I am of opinion that there should be the fewest possible number of patents, and that they should only be granted very rarely, and in absolutely exceptional cases. I am as much in favour of protection as possible for works of the mind, including works of art and works of literature, and I would acknowledge a property in them for a very long time, almost an indefinite time, because, in my opinion, such a work is the man. In the case of industrial works I would not acknowledge a property except where there are so many points united that it is thoroughly well proved that another man would not the next day have produced the same thing, so that society would not in any case have enjoyed the same result. . . . I am not absolutely opposed to the patent system; I am absolutely opposed to the manner in which patents are granted at the present time; I am absolutely opposed to the spirit, which is called very liberal, and which I call very oppressive, of the existing law. About ten years ago we had a demand in France for a law that was called still more liberal, and in which careful researches had been made to accumulate all the means by which an inventor could be protected. The effect of this law would have been to multiply patents to such a degree, that a manufacturer would never have been able to know how he could take a single step without treading upon a patent. I took objections to this Bill, and to its spirit, and I contributed, after the labours of two years, to prevent the report being submitted to the Chamber upon it. I was not then President of the Chamber. If I had been President the report would

have been made, so far as I was concerned; but as simply a member of the Chamber, I was allowed to use my efforts in order that the project should not be submitted to the Chamber. At that time the public mind in France was prepossessed with the idea of favouring inventors by every means, and it was thought that we should make great progress in industry if we favoured inventors. The opinion at the present time in France appears to me to be rather modified, for whereas at that time the persons who were favourable to granting patents with the very greatest latitude were in an immense majority, I think at the present day there is a reaction. I do not know on which side the actual majority now is; I only know that I am amongst those who are less favourable to patents. In your great establishments, I believe you can avail yourself of the inventive genius of a large number of your employés, English, French, and German?—I have never permitted any one employed by me to have a right to be the owner of a patent for any invention, for the simple reason that I have never recognised, in an experience of forty years, that an employé has made any invention, without this invention having arisen out of the medium in which he lived, or from conversations, or from the necessity of solving a problem which was submitted to him. In other words, I think in most cases inventions are spontaneous creations; but although I have never recognised this as a right, I have often let patents be taken out for inventions in the name of a workman in my works to give satisfaction to their *amour propre*. But that does not represent the truth; I do not recognise it as such; it has not appeared to me to be just in any case that has come under my very notice, though I have sometimes permitted it to be done to give satisfaction, and to encourage a person employed by me. That leads me to give you another case in point. It has often happened that an idea was given by an employé, or by a workman, and that then the *chef*, the superior, took out the patent himself for a pecuniary consideration; I do not think that that is just, or that there is a reason for the patent being granted in such a case.

Mr. Platt.—I wish to ask you whether the abolition of patents would tend to promote secret processes of manufacture?—It might be so. If that happened, the result would only show that a true inventor would not, by the fact that no patent was granted, be deprived of the benefit of his invention. But I can hardly believe in secrecy in invention at the present day. The secret which I have seen best preserved in industrial matters is the aptitude in using known means. But supposing a valuable invention to have been concealed from the public, and secretly worked for twenty years, would that be an advantage to the public or otherwise?—In the first place, if an inventor has the means of keeping the process secret, it is because he is able to manufacture so as to give satisfaction to the public, and if he himself is not enabled to give satisfaction to the public by furnishing the whole quantity of the manufactured article which is required, he has still the power of selling his secret to one or two works, which will furnish to the public all that is required. If such a case as I have already referred to is in existence, and can be in existence, what becomes of the theory of spontaneous invention? How do you reconcile the possibility of an

invention being kept secret for twenty years with the theory of the spontaneity of inventions?—I do not believe, in the first place, that there are any or many instances of an invention being kept secret during an extremely long time, which might not be replaced by another production equally good. I will add that the objection which is now suggested by the Honourable Member is a very important one, and one which has been very frequently produced. I do not pretend to give the absolute truth in a matter which is extremely complex, as I have said. The principal point is to know on which side is the greatest advantage for society. You have already given us the history of Mr. Nasmyth's invention. May I just ask whether a patent was given to Mr. Nasmyth in France?—No, I do not think so.

Mr. Johnston.—Or to any one else for a steam hammer?—I am not aware of any. You think that the progress of useful invention would be as rapid without patents as with them?—I am very desirous of having the most rapid progress possible, and I am quite of opinion that there would be very little difference in that respect if patents were abolished; with an unrestricted system, the progress might commence a little later, that is to say, the invention might come out a little later, but the progress would proceed all the faster. The inventions would come out more gradually, but there would be a steady flow, would there not, of useful invention?—No, not exactly; a certain invention might not come until a little later, but when once it had been introduced and brought to light, it would very much sooner become generally used; and if society, the consumer if you like, had been deprived for some months longer of a process, or of a new product, as soon as that new process should have been practised, it would become generally used very much faster. I have a case in point with respect to that. Certain localities have had very restrictive habits in their industries; that is to say, habits of secrecy. In those localities, every one hides what he is doing, or takes out a patent. The localities in which this spirit prevails very seldom advance with great speed. They remain almost always at a very low industrial level. The localities, on the other hand, which have a very liberal spirit in matters of invention and in matters of patent, advance very rapidly. The entire locality profits greatly by it, and every one gets his share of the advantage. Your honourable Chairman will allow me to say, that one of the most remarkable facts in the world is the immense progress which has been made by the locality of Middlesboro', with which he is connected. Fifteen years ago there was scarcely anything done there in the iron manufacture. At the present day it is the first district in the world for that manufacture, and I have found there is a most liberal spirit, everybody telling his neighbour, everybody telling any stranger who has had the honour of being admitted to those great manufactories, "This is what we do;" "This is what succeeds with us;" "This is our invention:" I have told you the result. In France, at Mulhouse, a great many inventions have been made, indeed inventions have been made almost every day for spinning and weaving, and for calico printing. The custom of everybody in Mulhouse is to bring every day to the exchange all that they have invented, or everything

which they have brought to perfection and proved. They put on the table in open daylight before everybody the result of their inventions, and Mulhouse is (I may be allowed to say it in England), for its speciality, the first town in the world, not on account of the quantity, but on account of the perfection of its products. Patents are very rare there. As regards the interests of inventors, you consider that for one who gets much good out of an invention, ninety-nine lose by it?—I do not hesitate to say with respect to the generality of the natural inventors, those who have the malady if you please, they are incontestably nearly all destined to ruin themselves, without having produced anything of importance, except for their own personal satisfaction; for they always are believing that they will have good fortune to-morrow, as it is put up on certain placards, "To-morrow we shall shave for nothing." As to clever workmen in manufactories, is it not your opinion that it would be so much the interest of master manufacturers to reward intelligence and invention among their men, that men of invention and practical minds would in the end, and taking a general view, receive greater benefit than that class do at present?—I believe that the manufacturer who does not reward intelligence and any service rendered specially by a workman is very *mal-à-droit*, and does not know his own business. I employ a great many workmen. I had some time ago 13,500, and I have still at this moment nearly 11,500. I am of opinion that they are amongst the most intelligent of workmen, and that they form one of the most disciplined, the best instructed, and the best informed of populations. I have sometimes rewarded some of my people who have rendered me service by the invention of a new process. It is the business of very intelligent and able workmen to find out some new *tour de main;* and it is to the interest of the master of the works to reward such an invention, whether it be by giving a sum of money, or by increasing the daily salary of the workman, because he is more intelligent than another man, or by making him a foreman or even a manager. I have at my works men who are paid very highly, and who have given me a great many of those small inventions, but I have not yet to my knowledge received from them a single invention which is sufficiently characteristic to give it the benefit of a patent. Then I may understand that you answer my question in the affirmative?—Yes; but not in the point of view of a patent. It is the duty of a master to reward his workmen, but there is no occasion for the State to grant a patent.

Chairman.—Is there anything which you would desire to add?—I would wish to add that the law of patents should not be the same at all periods of the history of invention. It is with patents as an encouragement to invention, as with protection in order to encourage manufactures. There is a period when a nation may with advantage encourage the development of manufactures, by what would at first sight appear to be excessive protection; that protection, or that amount of protection at a subsequent period becomes an obstacle. So also with regard to patents; what may be a legitimate stimulus to invention at one time becomes a hindrance to progress at a later period, when inventions are made as it were spontaneously. I do not say

that the time has arrived when we should cease to grant patents. I would be especially reserved as to chemical inventions. I am doubtful as to mechanical inventions absolutely. Ten years ago, such an entirely new invention as the steam plough was still a proper object for which to grant a patent. Perhaps there may still be some such; but of this I am sure, that the time has arrived when it has become an anachronism to grant a patent for mere mechanical combinations.

Mr. Henry Bessemer.—After the experiments had been going on for six or seven months, and in conjunction with my partner, Mr. Robert Longsdon, spending £3000 or £4000 in experiments, and diverting my attention from business pursuits for about two and a half years, I was anxious to get some other opinion, and I invited the late Mr. George Rennie to inspect the process at my works. He did so, and he said, "I advise you to bring this before the public immediately." . . . An immense number of iron-masters visited me in London, and asked me what my plans of operations were. I laid down my plans, and I divided Great Britain into five principal iron districts; and I said, "I want one iron-master in each district to have so great an interest in the successful result of this invention, that he will always act for me and not against me." I proposed that any iron-master who was the first to apply in his district for a license should, by paying one year's royalty on a quantity to be decided by himself, pay no other royalty during the fourteen years; hence he would be interested very strongly in maintaining my patent, improving it, and making it a nucleus of operation in his district. My proposition was accepted by five different iron-masters. Two of them paid me £10,000 each; indeed the licenses sold within three weeks of the reading of my paper amounted to £26,500. . . . If I had had no patent law to fall back upon, I, as an engineer, could never have first spent two and a half years of my time and £4000 over mere experiments, which, if they had failed, would have been an entire loss to me. £4000 was the cost prior to my bringing the invention before the public, and about £16,000 after my paper was read at Cheltenham, making altogether an outlay of about £20,000. Of course, I had a large stake to play for. I knew that steel was selling at £50, or £60, or £70 a ton, and I knew that if it could be made by my plan, it could with profit be sold at £20 a ton. . . . The men who had £10,000 per annum advantage over others made no attempt to carry it out; therefore I still further investigated the invention, and I took out a succession of patents as each new idea, or each little increment of improvement was made, and those patents, I believe, now amount to twenty-six in number, under which my invention is secured. . . . You do no not share the opinion of those who think that a patent should be void unless set to work practically within a limited time?—It should depend very much on the nature of the patent, I think. If a man took out a patent for, say, an improved steel pen, there would be no hardship in such a case in making him produce his improved steel pen to the public within a reasonable period; but if it was an improved marine engine, and if it would cost £20,000 to construct it, I do not think you ought to force

him within a short period to construct the machine, or in the event of his not doing so to forfeit his right. If unworked inventions have a limit set to them in some way, it would be beneficial to the public, though perhaps a loss to the patentee, but it should be based, not on the simple lapse of time for all descriptions of inventions, but should be modified according to the nature of the invention to be carried out. The man who takes out the invention gives this advantage to the public, namely, for he has suggested the idea, at all events; but if he does not carry it into practical operation within a full reasonable period, it would not be disadvantageous to allow any one of the public to use it; but whenever the inventor or one of the public shall have carried it out, then other persons shall cease to have the right to use it after that period without a license. Then there would be no bar to those who might wish to use an invention, after it had been dormant for a reasonable period; but when an invention has proved to be of value, I do not think, because the original inventor's want of means, or because the opposition of the trade would not let him carry it out, I say, I do not think that the public ought entirely to profit by that circumstance, and ignore the source from which all the information was gained.

Mr. Platt.—How long after the date of your patent was it before you might consider it commercially profitable?—I do not think that any profit was made by it until something like five or six years after the date of my patent. . . . I do not know a single instance of an invention having been published and given freely to the world, and being taken up by any manufacturer at all. I have myself proposed many things to manufacturers which I was convinced were of use, but did not feel disposed to manufacture, or even to patent. I do not know of one instance in which my suggestions have been tried; but had I patented and spent a sum over a certain invention, and saw no means of recouping myself except by forcing, as it were, some manufacturer to take it up, I should have gone from one to the other, and represented its advantages, and I should have found some one to see with my own eyes, who would have taken it up upon the offer of some advantage from me, and who would have seen his capital recouped by the fact that no other manufacturer could have it quite on the same terms for the next year or two. Then the invention becomes at once introduced, and the public admit its value; and other manufacturers, like a flock of sheep, come in. . . . You mentioned five parties who had had decided advantages from you; did you derive any benefit from their discoveries?—Not from one of them; two out of the five, who paid me £10,000 each for one year's royalty, spent about £100 or £150 each; the other three spent nothing; and indeed, some years afterwards, when I was so successful with steel (for the first invention was for iron only), I found that having sold this privilege would, in the article of steel, have given them £2 a ton advantage had it applied to steel, and they would have had an advantage of £40,000 over other manufacturers. I saw that other manufacturers could not fairly compete under those conditions, and I then applied myself to repurchase those licenses. I gave one firm £10,000, and to another company I gave £20,000 for the privilege which they had purchased but left unused for five or six

years, and for which they had only given me £10,000 originally. I swept the market clear of all those privileges, and every other manufacturer has since paid precisely the same per ton as the rest, it being now an equal tax to all, as though it were the simple cost of wages or fuel, or any other material to be used in the manufacture. . . . Our rule of business was in all cases to charge a price per ton on all the steel produced, whether it was one ton or a thousand tons, there was to be £1 or £2 paid. . . . Monsieur Schneider sent his foreman to our works to be practically instructed in the process. His son came over, and he was taken over our works and introduced to other works, and he made himself practically acquainted with the details of the trade. Time went on, and Monsieur Schneider still did not put up the works, but in about fifteen months before the term in France of my chief patent expired he commenced vigorously to erect works under our own plans, and precisely according to those plans setting up the largest plant for making steel in all France. He finished the works a few weeks before the expiration of my patent, but he did not go to work during those few weeks; but he actually waited until after the expiration of my patent, and then these enormous works were put into operation, and they have since been working very largely. Of course, according to the terms of my license, he made no steel within that period, and he had no royalty to pay, but we charged 2s. 6d. per ton royalty for the use of special patents for machinery which he had erected; and when he was applied to take a license under these patents at a royalty of 2s. 6d., he was very much astonished that he had not quite done with me; he thought it a very great hardship that for all those important mechanical contrivances which I had invented and patented, and sent him drawings and plans of, he should have anything to pay, and he declined to do so, and we have an action at law about it pending at this moment. Not only did we suffer the disadvantage of his declining to pay the royalty, but all the other licensees in France followed his example, and from that period, though we have been having a good royalty from the English licensees, we have not got a farthing from France, because they say, "We shall see the result of your trial with Schneider." . . . We must look upon you as an outsider, I suppose?—Yes. . . . I am sure if I had been an ironmaster, I should never have made my own invention. . . . I have been for thirty years a secret manufacturer; thirty-two or thirty-three years ago, I knew very little of the patent law, and I was led to believe that it was so insecure that it was better to keep a new discovery to yourself than publish it to the world for other people to improve upon. My attention was drawn to a particular manufacture through the purchase of a small quantity at the enormous price of 7s. an ounce, the raw material of which was only worth 11d. a pound; the difference must therefore have been the cost of manufacture. My attention was arrested by the fact of this immense increase in price by some manufacturing process. I found that we were being supplied from Nuremburg, and different towns in Germany. It was hardly known here, and I could never find any one to tell me how it was produced. I set to work very dilligently, and at the end of a year and a half I had come to the conclusion that I could

not make it, and gave the thing up. At the end of two years I found myself with spare funds to devote to experiments (all of which money was made by other inventions). I again resumed the subject, and was the second time successful; I put up a small apparatus myself, and worked it entirely myself, and produced the article at the cost of about 4s. a pound. I sent out a traveller with samples of it, and the first order I got for it was at 80s. a pound net. I showed all this to a friend of mine, and he put £10,000 into my business to establish this new manufacture, giving me the entire manufacture, he being only a sleeping partner. I made a plan of all the machinery myself, and then divided it into sections, and sent sectional drawings of the different parts to be made by engineers in different towns in England. I then collected all the parts together, and I was occupied nine months in fitting up the machinery myself, personally. I put Chubb's locks on my doors, and engaged three or four persons in whom I had confidence, and gave them very high wages to do work that I could have got done for 30s. a week; but I wanted persons who would keep my secret, and they have kept it sacredly for twenty-eight years. We commenced manufacturing on a large scale, and we superseded the German makers. This manufacture has now been carried on, I think, twenty-eight years; it is still a secret, and we are charging the trade 300 per cent. profit on the produce at the present hour. Had I patented it, the result would have been that every one in fourteen years could have done it. In the first instance it was more than 1000 per cent. profit, but all this time I have been afraid to improve it, and introduce other engineers into the works to improve the machinery. Strange to say, we have thus among us a manufacture wholly unimproved for thirty years; I do not believe there is another instance in the kingdom of such a thing. I believe if I had patented it, the fourteen years would never have run out without other people making improvements on the manufacture. . . . Three out of my five assistants have died, and if the other two were to die, and myself too, no one would know what the invention is. Will you be kind enough, if there is no objection, to state to the Committee what that invention was for?—The manufacture of bronze; the article used in gold work in japanning, gold printing, and that class of goods. Do you recollect any other instance of secret manufacture?—Yes; I recollect two instances. My father (I speak now of seventy years ago) discovered that what is called colour water by the jewellers contained a large quantity of gold. This colour water is the result of what is called colouring gold. When gold articles are made by jewellers, there are many discolourations on their surfaces left by the manufacture, and they are put into a solution of alum, salt, and saltpetre, which dissolves a large quantity of the copper, which is always used as alloy. This powerful acid, my father discovered, not only dissolved the copper, but dissolved a very notable quantity of gold. That was unknown at the time, except to him, and it was supposed that the copper only was taken; indeed, so much copper is taken from the surface, that the gold only appears on it. My father began to buy up this liquor, not saying what it was wanted for; he used to buy of all the manufacturers in London for a great number of

years, and he produced very large quantities of gold. The only case of alchemy that has ever been realised; this process, as far as I understand it (I do not know quite what it was), was the deposition of this gold on to the shavings of another metal,—I believe it was lead,—and those were melted up afterwards, and the gold obtained. My father had in fact invented the electrotype process, and had it not been a secret manufacture, in all probability that beautiful production, patented by Messrs. Elkington, would have been known to the world thirty years earlier; but my father kept the secret, and the secret died with him. I am myself not quite aware of the *modus operandi*, but I know it was allied to the Elkington process. My father was also for many years a typefounder, and he made an improvement in the metal of which types are composed. He knew that if it was known to the trade generally that the improvement consisted in the metal, analysis might reveal it, and he would very soon not be the only manufacturer of the improved article. But my father pointed out to the trade that the shape of his type was different, that the angle at which all the lines were produced from the surface were more obtuse than in those of other manufacturers, and that the type would wear longer, and he simply said, "My type will wear longer." They almost pooh-poohed that; but the fact of its wearing very much longer, twice as long I think, convinced them that the angle was really the right angle for it; and they employed this type for a long period of time, indeed up to the time my father gave up business, thirty years ago. The manufacture of type was most successful in his hands. It has since been re-discovered by others, that an alloy of copper, tin, and bismuth produces the effect, and it has since been the subject of a patent, I believe; but it was practised as an entire secret by my father for ten or twelve years. I also have manufactured varnish under a secret process for very many years. . . . I have heard that you yourself in one particular case refused a license; is that so?—. . . I think I now do remember the case you refer to. There was something like what you may call a refusal, but not an absolute refusal; it was a refusal under one condition only. I found one day in London a gentleman occupied in his office with a packet of papers a foot high before him, getting out all the cases he could against me for repealing by *scire facias* the whole of my patents. He was employed by a company of iron-makers to do so, and he told me candidly enough afterwards, "When I had gone through the whole of your patents, and about seventy patents which they said more or less anticipated you, I found that they had not a leg to stand upon, and I advised them to come to you for a license." There had been a good deal of scurrilous writing against me by one of the parties connected with the firm, and I said, when they applied for a license, "I know you only now come for a license because you cannot upset the whole of my patents, but I shall not refuse on that ground, but I refuse it until I have a letter of apology from one of your people; such a letter of apology as will show that the statements made against me were without foundation. The moment I get such an apology as one gentleman should give to another, I will give you a license to manufacture; but I will never deal with a man who has written against me in

that way." I received an entire retractation, a most perfect and gentlemanly apology, and I then granted a license to that company, but they have never used it. . . .

Mr. Macfie.—As a matter of fact, were you troubled by the multiplicity and by the kind of parasites which attached themselves to your great invention?—Yes, but which I set at defiance, knowing that they were not valid. Had you any trouble with them?—None whatever. But while the patent lasted you might have been exposed to litigation?—Yes. I suggested that I wanted it wiped away, but Mr. Mushet's agent did not accept the challenge. But your licensees might have been subject to litigation, might they not?—Yes, but they were not in fact exposed to litigation. You said that you charged for steel made under your process, not being for railway purposes, £2 a ton royalty; what did you charge on the continent of Europe?—Two pounds. In what countries did you take out patents?—In France, Belgium, Austria, and the United States. Why not in Sweden?—Yes, in Sweden also. I forgot that. You did not mention among those places Prussia, did you?—I think that is one of the things that the Committee should really know about. It is the custom in taking out an English patent to prepare the foreign patents before they are deposited in England. I did so, and I sent my papers to Krupp, who had agreed to give me £5000 for the use of my invention. In his own workshop only, was it?—My memory scarcely goes to the actual fact; I think it was for Krupp's works only. Will you endeavour to inform the Committee whether it was for the whole of Prussia or only for those works?—The sale was for the whole of Prussia, and Mr. Krupp could either have made it a monopoly for his own works, or licensed it to others; he would, in fact, take the position of the patentee, just as though the invention were his own. He applied in due course, having my description before him, and all my drawings of my English patents. It was stated at the Patent Office that the invention was not new. That is universally the way in Prussia, unless it is some paltry thing merely to keep up the appearance of granting patents; they give an occasional patent in that way, but they receive always the drawings, the fees, and the description from the English patentee, which is published there for the benefit of the Prussians. Krupp was told that it was not a new invention; he pressed the Office to show who had done it; they named Mr. Nasmyth as having made the invention previously. Mr. Nasmyth entirely denied having done so; the Commissioners of patents then said it is some one else, and we will find out in a few days. In a few days they had found nothing; they then again said they would be able to find it in a few days. They continued their search, always saying it was an old invention, which would be very soon found out. Six weeks passed and they could not find it out, but they then began to promise Mr. Krupp day by day, "If we do not find it to-morrow we will give it you;" and so it went on to-morrow and to-morrow, until there was a week of to-morrows; and on the last occasion of his calling, they presented Mr. Krupp with an English Blue Book, namely, the publication of my English patent. They said, "Now, see it is a publication in Prussia; we cannot grant you a patent by the law of Prussia." That

was the last I heard from them. . . . I hold in my hand a translation of a speech delivered by Monsieur Michel Chevalier at the meeting of the Société d'Economie Politique on the 5th June 1869, in which he says, "Thus the famous Prussian steel manufacturer, M. Krupp, has taken out no patent, and yet has made a colossal fortune;" do you think that is from any want of inventive talent on Krupp's part, or from disbelief in the advantage to a discoverer of having a patent?—It is not the fact at all. M. Krupp is the owner of a vast number of patents; he was the first patentee of cast steel for railway tyres, and under that patent he charged £90 a ton for tyres, such as we are now making at £18 a ton; but those were Prussian patents. You said that you charged £2 royalty in this country; have you actually got £2 royalty to any great extent from the manufacturers of iron or steel on the continent of Europe?—Yes; we believe that in every case it is honestly given to us to the full amount. Have you agents in each country in which you have patents?—In Paris only. Does your Paris agent issue licenses in Sweden?—No, we grant Swedish licenses here. We had a person acting for us as agent in Sweden. My object in putting the question to you is this, I wish to know what is the business arrangement of any person who is a patentee on a great scale, I mean by that, a patentee holding patents in Great Britain and in various parts of the continent: What is the ordinary routine by which you first ascertain how many manufacturers there are to whom you should apply? secondly, How do you make your applications? thirdly, How do you receive your emoluments? and fourthly, How do you prosecute or maintain your rights when you find there are infringers?—Our mode of operation has simply been that which I believe is generally pursued in the trade, which is to charge a uniform rate everywhere, with uniform terms; to employ agents to collect the moneys, and to see that the terms of the licenses are duly carried out, and, if necessary, to enter proceedings, as our agent in France is now doing against M. Schneider for the non-payment of the 2s. 6d. royalty. I suppose I am right in saying that the amount of business required of any one residing in London, to attend to the business necessary, in order to promote his inventions in various countries on the continent, would be so stupendous, that, as a general rule, he sells his invention to some one on the continent, who works it out on his own responsibility?—No, I think not; at least that is not the case with us. We have never kept more than two clerks; and myself and my partner devote two or three days a week to the whole carrying out of our business with licensees. I suppose you would think it very hard on British manufacturers if they were subjected to a £2 royalty in this country, yet that manufacturers abroad, making the very same iron or steel, had the liberty of importing it into Great Britain, without having been subjected to that £2 royalty?—They have no such liberty; I can stop it in port coming from Prussia, or anywhere else, and not allow it to land. Do you know if any has been imported?—No; we have had some imported from Sweden, but we showed them our position, and they took an English license, and paid the English dues for coming into England. What is the process by which you were able to detect

that it was made according to your patent?—We may apply for an injunction; but we did not do so in the case I have just referred to, because the parties agreed at once to pay the royalty. But how would you be able to detect that it was made according to your patent; would it be from an analysis of the iron, or from having some person to watch the transit of the iron?—In Sweden there was no difficulty, because Sweden never produced steel prior to my invention. If I rightly understand your evidence, you hold it is quite competent for a patentee in this country to stop the importation of an article made abroad according to the patent taken out in this country?—Yes. . . . Can you point out the steps that would be taken to protect your licensees in this country from what, I suppose, you would consider undue competition from the Continent, and could you take any steps for the protection of your licensees from a similar undue competition in the neutral markets of the world?—No; in neutral markets every one, of course, would be allowed to send his goods. Then, does not it occur to you that if we are to have a patent law at all in this country, it would be extremely advantageous that there should be some international arrangement by which all the reciprocally competing countries might be dealing with inventions on the same principle, with the same royalties exigible in them all?—No doubt it would be advantageous to have as near as may be a uniform law for patents; but I might remark, that royalties on patents are usually so small that they do not affect the question commercially at all. Krupp is supplying to Prussia steel blocks for guns at £130 per ton; we can make them here at £20; so that whether it pays £2 or not, it does not alter Krupp's price or prevent our people going and competing with him. The royalty is so small compared with the price of the manufactured article, that it is no question commercially at all; it is in many cases more the character of the house and the circumstances of the business that eventually govern the price, and not the royalties. I think royalties very little interfere with any commercial arrangement of that kind. Can you inform the Committee what is the lowest price at which any steel made on your process has been sold on a large scale?—Some 100,000 tons have been sold at £10 a ton. Had the £2 royalty been paid on that 100,000 tons?—No, £1. . . .

Mr. Macfie.—£1 out of £10 as a royalty gives more than 10 per cent. *ad valorem*, does it not?—It does so; but at the time that my royalty was £1 a ton, it was £1 on the raw ingot, that made it £1, 5s. a ton on the rail. At that time rails were being sold at from £9, 5s. to £9, 15s. per ton. When my royalty for the main patent dropped, I charged a royalty of 2s. 6d. per ton only, which comes to about 3s. 2d. on the rail, instead of £1, 5s. per ton on the rail. The price went up steadily as soon as my royalty was lowered, and they are now selling to-day at from £2 to £2, 5s. a ton, with 2s. 6d. royalty more than they were selling for with the £1, 5s. royalty a year and a half ago under my patent. That shows that the price of the royalty does not keep articles out of the market. There are other considerations of far greater importance. The manufacturers are getting £3 a ton more for railway bars under a 2s. 6d. royalty than they sold them for under

a £1 royalty two years ago. How much profit do you suppose the seller of that 100,000 tons which you have referred to would have on that transaction?—I should say that a judicious manufacturer there would have a profit of £2 a ton. Then your royalty was equal to one-half of the manufacturer's profits?—We took one-third of the spoil in that case, but that was on the lowest article in the trade, namely, railway bars. On some other articles, where we were charging £2 a ton, the manufacturers were getting £25 a ton profit. My experience, which has been on a large scale, is that as a rule the margin of profit in manufactures is small, and that the magnitude of the profits arises from the frequent repetition of a very small margin; therefore, I must say, I should think that the iron trade must be an extremely exceptional one if the profit out of £10 can be £2?—The facts are as I have stated. . . . Judging from my own experience, I should be very much surprised if profits could, as a general rule, on transactions of that magnitude, exceed 2s. or 3s. a ton; I wish to ask whether, if the profit were a few shillings to the ton, it would not be very detrimental, and probably even subversive of the continuance of the British trade in the neutral markets of the world, if the taxation was 10 or 12 per cent. *ad valorem*?—It would have been impossible to impose a royalty of £1 a ton if that were the case. It was because there was an advance of £25 per ton that I was enabled to ask for that £1 royalty out of it. You think it quite fair that a patent should be given to the improver of a process, and that if somebody else had been the improver of your process he would have been entitled to a patent?—Most assuredly. But I suppose you would by no means think it fair that the discoverer of some petty improvement should obtain the same amount of remuneration for the use of his invention as you obtained for starting a great principle, and bringing it first into practical application?—Nor would he ever be able to do so; no one would give as much for a paltry improvement on a great invention, as for the great invention itself, which was made originally; the minor inventor would have to deal with all those who could do without him. May we not doubt whether, if somebody else had invented that tipping process, he might not have exacted as much as you did?—That was a considerable practical improvement; that was a strongly marked invention. Are you aware that M. Schneider has stated that, in his opinion, that invention is a means of attaining the end that would very readily occur to a number of persons who found it was important to attain that end?—I cannot conceive that to be a probable idea, because the novelty of making a furnace weighing eleven tons, with a terrific fire and five tons of fluid iron, turn on an axis, is easy now it is done, but not an obvious suggestion. The departure from the ordinary practice is immense. I know perfectly well what is M. Schneider's objection to the tipping vessel; it is the 2s. 6d. a ton royalty. . . . No doubt he has a general knowledge of it, but he either did not know or he ignored the important uses of this tipping vessel. . . . If you expended such a sum as you say, experimentally, I quite acknowledge it would be reasonable that you should receive a recompense for the hazard which you ran, independently of the recognition

of your own merits as the discoverer of a thing practically worked out; but would it not have answered your purpose substantially if those very wealthy men, the iron-masters of the country, had combined and made up a purse of £50,000 for you to make your experiments with, and as a reward for your services?—It would have been a question of taking £50,000 for doing a certain amount of work, and in that way perhaps a man might go into it; but I do not think that they would have voted a purse of £50,000 for a man who was totally unknown in the trade, and who had apparently the wildest notions. . . . Take the single transaction of 100,000 tons of rails which you have mentioned, with £200,000 profit; surely there is no reason why men engaged in a business of that magnitude and profitableness should not freely spend money for important inventions; do you really think they would not?—As a rule, I think they would not. . . . With regard to the result of your experience in secret manufactures, you say that the absence of patents greatly increases the annual receipt of the parties whom you employ as labourers under you?—Yes.

Mr. Pim.—With regard to colour water being utilised by your father, and gold being obtained out of it, did the knowledge of the process die with him?—Yes. Was it lost to the world?—Yes, it was lost to the world. Then that gold water is not at present made use of, I suppose?—Yes; since the re-invention of the deposit of gold from its solutions by the Messrs. Elkington, some twenty years after my father died, no one thinks of throwing it away. It has been re-invented?—Yes, it has been re-invented. . . . But do you not think that the sum of the blanks is greater than the sum of the prizes?—I think that the sum of the prizes is immensely more than that of the blanks, and I believe the advantage to the public is infinitely more than either. I am very strongly of that opinion.

Mr. Orr Ewing.—You do not agree with Mr. Webster, and other witnesses who have been examined before this Committee, that on the whole the loss to inventors is greater than the profit?—No, I think not. . . . I think there is an immense number of men who have made a pretty good hit, and there are thousands of men with little inventions who have not come before the world as inventors so called, but who are really inventors, and go on with their manufactures year after year steadily. For instance, my bronze manufacture took me out of the category of recognised inventors, and some of those people work their own patents. . . . Do you believe there are many inventions that have not been patented, and not put into practice, merely for want of money?—Yes, I think so, from the want of money on the part of the inventors in a great many cases. . . . Should you be surprised to hear that the Committee have gathered, from the evidence of persons who know, that by far the greater proportion of patents are taken out by persons engaged in trade?—I believe that persons connected with trade are constantly taking out patents for improvements in that trade; but they are not great or leading improvements that tend to entirely supersede the existing state of things, though of course they help to improve the manufacture. . . .

Mr. Mellor.—Would it be possible for a person to establish a manu-

factory and employ your process in Switzerland?—There is a manufactory of iron in Switzerland, but the iron trade is on a very small scale there, they using only the charcoal of their woody hills; they are out of the category of iron-making countries. But provided that there were such materials at hand, could they use your patents?—Yes. And could they, in that case, export the produce of their manufacture to this country?—No; our law forbids that. But that produce could be sent to a neutral market, coming into competition with that supplied from this country, could it not?—Quite so. . . . You think that the cases of free trade and the patent laws are parallel, one being freedom and the other restriction?—No, it is not restriction; it is simply the protection of property, without which trade can never prosper. But suppose America, Prussia, and France could use your patents free of charge, and that by the patent law in this country they could not be used without paying you a large share of the profit, would not that be freedom to those other countries and restriction here?—It would give those other countries an advantage over us; but whenever it did take place, if it does take place, it would result in the patentee being obliged to ask a much lower remuneration. This would still allow the manufacturers of this country to compete with foreigners. . . . It is the very reverse of free trade, is it not?—There is in that sense no parallel. . . . I am rather ashamed to say that I have taken out about 100 patents. . . . Those are the wise men who say, "Let some one begin and we will follow;" but the whole trade of the country suffers for it.

Mr. Isaac Holden, ex-M.P.—For what I know I was the first inventor of lucifer matches, but it was the result of a happy thought. In the morning I used to get up at four o'clock in order to pursue my studies, and I used at that time the flint and steel, in the use of which I found very great inconvenience. I gave lectures in chemistry at the time at a very large academy. Of course I knew, as other chemists did, the explosive material that was necessary in order to produce instantaneous light, but it was very difficult to obtain a light on wood by that explosive material, and the idea occurred to me to put under the explosive mixture sulphur. I did that, and published it in my next lecture, and showed it. There was a young man in the room whose father was a chemist in London, and he immediately wrote to his father about it, and shortly afterwards lucifer matches were issued to the world. I believe that was the first occasion that we had the present lucifer match, and it was one of those inventions that some people think ought not to be protected by a patent. . . . I became a partner in a large house with which I commenced as book-keeper. . . . They were opposed, as I find M. Schneider is, on general principle to patents at all. . . . I left the house, and then began my experiments, which nearly wasted the fortune that I had acquired in making my first attempt. . . . I then joined a gentleman who has become very celebrated as, if not an inventor himself, at all events, an encourager of inventors; he took a great interest in the particular invention with which I had occupied myself. He became my partner, and continued

my partner for six or seven years. . . . Mr. Samuel Lister, of Bradford. He has had more to do with patent inventions than most men, I dare say; he and I were partners during seven or eight years. The invention of combing wool by machinery was first introduced, I believe, by a clergyman in the north of England of the name of Cartwright. . . . I was, of course, indebted very greatly to the patents which had been published before I was myself an inventor. . . . I believe that all the important inventions were patented. I have been told that experiments connected with the combing of wool have cost the experimenting inventors the sum of £2,000,000 sterling. I have myself expended, at least, £50,000 in experiments; and my late partner, Mr. Lister, I have no doubt, has expended a greater sum even than that. . . . I certainly never should have occupied my thoughts as I did so exhaustingly, and so injuriously to my health, and spent my fortune so largely, if it had not been for something like security to my invention after it was produced. . . . I have never obtained a patent in any country except England and France. Our industry is carried on on so small a scale in other countries that it would not be remunerative to take out foreign patents and protect them. . . . It is carried out to a very small extent in Prussia; but we comb wool for the Prussian market chiefly in France, I believe. . . . In France . . . he is obliged to give it a real existence, and he must prove that he worked it within two years. . . . It is inconvenient to the inventors who do not mean ever to put their inventions into practice; but it is a great security to the public. . . .

Mr. Orr Ewing.—You have stated that you were not the only inventor of wool-combing machines?—No, there are other inventors; a very large number of them. I should think there are perhaps 500 patents for wool-combing. . . . They arrive at the same end by very different processes, I suppose?—Yes, they arrive at the same end by very different processes. My invention consists in an imitation of the manual operation, and the other inventions are founded chiefly on a very ingenious invention of Mr. Heilmann, of Alsace, in France, which was different to all the other old-fashioned ideas about wool-combing, but the principle has never been applied so successfully as with our own machine. . . .

Mr. Lucius Eugene Chittenden, Register of the Treasury.—I had been a counsellor-at-law connected with patent cases. . . . I think a large proportion are refused which ought to be refused. . . . The examiner must be convinced, in the language of our Statute, that the invention is not only new but useful. . . . We have certain corporations, or kinds of business in our country, organised upon patents. There are many of them, and many of them are extensive and wealthy. A corporate organisation of that kind requires its attorneys, its solicitors, its counsel, and scientific experts. . . . I mean private corporations organised like those under your Limited Liability Act. . . . Ordinarily they are extensive manufacturing companies. Take the case of the sewing machine, and we have half a dozen very wealthy companies that manufacture sewing machines. They have valuable patents, and

they license many others all over the country to use their patents, and they obtain a large income from that source; I think one sewing machine association, with which I am acquainted, must have an income at least of £250,000 a year from its patent licenses alone. . . . Ordinarily there is a principal patent which starts the organisation of the company, which is granted to some man who becomes a member of the company; then they go on acquiring patents, which they purchase from others. But there are also companies in the United States who are simply owners of a patent and not manufacturers. I mean that there are occasionally a number of manufacturers who agree to form a company, the company to be possessors of the patent, and each manufacturer to pay a license to the company, in the ratio of the extent to which he trades and uses the patents?—That is done to some extent. Is that found to work well?—Yes, on the whole; I think, for example, we owe the success and the perfection of the sewing machine, and some of our best reapers and best mowers and agricultural implements, to that kind of organisation. That is a system which you may call an interchange of licenses among manufacturers?—That is precisely what I mean; your question is somewhat novel, but I do not well see how the sewing machine could ever have been made a success without this system. There are probably in a good sewing machine to-day fifty patents involved at least in various ways. A single inventor could scarcely ever hope to control the whole of them.

Mr. Platt.—Fifty patents in one sewing machine?—Yes; in one. I should think I could take a prominent sewing machine to-day and identify fifty patents that are now in force in the United States in that one machine.

Captain Beaumont.—Are those patents recognised?—Yes; they are recognised. A very large number of them have gone through the most expensive and severe litigation, and have been sustained.

Chairman.—If there were no such interchange, the public would not be so well served?—No; the perfect manufacture which is demanded by such an article as that could not otherwise be reached.

Mr. Platt.—Suppose the owner of one of those patents refused to sell it to one of those companies, have you any law to compel him to do so?—We have no law to compel him to do so, but we have what is just as efficient, namely, the practice of the Courts. Suppose the owner of a patent sued a man for an infringement of his patent, and the defendant proved that he had applied for, and proposed to pay a fair license for, the use of that patent, the Court would say to the parties at once, "I will refer this case to a master to ascertain what is a fair license fee, and you may take that, or this suit is suspended;" there is no law, at least I am perfectly clear that there is no Statute, on which that right is based, and yet it is just as thoroughly administered with us as if there was a Statute to that effect.

Chairman.—The absence of such a practice as that you would consider to be disadvantageous to the progress of manufacture?—Most decidedly so. If a man had it in his power either to withhold licenses altogether, or after he had granted them for a term, and the business

had grown up, of saying arbitrarily, "I will not grant them any longer," that would operate very badly. Such a provision, however, I was going to say, ought to be very thoroughly guarded and considered, if it went into a law, which we do not need, and therefore we have never tried the experiment. . . . How long has this course been adopted by your judges?—Ever since my practice commenced; I should say twenty-five years at least. I suppose it is so well understood that there would be no demur with regard to it?—I think none whatever. A man would not come into the Court with clean hands if he had refused to grant a license to a responsible and capable person?—Just so, and for a fair and reasonable compensation. . . . I know the difficulties with which it is attended where we have the preliminary examination. I may be regarded as *ultra* in saying what I do, but I would weed out the trivial patents by increasing the expenses of procuring a patent, so that a man should know before he made his application to the Patent Office, that he had got something really worth troubling the office and the country with, before he made it. . . . We have a great number of utterly trivial patents granted, which prove so in practice; the examiner attempts to decide whether they are useful or not. The claimant makes a *prima facie* case, and he gets his patent; then instead of going to work and manufacturing the thing itself, and thereby adding to the industry of the country, he goes to speculating with his patent, hunting up the people who have accidentally or unintentionally infringed the patent, and getting money from them; now, of course, it would be great wisdom if some measure could be devised that would put a stop to that. . . . I am counsel for manufacturing companies of various kinds. I think that twice every week in the year I have a case referred to me from one of those companies. They say, "So-and-so makes a claim on us for an infringement of his patent." Well knowing what I do, I have to consider that in two ways: first, Has this man any probable claim? and second, If he has not, which is the best for this company to do, to pay him a certain sum of money, or to fight with him? And the result is, that if we can get rid of the fellow for £100 or so, we pay him his money, and off he goes to pirate on some one else. If his claims are too large we resist them. . . . Now, will you be kind enough to state to the Committee what augmentation of that cost you think would be sufficient to prevent the nuisance of those speculative claims which you have spoken of?—I think if we charged $500, which would be £100, that would be the death-warrant of an immense number of patents. In increasing the expense to that amount, do you think that you would be acting unjustly towards poor inventors?—No; the poor inventor now usually obtains the assistance of some friend who has money, in taking out and making use of his patent, if his patent is really valuable, or probably would be so. I think that with the distribution of wealth in our country, no inventor would ever fail to interest some one with him, and not to a much greater extent, so far as the proprietorship of the patent goes, than is now done, and that practically no patents would be lost; that is to say, no meritorious inventor would ever fail to obtain a patent on that account; but if such a

result should exist, I think it would amount to almost nothing in comparison to the benefit that would accrue. You think that the hardship would amount to nothing in comparison to the benefit?—Just so. To what extent do you think such a tax would diminish the number of patents applied for or granted?—My answer must be a mere matter of opinion, of course, but I should say that fully one-third, if not one-half the number. . . . Some method ought to be taken to accomplish this result, and that is the most practicable that has occurred to me. But whatever the remedy may be, you acknowledge and dwell upon the existence of the evil?—I do, and seriously. . . . What is the standing of the persons who act as examiners in the United States: I mean the professional standing?—The best men are secured that can be secured for the compensation paid; men who are educated in, and familiar with, the special departments over which they preside. On the whole, a very good class of men are secured; not our first men, because they receive better compensation elsewhere. What is the average salary of the examiners?—About $2000 to $3000; I should think about £400 to £600. Is an examiner allowed to hold any other employment?—No. Has it been suggested at all by persons competent to form an opinion, that those men are accessible to undue influence of any kind?—I have heard that charged, but I never knew a case in which I thought there was the slightest foundation for the charge. My personal belief is, that this corps of examiners in the Patent Office, speaking of them as a body, are as pure a set of men, and sometimes under very tempting circumstances to be otherwise, as you can find in any government. I wish to speak decidedly on that point. . . . My meaning rather was, if the examiner knew that an art or invention was exercised publicly, but had never been patented, whether upon an application for a patent for that same invention he would refuse it on the ground that it was already within the public domain?—Yes; that would destroy its legal patentability at once. . . . Practically, every really important patent has to undergo its spasm of litigation, and that is more or less expensive in proportion to the importance of the patent. . . .

Mr. Gregory.—Is it the theory of your law that there is a property in inventions?—Clearly so. . . . I suppose all applications for patents must be made at Washington?—Yes. And every party applying for a patent is under the necessity of coming up there, supposing a personal explanation is required?—Yes, that is so. . . . With regard to the mode of assessing licenses, I think I understand you to say that the Court refers the question to one of their officers, who exercises what I may call an arbitrary jurisdiction in making the assessment?—Yes, he recommends to the Court the adoption of a particular sum. I may refer to the recent case of corrugated skirts, a trifling patent, which was, however, litigated, with the result that the patentee proved it could be maintained. He endeavoured to monopolise the whole manufacture, but the Court would not permit that, and exercised the power we are now referring to, and so settled the matter.

Mr. Macfie.—In a communication which I have received from the United States, the writer says, "We have no literature whatever on

the patent question; I do not know of a single pamphlet written on that subject on this side of the Atlantic." How far does that agree with your information and observation?—Does your correspondent refer merely to the operation of the patent law. I believe he means the utility or inutility to the State and to manufacturers of having patents at all?—I think he is right there; I am not aware of any such literature. . . . Do you allow articles made, not in contravention of your own patents, but made in another country according to a system patented in the United States, to be freely imported into the United States?—In the general importation laws—the tariff laws—the United States usually make no distinction as to such articles; but, of course, such an article could not be sold in the United States. The mere sale of such an article would be an infringement of the patent laws, if the article was patented in the United States.

Chairman.—Or the user of the article?—Yes, or the user of the article.

Mr. Macfie.—But suppose soap or iron is manufactured in Great Britain by a particular process, patented with you, and it could be ascertained that it was so, would the importer of that soap or iron be allowed to vend the manufactured article in the United States?—Take the case of iron, or take the case of steel. Here is steel, a well-known article of commerce, and here is steel just like it made by the Bessemer process. Now they both come into our country on the same terms precisely, and the fact that the process used to produce the Bessemer steel in England was patented in the United States, would, in my opinion, amount to nothing. There would be no violation of anybody's rights where a special process of manufacture produced only the same result that some unpatented process would; it all depends on whether the thing itself is different. If steel of the Bessemer quality cannot be made except by the Bessemer process, so that the difference is in the thing itself, and you sell a thing that cannot be made except by the patented process, our patent laws would consider that an infringement; but if the same thing could be produced by an unpatented process, and ordinarily was, I think its sale in the United States would not be prohibited by our patent laws. There are two objects in patents: the one is to make an article better, and the other is to make it cheaper. You have shown that if an article was made better, an infringement might be stopped in the United States?—Yes. If it were no better, but cheaper, would there be the same power on the part of a patentee in the United States to stop the importation?—You are stating a question that I never thought of before; we consider that the sale or use of a patented article is a violation of the patent, but your question comes so close to the dividing line, that never having thought of it before, I could not answer it any better than I have done already. In fact the question has never been raised within your knowledge?—No, the question has never been raised within my knowledge. . . . I think you said that about £250,000 a year was made by one or two companies by licenses; is that a license for receiving such royalties?—Yes, that is what I mean. A license to make the article on payment of such royalties?—Yes. Is it frequent in the United States to have a royalty levied according to the quantity of goods manufactured, or is it

more usual to pay it as a sum down?—Both systems are in use, and I could not inform the Committee which is in use most extensively; for instance, a particular manufacturer pays a round sum for the right to manufacture under a particular patent at a particular place. His next door neighbour may pay a given sum on each machine which he manufactures. There is no rule about it; it is just as the parties may agree. In that way there may practically be very great inequalities in the burden borne by one manufacturer compared with his neighbour's burden?—Yes, that occurs frequently. Have you no system for adjusting that?—No. . . . Considering a royalty as a tax leviable on the quantity of goods produced, would you not think it very hard that goods might be imported, having been manufactured in France or England, into the United States, having paid no royalties here and being brought into competition with goods in the United States that had paid royalties there?—There would be a manifest wrong in that certainly. But does not the protective tariff in the United States go a good way to counterbalance that wrong, and prevent its acting injuriously?—I have no doubt it does; but I have no wish to have it inferred from that that I favour exclusively protective tariffs. But in this country, where we have no protection, we are placed in circumstances very different from those of the American manufacturer, are we not?—Yes, that is very true. Have you ever thought of this: it was a subject that was spoken of in very favourable terms some years ago at a congress in Belgium. I refer to the advantage of having an international arrangement with regard to the granting of patents and the remuneration of inventors?—There is no question as to the value of that. I have seen some striking illustrations of the cost to parties that has resulted from not having any system of that kind. It seems to me so wrong that a great invention, of value to the country and the public, should be allowed to be a monopoly in one country, and be freely manufactured and used in another country of similar tastes and habits, and perhaps the same language and general wants. I think the very best system would be to have an invention patented in all countries where they have patent laws for a certain definite length of time; let it be adjusted as well as it can be, and let the world know that when that limit was reached, the invention was to become public property. Let it be so all over the world. . . . The question is somewhat similar to the question of international copyright; but if the United States have the area over which their patent rights extend vastly increased by the addition of Great Britain, and if the inventors of Great Britain have the area over which their patent rights extend vastly increased by the addition of the whole population of the United States and Canada being brought under them, it is quite clear that the remuneration now obtained would be greatly augmented; therefore, would it not be fair, in the interests of the public, to limit the privilege in some way in return for this great concession?—Yes; and I think none would be swifter to favour such an improvement than inventors as a class. . . . You have mentioned some very important inventions, and those trades have grown up under an accumulation of inventions for trade improvements. Have you any system under the American law

by which a person working a primary patent can get the advantage on reasonable terms of all the improvements on the primary patent?—I think that should be the deduction from what I have been explaining with regard to the discretionary power in the Courts. I regard it as quite practicable for any meritorious person who ought to have such a privilege to obtain the use of patents which concern the particular manufacture which he has in hand. The utmost limit to which an absolute monopoly is attempted to be extended is this: A man makes a sewing machine, for example, and he has a certain form for it, and a certain system, and it comes into public use, and it obtains a great reputation and a good name, and that machine is a property in itself. Now he may some time after say to an applicant for a license, "I will not allow you to make this identical machine; but any person that wants to get up another form of machine, having distinctive differences from this of mine, and use my invention in it, may do so for a reasonable royalty." I do not believe in our country there is any reasonable ground of complaint against what is sometimes offensively termed "patent monopoly." . . . In fact, it is not a fair comparison that is usually made between the number of patents that are granted in the United States and in the United Kingdom; ours are meant to be exclusive of design patents, and yours are meant to be inclusive?—Yes, they are, and the number of our design patents is large. Would it not be advisable to introduce the distinction that we draw in this country between them?—I think probably it would: I have urged on the Patent Office myself the propriety of an entire revision of our trade mark laws, in which, I think, designs for patents should be included. . . . Mr Goodyear was so poor that he spent a large portion of his time in a debtors' prison while he was bringing out the invention, and that is true of so many as to constitute the majority of our inventors.

Mr. James Nasmyth.—It happens to be a very simple matter, for it is a question of dates. The most important accusation he makes is, that I came to France to see the steam hammer at work; that I came on purpose (he infers that) to see it in action. The fact is, that I was not aware of its being in action in France. I went to that country at the desire of the Minister of Marine to advise with their Admiralty about the improvement of the machinery in the French dockyards; and on my coming back from Toulon, I happened to call at the Creuzot works, and it was on that occasion that, finding M. Schneider, whom I had no personal knowledge of, was absent, I was told that his manager, M. Bourden, could see me, and I saw him. On being introduced to him, I was particularly struck with a very fine specimen of forging lying on the ground in front of the office. I was so struck with its fine qualities and some peculiarities about it, that I said, "How have you done this?" He said, "We have done it with your steam hammer." Those were his words. I said, "How did you get to know my steam hammer?" He said, "I got it on a visit that M. Schneider and I paid to your works at Patricroft; you were absent at the time, but your partner, Mr. Gaskell, showed me the designs of your steam hammer,

and on my return to France I made one, and here it is," and he then showed me my own invention in action. . . . The invention as it exists in full practice to this day has all the features of my original sketch intact. . . . Did you amend any matter of detail from what you saw at Creuzot?—No; on the contrary, on conversing with M. Bourden, seeing it at work before me, I said, very naturally, "Have you encountered any practical difficulties?" He said the only practical difficulty he had encountered was a breaking loose between the piston-rod and the hammer-block. I immediately took out my sketch-book and sketched for his service the peculiar arrangement I had made from the first to meet the difficulty, by the interposition of an elastic material. He thanked me for it very much. I sketched for him some other details that he was not possessed of, that had escaped his attention in his inspection of my drawing at my works.

Sir William Armstrong, C.B., LL.D., D.C.L., F.R.S.—My opinion is, and always has been, adverse to the patent laws. Not that I think that the authors of valuable inventions should go unrewarded, but because I believe that in the great majority of cases a successful inventor makes for himself a position, which, in its pecuniary consequences, carries a sufficient reward; and because I maintain that the State could well afford to be liberal, in special cases of hardship, in consideration of the vast saving that would accrue to the public if relieved from the burdens of the present system. Whatever question there may be as to the policy of abolishing patents, it must be admitted that the law of patents, as it now stands, is disgraceful to legislation. If we are to have patents, they should, at all events, be granted with discrimination. The transaction should be in the nature of a bargain, in which the public, in consideration of submitting to the disadvantages of a monopoly, are to acquire the use of a valuable invention which would otherwise be lost to them. Before such a bargain is concluded, an investigation should be made, to ascertain whether the offered invention is worth its price. . . . It may be one of that numerous class of so-called inventions which are so obvious as to be sure to present themselves whenever attention is directed to the subject. Or there may be a fair presumption, from the circumstances of the time and the nature of the subject, that the idea proposed to be patented is occupying the minds of other persons, who, by the granting of the patent, would be unjustly deprived of their natural right to follow up their own conceptions; but these and all other considerations are ignored in the granting of patents. It is deemed sufficient that the assumed inventor asks for a monopoly, and he receives it, as a matter of course, without reference either to the validity of the claim or the policy of the concession; the result is, that patents exist in thousands which are utterly unworthy of so grave a privilege as a monopoly. Many of them are absolutely untenable; many others are of doubtful validity, but, in either case, they can only be set aside by a lawsuit, which is generally deemed a greater evil than submission to the exactions of the patentee. Thus a bad patent often answers its purpose as well as a good one, and a spurious protection is acquired in defiance of law and justice; but it is the

obstructive effect of these multitudinous patents that is chiefly to be deplored. Framed without check or criticism, they are purposely made to cover as much ground as possible, so as to prevent other inventors from even approaching the subject; and so great is the number of patents, and so doubtful their construction, that it has become impossible to determine what ideas are free and what are monopolised. In a great number of cases the invention is so imperfectly developed that the patent remains inoperative and dormant, and simply blocks the way of other inventors, for no one will labour to give value to an invention when a patentee is lying in wait ready to reap the advantage when the practical difficulties are surmounted. As to the alleged analogy between copyright and patent-right, there is none whatever in regard to obstructive effect. Copyright involves no monopoly of ideas, but patent-right does; the field of authorship is not narrowed by copyright. . . . I have been continually deterred from following up lines of invention by the existence of what I may call dormant patents,—patents that were really inoperative in themselves. . . . On one particular occasion I had proceeded with a mechanical invention of considerable promise, when a patentee made his appearance, and demanded a license. For the sake of avoiding litigation, I agreed to pay him a license on a particular thing embodied in my machine, which he had patented, and proceeded further with my invention; but in a very little time a second patentee made his appearance, and said that he was a true patentee, and that the other man had no claim. I was then in a position of having to decide which of the two claimants was the true one. Being quite unable to do that, and being thoroughly annoyed with the whole proceeding, I gave up the investigation entirely, and there was an end of it. . . . It is not only a great labour for the manufacturer to inform himself what is really patented and what is not, but it is utterly impossible to find out; they are so ambiguous and numerous that you cannot make head or tail of them, and no human being can say what the decision of a jury would be if any one of them were litigated. . . . I can suggest a mitigation of the evil. I think patents should be granted as an exception, and not a rule, and only after very careful investigation of the merits of the invention and of the prospect of the public benefiting by the patent.— . . . The question is whether, in the absence of any patent having been granted in that particular case [Bessemer's], the public would not still sooner have been in the possession of all the advantages of the invention. . . . The mistakes might be very grave with regard to the patentee, but I doubt whether they would be grave with reference to the public. . . . I believe the mere love of achievement would lead inventors on to perfect their ideas. . . . The absence of protection never deterred me from incurring expense; I have spent immense time, labour, and trouble on inventions, not caring to take out any patent. . . . If protection was given with discrimination, and only in those exceptional cases, I should be satisfied. . . . As a rule, you will find that great inventions have not been fostered by patents. Take, for example, the locomotive engine and the screw propeller, and a great number of other inventions of that character. They have been very little encouraged by patents.

Patents are chiefly taken out for small things. . . . Another thing that would mitigate the evils of the present system, to a great extent, would be to adopt a system of compulsory licenses, and let the terms of the license depend on the merit of the invention, and upon the judgment of a competent tribunal. . . . Your opinion is, distinctly, that patents of doubtful validity, and I think you said that even patents which are untenable, act as obstacles to the progress of industry?—Most unquestionably, yes. The mere name of a patent, however bad it may be, is an immense protection, and nobody likes to come into collision with it. On account of the expense, uncertainty, and trouble likely to attend such a collision, I suppose?—Yes; the expense, uncertainty, and trouble. You think that the Crown, by the granting of these patents, is unwarrantably obstructing trade?—Most assuredly.

Mr. Macfie.—Do you except the locomotive engine? You do not mean to say that would not have been invented but for the patent law?—Certainly not; and I very much doubt whether Mr. Bessemer's invention would not have cropped up just the same if there had been no patent law. I do not question the merit of those inventions, but I think that they, in common with all inventions, would turn up of themselves in the absence of any patent system.

Mr. Mellor.—Would you class Gifford's injector under that head?—No, I think that is a very remarkable invention, and there is great individuality about it, but you will find the same amount of individuality to attach to very few inventions. Would you grant a patent in that case?—If you have a patent system at all, I think that is a case that would merit one certainly. . . . I believe you would have had it in any case. . . . Has it occurred to you to consider who should be the judge where hardship had been incurred, and where liberality would be justified?—I think there is not much difficulty where a man acquires great reputation as an inventor, and where the public recognises the merit, but where he has not derived any corresponding pecuniary advantage; that would be a very proper case for the State to interpose in, and to give him a reward. . . . But if patents were abolished, there would still be the same difficulty in constituting a tribunal for giving public rewards, would there not?—No; because the question of reward would then only arise after a man's claim had been established by time; whereas, in patents, you have to judge beforehand. . . . You would refer the whole question of the granting patents to a mixed tribunal, would you?—Yes; the whole question. . . . You think it possible to constitute such a tribunal as would possess the confidence of the public and of inventors?—Yes; at all events the system would work infinitely better under such a tribunal than it does at present. You can have no change for the worse. You think that that tribunal should judge of the utility as well as the novelty of an invention?—Yes, and the prospect of its leading to public benefit. . . . In the great majority of cases inventors are great enthusiasts, and are carried away by their ideas. . . . The first natural inducement is the love of achievement. . . . It is an immense advantage to any man to be a successful inventor, because it gives him importance, and helps

him forward in the world. . . . Successful inventions of workmen are not very frequent, and more than that, the workmen very seldom get advantage from them. . . . Then what would be the alternative reward for inventors?—I think rewards would only be necessary in special cases of hardship. . . . Have you not applied for a good many patents yourself?—No; very few. I have applied for a number of preliminary patents, but merely for the purpose of liberty to follow my own ideas. That is my common practice. In order to establish a record of what you have done, I suppose you mean?—No; but to operate as a publication. . . . One of the hardships involved in the present system is, that a man is forced to become a patentee whether he will or not, otherwise he may be deprived of his own invention. In the first place, his own secret may be discovered and taken up by another man's patent, or another man may come in and engraft a small improvement, and the effect is that the original and main invention is carried by the improvement, and the patentee of the improvement becomes possessed of the whole.

Mr. Hick.—People dream of making fortunes when there is no sufficient foundation for it. You gave an answer just now to the Honourable Member for Ashton with regard to Gifford's injector. No doubt that was a very important invention, and seemed to establish a new principle; but are you aware that Monsieur Bourden had gone very near it, so near as to raise water by means of an injector?—No, I was not aware of it; but if that is so, it only shows how seldom an invention is absolutely original. . . . I never relied upon patents, nor attempted to enforce them when infringed. I gained the natural preference of the public, because the public thought that, being the inventor, I was more competent to supply them; and I have had quite sufficient preference from that cause to meet the demands of the case. . . . If such a case arose, and the public were likely to obtain a great benefit without the inventor obtaining anything, that would be a case for a patent, if we had patents at all; and if we had no patents, it would be a case for public rewards. . . . Of the two, in such a case as that, which would you prefer, a patent or a public reward?—I would prefer public reward.

Mr. Macfie.—With regard to the granting of public rewards, have you elaborated any scheme to carry out that idea?—No: but I do not think it would be difficult to frame a scheme which would operate well for that purpose. . . . I think, if you were to take 5 per cent. of what the present patent system costs the public, and give that in the shape of rewards, it would meet the case. . . . It counts by millions; it is fearful. I find the general objection to State rewards is twofold: first, that it would cost a very large sum of money, every man being so anxious to pull at the purse of the nation; and, secondly, that there would be great unfairness in the distribution of it,—that there would be favouritism. Do you see any way of guarding against that?—I do not think the amount is any objection at all, because I think the economy to the public would be prodigious; the only question would be with regard to having a competent tribunal. Have you ever thought of the position of this nation since free trade became the rule

of commerce in competition with foreign countries, so far as the patent question is concerned. During the *régime* of protection a manufacturer in this country was able, with comparative ease, to bear patents, because he was protected against competition from abroad by parties there manufacturing without being liable to the payment of royalties?—Yes. Since free trade has been operative, that protection has disappeared, has it not?—Yes. Do you think that that change has affected the British manufacturer?—Yes; to some extent it has, and that has made the objection to patents greater than it was before. You think if patents are to be maintained, it is, to say the least of it, extremely desirable, if not essential, that there should be an international system of patents; because it is unfair that the British inventor should be paying for patents, and competing in our own markets with those who obtain the benefit of inventions without paying for them?—If it be possible to obtain an international system, it would be better than having the system of patents in one nation only. Referring to the large sums of money which such an inventor as Mr. Bessemer received for his invention, would it be necessary, in your opinion, to grant any such amount as a public reward?—No. Do you not think that the very magnitude of the sums lately received has blinded our eyes to the possibility of introducing an equitable system of rewards?—I see no difficulty in it. What I fear is, that the ideas of the body who are commonly called inventors, have so risen that the public are afraid to face the question of national money rewards, the expectations, in fact, being so large?—I dare say they would not be able to satisfy the inventor; but that is another question. . . . You spoke of a case in which you had given up an investigation which you were making, which would have led to the introduction of an invention; is that invention now in operation?—No, not as I should have matured it. I gave it up, and it is not a single case; I have experienced the same thing in many cases. Then in those cases the operation of the patent law has been to retard, and even more to deprive the public of the advantage of, certain inventions which would have been otherwise elaborated by you?—Undoubtedly. You, with comparative impunity to your own interests, gave up those investigations; but do you think it is equally possible for a manufacturer who is engaged in the making of commodities for consumption at home to deny himself the advantage of prosecuting an invention?—I have no doubt it must operate prejudicially in all industries. . . . Have you found that you are frequently allowed to do a thing that was forbidden without being told, and that after using it you are pounced upon?—Yes; a remarkable case occurred to me of having to pay for a patent right after having thoroughly worked out an invention; in fact, it was the case of wrought iron wheels for railway purposes. The Great Northern Railway Company offered to give contracts to those persons who would furnish the best designs for wrought iron wheels for railway carriages. Several persons gave their minds to it, amongst others myself, and my wheel was one of those that were chosen; and on that, in utter ignorance of there being any patent, I set to work, and we all made a large quantity. After we had made them, a patentee makes his

appearance, and produces a patent more than thirteen years old, and close on expiring, in which some particular element in the construction of this patent was defined. The result was that we had all of us to pay 5 per cent. on the value of the wheel in satisfaction of that patent, the patent not having been of the smallest use, or having contributed in any way whatever to the end attained, and the patentee having no legitimate claim whatever to any reward. It was one of those premature guesses at something that was sure to come forward some day. Can you give any idea of the amount which by this kind of fluke the patentee received?—It would be some thousands of pounds, and then after all it was not the original patentee who received it, but somebody else who had, I believe, bought up the patent on speculation. You have adverted incidentally to working men; do you think that the patent system is one which works favourably in behalf of the working men as a class?—I think it does them no good whatever. On the contrary, I agree with what the late Mr. Brunel said. With regard to the influence of patents on workmen, he says: "In the present state of things, if a man thinks he has invented something, he immediately dreams of a patent, and of a fortune to be made by it. If he is a rich man he loses his money, and no great harm is done; but if he is a workman, and a poor man, his thoughts are divided between scheming at his machine in secret, and scheming at the mode of raising money to carry it out. . . . When his patent is complete, and his invention published, the chances are, and ever will be, one hundred, or one thousand to one, that it is not worth a sixpence as an exclusive right which others will buy of him; every chance is against him. . . . If there were no patent laws, would many inventions be lost to the world, do you think?—I doubt whether any would be lost to the world. . . . The fertility of invention is such that if you leave it to itself it will always produce the thing that is wanted. . . . You do not think in the present state of manufactures and commerce it is, as a general rule, possible to keep an invention secret?—No, not for any great length of time. . . . With regard to Gifford's injector, do you think the patent system elicited that invention?—No, I do not at all. . . . It is understood that the emolument has been large. . . . Very large profits have been received as the result of the invention in the manufacture of the article. . . . I am perfectly satisfied, if there had been no patent system, that we would have been in the possession of all Mr. Bessemer's improvements as soon or perhaps sooner than we actually were, because so many more minds would be brought to bear upon the subject, instead of one only. . . . It very generally happens that when a demand for an invention arises, many minds are turned to the consideration of the subject; and as like causes produce like effects, it follows that very much the same ideas arise in many of those minds. The fact of one of those persons being the first to apply for a patent does not at all prove that he was the first to originate the invention; and when that is so, I think that the granting to him of a monopoly is a very gross injustice on other persons who have been directing their attention to the same subject. I believe that is an injustice that very frequently arises. . . . If you are to have patents at all, I would make them cheap, but very difficult

to obtain. . . . I do not qualify my opinion that we should be better without patents at all; but if we are to have them, I think some such system as I have hinted at should be adopted.

Mr. James Nasmyth.—I cannot say that I have been hampered by patents. If a previous patent was discovered to be of any value at all, it led to a compromise with the inventor, by paying him a royalty or by buying him out of the way. No doubt that is an annoyance. . . . The result of taking away the patent law protection would be to introduce a system of secrecy, and consequent shutting up ingenious ideas, until the time arrived when they could be brought out either by the increased means of the inventor, or by such a demand on the part of the public for the invention as would lead to reward. . . . I would trust very little to the gratitude of the public to patronise the original inventor because he is such. The public would go for the article where they could get it best, without reference to the original inventor's merit. . . . If he is able to keep on perfecting his invention and going forward, bringing it up to the highest efficiency day after day, he will keep to the front.

Mr. A. Johnston.—Have you granted licenses for the steam-hammer?—No, I never was asked for one; I was infringed upon occasionally. What was the result of your discovering those infringements?—I took a commercial view of them. From my experience as a witness in patent cases, I saw the expense, and the vast interruption in the progress of business, having to bring your people and workmen up as witnesses to the court, and the final uncertainty of obtaining justice after all; I therefore determined rather to suffer the commercial damage of the infringement, such as it was, than to fight the battle in a court of law. Did you take no notice of the infringers, not even to the extent of requesting them to take licenses?—On one occasion I sent a lawyer's letter to one person to make him aware that he was infringing my patents, but I went no further; I found he was perhaps damaging me to the extent of £500, but that it would have cost me £3000 to pursue him: so I kept the balance in my pocket.

Mr. Macfie.—Did a patent law bring into existence your famous steam-hammer?—No, not so far as I was concerned with it. . . . Lord Rosse spent a considerable sum of money in making his large telescope, did he not?—Yes, it was a hobby of his, and he rode it with great zeal and wonderful success; but for a man in his position it was not so very costly a hobby, although a most noble one.

Mr. William Marwick Michell.—*Mr. Mellor.*—Was this paper never published before this year?—We began in the year 1857 to publish the abridgments in classes. Were they issued periodically?—No; as soon as the book could be completed it was published. Are they advertised?—No; that is a great disadvantage under which we labour; moreover, booksellers have no interest in selling them, because there is no trade allowance. There is no publicity given as to the nature of the publication?—No.

Chairman.—But they are advertised in *The Commissioners of Patents' Journal*, are they not?—Yes.

Mr. Mellor.—But the general public do not read *The Patent Journal;* if they were advertised in *The Times* it might be an advantage to the public, might it not?—Undoubtedly. What is the price of this publication?—It will be issued at 4d. weekly; that will be about the cost price of it. Do you think that the sale might be very considerably extended among that class of persons interested in this question, if the publication were advertised?—I am certain that would be the case. . . . Do you advertise in the Gazettes, which are Government property, and in which advertisements can be inserted by the State for its own advantage at an almost infinitesimally small cost?—No; with regard to advertisements, we can insert what we please in our own publications, but beyond that we are in the hands of the Stationery Office.

Mr. Macfie.—Is there any oversight of the institutions that receive them to make sure that they bind them, and fulfil the conditions which are requisite, in order to make those valuable publications available to the public?—I am sorry to say that we have no officer to do that. . . . In a particular free public library, which I have in my mind's eye, I remember there was some unpleasant expression that the institution was subject to considerable expense for the binding of such a large series; are you aware of such cases?—That would be the full grant, and perhaps that might be Edinburgh, because the offer of a complete set of the Commissioners' publications has been made several times to Edinburgh, and in each case it was understood to be the question of expense that prevented the acceptance of the offer. . . . If a full set were granted to an institute, how many volumes would they amount to altogether?—About 2700 volumes, and they would be worth nearly £2600, that is to say, the cost price of printing and paper. What is the circulation of *The Patent Journal?*—The number printed of *The Commissioners of Patents' Journal* is 500. How many are sold?—It can never be a question of profit, because the publications are all issued at cost price, and we give away a large proportion. A man comes in, and says, "I want the present number of *The Patent Journal.* He pays 2d. for the Journal, and takes it away with him. It would be very difficult to get at the number of them sold. . . . It would show that 100 or 200 were the most that were circulated among the manufacturers of this country, would it not?—The circulation would naturally be limited, because it is principally a dry list of applications for patents, provisional protections, etc. The only persons interested would be patentees and patent agents, and some manufacturers.

Mr. Robert A. Macfie, a Member of the Committee.—I believe it has occurred to you that some substitute which avoids the disadvantages of our patent system might be adopted in lieu of that system?—The advantages expected from patents are various; and I think they might be attained in other ways. I would suggest that there should be greater facilities afforded for the voluntary recording of inventions, and for the official publication of any such that may appear to be worthy of that honour. That would give persons who are entitled to it the honour of priority, and gratify the impulses that well-ordered minds

feel to communicate what they believe will be beneficial to their fellows, while it would suit, in a way that patent monopolies do not, the case of amateurs, to whom often valuable thoughts occur. I would see no objection, on principle, to carrying out beyond that a system of certificates of merit; and, further than that, I think we might introduce medals, which, in various departments of life, are found to be esteemed, and to form a valuable impelling power. At all events, they are a satisfaction to the mind of persons who render services to the public; and the granting of them affords satisfaction to the public, who enjoy the benefits of such services. Beyond that, I think that in cases of distinguished merit, that is to say, in the cases of persons who contributed largely to the benefit of their fellows by introducing important improvements, there might be a more distinguished honour conferred by the Queen. For such cases as would be influenced by money considerations, I would have a system of State rewards of a pecuniary kind.

Mr. Andrew Johnston.—Your answer contemplates the abolition of patents, does it not?—I would greatly prefer the abolition of patents. I believe that the advantages of patents, as a means of stimulating invention, have been greatly exaggerated, and I am encouraged to that conclusion by what I have observed on many occasions, in various quarters, while investigating the principle and the working of patents; persons who were at first in favour of the monopoly system have ceased to hold that view, and formed opinions unfavourable to the continuance of any system of that kind. . . . What do you understand by the word "manufactures," which is an exception in that Statute?—I have examined the subject to which you refer, and of course my opinion cannot be the opinion of any one to be ranked as a lawyer, therefore I give it with considerable diffidence; but it seems to me that the word "manufactures," as Mr. Coryton maintains in his book on the Law of Letters Patent, means a vendable or useable article, and not what we would call a manufacture, that is to say, a process of manufacture. . . . The words "mischievous to the State" occur in that Statute; what have you to say on that subject. . . . I think that an individual patent is mischievous to the State, for it drives away manufactures from our country, or it burdens them with heavy royalties. Do you consider that trade is generally inconvenienced and embarrassed by the system of granting patents?—I am certain it is. You think, I presume, that prices are raised in consequence?—That is very frequently the case indeed; I should suppose it is the general rule; that is to say, that the prices are kept on a higher level than they would be if the inventions were known and practised without liability to the payment of royalties. I might illustrate that by the case of copyright. In the old laws of copyright, there was a restrictive power vested in certain parties in England and Scotland to reduce the prices of books if they were too dear; the idea in ancient times was that you enabled a person to produce an article cheaper by granting him a monopoly. It was never supposed that patents would be tolerated that interfered with that principle; at all events the public interest was the main consideration, and the public interest undoubtedly would be sacrificed if the patent kept up the article at a higher level than that which, without a patent,

it would occupy. You consider, I believe, that processes of manufacture are not within the intention of the original Statute?—I quite believe that is so from the words of the Act of Parliament; and Mr. Hindmarch in his book says, "It was long doubted whether a mode, method, or process of itself, and apart from its produce or results, could legally be made the subject of a patent privilege," but the growing tendency seems to favour the system of patenting, which is a departure from that construction of the law. Will you be kind enough to develop more fully your idea of the system of rewards which might be substituted for patent monopolies?—I endeavoured to do so in a scheme which I developed some years ago, and which I can, perhaps, not do better than repeat here. "1. The Patent Office to be turned into an office for recording inventions. 2. (Forms for specifications to be furnished gratuitously.) All specifications to contain certificate that the inventions promise to be useful, and are believed to be new, from three persons familiar with the trade chiefly concerned; one of whom, if the inventor is an employé, to be his employer. 3. These specifications to be registered. 4. Any time after an invention has been tried and proved practically useful, a fact to be duly certified, the inventor to be allowed to claim that the invention shall be reported upon. 5. A chief commissioner for inventions shall appoint one or more examiners for this purpose, whose duty it shall be (after, if needful, first visiting the scene of operations and conferring with practical manufacturers) to recommend, if they think it worthy, classification for a reward, prize, or certificate of merit. 6. Once a year, the head of the Invention Office, with the help of an adjudicatory committee, who shall form an invention commission, shall classify the several inventions that have been in the previous twelve months certified as having been for the first time brought into beneficial use. 7. In this classification the first rank shall entitle to a reward of £10,000, the second to £5000, the third to £1000, the fourth to £500, the fifth to £100, the sixth to £50, the seventh to a gold medal or value in money, the eighth to a silver medal or value in money, the ninth to a bronze medal or value in money, the tenth to a mere certificate of merit," without anything more substantial. Then I thought that the whole amount of those payments would not be very great, or seriously burden the Exchequer; but in case of an apprehension that in any year they should be an unduly heavy tax, we might fix a maximum of £200,000 per annum, or any other sum that might be agreed upon; I would not object to its being larger. I thought the adjudication of those rewards should be an act of the Government by the action of persons selected by the inventors themselves, or by scientific persons independent of the Government, so that there might be no favouritism or political bias. Another modification very much simplifying that system had occurred to myself, which appears also to have occurred to the Honourable Member for the University of Glasgow, which was this, to fix a maximum valuation to an invention, and to resolve that as soon as the royalties paid, of which a record should be kept by the patentee, amounted to that maximum, it should be competent for some person, in the interest of the public or of any manufacturer concerned, to inquire whether this maximum had

been paid, and then after full proof that it had been paid, without any further process the invention should lapse. For instance, if Mr. Bessemer were the patentee, and it were ascertained that the expense of bringing his patent into effect had been £20,000, we might say, "That is a very exceptional case, he is entitled to have, we will say, £100,000," and as soon as he had received £100,000, then the payment of further royalties should cease. A very great part of my object in this was to enable the British manufacturers to compete with their rivals in foreign countries who frequently do not pay royalties at all, because there are no patents existing in the countries from which the competition proceeds. The second part of your answer seems to contemplate the retention of the patent system, but let us confine ourselves for the present to the suggested abolition of patents. Do you suppose that the Treasury would ever consent to voting £200,000, or any such sum, to commissioners who were appointed by inventors?—The Treasury might have—if they thought necessary, but I do not think it would be necessary—a veto so as to prevent any extravagant grant, or to correct any seeming error. Do you not think that the Chancellor of the Exchequer would exercise that right pretty freely?—My belief is, that if we gave £200,000 to the inventors, we should do all that is required in order to stimulate and reward invention, and if we introduced that system, just as we introduced the system of patent monopoly, other countries would follow in our wake, and the remuneration received by the inventors would be very much larger than that which they now receive, while the burden of each particular country would be much less than it is now, especially in our country. I mean the burden caused, first, by the payment of royalties to inventors; and secondly, by the hindrances to the development of trade, the perfecting of manufactures, and the cheapening of articles of consumption. Now, supposing the patent system is not abolished, what alterations do you suggest in it? You have told us one which seems to amount to a limitation of the gross amount of royalties to be received by any one patentee to a certain sum. You might pursue that subject with regard to compulsory licenses, might you not?—You must connect compulsory licenses with the limitation of a maximum, otherwise the holder of a patent might refuse to give any license at all, and declare that he had never received the maximum amount contemplated during the fourteen years that the patent was in existence. My ideas here run in the track of other witnesses who have been examined before this Committee, namely, Mr. Grove, M. Schneider, and Sir William Armstrong. I understand that the principles on which they would exceptionally grant patents, if continued at all, are something like this: That it should be obviously politic, with a view to the public interest, to grant a particular patent; and, in order to ascertain whether it would be politic, that it should be taken into account and proved that the grant of the patent would be really the facilitation of an improvement, and a help towards the introduction of something new and useful. . . . There should be some ratio between the value of the patent to be granted and the merit of the invention, and the value of the service received by the public in cheapening the article, the introduction of a new trade, and the labour and cost that had been

expended upon trying and testing and introducing the thing. More than one witness has given his opinion before this Committee against the necessity of compulsory licenses, on the ground that things will always find their level, and that it would be the interest of patentees to grant licenses at such figures as will induce the manufacturers to come to them for licenses. Now, can you state with confidence an opinion contrary to that; have you heard to any extent of licenses being refused by patentees?—Yes; I could read a letter received by myself from a person in whose own works mischief of a very serious kind arose from that. The person to whom I refer told me that in a sugar-house where he carried on business, he and his family were precluded from the use of a very important invention in the sugar trade, because the exclusive right to use it was conferred on a sugar-house in Hull, and another sugar-house in Liverpool, and the country within a certain radius of those places. He became excluded, and therefore he could not adopt the improvements that were found necessary in order to compete with his neighbours in the trade, and the result was that he was ruined. Since the evidence given by Mr. Bessemer, a party has told me that, though he did not absolutely apply, he felt the pulse of Mr. Bessemer for a license under his invention, and the license was not granted. A member of the House of Commons tells me that he never grants licenses in his branch of manufacture, which is chiefly agricultural machinery. I could read to the Committee another case. Mr. Platt, who is a member of this Committee, but who is not present now, on being asked in giving evidence before the Commission of 1862, "Are there not some large manufacturers who like to keep the monopoly of a patent in their own hands, who obtain money and go on manufacturing without granting licenses to others?" answered, "Yes." But in connection with that, I will refer to what Mr. Newton says: he says he has known cases where, though licenses were not absolutely refused, they were frequently so excessively dear, that the price acted practically as a refusal. My own experience touches on the point in this way; perhaps you will allow me to go back to the experience of the firm with which I was lately connected. When my grandfather entered into business, the credit given on refined sugar was twelve or fourteen months; the result was, that the turning over of capital was very infrequent, and the margin was required to be large. Now the principle of that manufacture, as of most others, is a rapid and frequent turn over of the capital, and the consequence is that a very small profit arises on each margin, and it is the number of those small profits on margins that make the gain at the year's end. In an extensive manufacture like that of grinding corn or refining sugar, or I may say the manufacture of iron, a very small margin is all that can be calculated upon, and all that, as a general rule, is received. I find that the demands of patentees are very much more than those occupied in the manufacture in which I am myself engaged would be thankful and delighted to have guaranteed to them as a sufficient remuneration. Many years ago, about 2s. per cwt. was asked of us for the use of a patent invention. . . . With regard to the United States, what I consider the highest authority (I may not mention his name) says, with

reference to this subject, "The two questions of patents and custom duties go hand in hand; we are a little more consistent than you; we keep them both, while you admit free trade and keep patents;" then he says, "I assure you that no sound head would ever entertain the idea of introducing with you the American patent system;" that is the opinion of a gentleman who is quite conversant with the system in its practical working in the United States.

Mr. Andrew Johnston.—Your researches have led you to imagine that any countries that abolished patents would compete at a very great advantage with those which did not abolish patents, I suppose?—Under free trade it is quite clear they may do so in foreign markets; but even in our own markets the case of Mr. Bessemer's invention very clearly proves that; that has been introduced by M. Chevalier as an illustration of the injury done to France by the existence of a patent law. As an English invention can be patented in France and cannot be patented in Germany, the German manufacturers compete, in that case, very favourably with the French manufacturers, do they not?—Yes. . . . I agree in the opinion very clearly expressed by the Honourable Member for Oldham, that the abandonment of the patent system in one or two important countries would necessitate the abandonment of it in other countries if they are to keep up their heads as manufacturing countries. What do you think has been the operation of the patent law with regard to the interests of workmen?—There has been great misconception and misrepresentation about that. The number of patentees who are workmen may not be one in ten; but supposing it were one in three, it must be a very small number of thousands of persons in all. For the sake of that small number of thousands of persons, all the other workmen of the kingdom are injured in two or three ways. First, if it limits trade, as I believe it does, the patent system deprives many working men of employment, and the means of earning a livelihood. Secondly, if there were no patents, persons who, being employed in manufactures, become acquainted with the newest processes, men who had the reputation of being always abreast or ahead of their fellows, would really get an advance of wages in those establishments for the sake of the retaining of their services, and if they did not do so they would be offered higher wages by rival manufacturers both in this country and elsewhere, in order to obtain the benefit of their experience of the improvements of which they became fairly cognisant. But workmen are affected injuriously by patents chiefly in this way, that patents, as a general rule, keep up the prices of articles at a higher level than would be the case if there were no patents granted. The effect of invention is to cheapen commodities, but the effect of patents is to prevent invention from cheapening commodities for a given time. The working class are the great consumers of all commodities, and they must suffer far more than any other class, if I am right in believing that patents prevent the lowering of the prices of commodities. . . . The marvel to me is, that the cases in which it is alleged that the secret of a manufacture has been kept are so very few; indeed I do not remember any cases except those two which Mr. Bessemer referred to. If there were such we should hear of it. It

must be some article of sale; it could hardly be machinery, because everybody must see machinery; it must be some perfect finished product. We never hear in a shop of an article being made by some process that no one knows of. I repeat, if there were such inventions, we must hear of them in the nature of things. Manufactures are often endeavoured to be kept secret to a great extent, even though the process is patented, are they not?—No doubt, but manufactures are now conducted on so great a scale, that there are no such things as secret works. A manufacture in which there are 100 men employed, cannot be kept secret. . . . Do you think that there would remain considerable stimulus to inventions in the absence of patents?—No doubt there would. Having been engaged all my life in manufacture, I always thought it desirable to improve my processes to the utmost. I suppose in carrying out any great invention, in nine cases out of ten it is necessary to call in the assistance of a number of hands to perfect it?—Yes. And those hands become aware of the secret, such as it is?—I believe it is impossible to keep such things secret. . . . But how would you choose the adjudicators?—There are various ways of choosing them, but I could conceive the Societies of Arts, the Chambers of Commerce, the Board of Trade, the Agricultural Societies, the Shipping Associations and such like of the kingdom, might each appoint one adjudicator, or they might collectively appoint three or four of them, and those three or four parties, duly paid by the State, should decide yearly with regard to the distribution of the Government grants. To them also I would leave the appropriation of the State honours, which I believe will practically prove a greater stimulus and a more valuable gift to inventors than mere money. I speak for myself, and I know very well that what one man feels almost every other man he meets with feels. A ribbon, or a recognition by the Queen that I had served the public, I would rather have than thousands in money. A working-man having a certificate or a medal over his chimney-piece in sight of his wife and family, would be a prouder, a better, and a happier man than if he was the mere recipient of money that had been levied on his fellows. You said you would not have inventions rewarded until they had been proved useful; how long after the invention had been registered would you consider sufficient?—As soon as it would be seen in successful operation by the Commissioners, or some person appointed by the Commissioners, I think rewards should be granted; but taking one's-self as a specimen, if I were a successful inventor, I would prefer the postponement of my reward, because I should know that the longer it was postponed the greater would be the proof of utility. I suppose that any pecuniary reward would be in the nature of a single sum, and not an annual payment?—I would prefer a single sum. . . . I would like to call the attention of the Committee to the change that has taken place in the manner of conducting business more particularly than I have already done. I believe now that the competition between one manufacturer and another in our country, and between British manufacturers and foreign manufacturers, is much more keen than it used to be, and that profits, as a rule, are very much less, so that a burden that could be conveniently borne

in the olden time can no longer be borne now conveniently. Further, that the system of introducing patents into use is much more thorough than it used to be, and the means of charging royalties is much more developed, so that there is an absence of that freedom which formerly used to exist when also the number of patents was comparatively small. The number of patents, as we know, under the present system is very greatly enlarged. . . . In the works I have been connected with, I do not think a single workman ever turned his mind to inventing. . . .

Extracts from Commons' Report of 1872.

Mr. Alfred Vincent Newton.—The patent agents are generally agreed that there should be a *real examination* at the outset. . . . This examination should be for the benefit of the applicant. . . . I agree with the American system up to a certain point, but it is carried to such an excess that it comes to be an evil. . . . I should like to lay before the Committee a letter which I received, in answer to one of mine, from Mr. Mason . . . formerly a patent commissioner. . . . It is from the legal firm of which Mr. Mason is now a member, and is in favour of the present system of examination. "*Washington, 27th March* 1871. Dear Sir,—In reply to yours of the 10th inst., asking our views as to the wisdom of providing by law for the preliminary examination of applications for patents, we have to say that long experience and observation have only strengthened us in the belief that such examinations are of great utility both to inventors and to the public. . . . Invalid patents are doubtless sometimes granted, and meritorious applications sometimes rejected; but such cases are exceptional. In most instances the final result of these examinations is satisfactory to the parties interested. They prevent the issuing of vast numbers of invalid patents. They protect the public from many *impositions*." . . . We have at present, I believe, no means of examining satisfactorily with regard to novelty. The only way is to build up the system, and that slowly and surely. . . . We need not scrutinise so closely the applications, because the public will assist in doing that, *if they have fair opportunities*. . . . You think it would be better that some patents should be granted which ought not to have been granted, than that there should be *quasi* litigation on the question of the granting of those patents?—Yes, certainly; there is no absolute necessity that the law officer should have anything to do with these oppositions, because the examiner would do the work perfectly well, seeing that it is not a lawsuit that we are considering; but directly you come upon open documents and the questions become complex, then I should most certainly say that there should be some one qualified as a judge to consider the matter. Is it your opinion that persons to whom patents have been granted should be bound to grant licenses?—Yes, it is. . . . The lower the royalties can be put the better it is for the patentee, and consequently for the public. . . . The royalty ought to be such that another manufacturer shall be able to afford to pay the license, and to obtain a reasonable profit on his manufacture, and to sell that manufacture in the market at the same price as the patentee sells at. . . . I have advised clients that if they can prove that they offered a reasonable sum for the royalty, and it was refused, then they should meet any charge of infringement by paying into court that sum of money. I have felt that a jury would award it. . . . I will take as my example the sewing-machine case, or rather a series of cases on

Judkins' patent. . . . On the strength of that success, Mr. Foxwell commences in the Vice-Chancellor's Court 134 actions, and an application was made to the judge to combine them, in order that the merits of the case might be tried on one, two, or three representative cases. This application was supported by an affidavit made by the solicitor for the defence, which stated that he estimated the costs of the proceedings then in hand at £134,000. . . . If the system which I propose had been in force, then the whole cost of that inquiry would scarcely have exceeded £50; the badness of the patent would have been brought to light *in limine*, and the plaintiff could not have taken a step towards bringing those suits. . . . We applied for a patent for a churn, and that patent was opposed by a firm who always opposed everything relating to oils and fats; I do not remember the form of the title, but certainly on the face of it, it would have carried an invention for improving the treatment of oils and fats; that is what we call a blind title, it was a title sent to us from the United States. . . . There are patents granted now, occasionally (some have been stopped of late years), which are certainly not the proper subjects for patents. . . . Where an inventor is capable of supplying the whole market in his own works; if he is not capable of doing that, then I think the public ought to be allowed to work under his patent. . . . Only if it is a new manufacture altogether that he has introduced, and he can supply the whole trade, then no case can be made out for a license. . . . Should the head of the Patent Office, in your opinion, be empowered to fix royalties?—Yes, to fix the terms generally on certain principles. . . . He should hear evidence. . . . Would not that multiply imaginary oppositions?—That is the present practice, and the oppositions scarcely exceed thirty in a year. . . . I should like to see the creation of a little more inducement, for under the old system there were about 250 oppositions, I think, and they were all of that class. The advantage of that is, that the Patent Office would then obtain information from sources that they cannot get it from now. Persons from all parts of the country might oppose [grants] and the expense would be trifling, and it ought to be trifling. . . . Take the position of a manufacturer, one man would say that he is perfectly capable of supplying the whole market, and so he is if he puts the price at an unreasonable figure; on the other hand, if he reduces the price, and puts the royalty at a low figure, he is incapable of supplying the whole market; now who is to be the judge of that difficulty? . . . It is all very well for a man to say that he can supply all the demand if he charges an excessive price; but then if it is an article which there may be an unlimited demand for, such, for example, as a hat, it is quite out of the question for a man to say that he can supply the whole market. . . .

Mr. Macfie.—You and your father, and in fact your family, have been for a very long time connected in a very prominent way with the whole of the patent business of the country, have you not?—Yes. You and your father together have edited a repertory of inventions called "The Journal of Arts?"—Yes. And you have acted in a considerable degree, or practically, as solicitor to persons engaged in patent matters?

—Yes. Will you be kind enough to tell me this; I will allude to two very trifling inventions of my own that have never been patented: first, I invented and daily use a double bootjack by which I can take off one of my boots, and then without ever taking the boot out of its place, I can take off the other boot still standing on the bootjack. Again, I invented another thing practically convenient, although very small, which gives you the power of knowing by putting your hands behind your back, which of the two ends of the braces is the right or the left; do you consider those matters patentable?—I should prefer to see them before I answer the question; if you put an eyelet hole into the leather of one brace, which had no other use than to decide whether it was the right or the left hand brace, then I should say that that would not be patentable. But matters as small have, however, been patented?—Yes. And those small matters generally affect a very large number of trades, and a very large number of persons engaged in business, do they not?—There was a patent for indicating which of a number of telegraph wires was the defective one; it was by twisting some thread round, or something of that kind; that was a good subject for a patent, but the brace invention I think is not patentable. We will suppose my double bootjack to be patentable. Now, patents of that character generally affect a great number of persons; that is to say, sellers of bootjacks or bootmakers in all parts of the kingdom?—It may possibly do so. Now, suppose that an invention of this kind was made at Sligo or Sligachan, or some other distant part of the United Kingdom, what is the process which the inventor goes through in order to secure himself patent privileges?—He applies for a patent by depositing a provisional specification, and when a certificate is obtained from the law officer of the Crown, he gives notice in due course within four months from that time that he intends to proceed. What does he do if he lives at Sligo, or some other remote place?—He does it through his representative in London. He corresponds with a patent agent like yourself?—Yes, he corresponds with a patent agent, or a friend; after notice has been given to proceed, he waits twenty-one days for opposition, and if no opposition is entered, he then gives notice to seal the patent. The patent being sealed, it is at his option then to deposit the complete specification any time within six months from the day on which he applied for his patent. Does he require, or is it the custom for an applicant for a patent to come up to London and see his agent?—No; there are a great many patent agents in the provinces. In case of opposition, is he forced to come up?—It is more usual than not for the applicant to do so, but it is not necessary. In case there is no opposition, what is the amount of money that an applicant has to pay for obtaining a patent?—The average cost of a patent is £45. . . . Do you contemplate that he manufactures the article himself, this poor man in Sligo or Skibereen, making as many bootjacks as will supply the United Kingdom and the export demand; is it probable that he would do that?—He might very probably go to a bootjack manufacturer and say, "This cost me £50, and I will sell it for £100;" then I think he would make a good bargain for such a trifle. Then he has to come to London, or to

some distant place, in order to fall in with this bootjack maker?—Yes. And he sells his patent for £100 to the bootjack manufacturer, and after that the bootjack maker has a right to debar every other bootjack maker from making a similar article?—Yes. In other words, for this £100 every family in the United Kingdom is deprived of the power of having the facility of such a bootjack?—Yes. That is to say, unless they choose to pay a monopoly or famine price to this one manufacturer?—There we are at issue. If you give a man the sole right to manufacture, then you will be almost certain to get the thing sold at a cheaper rate than if everybody could manufacture it. Is that according to your experience?—That is according to my experience. I thought sewing-machines were cheaper after the expiry of the patents?—Yes, they are immensely cheaper; but then you have to consider this with regard to sewing-machines: the trade was a new one, it had to be created, and the only competition that could and did in the first instance arise, came from rival inventors, who had to incur heavy initial expenses equally with the first introducer. It was skill and capital *versus* skill and capital; and efficiency of action rather than price was the point looked to by the public. When the trade seemed likely to grow very large, there was an enormous capital invested in the manufacture in the shape of machinery, and this tended to strengthen the monopoly. Then those manufacturers sold at a high price, in order to recoup themselves for that outlay, and only when strong competition was met with on the falling in of the early patents, and later inventions being ready to come to the front, did the price come down. . . . The Wheeler and Wilson Company expended on their trials to obtain a button-hole sewing-machine one hundred thousand dollars; and an equal sum has been spent by other houses, but without entirely satisfactory results. The harvesting machine trade offers a similar example of costly tentative experiments in this country. But suppose a sewing-machine is patented now, what a man would do, supposing it is superior to every other machine in the market, is this: he would put it at a fraction lower than the cheapest that he has to compete with, and he would be able to do that, because he would say, "I know that is a good machine, and I will put an amount of capital into my trade, so that I can make that machine by machinery, and so long as I can sell it at a low figure, I shall not be interfered with." That is the principle on which manufacturers work . . . The power given to the patentee is to exclude competion, is it not?—The power given to the patentee is to exclude direct competition with himself. It is to prevent any one else from manufacturing the article which he has patented?—It may be a new article of manufacture. That brings us to the first principles; the original language of the Statute of Monopoly is, that patents shall be given for new manufactures; what is the meaning of the word "manufacture" in that statute?—It has a wide meaning; it means either the machine that produces, or the thing produced. But has it not been held to mean the article manufactured, something tangible?—I daresay that was the original meaning. That has now been extended, has it not?—Yes, and very properly so. I have here a certain little matter

which was once exclusively manufactured by the French; but during the war the whole of the material that was imported into England was used up. An attempt was made to manufacture it in England, and the thing utterly failed; a machine was, however, invented for producing the article. That is Milan cord (*producing a sample*). That puzzled all the manufacturers, simple as it looks. It is used by upholsterers, and it is silk with a filling of cotton. They could not get any more during the war, and a working-man set to work and produced a machine, which yielded the result which I now show.

Mr. Howard.—Did he obtain a patent for the machine or the process?—He obtained a patent for the machine; the fabric was perfectly well known. That manufacture of cord would have been extinct, for a time, if it had not been that this man recovered the mode of producing it.

Mr. Macfie.—Are the Committee to understand you to assert that, in the absence of competition, articles produced would be cheaper than in the presence of competition?—Yes, under some circumstances certainly. I would have thought that the general principle on which a person favoured with the absence of competition proceeds was this: to get maximum prices, and to get as much out of his monopoly as he can; is that not so?—Yes, but you must take the word "competition" not in its broad sense, but in its narrow sense; that is the difference between us. Now to pursue my illustration about the bootjack; a person at Sligo sells to some bootjack manufacturer his exclusive privileges; do you expect that this bootjack manufacturer would be able to manufacture enough of that article to supply the whole of the United Kingdom, and also to supply the export demand?—No, not if it is good for anything. Then you contemplate that he sells his privileges, or grants licenses, to a great number of persons?—Yes. And he may, in consequence of that, derive a very large income?—That is an assumption which may be quite correct. If he licenses every other bootjack maker in the kingdom, and gets a royalty on the bootjacks that are made, he cannot but derive a very large gross income?—No doubt; but then that assumes a case that never could occur; besides, we do not know the merit of this bootjack; it might be worse than many others in the market. But any article affecting a trade which is very extensively ramified must be made by a very large number of manufacturers, must it not?—Yes. And if each of those manufacturers takes out a license, the aggregate amount derived from them must be very large?—Yes. Many times the £100 which you have told us would be the entire remuneration of the original inventor?—Yes; but the man who pays the £100 has something more to do than to grant licenses; he has got to induce men to take licenses, and for that labour the royalties repay him. Again, one of these licensees may see his way to embarking largely in the bootjack manufacture. In that case, instead of paying royalties, he may perhaps by a single payment secure the right to manufacture; then by sinking say a capital of £10,000 in machinery, he will be enabled to reduce the cost of manufacture, and thus secure a monopoly, giving at the same time the advantage of a reduction of cost to the public, as the price of his

monopoly. . . . A very recent case, in which the applicants for a prolongation were ready to prove the practical value of their invention, and that they had already expended the enormous sum of £250,000 in bringing their invention into public notice, was also stopped on the opening of the case by the fact transpiring that a French patent, taken after the date of the English patent, had been allowed to lapse by non-payment of the annual tax. This, it was presumed, would give the French an advantage over the English public, by enabling them to use the invention free of patentees' royalties, while the fact was ignored that, had no French patent been obtained, the pretext for the refusal to entertain the prolongation case would have had no existence, and yet the state of the case with respect to the public of the two countries would have been the same. . . .

Mr. C. William Siemens, F.R.S., D.C.L.—Perhaps, for the sake of putting the facts on record, you will be good enough to name some of your more successful patents?—There was one for a steam-engine governor; another for a water meter, which has been generally adopted; then there was a patent for regenerative furnaces, a process in steel and iron making; and then there was another class of patents relating to telegraphic apparatus, and the modes of constructing cables and land lines; these being for the most part joint inventions between my brothers and myself. . . . Had you endeavoured to obtain patents for any of those inventions in Germany?—I had and have since made a few applications, but they had been generally unsuccessful. . . . I applied with my brother for a patent for regenerative furnaces, and it was refused because, in the Middle Ages, stones were heated and thrown into the cellars of town-halls or other public buildings, in order to warm them, and that was considered a sufficient ground for refusing my application. . . . The final adoption of their use in Germany is to a great extent owing to the fact that German manufacturers come over to this country and see the working of them in my case, with introductions from myself. They go to the works where the invention is applied, and they make an arrangement with me to apply it to their own works. . . . I have mostly given licenses, and to those who have been first in the field I have given special advantages, for the aid they have thus rendered me. . . . My system has been to grant licenses on moderate royalties, and the result has been that I have so far escaped litigation. . . . Patentees are pressed hard occasionally to grant what are called exclusive licenses. If the law made it compulsory to grant licenses to all *bona fide* applicants on reasonable terms, I think that would be a benefit to the patentee, and a protection to the manufacturers as well as to the public. . . . I would draw a very broad distinction between an idea and invention. An idea can be conceived without labour, and without investment of capital, but an invention is an accumulation of ideas and contrivances to make a process succeed; and if an idea could be found capable of being extended into a practically useful process, I think it would be to the public interest nevertheless to give it to a willing patentee to develop it; he would be like the foster-father or protector of an infant, in which light we may

regard an idea from which a useful invention may be developed. . . . You distinguish between protection and the granting of a patent?—Certainly, because a certain time must intervene between the two acts. . . . Six months intervene. . . . Perhaps it is as long a time as it is convenient for the public to be in a state of uncertainty, but I would make a suggestion to the effect that a patentee should be allowed to add to his final specification from time to time, because it is impossible within the short space of six months to develop an invention in all its applications, and it generally happens that the final specification is an imperfect document, and the patentee is obliged to take out additional patents for improvements, which swell the number of patents enormously. . . . There is an objection felt to the multiplicity of patents on account of the difficulty of recognising and classifying them, and there is the further objection that the supplementary applications do not contain always distinct novel ideas; which gives rise to a class of patents of a doubtful nature. For instance, the mere application, say, of a furnace to a particular purpose may be regarded by some as an obvious thing, and by others as an independent invention, for there are always some particular appliances necessary to make an invention useful for such and such a purpose. . . . It is the original inventor who makes the improvements, and he is obliged to take out a separate patent in order to prevent others from doing so. . . . There would be fewer but more clearly defined patents. . . . The royalty should bear a certain proportion to those estimated advantages. . . . A fair proportion, varying with the merit of the invention?—Yes. Rather than with the result, do you mean?—I mean only with the result. . . . You suggest an examination specially into the point of novelty, if I rightly understand you?—Into the question of novelty only. . . . Should he accept the records of the Patent Office simply, or should he accept general public knowledge also?—General public knowledge also. . . .

Mr. Macfie.—By what channel was the knowledge of your plans obtained by the Germans?—They have generally come over to this country and seen the invention in operation here. Then to that extent there is an element of inequality in our patent laws, that we develop inventions, and that the Germans, without paying you or paying anybody, get equal advantages with the British manufacturers?—Not equal advantages; but I think that a country like Germany ought to have a proper patent law. It is one of the questions regarding the law of nations that has not been fully dealt with; it has been dealt with only in regard to copyright; but it should be so dealt with also with regard to the patent law, so that all civilised nations should grant patents on similar terms. Mr. Bessemer took out patents, which are of great value to him, for inventions that were of great value to the public in this country; had he any patent in Germany?—He was refused a patent in Germany. . . . It was used by Krupp before the expiry in this country of Mr. Bessemer's great patent, was it not?—Krupp uses it now, but I am not aware when he commenced the use of it. At all events he derived the use of it through the applications made in this country, and the experiments made and published in this

country. Do you happen to know how much per ton Mr. Bessemer charged for the use of his patent in this country?—I can only speak by hearsay: it was £1 and £2 per ton of steel produced for different applications, I believe. . . . Whatever the amount of percentage, it was a very large margin of advantage that the absence of uniformity in the patent system, as between Germany and the United Kingdom, favoured him with, and, in fact, it acted as a stimulus to raise Krupp up as a competitor under very singular advantages (resulting from our laws) with our British manufacturers?—If he paid no consideration he would no doubt enjoy an advantage; but I presume that Mr. Krupp dealt with Mr. Bessemer as he dealt with me in adopting my patents, in paying me an amount, perhaps not quite equal to what I should have exacted in this country, but still a sufficient amount to make it worth my while to advise him with regard to the mode of proceeding in adopting the invention. . . . It is very desirable to clear away patents that are not of public utility. . . . We have an international convention to regulate telegraphic matters; and why should there not be an international agreement for regulating patents for inventions? In fact, such a system, if adopted, would amount to this, that a patent would be co-extensive with civilisation; it would extend over Europe, and over the United States, would it not?—Yes; and that would be a desirable thing to accomplish, in my opinion. . . . Is it not very usual for persons having patent rights in this country to sell them to second parties?—It is done frequently, I believe. Am I right in thinking it still more frequent for persons having patent rights in this country, and also on the Continent, to sell those that they have for the Continent, that being a sphere where their ignorance of the language, and the distance from us, renders it difficult for them fully to undertake the work?—I suppose that is the motive: it is an arrangement which, I presume, does not regard the public directly; the agent or purchaser would have all the obligations as well as the rights devolving on the patentee, and would have his support. Where a patentee sells his rights, he gets, as a general rule, much less profit from his invention than where, as in your case, he is able to retain the working of the inventions, and the superintending of the licenses in his own hands?—Deservedly so, because he has less work to do in introducing the invention in the former case. If, therefore, this international patent of the future is co-extensive with Europe and Northern America, the revenues to be derived by the patentee of that vast patent may be expected to be much larger than the revenues he receives now; is not that so?—Very likely. The public would, for the use of this great international patent, be the payers of a larger amount even than that which the patentee himself received, inasmuch as a great proportion of what is paid by the public would not reach him, but only reach his agents or licensees; is not that so?—It appears to me that an agent is necessary in this case, in the same way in which he would be necessary to sell the produce of a certain manufacture: he would derive his share of profit, but still, inasmuch as the total amount of profit earned would be increased, and as a larger section of the general public would benefit by the transaction, I do not see that

the general public would have grounds to complain. On the contrary, it appears to me that the patentee could afford to be content with a smaller proportion of the benefits he has to offer to the parties adopting his invention. I do not know that there is any radical difference between you and me with regard to this point; what I hold is this, that an extension of the area of a patent, by having what I may call a universal patent, involves, on the one hand, a very large extension of the amount of business to be done, and therefore of the difficulty of doing it, and the time required for doing it; and, on the other hand, a large increase of the amount of money either to be received by the patentee, or at least to be paid by the public; what I am, however, anxious to get from you is this: do you think that we could not, in consideration of those two points, eliminate the principle of a new procedure, namely, this: that each country should buy for its citizens its share of the new privileges so as to make one large fund, say £10,000 or £100,000, and pay the patentee at once, so that at once every trader might get the use of the invention, and at the same time the patentee would have the capital in his pocket to apply to some useful manufacture?—My opinion is decidedly that could not be worked out; it is the personal activity of the patentee that is the most essential element in the success of a patent. A new invention is not believed in by either the Government or the public of a country; it is only after its application that the advantages to be derived through it appear; therefore it would be quite impossible to fix the value of a patent until it was fully established in practice. . . . Does it not occur to you that that could be got over by saying that the amount of his reward should be such, and the sureness of his reward such, in the future, that he would feel from the first emboldened to make his experiment, because he would say to himself, "This collective fund of all Christendom would be so great that it would be a sufficient recompense to warrant me in running the risk"?—That might possibly be done in some cases where the result of an invention in the general aspect of the case could be accurately ascertained, but in the majority of cases I may say it would be extremely difficult to estimate, even approximately, the value of a new invention until it is carried out into general practice. I have not suggested, I think, the paying of the money at once, or if I have, I did not mean to do so; on the contrary, I have always contemplated that the money should be paid at such time after the invention has been practically in operation as the inventor himself should select, so that if he felt that the longer he waited the greater and more manifest would be the value of his invention, by all means let him wait; have you considered that?—I think that would be a question involving great practical difficulties, and very full investigations before you could adopt it, even in particular cases. It would be surrounded with so many practical difficulties that my impression is it could not be realised, however desirable it might appear in the abstract. With regard to the compulsory licenses of which you have spoken, do you intend that those compulsory licenses should be granted on equal terms to all licensees?—There should be maximum terms, I think. Would it not be unfair to A. that

B. and C. were licensed on lower terms than he is?—I make it a practice to benefit the early licensees by giving them somewhat better terms than subsequent ones. But, after preliminary trials are made by one or two licensees, you would not allow any inequality?—No, certainly not. Should the royalty, in your opinion, be paid down at once, or should it be regulated in any way by the quantity of work to be done, so as to be a daily, or monthly, or yearly payment?—In my practice I have put it both ways, and I think it could be so dealt with. It must be influenced greatly by the particular circumstances of the case. There are cases where one payment would be a simpler and a more efficacious method, and other cases regarding processes where it might be preferable to make the payment depend on the extent of the produce made by the application of the new process. Would you allow the adjudicators of what those royalties ought to be to take into account the probability that the invention would have been discovered in a very short time by some one else, so as to make it a lower charge in consequence of the simplicity of the subject that the patentee had got a patent for, because he was the first to apply for it?—Generally speaking, I believe it is not an easy thing to develop an invention; it requires a long period of anxiety, and trial, and expenditure; and I think the question whether somebody else might or might not have discovered the same thing, and worked it out, is a very dangerous one to admit. I would not recommend that there should be a distinction made on any such ground. Would the circumstance that the inventor has not taken out a patent on the Continent affect in any way the royalties that might be charged for licenses in this country?—I have hardly considered such questions of detail; they might be dealt with at the proper time by the Commissioners if there were a question of foreign competition arising. With regard to the examiners of patents you spoke of, could you in any way suggest a plan for the interests of the public and the interests of the manufacturers being represented; would there not be danger if you selected chemists and engineers that they would feel rather that they were the protectors of the inventor rather than the protectors of the public?—I do not think that the Commissioners who would examine the first application should take into account at all the interests of the public *versus* the patentee; they should simply advise the inventor or his agent whether there was sufficient ground of novelty for the grant of a patent or not, and to restrict his application to what would be recognised as a novelty. With regard to your own licenses, have you inserted in them any obligation on your own part to prosecute infringers?—It is generally put into the license that either I must relinquish my claim or see that nobody else uses the invention on more advantageous terms than the licensee. . . .

Mr. Pim.—Suppose that took place, do you consider that the German manufacturers would have an advantage, or the reverse, under such circumstances, seeing that they could make use of inventions patented in Great Britain, France, and America without paying any patent right?—It appears to me that they would be in precisely the same position that they are in now. They go over to other countries to see what progress has been made, and try to benefit by it, not

always without remunerating the patentee, but frequently without doing so. . . . Could not that protection be given to the public by compelling all licenses to be on equal terms; that is, no patentee being allowed to give a license to one man on lower terms than to another?— . . . There is a difficulty I see in making it uniform. . . . We are very unwilling to interfere in this country between buyer and seller. Do you not think that such matters of contract should be left to settle themselves?—If you look upon a patent as absolute monopoly, no doubt that might be so, but according to the view which I hold it would rather stand in the light of a trust.

Chairman.—At all events, of a grant from the public to which the public may attach conditions?—Yes, it is a grant which may be guarded by conditions in the interest of the public. . . .

Mr. A. Peel.—Did I understand you to say that the patentee should have power to add to the final specification?—I think it would be desirable. Is that recommendation founded on the assumption that the original inventor generally makes the improvements in an invention?—Yes. Is that the fact in your experience?—Yes, certainly. What would you do if somebody else stepped in and made improvements?—He would be entitled to the benefit of them; but new applications are frequently made of an invention which may indeed be looked upon as independent inventions, but which are, more properly speaking, enlargements only of the original specification; and it would be a great facility to patentees if they could add those enlargements to the specifications. It is done so in France, and I believe it is attended with beneficial results. Of course there would be no new claim under this addition. . . .

Chairman.—But you would allow the law-officers, on being satisfied that the invention was not new, to refuse the patent, would you not?—If he was thoroughly satisfied that it was a frivolous application, I would. . . . Licenses should not be granted forcibly until the patentee has had time to develop his invention. . . . If in case of a refusal the patentee could show that he had not had sufficient time to develop his invention, that would be a sufficient ground for the Commissioners to postpone making it compulsory. . . . My opinion is, that the grant of a license should always extend to the whole term of the patent, because the manufacturer taking the license would have to lay out money for apparatus to carry out the invention, and it would evidently not be just to impose afterwards on him, in granting him a further license, conditions which he did not count upon from the first. . . . I believe the system adopted of checking and removing inoperative patents, through the subsequent payments at certain times, works very beneficially, and I would not alter it. . . . According to the French law you pay 100 francs each year, and the patents are dragged out because the patentee thinks it is no great sum, and I think, on the whole, it is better to make the periods longer, and to force a decision by a somewhat larger payment. . . . I think if the system of compulsory licenses was adopted, and if, moreover, power was granted to add to the specification, which would tend rather to shorten the length of the privilege to the patentee, in that case there should be an increase

of the term; fourteen years is really not sufficient time to develop an important invention. Important inventions have generally proved valuable to the patentee only after the lapse of the term of the original patent, when he is still in possession of some patent of improvement; but then his right becomes rather a doubtful one, and I think it would be more desirable to have a longer period granted him from the first, and rather to allow the inventor to accumulate strength in his position than to diffuse his strength over a number of patents. . . . The term of three years seems sufficient for a patentee of activity to put his invention sufficiently to the test, and to acquire, at all events, the means, if he has not got them, to make the additional payment. . . . If, after three or four years, there is not a sufficient promise of remuneration, I think that the patentee had better drop his invention. There may be cases where hardship is involved, I quite admit that; but inasmuch as a check is desirable to unburthen the public, so to speak, of a mass of unproductive patents, that seems to be the most efficacious plan. . . .

Mr. J. Howard.—You think it would be not only to the benefit of the patentees, but to the benefit of the public if licenses were compulsory?—Yes. Do you put that mainly on the ground that patentees are often compelled by stress of circumstances to grant exclusive licenses, or sell to monopolists to the injury of the public?—Yes. . . . But suppose the Commissioners were to fix that a certain firm or person should have the right to use an invention on the payment of a certain royalty, would you allow the inventor to go and make his own terms, which might be lower terms, with another manufacturer?—I think if he did so, the earlier licensee would have a right to appeal again to the Commissioners, and say, "these terms of mine are excessive;" but I would not, more than I can possibly help, interfere with the free action of the patentee. . . . Suppose that in the case of a successful invention, the parties bound themselves to pay certain royalties, and subsequent inventions might render that invention less valuable, should there not be a right of appeal to the Commissioners to revise those terms?—The probability is that the new invention would supersede the old invention, and then the consideration would fall to the ground; or if it is a further improvement it would bear its own share of royalty. . . . Would you propose to devote any of the surplus funds to buying up patents which might stand in the way of the public, which are of such importance that it might be desirable to remove the patent right altogether?—Generally, I believe, the continued activity of the patentee is the best thing for the public, but there might be cases where it is otherwise; for instance, an improvement in photography, where there are hundreds or thousands of people using a process on which the particular invention in question may be only an improvement that would be understood at once; in such a case it might be for the public benefit to throw it open. . . .

Mr. A. Johnston.—You say that in spite of those advantages, and in spite of being weighted with the royalty, the English manufacturer does compete successfully with the German manufacturer in those cases?—Certainly. The royalty never amounts, or at any rate should

not amount, to such a sum as to prevent the licensee competing with the German manufacturer. . . . At present it might be said that one manufacturer is in an unfair position in competing against another who has an exclusive license for using a new process, and to remedy that evil I venture to suggest the compulsory license. . . .

Mr. John Henry Johnson and Mr. William Carpmael.—I should think that the present provisional term is long enough. . . . There was a very heavy case tried in the Court of Chancery, in which the costs were £15,492; the trial lasted thirty-three days. That is the longest patent case on record. It was the case of Young *v.* Fernie; the paraffine-oil case. . . . The sums at stake in patent litigation are generally large, and therefore the highest legal ability is secured.

Chairman (to Mr. Johnson).—Of course it is well known that there are very considerable surplus funds at present, but if an objection should be made to the introduction of these examiners that they would be costly, would it be a good thing, on the whole, to establish a preliminary examination, even if it involved some small additional tax on the first application?—We both think so, but no such addition ought to be required.

Mr. A. Johnston.—Are you not aware that manufacturers, in treating in the first instance with a small inventor, often stipulate for an exclusive license?—Certainly. . . . In the case which you put of a poor inventor, it is more common for him to sell his patent or to grant a license with power to grant sub-licenses. . . . I think that the price of patents does not debar inventors; they can usually find capital. (*Mr. Carpmael.*)—I think that a reduction in the price of patents would increase the number of them, but not the quality. But do you not think that a poor inventor is very often in the hands of capitalists, solely from the fact that he cannot find money to carry out the first cost, and that he would deal with capitalists on more equal terms if the patent was in his possession when he went to them?—I cannot say that in my own practice I have any grounds for thinking so. But is it not within your experience, that inventors of the working class are very common, and that they part with their inventions for a mere bagatelle, because they have not the means to take out patents?—Very often it is so, and often they part with them because they do not know the value of their inventions. Then would not the fact be, that if patents were cheaper and easily attainable the working men would patent their inventions, and probably meet the capitalists on better terms. If a man has an absolute property, he can always deal better than if he has something merely inchoate. . . . Do not counsel have to spend weeks sometimes in making themselves acquainted with works and machinery, in order that they may explain the matter to an ignorant jury and judge, whereas if they had to deal with a judge and jury who knew the working of the invention, it would be explained without difficulty?—That would be an element in the case, perhaps. . . . I think you said that it was a hardship on the inventor, that his patent should become invalid when it lapsed in any one of the countries abroad?—Yes; and one reason I said so was that foreign inventions,

as a rule, are very frequently sold to English manufacturers who have embarked very large sums in their purchases, whilst by no act of their own they lose the patents so purchased. . . . On the whole we are satisfied with the American system of examination. . . . I could point out cases where the same thing has been patented three or four times. . . . I certainly would not dispense with the present power of the Privy Council. Those powers have been very useful, and very judiciously exercised. Prolongations of patents are by no means easy to obtain; they have been granted in cases where there would have been otherwise a great hardship. Do you think that they are not obtainable with sufficient ease?—I have been sometimes unsuccessful myself, but I should be sorry to say that. There is no substantial reason to complain, I suppose?—No, speaking generally, I think not. . . .

Mr. Macfie.—With regard to the cessation of patents in other countries, when a British patent terminates. I think you stated that the patent terminated in the United States. At all events, with the termination of the original English term?—Yes. . . . Is that so in the case of natives of the United States as well as Englishmen?—I believe that if a native of the United States takes out his English patent first, that is so; it is sometimes the custom for Americans to take out patents in this country before they take them out in the United States. . . . What was the object of introducing that provision into the American law?—It is difficult to say. Their idea is, that the patentee himself has a certain definite term in his own country, and should be content with that; that there should be something like reciprocity. . . . The object in the United States must in some way have been the protection of the American interests, and in France the protection of French interests?—Yes; no doubt the laws of each country are for the protection of its own subjects. It must proceed on the idea that the existence of a patent in one country, while it has ceased in other countries, is injurious to that one country, I suppose?—It may be so. . . . In some cases a royalty of one or two per cent. may be very large, whereas in other cases 100 per cent. may not be too much. . . . Some patents in this country have been sold for very small sums of money, and afterwards re-sold for very large ones, whether the original inventors were poor men or not. . . . Do you not think that the possibility of being called upon to pay £20,000 or £30,000 might debar many persons from contesting the validity of patents?—Yes; but that particular case, in which I stated the expenses were so heavy, was quite an exception; in fact it is the only case of the kind that I am aware of. Do you think that if an individual firm would like to use an invention, and they are quite confident that that invention is not legally patented, they would not rather sometimes knock under than contest the matter, because there is the possibility that they might have to pay £10,000 or £20,000 in costs?—I do not agree with the evidence that has been given before this committee on that point. I have found very few cases of that kind in practice. . . . (*To Mr. Johnson.*)—How would you protect the public interests (which I suppose are identical, as a general thing, with the interests of manufacturers), with respect to the rate of those license fees; would

you take into account the profit which the manufacturer is likely to receive?—Certainly. Then, in estimating that profit, you must take into account always the great competition that he has to encounter from abroad, on the part of persons there who pay no royalties, must you not?—You must take into account everything that bears on the profit. . . . It may be a mere happy thought. Would you give the inventor as much for that as if it were a very intricate invention?—I think it ought to be a commercial question. . . .

Mr. Mundella.—Is it not your experience that patents are published in all the local newspapers of the kingdom; if it is for steel they are published in a Sheffield paper immediately; if it is for lace or net or hosiery, they are published in a Nottingham or Leicester paper immediately; and that manufacturers as a rule keep a very sharp eye upon every patent that appears that affects their own department of business?—I think so; I have been in the habit of ordering the publications for many large manufacturers who have the papers before them every week. Immediately an application is made for a patent relating to the trade of a district, it is notified in the local papers?—Yes, and then a man refers to his patent agent. (*Mr. Carpmael.*)—You may get the specifications for a few pence.

Mr. Macfie (*to Mr. Johnson*).—Is it your opinion, or is it within your knowledge, that local newspapers generally publish the facts, so that parties interested can see the fact that an application has been made for a patent on a particular subject?—They select certain patents in particular districts; in the manufacturing districts I know that is so. Then you do think that the public get the information?—I do not think *The Times* gives it, but any manufacturer can purchase the patent journal for 2d. a week. But do you think that manufacturers generally do?—A great many buy it.

Chairman.—Do not *The Engineer* and *The Chemist*, and other such journals, contain lists of applications for patents?—Yes, all trade journals do; for instance *The Ironmongers' Journal.*

Mr. Mundella.—And there is *The Mining Review?*—Yes, all the class papers do it. . . .

Mr. James Howard, a Member of the Committee.—I have also taken out thirty or forty patents myself. . . . The bulk of inventions come from non-capitalists. . . . I was engaged for many years in perfecting and developing ploughing by steam. I spent thousands of pounds in experimenting, and in developing that invention, which I should not have done but from the knowledge that I could protect myself by letters-patent. I have within the last three or four years spent a good deal of time and money on the subject how steam can be safely as well as economically generated, and which I should not have done if without a patent law. . . . There are many disadvantages, but I think with an improvement in the law they might be overcome; for instance, I think the State should not give to any man the exclusive right to use a patent. I believe I was the first to suggest compulsory licenses; I did so many years ago. I think the patentee should be compelled, under certain conditions, to grant licenses to others, and in

that way the objection to patents standing in the way of manufacturers would be disposed of. . . . In the case of my own particular business I have travelled extensively, and though I found that Prussia and Austria could make use of our inventions, they are generally six or seven years behind us, and in that way we command the trade of the world. . . . If an invention is not patented it is lost to the world very frequently. A man may invent a thing before its time; for instance, the reaping machine was invented a great many years ago in England. The Americans came to this country and searched the records of our Patent Office; they went home to America after it was forgotten, and took out a patent. I conclusively proved in a pamphlet on American agriculture that the three main features of the reaping machine were English inventions, and which had been patented. . . . Are you in favour of anything like the American system of preliminary inquiry?—Yes, decidedly. In the first place, there are too many patents granted; the State practically sells the right to manufacture an article, which right they may have already sold several times over. The purport of a patent is that you give a man the right to that which the State takes his money for, and they have taken that money from some other men previously. That is clearly an abuse which should be swept away, because it not only causes trouble to some other patentees, but to the public generally. With regard to the American system, I would say that I think we could carry it out better than they do. . . . There should be a Board of Commissioners, as has been pointed out before this Committee, and that Board of Commissioners should first investigate the subject of novelty in the invention sought to be protected. . . . I would publish the provisional specification. At present we are in the dark until the patent is completed at the end of six months. I see no object to be gained in keeping it in the dark, so far as the public is concerned. . . . I should grant it at the end of the six months. . . . A patent law would not be justifiable if it were not in the interest of the public. . . . You look upon these commissioners as standing in the same light as judges to whom salaries are paid out of public funds?—Certainly. . . . Suppose A. is an inventor, and B. having some knowledge of his invention, puts it in practice, and is the first to apply for a patent for it, what would you do in that case?—He must swear that he is the first and true inventor. . . . What is your opinion of the present scale of fees?—I think it is too high. . . . Does your objection apply only to fees at the commencement, or to those payable at the end of the third and seventh years?—It applies only to the commencement. . . . I think there should be a difference in the time for which patents are granted. I think for small frivolous inventions they should not extend over so long a period as for large and more important inventions. . . . I think that there are some patents which require an immense deal of time to successfully introduce them. . . . I think there are certain improvements in minor things for which fourteen years is too long a time,—a great deal too long. I would not grant patents for the full term of fourteen years as a matter of right and a matter of course; but I think there should be some substantial reasons why you prolong a patent beyond the third year.

. . . I am opposed to dormant patents; they are very objectionable, and ought to be cancelled. . . . You are in favour of a system of licenses imposed by the patent itself, are you not?—Yes. . . . I do not agree with Mr. Siemens about an amount being fixed once for all, but I would allow an appeal to the Commissioners at the expiration of, say, every third or fourth year. . . . I can quite understand that there may be cases in which manufacturers have agreed to pay certain royalties, and other inventions may be brought out which materially reduce the value of the first invention; therefore they must either abandon the manufacture, which they have perhaps spent a great deal of money in (sinking a considerable sum in plant and other matters), or else they must take up the new thing. . . . The system of pools in America is something analogous, but it is not compulsory. They have pools in which a number of manufacturers are partners; they buy up a lot of patents, and throw them into one basket, as it were, and each uses the inventions of the other on uniform terms; of course that is a very desirable thing. If one man obtains a patent for an improvement in machinery which he keeps to himself, and other manufacturers have often to use a less perfect method, that is one of the great objections to patents, but it would fall through if the system of compulsory licenses were adopted. You are anxious to have a system by which the best known inventions should be at the disposal of every manufacturer upon the payment of proper dues?—Yes, on uniform terms. It would be an advantage to the country. I am sure it would be an advantage in my own business. I do not say that it would lead to more perfect machines being produced, but there would be a greater number of perfect machines in the hands of the public. It would lead to a wholesome competition between the manufacturers, with regard to each making as good a machine as the state of invention enabled him?—Yes. . . . What is your opinion with regard to the mode of conducting such litigation?—I think that it is a disgraceful blot on our jurisprudence, and I think that all the costly and tedious process is perfectly unnecessary. You object to the mode of conducting patent litigation as being tedious and costly?—Yes, I think the improvements necessary in the law, not only for the benefit of patentees, but for protecting the public against frivolous actions, are very simple. . . . You go before twelve men in a box who know nothing about the subject, nor does the judge either know anything about it. Those men listen to the most specious of the counsel instead of the man who puts forward the soundest case. . . . It is impossible that they should understand many of the subjects that are brought before them. . . . I think that part of the funds of the Patent Office might be used in purchasing patent rights of inventions that interfere with established manufactures; say, upon the petition of the trade affected stating that there is a patent which stands in their way, and militates against the interest of that particular trade. . . . I believe a great many men have been ruined in promoting inventions; there are a great many foolish men in the world. . . . Every year I may have forty or fifty schemes submitted to me, but I have rarely found men low down in the scale of society take my advice. . . . No doubt many

schemers injure themselves and their families. . . . There is no doubt that when there is a demand for an improved apparatus, or machinery, or process, many men will turn their attention to that subject, but they would not do so, except with the hope of reward, I think; there would be no stimulus. . . . After the first patent of the reaping machine was taken out in this country, what sum of money do you suppose was expended before it came to be profitably employed in that country?—The Honourable Chairman has spent a good many thousands in perfecting a machine for that purpose, and a great many other people have spent thousands of pounds upon it; I have myself spent a good deal of money. . . . It would not have come so quickly into use without the protection of the patent laws, because there would not have been the same amount of stimulus to exertion. . . . You suggested that with regard to patents, some of which were of a trifling character, there should be a difference of the term for the continuance of the patent; did you mean it to be three years, or seven years, or fourteen years, or even longer?—I would leave that entirely to the Commissioners. . . . I took up *The Commissioners' Patent Journal* the other day, and I found under the head of "American Patents" that there were in one list patents for a spittoon, a spoon, a ladies' bottle, and a fifth wheel to a coach; and they are what I call frivolous patents. . . . I think that a man who makes a minor improvement, —in a lock for instance,—three years is quite sufficient, because it comes into use immediately. That class of man has not the difficulty which an inventor of greater things has to overcome in the *vis inertiæ* of people averse to change. . . . The Commissioners should be bound to make the royalty uniform; but if a man does not go before the Commissioners, I should leave the man to make his own bargain. . . . Manufacturers under license would be bound down by certain reasonable conditions. . . . The object of your compulsory system of licenses is to qualify the monopoly which is granted by the State, is it not?—Yes, partly that, and to leave industry more free. . . . It is the law of Prussia to grant patents for every invention that they consider novel and deserving, is it not?—The policy of Prussia is not to grant patents, and I am backed up by Mr. Bessemer's evidence with regard to that. I have applied for patents in Prussia for inventions which I have had no difficulty in patenting in England, America, and elsewhere; but I was always answered, "It is old." Is that because of the looseness of the law in England, or the strictness of the law in Prussia?—Neither; it is a settled policy on the part of Prussia. . . . Ninety-nine inventions applied for out of a hundred are rejected. . . .

Mr. Macfie.—You introduced to the notice of the Committee the opinions of a philosopher, a gentleman who is not known in any way as a master in practice, namely, Mr. John Stuart Mill?—Yes; I meant that I could not express my own opinion in such forcible language as that of Mr. John Stuart Mill on the same subject, and that therefore, with the consent of the Committee, I would read it. Did you adopt his views as your own?—I did. Mr. John Stuart Mill's view, read by you, was this: That the price paid to a patentee is paid by the very persons to whom the service is rendered, namely, the consumers of the

commodity?—Yes. Then in your opinion, who are those persons?—The consumers of the commodity. You do not mean the manufacturers?—Certainly not. You mean the consumers?—Yes. But does the patent law really act in the way stated by this philosopher? There are some manufactures supplied to the people of this country indiscriminately by artisans, or mechanics, or chemists, working on the Continent, and artisans, mechanics, and chemists, working within our own country, under our patent laws. The latter are subject to certain patent fees, and those they are required to pay; whereas, their rivals working on the Continent do not require to pay those inventors' royalties; and if they are residing in, we will say, Holland, and very probably if they are residing in Prussia, they would not have royalties for a similar invention to pay. That would be so, certainly, if they resided in Switzerland; the price of the articles in question must be regulated by the cost of the production where there is, as in the case supposed, a vigorous competition; the price, therefore, to be charged by the manufacturers producing the articles in this country must be cut down to the level at which the article can be supplied by the rivals producing or working on the Continent. I would ask you, therefore, in such a case as that, is it the public who consumes the article, or the British manufacturer who makes the article, that pays the royalty?—That does not need a very elaborate reply, because Mr. John Stuart Mill lays down the principle as to the price of articles in very clear language. He says that, permanently and upon the average, the price of all articles is ruled by the cost of production, but temporarily by the action of supply and demand; and, therefore, if a royalty be imposed, it adds to the cost of production, and thereby to the cost of the article; but royalties as a rule are so small in amount [!] that, practically, it does not place us in England, where a patent law exists, at a disadvantage in the public market. . . . In such a case, therefore, the liability to heavy royalties by the sugar trade of this country, simultaneously with exemption from such royalties by their rivals on the Continent, must, in the nature of things, be injurious to the sugar manufacturers of this country, must it not?—I cannot offer an opinion on a business of which I know nothing, especially when the whole case is not before me. . . . There are a great many things which I have invented, with regard to which I have not thought it worth my while to take out a patent. . . . Do you think that not one of those, from interest in the work, from hope of gain, or from philanthropy, would have pursued his experiments without the hope of a patent?—Certainly not. Mr. Fowler, my rival, spent £30,000 upon it. . . . Do you not think that with our great agricultural associations, and the great wealth of our landed gentry, we might have hoped, if there had been no patent law, that a fund might have been collected to guarantee you or Mr. Fowler in making your experiments in steam ploughing?—There was no action taken by the public of that kind; in fact, the public were profoundly indifferent, and this for a great many years.

Chairman.—What is the amount of expense that you are generally put to at those shows to exhibit your steam ploughs?—I should say at Wolverhampton I spent £1000, and Mr. Fowler four or five times that

amount. . . . Do you see any objection in such a case as that to the iron-masters, or the sugar makers, or the flour millers, making up a purse of their own to buy an invention?—They can do that now. They cannot command to do it at a valuation, can they?—I have suggested the giving of that power to the Commissioners. By means of a license?—Yes. . . . Would the existence of competition from abroad, from manufacturers who might not be paying royalties there, be taken into account?—Do you mean that it should be a question for the Commissioners to consider whether the manufacturers would not be at a considerable advantage in not having to pay royalties? I should say that would be an element which they would be bound to consider, so as not to lay on our own manufacturers so heavy an embargo as to interfere with the conduct of any particular business. . . . I think you also said that a person who required an extension of a patent privilege beyond three years should give substantial reasons for that extension. Will you be kind enough to give the Committee an idea of what you would think to be reasons fairly adducible?—Suppose a patentee said, "Now I have got a patent for an article which I find requires a great deal of time to perfect it." The case of the reaping machine has been introduced. The patentee would say, "I can only use the reaping machine for a week or two in the year, and the season passes so quickly before I can get alterations made in it, that I have not had time to produce a perfect machine." In my opinion that would be a case in which the Commissioners should grant a further extension, though the machine had not been introduced. If the experiments had been of a costly nature, you would say that a longer period than three years might be granted?—Yes. Or, I suppose, if the patentee had made great losses in introducing the invention, you would say that a longer period than three years might be granted?—Yes. You have said that one court should try all patent cases; do you mean that that court should be held in London, and that all defenders or prosecutors should be forced to leave their own homes and come to London and have their cases tried?—Yes, I do. If that question had been asked me when I was a boy, before railways were introduced, I should have said, No; but now I should say, Yes. You would not propose, then, to have a separate court in Dublin, and a third in Edinburgh?—No, I would not. If my experience of the conduct of patent cases out of London is a fair sample, it would be far better to have them tried in London and make the practice uniform. An English inventor has now to resort to Edinburgh to maintain his right against Scotchmen. The travelling expenses form but a very small proportion of the cost of patent suits. You know what a disadvantage it is to a manufacturer to be precluded from the use of an invention that perhaps he may have been employing in his works for a number of years, and what a great disadvantage it is to expose him to a journey to London, and the expense of an action to prove that h has been doing so. He must sacrifice his own business, his family comfort, and his health; and all that is a great hardship, is it not?—No, I think it is not a great hardship, because if a man under such circumstances brings an action against another, and says, "You have

infringed my patent," that man says, "Come down to my works, and I will prove to you that we have had the thing in use long before you patented it." No man would then be mad enough to bring his action. But the power of forcing him to leave his home in the north of Scotland, or the west of Ireland, and come to London, would be a kind of lash or rod that might be used or misused to compel parties to succumb to terms that they may think unjust, might it not?—I provide against that; I recommend that, before a patentee can bring an action, he shall go before the Commissioners of Patents, and convince them that he has a *prima facie* case, and that they shall grant him a certificate of that. I suggested that in the interest of the public. Then you contemplate that those Commissioners should be a kind of arbitrators as between the public and inventors, to protect the public interest?—They should stand between the inventor and the public. And that they should have regard to the public interest?—Yes, mainly so. And that, in granting patents, they should attend to the public interest to preserve the freedom of the public from infraction by unnecessary or unfair patents?—Certainly. . . . Would it not be the proper duty of those commissioners to put themselves into communication with the parties most extensively engaged in each branch of manufacture to which the application refers, in order to ascertain from them whether such an invention is really novel or not?—Of course I would grant them very extensive powers in that way. Would they do that as a matter of course?—Yes.

Mr. Macfie.—I should give the Commissioners discretionary powers with regard to what they should grant patents for or not. Was the right to the reaping machine as to patent privileges contested in this country?—There was one contest.

Mr. Gregory.—Was that on the patent itself?—Yes, I think so.

Chairman.—On a portion of the patent which involved the value of the entire patent?—Yes. The value of the patent was destroyed by the decision in that action, was it not?—I forget the particulars, but I believe so; it was with regard to the claim for a serrated knife.

Mr. John Skirrow Wright.—You have had considerable experience in the Birmingham trades generally, have you not?—Yes, in small articles, such as those that are made at Birmingham, but not so much in machinery. . . . Messrs. Elkington have been enabled to develop a manufacture which was comparatively insignificant, and possibly declining, into one of the most important and valuable trades of Birmingham. . . . Do you think that the public would have had the benefit of the knowledge of the principle so soon if there had been no patent law?—I think it would not have been perfected so soon. . . . We should contend that a patent law must apply to what have been called trifling and small inventions, as well as to those considered important. I have in my hand a very small article, which might be considered insignificant, possibly the value of this invention might have been estimated at £5; for six years it produced no profit. I know the manufacturer, and it was a matter of doubt with him at the end of seven years, when the £100 was due, whether he should pay it

or not. He ultimately decided to pay it, and in the last seven years I have no doubt he has made from £15,000 to £20,000 profit. He has been enabled to establish a large manufactory, and to set up his sons in business. It is a sleeve link (producing one), which very likely most gentlemen have worn. Now, it will be admitted that scarcely any one in or out of the trade could have assessed that at what has proved its legitimate value. . . . I have another patented article in my hand, a watch; it might possibly have been assessed at a very small sum. It is simply a keyless watch, which winds up in the act of opening, but to me and to many others it will be a very valuable invention. . . . It is, I believe, a Swiss invention, and is made in Switzerland, where they have no patent law, but they do not hesitate to take advantage of our law, and their trade is no doubt greatly benefited by the monopoly and sale they obtain in England. . . . I think that the Act of 1852 is susceptible of some improvements, and I speak the opinions of the manufacturers generally in Birmingham, when I say that they think it would be improved by reducing the fees, at all events in the first instance, and we think that there might be a preliminary examination. What should the nature of that examination be in your opinion?—I think it should be as to novelty, and not as to merit, nor with reference to the value or the utility of an article. The business of the examiner should be mainly to point out to intending patentees whether an article has before been patented, or been in public use. My opinion is that half the patents that are taken out are taken out in ignorance of there having been a similar previous invention; there is a want of something to make it easy to ascertain whether the invention has before been patented. . . . Would you propose to put on record, on the face of the patent, that it was the opinion of the examiner that it was not new?—That might be done. . . . You would like to see the first fees reduced, but do you think that those fees are any obstruction to the taking out of patents?—Not seriously so; they prevent frivolous patents being taken out, but sometimes they stand in the way of useful inventions being patented, and also in the way of workmen taking out patents. In the proportion that the fees are reduced, a preliminary examination becomes necessary. Would you propose a very low fee on the application, and a somewhat higher fee on the granting of the patent after the examination?—I see no objection to that. . . . On the ground that the inventor would not have much difficulty, having already got his protection, in obtaining the aid of a capitalist?—Just so; but they have not much difficulty even now. If a man has a good invention he will find persons ready to take it up. I have continually inventions submitted to me with the offer of taking them up, if I consider them good. . . . I know of patents that are not worked, but the owners of such patents are, as a rule, quite ready to do anything in order to obtain some income out of their patents. . . . There may be cases in which it may be desirable to make the granting of licenses compulsory; for instance, I think that no foreigner should be allowed to take out a patent in England unless he grants licenses on reasonable terms to English manufacturers; the case of the watch, which I produced, is one in point. That is entirely made in Switzer-

land, and no one in England could make it. It would be more equitable, and in the interest of English makers, that they should be able to claim the right to make and use, on the payment of a moderate royalty, such an invention. That is precisely a dog-in-the-manger patent, is it not? —No; a dog-in-the-manger patent must be a patent that is held here which can be made no use of. This watch, made in Switzerland, was patented, and is being used and sold in England, but it is not dormant. It is dormant as far as the English manufacture is concerned, is it not?—Yes; but there are two classes of cases to be considered. In one case the thing is made abroad and sold here, though the patent is English; and in the other case, no use is made of it at all. . . .

Mr. Macfie.—You alluded to electrotypy; who was the inventor of that process?—I am not quite sure whether there had not been some experiments made before Messrs. Elkington brought it out; but Messrs. Elkington held possession of the patent rights for the process in England. It was said to have been first invented by a Mr. Spencer, of Liverpool; so that probably it was an improvement, or alteration of the principle, and not the principle itself, that the Messrs. Elkington patented; is that so?—So many things are said, that I really cannot answer that question. I only know that Messrs. Elkington have had the patents in their possession, and that they have worked the process successfully. Have the Messrs. Elkington any patents in Prussia?—I think not. Has nobody else patented the principle in Prussia?—I cannot tell. Have you heard, as I have, that the absence of a patent for electrotypy in Prussia has transferred a very considerable portion of the trade that might have existed in this country to Prussia from this country?—I think that is very unlikely; I should rather think that the possession of the patents in England has been one of the means of giving the English people the preference in this trade in most of the markets of the world. You have exhibited a certain watch, a decided novelty, and you have told the Committee that the patentee of that invention uses his exclusive privilege to deprive this country of the trade which the workmen in this trade, and the manufacturers of this country would, if the patentee had not had that privilege, enjoy?—Yes; that so far shows the defect of our patent laws, which I propose you should remedy. You propose to do that by compulsory licenses, I suppose?—In such a case as that, I think so. Then, inasmuch as the manufacturer who now makes those watches in Switzerland would then be exempt from the payment of any royalties, whereas the parties in this country would have royalties to pay, who ought to fix the rate of royalty that would be payable?—I think some commissioners should do that, perhaps at the time when the patent was granted. . . . If those sleeve links had been manufactured in Switzerland, just as the watches are, how would the foreign manufacturer, having a patent in this country, be able to protect his interest; would you allow the patentee to prohibit any retailer from selling his links?—I should apply the same principle as in the case of the watches, that there should be a license granted; but that shows the superiority of our position where we have a patent law. . . . In that case Switzer-

land has got the benefit of it, and the man who made the invention has got the full use of it, and turns our law against ourselves. You wish that to be remedied, do you not?—Yes, I wish that to be remedied. How is a person residing in Switzerland, who has exclusive privileges in this country, to defend his interest; is he to have the right to go to every retail watchmaker in this country and say, "You must not sell that watch, or that link, unless you can prove that you bought it from me or my licensee?—I can hardly argue upon a hypothetical case, but we find little or no difficulty in that respect. I have no doubt the patentee would find plenty of means to protect his own interest. There was a considerable difficulty in two cases; one was with regard to Betts's capsules. All persons who had bottles with those capsules on them were forbidden to sell them in this country. In another case an eminent house in St. Paul's Churchyard were selling a particular kind of ribbon, which was obviously made according to a particular patent, and they were forbidden to sell it. Now, would you allow this Swiss watchmaker, or this link manufacturer, if such a man there was, to go to all the dealers in this country and say, "You shall not sell such a watch or link, and if you do, I will bring an action against you, or put you in prison"?—First of all, he is not put in prison; and, in the next place, it is not for me to say how he should proceed. The law is sufficiently explicit, and if he is ignorant of the law, the sooner he learns it the better. The cases you quote only show the facility in this country for any person who infringes the law to be made amenable to it. These powers, I suppose, are powers which he possesses at this moment under the patent law?—Yes, I suppose so, and they seem to work very well. You have said that if it had not been for Messrs. Elkington's patent, fifty other persons might have been manufacturing the article?—Possibly. Then those fifty persons were precluded from carrying on their natural trade in consequence of the patent law, were they not?—I do not say that; but they could not have any trade in it prior to its invention. It may be that a number of them were prevented from being manufacturers of that article, but I believe that in nearly all cases they could obtain licenses from Messrs. Elkington. What I meant was, that that trade has been greatly advanced by the privilege given by Messrs. Elkington. Now the fourteen years have expired (and fourteen years is a very short time in the history of a trade invention in this country, considering the time it takes to perfect it), there is a trade established in Birmingham in which there are thousands of artisans employed and getting excellent wages. In fact it has become one of the first staple trades in our town. It does credit, and is important, not only to Birmingham, but to the country.

Mr. Mundella.—That trade is not confined to Birmingham, for Sheffield is engaged in it as well, is it not?—Yes.

Mr. Macfie.—Is it consistent with your knowledge that Messrs. Elkington did grant licenses to all applicants?—I know they granted licenses freely. Can you state to the Committee, presuming that was so, what they charge for a license?—No; but I believe on liberal terms. But it would be such, I suppose, as to give them a considerable profit over their neighbours?—No doubt; but a fair profit was thereby

secured to their licensees, to their mutual advantage. Therefore the absence of that charge in the case of rival manufacturers on the continent would give them equally an advantage over the other fifty intending manufacturers in Birmingham?—Yes, but that would be counterbalanced by the prior possession of the invention, and the skill of the manufacturers in Birmingham. . . . I am in favour of progressive fees, on the principle that it tends to remove useless patents out of the way. Would you be in favour of submitting patents in the first instance to a very rigid examination?—Yes. But not vetoing them?—No. And making a very small fee to begin with?—Yes. . . . The Honourable Member for Leith suggests that the fact that the Swiss maker can patent this watch in this country, and import it into England without employing English labour, is a disadvantage to the English artisan; do you know what the French law is on that subject?—I am fully acquainted with the French law; you must make the article within a certain period, if you are to establish the validity of a French patent in France. If you take out a patent in France, the article must be produced in France within a limited period?—Yes, I worked two days in a manufactory in Paris to make a patent valid.

Chairman.—And you are forced to continue manufacturing it, are you not?—I think so.

Mr. Mundella.—And if you introduce a single article of the patented manufacture that is not of French production, it invalidates the patent also, does it not?—I do not know, but it is very likely. Are you not aware that it is the fact that if a machine is patented in France it must be built in France after the model that was first deposited?—I have not that knowledge. . . . If patents be abolished, you must also abolish the registration of designs, and they have been encouraged of late; the term has been extended, and the fees have been reduced also, to the very great advantage of Birmingham. . . . I think inventions do not generally come from working men; I have known some instances of working men inventing, but generally inventions come from a class who, though originally working men, have got above that position. . . . In my evidence I described the inventors in bulk as non-capitalists: do you endorse that opinion?—Yes, I do agree with that.

Mr. Gregory.—You will not venture to say, I suppose, that Messrs. Elkington's invention would not have been produced without a patent?—It is not possible to say yes or no. Suppose it had been produced, you say that without the patent fifty persons might have been working it?—Possibly so, which I do not think would have been well in its incipient stage. What was the objection to an open competition in that particular case?—That you do not give the party an opportunity, by means of a monopoly, for obtaining the wealth which would enable him to develop his trade. But would not naturally the skill of one of those fifty persons have developed that trade?—I should think not; but it is impossible to say. Take the case of the patent axle, which has produced a large fortune to the manufacturer; it is impossible to say that it would not have been invented by some one else, but the probability is that it would have been longer than fourteen years before it came into general use. Then there is Muntz's metal, to which

we so largely owe the safety of our ships. That was discovered and patented, and by reason of being patented it became known and gave a security to the shipbuilder, which is of the utmost advantage to the shipping interest, and I believe it has been of great advantage to Messrs. Muntz and their family, and also to Birmingham. Now, are you aware that Muntz's patent was really no patent at all?—He had the monopoly of it for fourteen years. But are you not aware that it was a bad patent?—No; there was an application made for a renewal of it, but it was not granted. Lord Brougham said that the patentee had made £70,000 out of it, and he thought that was sufficient. But the great fortune has been made out of that metal since the patent expired, has it not?—I should think the great bulk of it had; it was celebrated; it obtained a name, and the guarantee that came from the name through his having the monopoly has enabled his successors also to obtain a large fortune when the trade was completely open. It was the name that carried the fortune, and not the patent, was it not?—I think it was the patent that gave Mr. Muntz his position. Now Switzerland is a country in which a patent law does not exist, is it not?—Switzerland has no patent law. Are not manufactures carried on there to a very great extent?—There are some manufactures carried on there; I have travelled occasionally in Switzerland, and I should not say it was a manufacturing country. There are one or two trades that have progressed there for various reasons, but generally trades such as the Birmingham trades are not carried on there. Do they not use and combine the inventions of other countries in Switzerland?—I should think it is very likely they do. It is quite possible that they work together as many inventions as they can from all the countries in Europe. They would be foolish if they did not. Suppose we had no patent laws, could we not do that in England?—Of course we could. . . . Is it your opinion that too many patents are taken out, or not?—I think it would be better if they were reduced by a more critical examination of them before the patents were taken out; but I do not think there is any very serious difficulty about it. But I think you said that the examination should only go to the question of novelty?—That examination should only go to the question of novelty. The difficulty now is to ascertain whether a particular thing has been patented before or not. You despair when you have to go through several hundred volumes to ascertain this. Then is it your opinion that patents should be granted, however trivial the nature of the thing may be?—Yes, I think so. . . . Was the watch introduced into Switzerland in consequence of the patent law?—No. In that case the patent law did not accelerate the production of that article?—No although the knowledge that it could be patented in England might have done so. There is no doubt that there would be many inventions if there was no patent law; we should not stand still, but it is a question of degree. . . .

Mr. Frederick William Campin, a Barrister at Law, formerly a patent agent, the author of a work on the patent laws, a Member of the Labour Representation League.—*Mr. Macfie.*—I think you claim for

the working men something more than you have expressed. You said that they had a right to their own, but what you meant was that they had a right to something more than their own,—that they have a right to prevent other people who have made the same invention from using it; is not that so?—That is one of the difficulties that you cannot avoid. . . . Suppose some capitalist in France makes an invention, do you think that the working classes of this country would be benefited by that rich Frenchman being allowed to patent in this country, and to tie up from the working men of this country the right to manufacture the article at all?—Not under the present state of the law. But if our law were assimilated to that of France and most other countries, and the patentee bound to come and manufacture his articles here, then I think there would be no difference in the effect of an imported invention over matters invented by natives. Take the actual instance of a watch manufacturer at Geneva, who introduces a very taking invention in a new watch, you think working men are injured by the present state of the law, which gives persons exclusive privileges without compelling them to work the invention so privileged in this country?—I think so. Am I right in understanding that you believe that the working men conceive themselves injured, not as the employed who make use of inventions, but as inventors who contrive new inventions?—I cannot say; very few people go deeply into the subject; I have never known them go into the subject of its effect upon the employed, therefore they view it pretty much from the standpoint of inventors, most of them being perhaps inventors of some kind or other (most skilled artisans, I mean), or fancying that they are inventors. Taking the working men of France, we had an instance in aniline, which was patented in France, exclusive privileges being granted. The possessors of those exclusive privileges refused to license other manufacturers, and the result was that the whole bevy of French manufacturers transported themselves across the border and made the article outside of France. You would say that these French working men had a right to complain of the patent laws, would you not?—I do not quite understand the effect of that question, except that where there is a non-patenting country like Switzerland close to a patenting country like France, it may sometimes be an advantage to the manufacturer to go and set up a manufactory outside and escape royalties; that is obvious. The operation of a law which drives manufacture from a country, must in your opinion be injurious to the working men of the country from which the manufacture is driven?—As far as it does that, but no further. Then the working men who are employed being a much greater number than the working men who are inventors, any law that has to a considerable extent the effect I have specified would be regarded by the working men as injurious to them?—No doubt, if it drove employment, which is their means of maintenance, away from the country, it would be injurious to them. What proportion of the inventions that are patented do you think are made by working men?—I should myself say that perhaps two-thirds are made by working men; but this is quite a fanciful calculation, because I have not gone into any question of the kind. What I mean is, that it is a very large proportion. Do the working

men become patentees in association with capitalists so called, or do they take patents out entirely in their own names?—From my own experience, I can say that there are a large number of patents taken out by manufacturers which are really the inventions of their workmen; they are not legal patents, of course, but that is the fact. In what form do those working men receive remuneration for the labour of their brains or wits in those particular cases?—Sometimes they get an increased salary, and sometimes it is on the understanding that they shall have some portion of the profits. As a general rule, are you prepared to say what proportion of profits they receive in case they receive any?—A small proportion; that is all I can say. In fact, the great bulk of the profit of patents, where there is a profit, goes to the capitalist, does it not?—Do you mean to say in all cases? I was speaking of certain cases where a manufacturer takes out a patent for the invention of a working man, but you will find sometimes that the workman is associated with the manufacturer. But, as a general rule, the capitalist receives much more of the profit than the working man does, does he not?—I think so. Could you contrive any other system by which workmen could be rewarded, say, in cash, or in any way more satisfactory to them?—If your system, which I have studied, could be brought into operation, which to me is so exceedingly doubtful that I do not believe it could, then no doubt a very large number of working men's inventions would be remunerated in the way you propose; but after every consideration of your scheme, we have always considered it totally impracticable. But a great many inventions do not pay the patentees, do they?—That is a matter of notoriety. And yet in those inventions there is a valuable indication of a principle,—of a novelty,—very frequently, is there not?—Very often; but I must add that the working men quite agree with me that patents cannot be supported except with a view to encourage the practical industrial development of inventions. As a means of getting people to suggest ideas, the patent laws are of very little value. It is not so much the reward of the inventor as the enabling him to work at his invention industrially in safety; that is the great thing to be looked at. That, in your opinion, is the effect of the patent law, is it?—Yes. But it very frequently happens, does it not, that when a principle is indicated by a scientific man or a thoughtful mind, anybody engaged in a manufacture can apply it, by the exercise of ordinary intelligence, to his own manufacture?—I do not know of any such instances. Of course they can apply it by turning their minds to the subject, and by going through a course of experiments with it, but not off-hand; I never had any such experience. Could a person not obtain a patent for the importation of some new manure or earth discovered in some distant country, and would not a patent be granted for that?—No; I think that is not a patentable subject; that would come under those decisions which have become so common within the last few years, that the mere application of a known substance to a certain pupose is not a subject for a patent.

Mr. Mellor.—If we could reproduce the absorbed sun rays in cucumbers, we could get a patent for the process, could we not?—Yes.

if you could do it by some process which required invention, and a useful result followed. Are you a direct representative of the Labour League, or is the council an intervening body?—My position here to-day is rather an awkward one, as I have just explained. Are the Committee to understand that you represent all parts of the kingdom, and every branch of manufacture; I mean, does the Labour League do that?—Yes; the Labour League does, decidedly. . . .

MR. BENNET WOODCROFT, F.R.S., chief clerk of the Patent Office, the head of the department under the Commissioners of Patents.—Is this the ground on which the American Commissioners recommend the abolition of their own office so far as the examination is concerned?—It is; I will show the Committee a most extraordinary instance. There is a patent taken out here for a string to rip up an envelope, and there is a patent taken out subsequently for tying a little knot at the end of the string (*producing a drawing*). That is a question of utility rather than novelty, is it not?—It is neither one nor the other in my opinion. . . .

Mr. Gregory.—You have stated that every patentee should search through all the inventions published by the Commissioners, and that he should make a declaration that he had done so?—Yes. How many inventions have been published by the Commissioners?—60,000 specifications have been published. . . . That is divided into 300 different sections. . . . This is a book of abridgments of specifications, is it not?—Yes. . . . I meant such information as is contained in those abridgments. I made a mistake in the word I used. . . . Suppose a man took out a patent for a rotary motion, where would he look for that?—Under the head of steam-engines. But it might not be under the head of steam-engines?—The patent would be under the head of steam-engines, even if it was under other inventions as well. . . . When friends have come to me on a subject I knew, and I have told them that they had brought me something in which there was just a shade of difference from a previous invention, they have said "We will have nothing whatever to do with it." . . . Now, with regard to rotary motion, how far would a man have to search in that case?—Will you tell me what kind of rotary motion you refer to? I mean any new process for producing rotary motion?—To find out a new process for rotary motion, he would first go among the mad schemes for perpetual motion, and he would then go to the steam-engine department. And anywhere else?—Yes, he would go to the windmills' and watermills' department. And anywhere else?—No. He would have to declare that he had searched all through those?—Yes, but if it was for a watermill, he would not go to the steam-engine department; he would go to that particular division. But rotary motion is not attached to to any particular division, is it?—I am not sure that I understand the question. Suppose the invention is for a mode of converting reciprocatory into rotary motion, where would he have to search, according to your doctrine in that case?—He would search in the books that give all the known motions. Would he have to search all through them?—No, he would search through the books on mechanical move-

ments, and there they are all shown on plates. He would have to search through all of them?—Yes. It would not take him long; everything is classified in those books. . . . You would grant patents first, and have a tribunal to repeal them afterwards?—Yes; when they were found to be of no value. Would not it be the best way to have a tribunal to see that bad patents were not granted in the first instance; in other words, have you ever considered the question of having a tribunal to test patents before they are granted, instead of after that?—That is a very unsatisfactory plan, as I have already shown. Do you mean that you have shown it by your references to the American Commissioners?—Yes; I have shown it by references to the American Commissioners, and it has been given up in France and in other countries. . . . In fact, the examiners did not do their duty?—And never will. And from that cause the system has failed?—Yes; from that cause, and from the inability of the examiners. The examiners not being able to perform their functions?—Yes; the examiners not being able to perform their functions. Judge Mason puts the grant of a patent as a matter of natural right, does he not?—Yes. Do you adopt that idea?—Yes. That an inventor has a natural right to his patent?—I think so; if a man makes an invention, and works it out in his own chamber, it is entirely his own property then. Then he does not get the benefit of it, does he?—Yes, he does.

Chairman.—According to that, the inventor is not bound to sell, but the public is bound to buy?—Yes; and after he has got the patent the public are always gainers.

Mr. Gregory.—Is it, in your opinion, a matter of natural right that a man shall have protection for his invention against all the world?—Yes, I think so. A matter of common law right?—Yes. And on that you base your ideas of granting patents, I suppose?—Yes, exactly; it is on that ground. Then, according to that, a man ought to have a patent for everything he chose, I suppose?—No; he ought to have a patent for any new and useful invention. But who is to be the judge of that?—The man himself. Then it is anything he chooses?—If it is found to be old, it is to be knocked on the head. Is he also to be a judge of the novelty?—Of course he ought. If he believes that the invention is new and useful (of which he is to be the judge), you think that he is entitled to a patent for it as a natural right?—Clearly so.

Mr. Pim.—Would you be in favour of compelling every patentee to grant licenses?—I do not know. That is a subject that I have not thought about. . . .

Chairman.—But the public have not necessarily the same capacity of judging?—No, perhaps not. . . . Under what circumstances would you set it aside?—I would leave that to the tribunal appointed for the purpose. Is it to be set aside by an official examination, or by the action of some of the public who may object to it?—I should say that it is to be set aside by an official examination.

Mr. Macfie.—What is the meaning, in your opinion, of those words of the first Statute which I will proceed to quote. The Statute allows exclusive privileges to be granted to inventors, provided they are "not mischievous to the State, by raising the prices of commodities at home

or hurt of trade, or generally inconvenient." What is your understanding of those words "hurt of trade"?—I really cannot understand that. . . . Have you cognisance of any means in operation for reserving open to the public what has been called the public domain, so that it shall not be infringed upon by persons patenting as new inventions that are already known?—I should leave the public to take care of itself. You are not aware of any means by which there is an effort to protect the public interest now from that domain being infringed upon?—No; they have to look after their own interests, as in all other things. Do you consider that the Patent Office is an establishment having in view the benefit of inventors or the benefit of the public?—Both. . . . Have you any general idea what proportion of inventors belong to the operative class?—That is a question which I cannot answer; I think not so large a number as any of the other witnesses have stated, not by any means. . . . Have you any machinery in the Patent Office for recording suggestions of new inventions or new ideas with a practical tendency, proffered by parties who do not care about going through the form of becoming patentees?—No; we have no machinery of that kind. . . . Do you agree with the dictum of Sir Edward Coke, who said that no patents should or can be granted unless there was *urgens necessitas* and *evidens utilitas;* in other words, do you consider that no patent should be granted except urgent necessity is shown, or the utility is established?—An urgent necessity always exists for a good improvement, I think. Do you consider it is fair to a British manufacturer that he, under free trade, should be called upon to compete with foreign manufacturers in his own line who have no patent fees to pay in their own country?—I believe that patents in this country enable us to compete with all foreigners, whether they have patents or no patents. Suppose a manufacturer on the Continent has larger knowledge and skill than a manufacturer in Britain, and the former is free from liability to the royalties which may be sustainable, and the other working at home is liable to those royalties, is there not a disadvantage sustained by the latter?—Yes, if such a thing ever took place; but I never heard of such a case. But that might take place under the present state of the law, might it not?—I do not know that. Would you not think it advisable that some system should be devised by which manufacturers carrying on business in this country were put on an equal footing with their rival manufacturers abroad?—I suggested an international patent law some time ago, and I visited all the patent offices in Europe to get at their opinions. Would you think it advisable that delegates from different countries in Europe should meet in London to devise such a system?—It could do no harm, if it did no good. Do not you think, for the protection of the British manufacturer, it would be not only harmless but advantageous?—I think it would not do either much good or much harm. You have stated that you have heard of several parties applying for patents for the very same invention?—Yes, I have; and I have given you proof of it. And that sometimes they get such a patent?—Yes, sometimes they get it. That is unfair to the first patentee, is it not?—Yes. And troublesome to the manufacturers, because they do not

know with whom to negotiate?—That is their own fault if they do not. Do you think that patents should be given for applications, the same as they would be given for new inventions? Messrs. Manlove, Alliott, and Seying invented a hydro-extractor, and several parties unknown to each other in various years patented an application of the hydro-extractor to the expulsion of syrups from sugar; do you think that a full-blown patent, with privileges for fourteen years, and an absolute monopoly, should be granted to any one of those parties who merely applied to a particular trade a principle that had become already generally known?—The judges have decided that if you make a new and useful application of an old invention, it is a good subject for a patent. Is it your own opinion that it is fair to the public that persons should have the power of extorting a monopoly in those cases?—I would rather rely on the opinion of the judges than my own; I am not a lawyer. Have you ever considered the subject of compulsory licenses?—No, never. That system has been strongly recommended to the Committee. You are aware that it means this: That any manufacturer should have the right of applying to any patentee, and saying, "Your invention is one affecting my business, and I shall be very glad to pay you a reasonable charge; tell me what it is, and if we do not agree we will refer it to some commissioner to name the price." Do you not think that that would be advantageous?—No, I do not think so. Besides, I think that a man is entitled to his own invention for fourteen years, and it is his interest to grant licenses in nineteen cases out of twenty. But the Committee have heard of the case of a watchmaker in Geneva, who took out a patent in this country, and he does not allow the watchmakers in this country to use his invention, nor does he use it himself in this country. Do you think that that is a good state of the law?—Watches can be wound up in so many ways that it does not matter. But is not it unfair to our manufacturers and operatives that they should be deprived of a means of profit; and is not it unfair to the great public of this country, that their watches should necessarily be manufactured here for a series of years on inferior principles?—I think that the common watch-key is the best of all inventions for winding up a watch. Have you ever thought of this suggestion, that there should be a maximum assigned as the amount receivable by a patentee for his invention; for instance, if the invention had paid £10,000, or £20,000, or £30,000 to the patentee, that some person might on the part of the public say, "Let this be valued, and if there is anything more to pay up, let the trade concerned unite to pay it up"?—No; I think that the patentee is entitled to his patent for the term, and to do what he likes with it, and that a man in any case will not go very much against his own real interest. Do you think that patents ought to lapse in this country, in case they remain unused by the patentees or licensees?—Yes, I should not object to that. Would you like to have the French system, by which a patent lapses unless it is put in operation within two years?—Two years is too short a time. Would you think it advisable that patents should lapse in this country as soon as the corresponding patents in foreign countries expired?—Yes, I think that is a just law. Would you allow the inventor of a

primary invention to make terms compulsorily with inventors who improve on his first inventions, so that he might be the vendor of his own invention in all its integrity and completeness. Take the case of a particular trade. A great novelty is introduced, and in working out that novelty a number of parties practically using it discover minor improvements, and each takes out a patent for a minor improvement. Would not you think it fair to the discoverer of the primary invention that he should have the power of going to those improvers, and saying, "There is a fair sum of money; give me the use of your minor invention for any article that I choose to make according to the primary invention"?—No; I do not think the original patentee has a right to the invention of the improver. I think that a man who makes an improvement has a right to do what he pleases with the improvement. I may say that almost all patents are improvements on another patent. . . . Would it not be an improvement in printing the specifications to divide them more into paragraphs, and to eliminate all mere formal matter, so that the eye would alight more easily on the part that was wished to be seen?—Yes, I think some abbreviations might be made. You think that some arrangement might be made to catch the eye better?—Yes, I think so. . . . You refer the intending patentee to your small Blue-books. Those Blue-books only describe inventions that have been patented; how do you deal with that very numerous class of inventions that never have been patented, that have always been the property of the public? Take it in this way: If I understand you rightly, you would ask a person to declare that he has looked over the little Blue-book to see that there is not a former invention like his own, and that he has a *prima facie* right to the patent?—The applicant is to declare that he has examined those abridgments, and found nothing like the invention he proposes to patent. Then take A as the quantity of inventions that have at any time been patented, and B as the quantity of inventions that have never been patented, but are known to the public, do you ignore that second quantity of B?—I do not know of any good inventions that have not been patented. There have been inventions made for thousands of years, and all those, unless they are patented, are excluded from your little Blue-book; that is a matter of course, is it not? But I should like to put another question, which is this: Does the patent system, as now worked, not act unfairly towards the parties who make inventions, but who do not think it worth while to go to the expense of patenting them; does it not give an advantage to the individual who wishes to secure an exclusive privilege (and, as I think it is, to the disadvantage of the public) over other people who do not wish to have exclusive privileges, but are willing that the public should freely use their inventions?—If there were any such philanthropic men they could easily prevent patents being taken out by sending descriptions of their inventions to be published in the scientific journals, and saying that the public were free to use them. The system at work now gives greater advantages to those who wish to secure monopolies than to those who do not; is not that so?—I do not know a single member of the philanthropic class that you speak of.

Captain Beaumont.— . . . If the thing has been known for some time it is not new, and therefore it would not be patentable?—Just so. It is wrong to say that you ignore that class of inventions?—Just so. . . .

Mr. Macfie.—Do they [colonies] give any applicant who has a new invention a patent, or must he be a native of the colony?—Anybody who asks for a patent, I believe, can obtain it. It is not so in Canada; you must be a resident in Canada, must you not, before you can take out a patent there?—I believe so. . . . You first put yourselves in communication with the colonies, and not they with you?—Just so. . . . Was it to ask if they had a patent system?—Yes.

Mr. George Haseltine, M.A., LL.B., a citizen of the United States.—I have resided for nearly sixteen years in England, about two years of which I have passed in the United States. You have been engaged as a patent agent during great part of that time in this country, have you not?—Yes, and for the last ten years exclusively; we have an agency in the United States. . . . Your business is chiefly the patenting of American inventions, I suppose?—Perhaps the American inventions amount to one-half of them, not chiefly. . . . I have a letter which perhaps will interest the Committee, and which I will put in (*see* Appendix), from the Honourable Judge Mason, who was formerly a Commissioner, and perhaps one of the most eminent Commissioners of Patents we have ever had. . . . He says: "The system of examination which has been adopted here is manifestly productive of much advantage to the public, as well as to the meritorious class for whose benefit the law is more immediately intended. . . . I like the British system better than ours in one particular; your fees are paid in instalments, leaving the inventor the right to keep the patent alive or not at his option. If that plan were in operation here, a considerable proportion of our patents would terminate their existence shortly after their birth; this would remove out of the way many useless patents which now act the part of the dog in the manger, and will never be heard of during their whole seventeen years, unless some subsequent inventor shall make some improvement thereon which will make useful what would otherwise be worthless. Nothing is more common in our experience than, after some highly useful invention has gone into successful operation, to find some unexpired patent which is worthless in itself all at once revived and amended through a reissue, in such a way as to render the really meritorious invention subordinate. The Courts often hold such useless patents invalid, but this does not protect the subsequent patentee against being greatly harassed and annoyed. As far as practicable, it would be desirable to prevent difficulties of this nature from presenting themselves." . . . Our examination by the law-officer of the Crown does not purport to be an examination into the question of novelty, does it?—No; but there is an impression in the community that it extends to questions of novelty as well as utility. . . . I have been connected with some thousands of applications in this country, not one of which ever was rejected for want of utility. On what ground has the rejection been made, in your experience?—It has never been made, in our experience,

except when the specification contained more than one invention. That was for the protection of the revenue, rather than for any other purpose, was it not?—I hardly knew the object, but practically there is no examination in this country, and no check on the granting of patents. I may add that there is an impression among our clients that this examination is a real examination, and that therefore it is unfair to both the inventor and the public. I think patents ought to go out into the world for just what they are worth. . . . What are the fees paid in America?— . . . About £7 altogether. . . . I believe the periodical payment is useful, and I would make it once in three years, at something like £5. You mean £5 every three years?—Yes. I think that would be a great improvement; it would not injure the poor inventor, and if there is any utility in getting out of the way patents for perpetual motion, and of a similar nature, that object would be gained [!]. . . . I think I have known one instance in a practice of twenty years of reasonable suspicion of bribery, and that examiner was immediately removed. . . . Is there any expense to the inventor attending the examination in the United States but the $15?—Yes, very considerable, which to the whole body of inventors I estimate at $5,000,000 per annum. . . . Of the 6000 refused, I think nearly 3000 at least are wrongfully refused. . . . There are 12,000 patents granted in America every year. . . . You think that there are some black sheep in your profession in England, do you?—I know it. . . . By reason of the examination there were only 31 patents granted last year in Prussia. . . . I have also been informed that out of those 31 inventions granted last year, many are frivolous inventions. . . . Two inventions out of the 31 granted were for machines for making sticking-plaster. . . . In the year 1871 about 12 patents for Prussian inventions were granted in this country, and over 500 inventions from the United States were patented in this country in the same year. . . . What are called frivolous patents are often very valuable. . . . He found a patent for a spittoon. Now a spittoon in this country is not an important thing, but in the United States a spittoon is of the utmost value, and many fortunes have been realised from spittoons. But it does not follow, does it, because a spittoon is a necessity in America, that therefore an improvement on a spittoon should be of great national importance?—It may not follow that it should be of great national importance, but any improvement is an advantage, and fortunes have been realised by these improvements. I should say that a little piece of india-rubber put on the top of a pencil would be considered a frivolous invention, but an American inventor made £20,000 by it; and he conferred a benefit on society, because you could write with one end of the pencil and rub out with the other end. I do not consider such inventions frivolous, any more than I consider the great discovery of Sir Isaac Newton frivolous. . . . With regard to the 500 patents granted yearly for American inventions in this country, what do you think of those inventions?—I think that they add immensely to the wealth of this country, almost beyond computation. Having watched those things for the last twenty years almost, I may perhaps express that opinion with some degree of

authority. Do you not think that those inventions would have found their way to England without their being patented here, just as English books find their way to America without a copyright?—Not one in 100. . . . Can you give any account to the Committee of the system described by one of the honourable members of this Committee in his evidence, which he called the system of pools in America?—I think it has very limited application in America. I believe that an American was examined here who was connected with one of the sewing-machine companies. But a member of this Committee gave similar evidence?—I think it has a very limited application; and I think where it has any application it is rather adverse to the interest of the inventors and the public than favourable. Take the case of the great sewing-machine combination; if there is any argument against letters-patent I think they would be one, because they prevent small manufacturers constructing sewing-machines. I think the witness is mistaken in saying that the Court would refuse to sustain a patent against an infringer if a license had been refused, but I know that large combination refused licenses to small manufacturers. That company being a kind of gigantic pool in itself?—Yes; I should think that a disadvantageous combination. . . . I think it is very desirable that there should be no expert witnesses on either side; I mean if they are necessary they should be assistants to the judges, and that they either should be permanent, or called in for consultation. You think that the evidence of expert witnesses has a tendency to mislead the Court, do you?—Yes, I think it has a tendency to mislead the Court and the jury; but I do not approve of juries in these cases. Is there a jury in the United States Court?—Yes. In all cases?—No, those actions are usually brought in by way of injunctions in the Court of Chancery, and then, of course, there is no jury. . . . I think the term of fourteen years is too short; I think a fair term would be twenty-one years for both parties—that is to say, both for the public and the inventor. . . . You are one of those who are of opinion that the inventor has a right to his patent, and that it is not a mere question of public policy?—I am, most decidedly. You put him on the same footing with an author, or any person claiming a copyright?—Yes, or higher; inasmuch as I believe inventors to be more deserving, and of more benefit to the community.

Mr. Gregory.—Do I understand you to say that you propose patents should be granted indiscriminately?—Yes. You are of opinion that the more patents there are the better?—The more patents there are, if they are novel and useful, the better. Yes, if they are novel and useful; but who is to judge of that?—Let the public judge of it, or the Courts. But you would grant them indiscriminately?—Yes, I would grant them indiscriminately to every applicant. Whether they are novel and useful or not?—Yes; I do not think the Patent Office ought to have anything to say about that. Whatever may be the character of the invention, you would grant the patent?—I mean aside from public morals. But whatever may be their nature with regard to utility and novelty, you would grant the patent?—Yes; I think it is the true policy. You think that that would not injuriously affect

trade?—No. Nor that it would hamper other inventions?—No. Nor that it would affect the evolution of discovering in any way?—No: I do not think that it would any more than the present system. No, but take it absolutely?—I think it would be an advantage to the community. You think that the indiscriminate granting of patents would be an advantage to the community, do you?—I think there is no possibility of a satisfactory system apart from that. The French system I consider the true system. . . . But on principle you say that you would leave the question of novelty to the Court when it came to the question of the repeal of the patent?—Yes. Then if the same Court was to grant the patent, that would be leaving the question to the same Court, would it not?—It is hardly practicable for a Court to examine into 20,000 applications a year. As a matter of expediency, I would leave it to the Court afterwards. . . . What he acquires against the public is the right of preventing any other individual using this process or machine?—Yes, for a limited time. That right he acquires against the public?—The Government give it to him. But if the Government grant it, is it a question of common right?—It is a bargain between the Government and the inventor. . . . Do you mean to say that the user of patent is not a right against society?—Not half so much as the exclusive occupation of land. . . . He surely acquires a right against society, does he not?—No, not against society; it is in favour of society on the whole. . . . You have stated that you thought under an invention like Mr. Bessemer's licenses should be compulsory?—I think it would be a benefit to society, and to the inventor as well, that in such cases the licenses should be compulsory; one does not use such an invention profitably either to himself or to society. And the inventor cannot bring it into use himself?—No. Your criterion as to where licenses should be granted would be the possibility of the demand being supplied by a single individual, or the contrary?—I think so, . . . because frequently the value of a patent, either to the man who has made the invention or to the public, lies in the exclusive use of it. . . . You are aware that there is an affidavit always deposited in this country and in America, with regard to novelty, to prove the fitness of the patent according to the best knowledge and belief of the applicant?—Yes. Would you propose to dispense with that affidavit?—To be consistent, I think I should dispense with it, but I do not think that that is a very material point. . . . I would confine patents strictly to the inventor or to his representatives. . . . I have been connected with and made some thousands of applications, and not one of them has ever been rejected on account of the want of patentability. . . . I would have the inventor deposit a simple description of his invention. I would not require him to say what is new or what is old; that is a matter to be left entirely to the Court to decide. . . .

Mr. Macfie.—By the return which I hold in my hand, I find that the number of patents granted in Prussia in the year 1867 is stated at 103?—I counted the number in the year 1871, and it was 31. The Committee may infer that there is a diminishing tendency with regard to granting patents there, while there is a tendency to increase in this country?—Most certainly; for out of that 31,

24 were cancelled, and not one was granted for more than three years. . . .

Chairman.—But is there an absolute power in Prussia in the Patent Office to cancel patents?—They exercise it. In what way do they exercise it?—I really do not know the practice; in one case of our own where a patent was granted it was afterwards cancelled, because they found in a French scientific journal that the patent had been described in France prior to their granting the patent. . . . Sewing-machines were introduced very freely here from America, but it would have been better for this country if they had been compelled to make them in this country. . . . Would not the liability to heavy royalties on the part of the London sugar-refiners, while their rivals just on the other side of the sea were not liable to those royalties, have a tendency to remove the trade from London to the country that had no royalties to pay?—Most undoubtedly, if the state of art was the same in both countries. . . . Suppose it to be true that the state of the sugar-refining art in Holland is quite abreast of its state in London, or considerably ahead of it, would not the rate of facts which I have put be very hard for the British trader?—Yes, I will say frankly it might be a case of hardship. Have you any suggestion to make to the Committee in order to obtain a rectification of that evil?—I would make them manufacture the article in this country, but of course it is very difficult to deal with processes; if you could ascertain that the sugar was made by the patented process, I would not let them import it. But if it were impossible to prevent that importation, what then?—Then it would be a hardship on the manufacturer here. . . . I could quote a passage from the evidence of Mr. Newton, an eminent patentee agent, with regard to that, who said that the patentee of a sewing-machine raised 160 actions, all at one time, though he had no valid patent; would not that expose 160 persons to difficulties unfairly?—Yes; but that kind of thing is incident to all classes of property. If you hold a piece of land, I can bring an action of ejectment against you, whether I have a claim to it or not. In the case of Mr. Bessemer's process, you thought it fair that licenses should be compulsory; on what principle should the proper sum to be paid as royalty be estimated, do you think?—I think there is no general rule for estimating that. Would the necessity of competing with parties from abroad, who were not paying royalties, be a circumstance to be taken into account?—Yes, I would take all the circumstances into consideration. Have you ever found any relation or proportion between the amount of reward received for an original invention and the expense at which it has been introduced?—No; sometimes it is all a lucky thought, and I think it is just as deserving. Would you think it as well to introduce some system by which a trade could combine, and say to a patentee, "We will give you £10,000 or £20,000 if you will give us your invention;" would you think that advisable?—Yes; we have now a patent in the iron trade which will produce very extraordinary results, and where the iron manufacturers purpose to own it themselves.

Mr. A. Johnston.—They propose to own it, and not to throw it

open?—Just so. . . . How does a person holding a patent in the United States get himself remunerated? Has he agents to go throughout the Union?—It is often the case that they go into the separate States, but in the United States there is a protective tariff, and of course a foreigner could not compete on anything like fair terms; so that if he paid higher royalty he would meet no competition from abroad. . . . Do you know what becomes of those patents generally?—Many of them are worked very successfully. . . .

Mr. Macfie.—Are you in favour of an international system of patents?—It would be a good thing, but I do not see my way clear to it. You spoke of Judge Mason being connected with a patent agency; what was that agency?—His name appears as a patent agent, but I think that he is the legal adviser of the firm. Do you not think that the reason why so many patents are granted in the United States is, that you have no law of copyright of designs, and that many of what you call patents we call designs?—We have a copyright in designs. Are there not many of your patents which would be registered in this country as designs?—No; or if there are, they are wrongly registered here. You spoke of a patent being given for a pencil; was that well for the public?—Yes; they paid royalties for it to the extent of $100,000. . . . Once the idea struck any person, there was no difficulty in giving it practical effect; now does it not appear to you that the interests of the public in that very trifling matter were surrendered to those of the inventor, inasmuch as once the idea was thrown out, he could not have concealed the idea, and any one could have adopted it?—I do not think it is a trifling one. You might say that Sir Isaac Newton's discovery of the law of gravitation was a trifle, but these things only show that the true test is in the result. . . . The moment he introduced it into practice, from that moment every one else might have done it, might they not?—Yes; but the patent law was the inducement to him to introduce it. . . . Have you any difficulty in the United States with regard to the patent law in Canada?—Yes; I think it is a most infamous law, and I think it is the duty of Parliament to insist that at least British subjects should have the same right in Canada as the Canadians have. I think their attention may be well turned to the subject; it is not, I think, constitutional that English subjects should be prohibited from taking out patents in Canada. I think that every Englishman should have equal rights over the whole Empire.

Chairman.—Is it the law of Canada that a man applying for a patent in Canada must reside in Canada, or is it only that he must be naturalised?—He must be a resident for twelve months; it is practically a prohibition for Englishmen who reside here. I have recently received a communication on that point, asking me to submit the subject to Members of Parliament.

Mr. Macfie.—Can citizens of the United States obtain patents in Canada?—Not unless they reside there twelve months. Can the people of the United States import from Canada manufactures made there free of patents?—They cannot. . . . In other words, your protective duty includes in its operation this effect, that it clears the

patentees and manufacturers of the United States from what you would consider unfair competition from countries or places where there is no patent law?—It is, no doubt, a great advantage there to individual manufacturers. So far as patents are concerned, you think that there is an element of fairness in it?—Yes, I think there is. Do you think there is any possible way of discriminating at the frontier, or the Custom-houses, the manner in which an article has been made, or the patent which it would infringe upon?—If you make the law as it is in France, the patent becomes invalid; the moment you import an invention into France, your patent becomes invalid.

Mr. Edmund Knowles Muspratt.—I was President of the Chamber of Commerce at Liverpool about two years ago. . . . I am an alkali manufacturer. . . . I have only taken out one patent, and that was in order to prevent some one else taking out the same patent. You would rather not have claimed the monopoly, I suppose, but it was necessary for your protection in business?—Decidedly. Have you formed an opinion favourable or unfavourable to patents?—My opinion, on the whole, is decidedly unfavourable to the present patent law; and after reading a good deal that has been written on the subject of patents in general, and the evidence given before the Royal Commissioners, which concluded with a report to this effect: That the evils complained of were inherent in a patent law, I came to the conclusion that if that was the case, the best thing in the interest of the public and the manufacturers, and the community at large, would be to abolish patents wholly. Since that time I have somewhat modified my views, particularly since reading the evidence of Mr. Justice Grove before this Committee. Will you kindly state the particulars in which you have changed your views?—I think, if it is possible, without granting too many patents, in order to bring out a certain class of inventions, the patent law may be of service. I do not think that it is necessary to have the patent law, in order to bring the best and great inventions, and the grand ideas which are generally put forward in the first instance by men of science, who do not look for pecuniary reward. But in chemical manufactures, it is very often the case that the idea or crude suggestion, in order to become practicable, and be of service in the manufacture, has to be elaborated by practical men for several years, sometimes with a very large expenditure of money on apparatus; and I think it is very possible, if patents were abolished, that those men would not do that work in elaborating those ideas, and go to that expense in perfecting a mere crude suggestion. I think there are also cases in which an individual produces an entirely new idea, where there is a special individuality, as M. Schneider called it, about the invention, and where the invention can be easily applied, and easily adopted, it would not be detrimental to the interest of the community to grant a patent. But on the whole, my opinion is, that the fewer patents there are the better. The multiplicity of frivolous patents under the present existing law is exceedingly detrimental to manufacturers, according to my own frequent experience. Has a manufacturer in the present day constantly to introduce improvements, so as to keep abreast of his competitors, in order

to prevent his business being lost to him?—I think in all manufactures at the present day, and certainly in my own, we have always to be constantly improving the processes, otherwise we should be left behind and be ruined. Now those minor improvements are constantly made; they are made as necessity arises, and are made by any man who is capable of observation, and has some technical training; they are sure to be made. Now I find that many of those minor improvements, which everybody must make in the course of manufacture, in order to work his own manufactures, are patented and claimed as inventions by others, and that naturally causes great evil and inconvenience to manufacturers. Then for such things as those you would not grant patents, would you?—For such minor improvements I would decidedly not grant patents on any account. But there are a great many patents taken out for such things, are there not?—Perhaps I should illustrate that by applying it to my own manufacture. The manufacture of alkali was introduced into this country, as I have already stated, by my father, in the year 1823. The principle of that manufacture was discovered by Leblanc, a Frenchman; and it is the decomposition of common salt by sulphuric acid, and the further decomposition of the resulting sulphate by coal and lime. In its essentials that manufacture is to-day the same as it was when discovered by Leblanc at the beginning of this century. Now since that time hosts of patents have been taken out, either for the improvement of that manufacture or for superseding that principle of Leblanc, of the decomposition of common salt by sulphuric acid, by other processes. Most of those patents are only crude suggestions that might occur to any one acquainted with the subject. This may be very well illustrated by what Professor Hofmann, a very eminent chemist, stated in his report on the alkali manufacture in the year 1862, which was the year of the Exhibition. These are his words: "In these processes, the number whereof indicates the validity and importance of the soda trade, are involved many new principles, none of them, perhaps, of immediate utility, but all of them interesting, and several of them likely to become practically available." Now, you will notice the point there. Those processes are "interesting;" but they are only "likely to become practically available." Now, if those processes are patented, the original patentee, as a rule, I may say, is not able to work out his invention. They remain there for an obstruction to manufacturers in the improvement of their manufactures.

Mr. Mellor.—That observation, I suppose, applies only to chemical products?—I am, of course, far more familiar with the chemical products and processes, which include metallurgical processes, and my observations apply equally to metallurgical as to chemical processes. In addition to those obstructions, I may say that many processes, which are perfectly practicable as far as technical difficulties are concerned, may not be practicable, because some of the by-products are not saleable. Now it also occurs that in course of time those by-products may become of value, and the process becomes then practically available for manufacturers. Now it is evident that any process of manufacture which undergoes this regular course of improvement will lead in time to several patentees claiming the same or similar inventions for doing

the same thing. There is the original patentee, who has possibly only given a crude suggestion to the world, or rather claims that crude suggestion which was found in many scientific works, and was well known. There is the manufacturer who takes out a patent for a plan of making that suggestion available in the course of manufacture, and then, after a course of some years, although in the hands of the second patentee, the patent may have proved valueless because some of the products were of no value, another man comes in and takes out a patent in which all the essentials are the same, but because one of the by-products has become valuable in the meantime, he is able to work at a profit. Now, to which of the three are you to give a patent? It is perfectly clear that the conflicting claims of those three or more inventors, or discoverers, or patentees, must lead to litigation. I was thinking of a case which has practically occurred in my own business, and those patents that I am referring to had a very detrimental effect on the alkali trade, because they prevented us, and several other manufacturers, from engaging in a manufacture which is one of the by-products of the alkali trade. It also had the effect, that if the case had not been tried, the second patentee, having compromised with the Runcorn Soap and Alkali Company, who he said were infringing his patent, we should be still at the mercy of one company for the supply of pyrites, which is one of the chief raw materials of our manufacture, and that pyrites would have undoubtedly gone up to a monopoly price. Will you be kind enough to state to the Committee the exact facts of the case?—I alluded in what I have previously stated to two patents. One was taken out by Mr. Longmaid in the year 1844, and the second patent was taken out by Mr. William Henderson in the year 1859. The object of the patent of Mr. Longmaid is the roasting of ore containing sulphur with common salt and producing sulphate of soda, and the subject of the patent of Mr. Henderson is the roasting of ore containing sulphur with common salt, not for the purpose of making sulphate of soda, but for the purpose of recovering copper principally. I may state that Mr. Longmaid at the same time claims to make use of his patent for the extraction of copper as well. . . . But the second man has a claim almost identical with the first?—Yes; the second man has a claim almost identical with the first. Now, Mr. Longmaid's patent was worked out by Mr. Longmaid himself, and I am sorry to say it was not remunerative; but the other taken out by Mr. Henderson proved to be very valuable, because, since the time that Mr. Longmaid had taken out his patent, there had come into use in this country by alkali makers, the Spanish pyrites, consisting of sulphur and small quantities of copper and iron. By the use of this process with the burnt ore, *i.e.* after the alkali manufacturer had taken out the sulphur roasting it, with the portion of sulphur left in with common salt, the copper was able to be extracted by lixiviation, and what was really the unremunerative part of the process, the iron ore which was left behind in the vats, became valuable as an ore in the manufacture of iron. The price that was obtained for that iron paid for the whole process, and made it a remunerative manufacture. Now, the pyrites that we obtain from Spain and Portugal comes essentially from two mines.

One belongs to Mr. James Mason, and the other was bought up by an English company, the Tharsis Sulphur and Copper Company. The Tharsis Company, when it started, bought up Mr. Henderson's patent, or rather, Mr. Henderson was one of the promoters of the company, and sold his patent for a considerable sum of money to the company. The effect was clear. Mr. James Mason, who supplied a number of manufacturers with sulphur ore, could supply them only at a higher price than the Tharsis Company, because the company, by means of the patents of Mr. Henderson, which they had bought up, could make use of the residues after the burning of the sulphur; and, as I said before, that would have led to a monopoly of the sulphur supplied to the alkali manufacturers in the hands of the Tharsis Company, if it had not been for what I am going to state. Many other manufacturers knew that by treating the ore in this way we could get out the copper and sell the iron, but as Mr. Henderson claimed the patent for it we were afraid to do it, and we did not do it. The Runcorn Soap and Alkali Company, very luckily for the alkali manufacturers, commenced the extraction of the copper, and Mr. Henderson came upon them for the infringement of his patent, and after litigation which spread over two years, at a cost to the Runcorn Soap and Alkali Company of £4000, and the great annoyance of being taken away from attending to their own business, the case was compromised. Those processes can be carried on either in what are called open or close furnaces. Mr. Henderson carried on his process in close furnaces, and the Runcorn Soap and Alkali Company carried on their process, as Mr. Longmaid had proposed to carry on his process, in open furnaces. Of course, Mr. Henderson said at first it was impossible to do it in open furnaces; but luckily for us, the process succeeded even better in open furnaces than in close furnaces, and a compromise was made on that point. Mr. Henderson withdrew all claim to open furnaces, and since that time we have been free from the incubus of those patents. We, together with Messrs. Phillips and Claudet, started the Widnes Metal Extraction Company, and we carry on that process in all the essential particulars, the same as Mr. Longmaid. It is a very remunerative process; we have improved on it, and we now not only extract copper, but silver and gold, by a simple process invented by Mr. Claudet. At one of our largest works, and one of the largest in the kingdom, at Flint, in North Wales, we have put up copper works for extracting copper by that process. Now, if it had not been for the courage of the Runcorn Soap and Alkali Company in fighting that patent, we should have been handed over to the mercy of the Tharsis Company both for our ore, sulphur, copper, and everything else. The Committee will see that in all essentials both patents are the same. Mr. Henderson's patent only becomes valuable not on account of the variation of the process, but because in the meantime those ores come from Spain, and by treating those ores we get a substance which can be largely used in the iron trade. . . .

Mr. Macfie.—Was it with a view to taking advantage of this new raw material that Mr. Henderson did take out a patent?—Yes; and it was also this: Mr. Henderson having that patent, was able to obtain

a considerable royalty from the Tharsis Company. How much royalty did he get?—I believe it was £60,000 promotion money that he obtained, but I am not quite certain. What was the amount of merit that entitled Mr. Henderson, in a moral point of view, to claim the patent?—That he applied Mr. Longmaid's process to a new article. I believe any alkali manufacturer would have done it afterwards as soon as the necessity arose. You do not think that any addition was made to our useful stock of practical knowledge by the fact that Mr. Henderson took out the patent; that knowledge was possessed and open to the world before, was it not?—Yes; in fact Mr. Henderson proposed to do things which are rather inconvenient in the mode of carrying on the manufacture than otherwise. Have you any reason to think that chemical patents are very frequently crude suggestions, of no value until worked out by practical men, and, if so, can you give any reason for entertaining that opinion?—I think I could give instances of that, but they are so numerous that I am afraid to call on any of them. I am sorry I have not got a list of the chemical patents with me, but any one could see that the mass of them are merely crude suggestions; and I can give the Committee an instance of an idea of Baron Liebig's which was taken up and patented in this country by Mr. Lawes, and which was afterwards, I believe, the subject of no end of patents; but there was a crude suggestion put forward in a scientific manner by Baron Liebig, and patented by Mr. Lawes, and that crude suggestion, in the hands of practical men, has become a manufacture of the utmost importance, namely, the manufacture of artificial manure. I might also give you other instances. There are several patents of Mr. B. that were very valuable in our manufacture as suggestions, but they were suggestions merely. Many of them Mr. B. himself has tried, and many of them have failed, but in the hands of practical men they have become of great value; the manufacture of caustic soda, I might instance, as a very simple suggestion, in the first instance. B. is a name very well known in the patent world, and he has taken out for the manufacture of alkali some scores of patents. I think another evil that arises is, that in working out those chemical processes, those crude suggestions, particularly where we have a new material to deal with, we have to alter the apparatus. Now, in altering the apparatus we alter it according to our own observation. Any manager of chemical works will find, perhaps, that the substance he is treating cannot be treated in the apparatus he has got, and he alters it accordingly. He finds that it is a little better, but he has to alter it again, and he continually improves it until the right form is hit upon. Nothing can be more legitimate than for a manufacturer to do it, but he has not only to exercise his own power of observation in those steps, but he must look out to see whether A. or B before him has not, perhaps, for some totally different purpose, suggested a furnace or a boiler, or an apparatus of the very kind that he wishes to adopt. Nay, more than that, I cannot see how a manufacturer can be expected to know whether he is infringing a patent or not. Mr. Aston, in his evidence before this Committee, stated that it was very difficult to possess the mind of the judge, and mor

particularly the jury, of all the facts connected with a patent case; yet he seems to me to think, and all the advocates of patents seem to think, it is quite easy for a manufacturer to know whether he is infringing a patent or not, but I know nothing more difficult. Mr. Aston also said, in answer to a question put to him, that it was not likely that two persons should stumble on exactly the same invention; that such a thing only occurred twice in a century. Now, if he was speaking of great discoveries, like the discoveries of Faraday, or Liebig, or Davy, I could understand that, but so far from two people not stumbling on the same invention often, it is a very common occurrence. In fact, in my own trade, I have stumbled, or rather I have been, from the necessities of the case, brought to use certain apparatuses, and certain substances, that have been claimed as patents by other people, and I did it without knowing anything at all about them. And that will lead me to give the Committee the history of a case in which I became engaged for the infringing of a patent. Will you kindly favour the Committee with that case?—Some ten or twelve years ago, or perhaps longer, a representative of the Liverpool Gas Company came to us and stated to us that he had a substance which contained sulphur. That substance being peroxide of iron which had been used in the de-sulphurising of gas (the purification of gas), and after having been used a considerable time the sulphur had accumulated in it, and he could not use it any more for the purification of gas. He asked me if we could use it in our manufacture. When I heard that it contained sulphur, I said, of course we might use it. I tried the substance, and I found that, in addition to the sulphur, it contained a large quantity of sawdust, which interfered with the process that I wished to apply it to. I told him that if he could get rid of the sawdust, and bring the substance free from sawdust, I should be able to use it. Some few years afterwards he came to me and informed me that this refuse had been accumulating upon him, and that the Corporation insisted on his removing it, as it was a nuisance. I said to him, "Give me fifty tons to try it." I tried it and I succeeded, because there was no sawdust in it, and I then used a considerable quantity. The price of pyrites was very high just then, and I was able to afford to pay 11s. a ton for this refuse. After I had used it for some time, I received a letter from a gentleman, whom I will call Mr. A., saying that he had heard I was infringing his patent. I wrote in reply to him that I was very much astonished to hear that anybody could patent the use of sulphur, because that was what I was doing; but he insisted that he had a patent for the purpose. Now, at first I felt rather inclined to pay him a small royalty, and I have no doubt that if we had been using it at our Flint works instead of at our Liverpool works, as I should have had to consult my partners, who dislike litigation (and perhaps justly so, because they have suffered by it), I should have been forced to give in and pay a royalty. However, I was free, and I refused, because my own idea was that it was impossible to have a patent for the refuse of sulphur; however, I found on consulting a patent lawyer for the first time in my life, that it was quite possible, and that if I could not prove prior publication, the patent might be valid. That was rather hard on me,

who had discovered this, at least I should say so were it not that every tiro in chemistry would be able to do the same thing. I say it was rather hard that I should have to go and look over all kinds of books and patents to find out a prior publication; so I went to the Gas Company and asked them, as they had been engaged in a very protracted litigation with Mr. A., on another patent or patents, for the use of peroxide of iron in the purification of gas, and they pointed out to me a prior publication of the use of this substance in *The Gas Light Journal*, I think, and when once I had seen it, I felt that I was free, and contested the point with Mr. A. He, of course, threatened to bring actions against me, and after some discussion about the merits of his particular apparatus for the burning, which was not very much better than my own, the price of sulphur having fallen in the meantime, so that I was not able to offer a higher price for the stuff, Mr. A. bought it up, and we settled it in this manner: Mr. A. was forced to remove it from the gas works; in the meantime he could not get his apparatus finished in time, and he came and asked me to take it. I said I would, on condition that he withdrew all claims against us. He did so; but Mr. A. had stopped a manufacturer in London from using it, though his patent was clearly invalid, even according to the present law. But by his action against us, and by the annoyance we were constantly subjected to by him, we were practically removed from him as competitors in the purchase of the article; and with those two patents, both of them, I believe, invalid, he has got a monopoly of the supply of the article for the purification of gas throughout the United Kingdom, at the same time preventing us in certain cases from making use of what is a very valuable material in our manufacture. Have those patents been profitable to Mr. A.?—Exceedingly so. What has been his pecuniary profit?—It has been very great, I believe. Has he licensed any one?—Yes; in Liverpool, I believe, he has licensed one person, and he may have done so in London. Did Mr. A. do anything to get his patent introduced in other manufactories than his own?—I cannot answer that question. He never came to you, or any house in the Lancashire district, so far as you know?—No. I am told that most of the gas companies in London have licenses under Mr. A.'s patent; are you cognisant of that as a fact?—We must keep those two patents distinct. The first patent is for the use of peroxide of iron in the purification of gas; and the second patent is for the use of that refuse after it has purified the gas. Now, Mr. A. had got a contract to supply a certain number of gas companies in London with peroxide of iron for the purpose of purifying gas. A company in the north of Ireland found that bog iron ore, or ochre, did exactly the same thing, and they supplied the Liverpool Gas Company, and I believe they now supply one or two of the London Gas Companies with it; but they still supply the Liverpool Gas Company with the native bog iron ore. Now, what has enabled Mr. A. to do this? Because, although his first patent for the use of peroxide of iron for the purification of gas has expired, the second patent enables him still to hold the monopoly; and in that way he has virtually obtained that prolongation of his patent which was refused before the Privy Council. Are there many patents which

in your opinion, are invalid?—Of course at that time I went into the question whether the patent was valid or invalid, and I found, from the opinion of counsel, that if a claim was made for something which had been published previously, the patent was invalid until the disclaimer. I should say, judging from the many chemical patents I have seen, that they are all invalid on that ground. Are they as valuable to the holders as if they were really valid?—To judge by the case of Mr. A., I should say it was quite so. But they seriously inconvenience trade, you say?—Decidedly so. I could also give other instances of patents for the consumption of smoke; patents for the use of carbonic oxide gas applied to various processes in our trade. Sometimes we have paid sums of money to prevent people attacking us, though we knew that if the patents came before a legal tribunal they would be declared invalid. Am I right in thinking that the competition as between the public on the one side, and the patentee on the other side, is over-weighted very much on behalf of the patentee; and that, in fact, he gets the entire benefit of a success, whereas any one who stands up to get an invalid patent nullified gets only a small fraction of the benefit; and, therefore, there is a very strong inducement on the part of the patentee to go to great expense in threatening lawsuits on the making use of those miscalled new inventions?—I should decidedly think so. Another evil I experienced was this: that I could not find out from any person how much I should have to pay, supposing I was found to be infringing a patent. I think what I have said about an invalid patent being nearly as good as a valid patent is a pretty good reply to what Mr. Webster said when he was asked whether the manufacturers had not continually to be on the look-out to see if they were infringing some previous patent, and he replied that a patent could not be granted for something which was in an existing publication. But if my experience be right, that invalid patents are pretty nearly as good as valid ones, that falls to the ground. Have you ever heard the expression used of "the free domain," and have you any suggestions to make to the Committee on that point?—That question of free domain I take from the evidence given before this Committee. I noticed Mr. Webster's reply, and it seems to me that if invalid patents are as good as valid ones, in order to levy black mail from manufacturers, that was quite an answer to Mr. Webster. I decidedly think that the free domain is encroached upon by so-called inventors. You yourself contested the patent that you have mentioned?—Yes. Is it your opinion that manufacturers generally are indisposed to contest patents of which they doubt the validity?—Decidedly; in fact, in the case of Mr. Henderson's patent, which was also invalid, we dared not have used it, and we dare not have raised litigation. Another company that raised the litigation benefited our trade; but we ourselves, and many others in the trade, did not dare do it; in fact, so much were we afraid of litigation in that case, that until we obtained a guarantee from Mr. Mason, who owned the pyrites mines in Portugal, that he would bear all the costs in case Mr. Henderson proceeded against us, we did not dare to start the Widnes Metal Company. Then the number of actions in the law courts on the subject of patents gives no real idea

of the amount of actual interference with manufacturing operations, does it?—Certainly not; in our own case, I have often paid royalties where I have been convinced that the patent was invalid, just to get rid of the annoyance, and because I would not go into Court. Suppose the patent laws are maintained, have you any suggestions to make to the Committee with regard to the means of ridding manufacturers of this misfortune?—After giving considerable thought to the matter, I have come to the conclusion that it would be in the interest of the public, provided certain safeguards can be given by a strict preliminary examination, to grant patents in certain cases. I have previously alluded to the crude suggestion of a chemical reaction or principle known very often to every chemist, but patented only by some man who thought he could make good use of it. Now if one of those crude suggestions on chemical reactions or principles is taken hold of by an inventor in conjunction with a practical man or manufacturer, and they work it out for some years, and they perfect it at a cost of considerable expenditure and continued thought, in that case I think a patent might fairly be granted. But I think such cases are very few. Also in cases where there is a perfect novel idea which is proposed to be applied, if it could be made practicable within a reasonable period, say six months, there, I think, on condition that it is really novel, and that it is a practical invention, a patent might be granted; but if we have patents, even in those cases we must have compulsory licenses, in my opinion. To whom would you commit the duty of deciding in what cases patents should be granted?—I believe, and I have reason to believe, that a high-class tribunal, as suggested by Mr. Justice Grove, with the aid of scientific assessors, an engineer and a practical chemist, perhaps might be able to decide that question; but I think that the guiding principle of that tribunal ought to be this, that the *onus probandi* ought to lie on the applicant. They should take the position of defenders of the public right, and the applicant must prove that he has something that is deserving of a monopoly. Have you read the evidence of M. Schneider?—Yes. Do you approve of his suggestion that there might be patents given as an exceptional matter?—That is really, I think, pretty much my own idea. I agree with that, but I think possibly patents might be more frequently given than he seems to think; but if we once get this tribunal, that tribunal would decide, and after an experience of it, if we still found that such evils as we suffer under at present existed, I think we should be forced to abolish patents altogether. You agree with Mr. Justice Grove in that opinion, do you?—Yes. I think you have stated that if your views were carried into effect compulsory licenses would be required?—Yes. Will you be kind enough to favour the Committee with your views on the subject of compulsory licenses?—So far as chemical manufactures are concerned, most of our licenses take the form of a percentage on the saving or profit. Now I think we might lay it down as a rule that licenses should be compulsory, and that the royalties should be limited to a maximum percentage of the saving,—we will say ten or twenty per cent., but it would vary in each case; and I think that with that limit it might then be left to arbitration to decide, or possibly you might leave it to this proposed

tribunal to decide, what percentage should be paid in the particular case before them; that I think would meet the difficulties. Have you found any correspondence between the magnitude of the pecuniary advantages received by patentees and the intrinsic originality of their inventions, and the expense they have incurred in maturing or introducing those inventions?—I think not; the instance of Mr. A.'s patent, which is very valuable, and which is not original, is a very good case in point. Then hundreds of thousands of pounds might be received for an invention which was rather a happy thought, and likely to occur to any one, than for working out at a great expense, perhaps, a new idea?—Yes. Does the patent-law admit of any improvements in that respect; for example, that the manufacturers in a certain trade might have the right to go to some tribunal and beg that a new invention should be valued, in order that they might pay up that amount, and throw the use of the invention open free to the whole community?—I think such a provision would be very valuable indeed. Have you any suggestion to make to the Committee as to working such a plan as that out?—Not off-hand, that had not struck me; but it appears to me to be the corollary of compulsory licenses. Has the establishment of free trade in any way interfered with the position of manufacturers in this country, with regard to their ability to compete with foreigners, the one having to pay patent royalties and the other probably not?—I think under the *régime* of free trade we are brought into much more intimate competition with foreign manufacturers than we were before free trade was established, of course; and certainly free trade on the Continent is developing foreign manufactures very rapidly. No doubt we benefit by it; but the Continent also benefits by it, and their manufactures are making enormous strides. Looking to the future, I can see that we in our chemical trade will have very severe competition from Prussia, because Prussia practically has no patent-law, or only such as I have suggested, with a very strict preliminary examination. There are many patents for which we pay royalties which are worked, and will be worked in Prussia, free of royalties. Hitherto Prussia has not come into competition with us in chemical manufactures, but I expect that in a very few years we shall find she is competing with us. France already competes with us at certain times. We thought we had almost a monopoly of the alkali manufacture for export on account of the great natural advantages that we possess in coal and salt, and so on. France, however, is able to introduce her goods into this country free of any duty whatever. We have no obstructive duty on chemicals. France, on the other hand, has a duty on our chemicals. France also gives a very considerable drawback on all chemicals that are exported on account of the salt that is used in the manufacture, and she competes with us. Though there is a patent-law there, and they pay royalties in certain cases, still they often do not pay the same amount of royalty that we do, and we suffer from their competition. You think, if patents are continued in this country, that the patentee should be bound to patent in France, and charge the same royalties there as he does in this country?—Do you mean that there should be an international patent-system? I mean, would it be advisable, in order to mitigate

those evils, that there should be an obligation on any person taking out a patent in Great Britain that he should take one out also in the other countries with which British manufactures are to compete?—I think so, decidedly. Or else to establish an international system, if possible?—Yes. Has France itself suffered from the monopoly principle introduced in the French patent-law?—The manufacturer in France has suffered in the case of chemical patents with which I am somewhat familiar, and that is in the case of the aniline dyes. I find M. Benard, who is a very celebrated political economist in France, cites the case of Hofmann and the patent for aniline which Mr. Perkins has got. In the year 1856 Mr. Perkins's patent was for a fine mauve and violet colour. Then M. Hofmann, in working on the aniline colours in the year 1858, discovered how to produce the red colour by a certain process of oxidation. Those aniline colours are all produced by oxidation. M. Hofmann discovered the red colour, and he sent a *mémoire* to the *Académie des Sciences* of France, in which he gave the exact method for producing this magnificent crimson red. M. Hofmann took out no patent, as is very frequently the case with men of science. Six months afterwards, a manufacturer in France, who had tried to get a patent for that discovery of Mr. Perkins's, sold to a manufacturer of chemical products a process exactly similar to that of M. Hofmann. The patent was granted, and the product manufactured. Very soon in France and abroad more advantageous and improved methods were discovered for producing the same colour; for, of course, you may oxidise with all kinds of materials. All the manufacturers tried to use the new process, and they were prosecuted, and condemned for infringement on the right of the patentee. It then followed that one kilogramme of red of aniline was sold abroad for £12, and the monopolisers in France sold it for £40 per kilogramme. The consequence was that the French dyers had to obtain their aniline colours from abroad. A. Schlumberger, of Mullhouse, established a new factory at Bâle, in Switzerland; Jean Feer, of Strasburg, established a new factory at Bâle; Paterson and Seikler, of Saint Denis, established a new factory at Bâle; Poirrier and Chappal, of Paris, established a new factory at Zürich; Monnet and Dury, of Lyons, established a new factory at Geneva. Then there were several other establishments raised by Swiss people, so that this aniline of the French undoubtedly suffered from a patent encroachment on what was free domain. Do you know Monsieur Benard?—Yes, I know M. Benard pretty well. I met him at the time of the negotiations of the French Treaty, and a very able political economist he is. Have you paid any attention to the works of a still more eminent economist, Mr. John Stuart Mill?—Of course, in considering this subject of patents, I have read Mr. John Stuart Mill's views on the subject, and I must certainly say that I do not agree with him. Have you any remarks to make with regard to his theories?—I admit entirely his definition of property. He says, "It is the recognition in each person of the right to the exclusive disposal of what he or she have produced by their own exertion, or received either by gift or fair agreement, without force or fraud, from those who produced it. The foundation of the whole is the right of producers to

what they themselves have produced." Now I agree with that, but I cannot agree with Mr. Mill's conclusions. I admit the natural right, but I cannot see that that right can carry with it the right to prevent another from producing.

Mr. J. Howard.—Does he state any such thing?—I simply say that I cannot see that that can carry with it the right to prevent another from producing. I admit his right to his own product, but not his right to prevent another person from producing; in fact, I agree on this point with Professor Rogers, who says, "If a law can confer a right on one person only by inflicting a wrong on a number of other persons, it is intrinsically vicious, and cannot be defended on the ground of its intentional goodness."

Mr. Macfie.—Do you think that that applies to the patent-law?—Yes; and I think it also prevents many a person even from using his own productions, as I have shown. Mr. Mill goes on to say that he thinks if you can find the original inventor, you ought to give him a monopoly. Now, my answer is, that the difficulty is to find him. Very often you do not give it to the original inventor, but to some one else.

Mr. J. Howard.—That is no answer to Mr. John Stuart Mill's remarks; he puts the case hypothetically, does he not?—Yes, decidedly. He says if you can find the original inventor, and that is the point on which I take issue; I say that in nine cases out of ten you cannot find him.

Mr. Macfie.—Does not Mr. John Stuart Mill hold that the characteristic of patents is this, that the parties who pay the patentees are the parties who actually receive the benefit of the invention patented?—I suppose he would mean there that the manufacturer who paid the patentee would receive the benefit. No; the Honourable Member for Bedford, in his very interesting evidence, quoted from Mr. John Stuart Mill, who laid it down as the characteristic of patents, that the recipients of the benefit, namely, the consumers, are the parties who actually pay the royalties to the patentee?—That is clearly not the case where we are subject to foreign competition. It does not at all follow in that case that the consumers pay it. We will suppose that there is a profit of 10s. a ton on the prices, and the foreign competition lowers that profit down to 5s. a ton; then the consumer only pays 5s., and not the whole 10s. Then Mr. John Stuart Mill's theory is only correct on the supposition that we have a world-wide patent system, is it not?—I think so. Have you considered the effect of the patent-law on the working men?—So far as chemical manufactures are concerned, I have had considerable experience, and I am speaking now of the larger chemical manufactures. With regard to what they do in a small way, such as in druggists' shops or in patent medicines, I do not pretend to give any opinion; but with reference to the larger chemical manufactures, so far as I know them, I do not recollect a single case where a working man has made a chemical invention. I do not think there is such an instance. I do not know what working men may do in carrying out processes and making suggestions with regard to apparatus, because that is before their eyes; but very very few working

men are familiar with the chemical laws, and consequently I say they are not likely to make any chemical inventions. . . .

Mr. Mellor.—You spoke of stumbling on ideas; but do you not think that a distinction should be drawn between stumbling on an idea and an idea which requires intense study and long periods of time before the development of that idea in a practical form?—The word "stumbling" was not my own; it was Mr. Aston's. But I quite agree with you that there should be a very wide distinction drawn between what might occur to any man and what is produced by long and patient thought, and very often after costly investigation. . . . Do you think that the public are injured by the present patent-law as applicable to your own trade?—We have suffered very much from the present patent-law.

Mr. Pim.—I think you spoke of a patent-right being sold to a single establishment, so as to give that establishment a monopoly. I am not quite sure whether I caught your meaning or not, but I thought it was, that injury was caused to the rest of the trade by a single manufacturer possessing the monopoly, and refusing to sell licenses to others; is that so?—That is what I meant. Would not compulsory licenses remove that objection?—Decidedly; compulsory licenses would remove that objection; but I gave an instance of a patent that was really invalid, and yet that might have thrown the monopoly into the hands of one company, if it had not been contested. Of course with regard to an invalid patent, that is a question for trial; but would not an improved system of patent laws get over that difficulty by creating a good method of deciding with regard to the validity of a patent?—I think in my evidence, when I was asked about what I would suggest as a remedy, I suggested an improvement in the patent law, and that you should confine patents to a very small number of inventions, because there is a very small number of real inventions. By that means the evils would be reduced to a minimum; at present it is impossible for a manufacturer to know whether he is infringing a patent or not. I think I understood you to say that under present circumstances you would be more in favour of reducing patents to a small number than getting rid of them altogether?—Yes, I think there are a certain class of inventions which, without patents, might be lost, or which would be at least retarded in their introduction; those which require a large expenditure of time and money in bringing to perfection.

Mr. A. Peel.—You do not contemplate the ultimate abolition of the patent-law, do you?—I am somewhat inclined to think that even after some experience of the strict preliminary investigation which was suggested by Mr. Justice Grove, we may be driven to the abolition of the patent-law. I do not wish with our present experience to say off-hand that it would be so. I know that in Prussia, where such a preliminary examination takes place, there is still dissatisfaction with the patent-law. They have sought to abolish it, although there are very few patents granted at present. Therefore I am not quite certain whether after the experience of a very much improved patent-law we may not still come to the conclusion arrived at by the Royal Commissioners, that the evils are actually inherent in any patent system whatever. Could you

oblige the Committee by suggesting any general principle which in your opinion should guide the new tribunal you propose?—My notions on that point are rather crude, but I think that in the first instance a man who had an invention which he thought was novel, and was likely to be of considerable utility to any trade, might come before the tribunal and lay that invention before them, give a preliminary specification, and then state that if they would grant him a certain length of time he would work it out and make it practicable. Whether that length of time should be six months or a year I cannot say. Then at the end of the six months or a year he might come again after he had worked it out. In the meantime I would give him a provisional protection; but when he should come again he should be able to show, if he was simply an inventor and not a practical man, that he had made progress with his invention, and that it was likely to become one of large and wide utility; then, I think, the tribunal ought to look into the question, and then they might make him, after another six months, file the final specification, giving full details of exactly what he claimed; and I think, possibly, that tribunal might also help him in the drawing up of his claim, so that he did not claim anything that was not really his own invention. The tribunal should decide on the question of novelty, in fact?—Yes. And utility?—Yes. With regard to compulsory licenses, you stated that a maximum should be fixed as the price of granting those licenses; would you propose to have a revision of that maximum from time to time. I contemplate such a case as this: That a license is granted for a patent under this compulsory system, and the patent appears to be comparatively insignificant, or unimportant; but as time goes on, its great utility is shown. Would it not be rather hard if, in that case, a low maximum were adhered to?—I think if great utility was shown, the very fact of that great utility being recognised would benefit the patentee by the thing being used to a large extent. You would never increase the maximum, would you?—No, I would put it high enough in the first instance. I would never increase it, but I would give power to the legal tribunal to diminish it if necessary, if they thought that in the interest of the public it would be right to diminish it; but at the same time leaving what would be a proper remuneration to the original inventor.

Mr. J. Howard.—Is there much secret working in chemical processes carried on at present?—Not to my knowledge. Would not the abolition of the patent-law tend in that direction?—Decidedly. The only reason that I advocate even the very strict patent-law that I have spoken of, is in order to mitigate to some extent the evil of secrecy. You have stated, I think, that you have had experience of patent litigation; have you contested patents at law?—No, I would on no account enter a law court. You have been able to carry on your business for a great many years without being involved in a patent lawsuit, have you?—Yes, that has been simply because we have paid royalties. But that is the fact, is it?—Yes. You have said that many chemical patents were granted for mere crude suggestions, I believe?—Yes, I did. But I understood you to say that some of those crude suggestions have proved very valuable to the public?—That they might. That

they had done?—No, I quoted what Dr. Hofmann said in his report. I think you mentioned that one of Mr. B.'s inventions had proved very valuable, did you not?—I made a mistake if I said that to my knowledge it had proved valuable. I think you said that those crude suggestions had proved very valuable, and you mentioned one of Mr. B.'s as an illustration?—That was a patent on which we paid a royalty, and it has become very valuable. It became more particularly valuable as soon as the patent expired. In the case of dormant patents standing in your way, would you advocate, in the event of a new patent law being established, that the patentee should be forced to go before the Commissioners at the end of three years for a renewal of his patent?—Yes, that would be a very valuable suggestion. So as to remove dormant patents out of the way?—Yes. You spoke of Mr. Longmaid's and Mr. Henderson's patents as being evidently granted for the same thing; but you said with regard to Mr. Henderson's patent, that his patent in no way added to our stock of knowledge, did you not?—I said it was exactly the same thing, practically, as Mr. Longmaid's invention. But did not Mr. Longmaid's patent add to our stock of knowledge?—In order to answer that question, I should have to go back and see if there was any prior publication. But, so far as you know, did it add to our stock of knowledge?—It may have done so or not. The calcination of ore with salt was well known years before, so I cannot say if there was any real novelty in the idea. But by making known his idea through his patent, Mr. Longmaid had conferred great advantages on the public, I suppose; is that so, or is it not?—That is rather a difficult question to answer, because the making known of anything is valuable. Valuable in your business, do you mean?—I do not know. I have no doubt it would have been otherwise discovered if it had not been made known in that way. I think you said that the making known of Mr. Henderson's process was valuable?—The process is valuable now, because one of the by-products has turned out to be valuable. The process was not of value in itself. You said that you had found considerable difficulty in your way in altering your trade appliances, did you not?—Yes. From coming in the way of patentees?—Yes, that is so. You spoke of the impossibility of a manufacturer knowing what was patented, and what was not; are you aware that for a very trifling sum you could get a search made at the Patent Office?—I can find out what is patented, but I cannot find out whether a patent is valid or not. But you know that you can find out at the Patent Office what is patented, do you not?—Yes; but practically it is very difficult, if not impossible, for a manufacturer to know what is patented. A friend of mine wanted to decorticate cotton seeds for the purpose of extracting the oil, and he did so. He told me that he took out a patent for it, and that he had written to a patent agent to search through all the patents to see if there was a patent for the same thing. He searched them all, and said there was not. He had not made a diligent search?—As soon as he took to working it, a man attacked him for infringing his patent. Mr. A.'s patent for utilising sulphur was a patent that ought never to have been granted, in your opinion?—Decidedly not. You have stated that, practically, an invalid patent

was as valuable as a valid one, and yet you told the Committee that when you defied Mr. A. he withdrew his claim. You arrived at a certain knowledge on which you resolved to defy him; was that so?—I was kept in hot water for three years. But Mr. A. did ultimately, on becoming aware that you possessed certain knowledge, withdraw his claim, did he not?—Yes, I fancy he did so because he had got it into his own hands, and did not think it worth fighting about. He continued to the last to say that his patent was perfectly valid, and that he had taken the highest opinion on it. In your own particular experience, have you any knowledge that the general public has found any difficulty in getting its wants supplied through the operation of the patent law?—We have generally supplied enough soda for the demand, but it is at a greater price. But you have spoken of the difficulties which the patent law threw in the way of manufacturers; in your particular business, notwithstanding what may be termed monopolies, has the public had any difficulty in getting its wants supplied with any article they required?—Yes, they have had a difficulty through the paying of an increased price. In what articles?—The price of sulphur to us was kept up by those patents that I spoke of. Was that so for a very long period?—For two or three years, until the Runcorn Soap and Alkali Company compelled Mr. Henderson to withdraw.

Mr. A. Johnston.—You seemed to think that Germany and Switzerland will derive great benefit from the absence in the latter, and the very limited existence in the former, of a patent law?—I do. And that the same advantage will be gained, more or less, by all countries where a patent law is either non-existent or only existent to a small extent?—Certainly that follows, as a matter of course. And that this advantage will increase every year as the facilities of international communication by railway, by post, and by telegraph increase?—Decidedly so. We find that that is the case at present. And the advantage will, of course, be greater where two States are conterminous, one of which has a strict patent law and the other has none; I mean the advantage to the one that has none?—I might say that England and Prussia are conterminous, because there is only the sea between them. But England and Prussia are not conterminous to the same extent as Switzerland and France?—Not quite. It is not so easy for an English manufacturer to establish a manufactory in Germany as it is for a French manufacturer to pop over the frontier to Switzerland?—It would be easier, of course, for a Mulhouse manufacturer to pop over to Bâle, but it would not be easier for a manufacturer at Rouen to go over. The advantage would be also greater for the nation not having a patent law where its language was identical with that of another nation having a strict patent law?—Yes. If either ourselves or the United States were to sweep away the patent law, would not the one that did so obtain great advantages in manufacturing by the use of the inventions not only made, but printed and published, in the other State?—Yes; the absence of a patent law in such a case would be very detrimental to the one which possessed the patent law. Have you paid much attention to the opposite argument urged by some of

the witnesses who have been examined before this Committee, namely, that a strict patent law in any country attracts inventors and men of ingenuity from other parts of the world to that country?—I do not think there is much weight in that. I do not think that the valuable patents in England are foreign patents. Although foreigners come here and take out patents, they are very seldom valuable. A foreigner in our own trade does not understand the necessities of the English trade and manufactures. Many of the patents taken out by foreigners are not applicable to English circumstances at all. Still, you say that Germany is competing, and is likely to compete still more successfully, in chemical manufactures, with England for instance?—Yes. And those manufactures are, of course, more or less of the same nature, and carried out in the same way, as the English ones?—Yes; allowing for the difference of locality and the difference of condition; taking the question of labour, for instance. Supposing an ingenious inventor in Germany hits upon two or three inventions, is he not likely to transfer his brains and ingenuity to England, because he thinks that he will get better protection there for his inventions than he would in Germany?—That might be the case. At all events you do not think that is enough to counterbalance the advantage which the State not having the patent law would gain by not being able to use the patented inventions made in all other countries?—Clearly not.

Mr. Macfie.—You objected in case of the institution of a compulsory license system to any raising of the rate of the license fees after the first settlement of the rate; will you be kind enough to give the Committee the reason why you would object to that?—I think that a maximum percentage of the saving is quite sufficient to pay to a patentee, say ten or twenty per cent., and I do not see any reason why we should pay more, even supposing his patent proves very valuable, because the more valuable it becomes the greater his remuneration. Would not this consideration have weight with you, namely, that a party might be led to establish works at a great expense, and if the rate was increased afterwards, the contract would have been violated in his case, and the advantage which he contemplated when he laid out this money he would be disappointed of?—In that case I think he would receive less, and another man who had not laid out the money would receive more; but I object to the increase of rate. Would you not say that all royalties should be at an equal rate?—No; I would fix the maximum, and I would leave it to the tribunal to decide within the maximum what should be the royalty that the public should pay. You consider that your plan of limiting the number of patents would be beneficial to manufacturers, do you?—I think decidedly so. And in being beneficial to manufacturers, would it be at the same time beneficial to working men?—Yes, I think so; because no doubt if those obstructions were removed, as they would be to a very considerable extent, there would be more employment given to working men. Then the advantage of the employment you consider greater to the class called operatives, than the advantage of patents given in a few instances to working men?—I think, on the whole, that patents act very badly on working men, and on many inventors. They lead them

away from their proper business into pursuing phantoms on the chance of getting a prize in the lottery, because it is virtually a lottery. Is it the case that there is a prejudice or prepossession in favour of patents in the minds of working men?—I think it very possible that with regard to the working men engaged in mechanical trades there is a prejudice in favour of patents, but in the chemical trades I do not know an instance of a working man taking out a patent.

MR. WILLIAM LLOYD WISE, patent agent, and MR. ARTHUR PERRY BOWER, Solicitor.—Sometimes I have clients in town for several weeks, and they have found it a great advantage, even with the inadequate accommodation at South Kensington, to go there with me; but if we had the Patent Office library in Southampton Buildings open as late, it would be far more central and convenient. . . .

Mr. Macfie.—I have looked with considerable interest at those two documents that have been just put into our hands. One is a document signed by a large number of individuals, and it contains on page 2 the following words: "That rules, regulations, and provisions be made under sections 3, 5, and 7, for the following amongst other purposes: Examination and report by such examiners as to whether the invention described . . . appears to be for any manner of new manufacture within the meaning of the Statute of James." In the paper signed by Mr. Bower, on the first page, under letter b, he says that competent persons should be appointed to examine "Whether it is an invention within the Statute of James." Now, the Royal Commission presided over by the present Earl of Derby a few years ago reported in the following words: "It is clear that patents are granted for matters which can hardly be considered as coming within the definition, in the Statute of Monopolies, of a new manufacture." Is that consistent with your knowledge?—Yes; I find that a great many patents are granted which ought not to be granted, and which would be weeded out by an examination such as I have suggested under letters a, b, and c. I find the following remarks on the American patent law, in *The Engineer* of the 4th June 1869: "With regard to the head of manufacture, we cannot do better than give the definition which Mr. Curtis has added as a note to his work. He says a manufacture would be any new combination of old materials, constituting a new result or production in the form of a vendible article, not being machinery." Is that the explanation you give to the word "manufacture"?—No; I should give it a much more extended meaning. Then what is that?—I would rather have the particular point put before me; for with regard to new "manufacture," it is very difficult to give a definition off-hand, especially in a way which would include all cases. I will read the words of the Statute of James?—I have read them a good many times. The words are these: "The sole working or making of any manner of new manufacture within this realm to the true and first inventor and inventors of such manufacture which others at the time of making such letters-patents and grants shall not use"?—It all depends on the question of "manufacture." I will give the opinion of Mr. Coryton, the author of a book on the law of letters-patent. He says, "On the

assumption that a patent confers a monopoly, it follows directly that the subject-matter of the patent must be a material thing, capable of sale, and cannot be either an improvement, principle, method, process, or system; in other words, the subject-matter must be, as it was originally defined, a 'new manufacture;'" and then he says, "A thousand evils have arisen from affixing other than the literal interpretation to the term." Do you agree with Mr. Coryton in that opinion?—No; my test would be this: When a thing is produced and has become something which is capable of being sold or used, then you must look to the mode in which it has been produced. You think that a process may be a manufacture within the meaning of the Statute?—Yes; otherwise I should have to exclude chemical matters. No; an article might be a manufacture made by a chemical process, and yet not be the process itself, might it not?—Then the result would be this, that you would make the person using the article produced an infringer; not making the man producing it an infringer, but the man who uses the process. Surely it is more correct that the man who uses the process for his profit should be the infringer. But has it not been held that the words of the Statute merely prohibited the making of patentable articles, and not the vending of them?—My recollection is, that the words made use of are "exercise or vend." Whatever the Statute of James may mean, the Act of 1852 gives the form of letters-patent, which the Queen may grant; and the words are these, "That So-and-So, his executors, administrators, and assigns, and every of them, by himself and themselves, or by his and their deputy or deputies, servants or agents, or such others as he the said So-and-So, his executors, administrators, or assigns, shall at any time agree with, *and no others*" (there is the prohibition, you see), "from time to time, and at all times hereafter, during the term of years herein expressed, shall and lawfully may make, *use*, exercise, and vend." So that here you have a prohibition that A. B., his licensees, and no others, are either to *make*, *use*, *exercise*, or *vend* the invention. Then am I right or not right in saying that there is something superadded to the Statute of Monopolies, where there is no exclusion whatever of the vending?—I certainly should not have thought so myself. I should have thought that if there was a patent for the purpose of a new manufacture, the process would have come within the words "New manufacture;" and I should have thought that that would have involved the prohibition in the Statute of Victoria. But does the word "vend" occur in the Statute of James, either inferentially or in express terms?—I do not see it. The words are, "The sole working or making of any manner of new manufacture within this realm, to the true and first inventor and inventors of such manufacture which others at the time of making such letters-patent and grants shall not use, so as also they be not contrary to the law nor mischievous to that State." I do not think I ought to set up my opinion against the decisions which the courts of law, ever since the Statute of James, have given; and they have put the construction upon it that the vending was properly within the right of the Crown to put into patents. But what I contend is, that the words do not occur in the Statute, and that the intention of the Statute has been changed

during the course of the two centuries and a half since that Statute was passed; is not that so?—I should have thought not.

Chairman.—You, as a practitioner before the Courts, take the construction of the law as it has been declared by the Courts?—Yes. But with regard to the operation of the Statute as so declared by the Courts, may I ask you this question: Whether it is in your opinion right, as a matter of policy (not as a matter of law), that an innocent user or buyer should be liable to an action for the alleged infringement of a patent under any circumstances?—Perhaps it would meet the case if I amended this printed paper by saying, "within the Statute of James as construed by the Courts;" of course I only know that Statute as construed by the Courts. With regard to the rest of the question, I am not aware that a mere user of an article sold is in all cases liable to a patent action. A man who wears a patent hat is not infringing a patent, and of late years, I do not think we have ever seen such an action brought against a person for such a mere user of a patented article.

Mr. Cawley.—Take the case of a secondary vender; supposing the user had bought it from a man other than the patentee, would an action have laid against the man who sold the article?—Yes; if not, you would really invite all foreign manufacturers to send their goods into this country. Then do you think that the vender, who may have been an innocent seller of that article, should be subject to an action at law?—I should have no objection that mere retail tradesmen should be exempt from any action, unless the article had been sold after notice had been given.

Mr. Macfie.—A former witness told me privately, that there was a case of riding spurs, where to a person wearing the spurs it was said, "Tell me who made them; if you do not, I will prosecute you for the use of them;" do you think that that information is correct?—I have not heard of that before. You are not aware of it?—No. In your paper I find the following paragraph: "Licenses should be compulsory in all cases of patents for improvements in an established manufacture or process, *e.g.* steam-engines, iron, glass, sulphuric acid, etc. etc., but not compulsory where a new article or process is the subject; *e.g.* a new method of reducing wheat to flour;" why should it not be compulsory in such a case as that?—There is this distinction: if there is an established manufacture, and there is merely an improvement in that manufacture, it is too great a monopoly to give to the patentee or the vendee of the patent from the patentee, that he should thereby get so much ahead of the whole of his competitors in the trade; but if it is an entirely new thing it is different; and the reason why I took the manufacture of flour was this, that it was a case I had something to do with. Years ago the old process used to be by grinding between stones, and this was a case in which it was to be done without any stones, and therefore the millers might go on using their old process; it was not an improvement on that. I think that a man who does strike out an *entirely* new thing ought to have a greater benefit than a man who simply improves on an old manufacture. In my constituency there is the largest corn mill in Scotland, and they say in the kingdom,

which carries on a very extensive business. Would it not be very hard on that great concern, if this patented improvement should enable the article of wheat to be ground much more economically, that they should not have an advantage which they are willing to pay a fair sum for?—I do not think that the gentlemen to whom you refer would have any objection to my suggestion. I act for them, and I know that they took out one patent. But if the Committee should be of opinion that your illustration does not carry out your own view, would you think that with regard to the trade which is interfered with there should be a right of demanding compulsory licenses?—Yes, I think so, where there is merely an improvement on an existing process. Will you be good enough to explain the meaning of these words in your paper, "That no *extension* of an imported invention should be allowed where the manufacture of the patented article has been carried on abroad?"—That suggestion arises out of an opposition which I conducted before the Privy Council a short time ago; it was the case of Wilcox and Gibbs's sewing machine. They had sold thousands and thousands of sewing machines in this country, but they had not made a single machine in this country, and one of the objections which I put before the Privy Council, on an application to extend the patent, was that it was contrary to public policy to extend the patent here really to benefit the manufacturer in America. I would not make that the test in the first instance, *i.e.* on the grant of a patent, but I would not allow an *extension* of the patent where the manufacture had not been carried on in this country. With regard to the paragraph which the Honourable Member has just quoted, I have put in the words "wholly or in great part" carried on abroad; otherwise, if only one machine was made in America, you could not give an extension of the patent. You would disapprove of the case that we have heard of here of a manufacturer of watches in Switzerland, where there are no patents, taking out a patent in this country, by which he debars the whole of the watch manufacturers of the United Kingdom from using it?—If they are all manufactured in Switzerland, most certainly I should disapprove of that in the case of an *extension*. Have you ever considered the expediency of having an international arrangement with regard to patents?—No; that would lead me into too many matters foreign to my vocation, which takes up the whole of my time. Do you then think it would not be expedient for the British Government to ask the Government of the United States, the Government of France, the Government of Germany, and the Governments of Belgium and Holland where there are no patents, to send deputies to this country in order to devise some common principles for rewarding inventors, by which the interests of one country would not be exposed to injury by want of uniformity between the arrangements of the several countries?—That again is a large question that I have not turned my attention to. (*Mr. Wise.*)—I think if an international patent law could be devised satisfactorily, it would be of great advantage.

Mr. Christian Allhusen, President of the Newcastle and Gateshead Chamber of Commerce.—*Chairman.*—You are the owner of the

Tyne Chemical Works at Gateshead, are you not?—I was until December last, when I sold them.

Mr. Macfie.—You have had practical experience with regard to patents, I believe?—Yes; I have negotiated the sale of patents, and taken out licenses to work patents; and I am a patentee myself. What is your opinion with regard to granting letters-patent?—My opinion is, that the present laws should be abrogated, because they retard improvement in manufacturing processes, and they act as a restriction on trade. Will you be kind enough to tell the Committee any way in which letters-patent act as a restriction on trade?—If any person invents an improvement in a manufacturing process, he can prevent his competitors from using that process, though the particular improvement he may have invented would in the course of a very short time probably have been discovered by other manufacturers. Do you consider that the present law gives advantages to foreign manufacturers which are withheld from producers in this country?—Decidedly. If the improvement has been patented in this country, the foreigners naturally see what is going on when they visit our manufactories, and they apply the same process in their own country; and inasmuch as patents are not always taken out in every country, and in some countries they cannot be taken out at all, the foreign manufacturer does not pay the royalty which the English manufacturer is obliged to pay. Do you believe that patents confer no benefits?—They confer positive benefits on one class, that is to say, patent agents; they confer benefits occasionally on inventors, but generally patentees lose money, as is clearly proved by the number of patents which have lapsed. Do you consider that the disadvantages of the present system predominate over the advantages?—I think the disadvantages predominate over the advantages, because sometimes the manufacturer cannot apply improvements made by himself without paying royalty to a patentee, and in some cases the patentee will only grant licenses to some persons, while he refuses them to others. Do you consider that, if licenses are granted at all, they should be granted generally?—If licenses are granted at all, I should say that they should be granted under some system of restriction; persons should not be at liberty to patent every improvement which occurs to them in any particular process. I draw a wide distinction between a positive invention, such as the art of printing, the transmission of messages by electricity, and the invention of the manufacture of gunpowder, and a simple improvement in manufacture. When small quantities are manufactured of articles, people do not pay that attention to the processes which they do when the trade extends. I will mention as an illustration the article of sulphuric acid. Gay-Lussac's patent was taken out in the year 1842; that was a patent for the recovery of nitrate of soda. At that time the quantity of sulphuric acid manufactured on the banks of the Tyne was not 5 per cent. of what it is now, and the improvements in the process took time to discover. I am practically certain that his principle would have been brought into practice within a very short period after he took out a patent. He granted licenses, but not every person succeeded in working his process, as the apparatus required was somewhat complicated. At

the end of fourteen years, application was made for a renewal of the privilege of taxing producers and consumers, on the plea that no profit worth naming had accrued to the patentee. It was thus admitted that the profits were small, whilst for fourteen years manufacturers were prevented from making the most of their productions.

Mr. Mundella.—Was an extension of his patent granted him?—No. I was asked to assist his agent for that purpose, but I refused. I have no hesitation in saying that the saving resulting from the applications of Gay-Lussac's principle, if applied to the whole of the sulphuric acid manufactured on the banks of the Tyne, amounts to £12,000 a year. This sum was not touched by the inventor, but he had the power to prevent the producer from effecting this saving. You say that he made no profit?—He did not make much profit, and he prevented others making a profit. Then how could you make a profit if he made none?—Gay-Lussac interdicted the application of the process patented by him, except subject to the payment of a royalty rent. I tried the process, and failed at first; but when the patent had run ten years or upwards, more reasonable terms were accepted. I have worked the process ever since; but had it not been patented at all, I should have adopted it in the year 1842. You say that he was the discoverer of the process; do you think that he should have given it to the world gratis?—I do not mean to say that inventions should be applied gratis, but in this case the principle or improvement patented would have been put into practice without Gay-Lussac's aid.

Mr. Macfie.—You know that M. Gay-Lussac's patent stood in your way, and you would have done the very thing independently of him, would you not?—Quite so. I was going to take out a patent myself, but he was before me. You say that M. Gay-Lussac had a patent?—Yes; and I have a license granted by him in my possession, though not here. Did he work that patent himself on his own account anywhere?—No; I think not. Did he license others?—Yes; he granted some other licenses. I think only two or three of the licensees succeeded in working the process successfully. Had M. Gay-Lussac, as an eminent chemist, not published in the French scientific periodical particulars of his discovery as a discovery in chemistry?—That is possible; but I cannot read all the French publications; at any rate, this invention had not come under my notice. You use the word "tax;" do you consider the payment of royalties in the nature of a tax?—The payment of a royalty operates the same as a tax, as it makes the article dearer. Of course a manufacturer charges a profit upon what he makes, so that the consumer has ultimately to pay the tax imposed by the patentee. You said that the consumer would have this tax to pay, but are you able to charge the tax on the consumer where you are brought into competition with a foreign manufacturer who is not paying a royalty to the patentee?—There is no question whatever that whatever enhances the cost of manufactures lessens their consumption, therefore we naturally contend for cheapness; in fact, I believe in no monopoly except that of cheapness. The price that you charge the consumer is brought down to the point at which the article can be produced by your rivals on the Continent?—Yes, in many cases.

And if he has not the tax to pay, but you have to pay it, then you may not be able to recover that tax from the consumer?—Just so. For instance, we in this country manufacture the largest quantity of bleaching powder. Frenchmen also manufacture this article, and they used to undersell us in the Russian market, because a drawback was allowed in France on the exportation. In that case the French nation paid the tax, and there the same principle operates; it was the cheapness of the French goods which periodically took the market from us.

Mr. Mundella.—Is that under any patent law?—No; it was under a regulation imposed by the French Government.

Mr. Macfie.—You mean this, that the price you can obtain in this country is regulated by the price which suffices your competitor manufacturing abroad. If he can undersell you, either from a bounty in his own country or because of exemption from royalties, that enables him to compete on terms unfavourable to you?—Naturally so; it is useless to attempt sales where others can sell cheaper. I think I understood you to say that you had acted as agent for the sale of patents?—Yes. When I was a merchant I was sometimes applied to to negotiate the sale of patents. On one occasion I recollect I received payment for the sale of a patent for the manufacture of prussiate of potass to a Mr. Bramwell, a Mr. Henderson, and a Mr. Hughes, I think. They paid £12,500 for this patent; it was the invention of a M. Possoy, in Paris. The process was to produce prussiate of potass out of atmospheric air. The purchasers of the patent laid out a very large sum of money on their plant, after which the manager of Messrs. Bramwell disputed the right of the patent, and expensive litigation took place, which lasted some time. Finally a decision was given in favour of Messrs. Bramwell; but, unluckily for them, they discovered that the invention was good for nothing, and they lost about £30,000 by it. Now here was, in the first place, an invention patented which never should have been patented. Then came the difficulty of litigation, which is inseparable from patents; and, finally, all ended in disappointment. Will you tell the Committee something of your own experience of patents, otherwise than in connection with that case?—I had to make some inquiry about this patent, and called on a patent agent while I was in town to obtain information (I am now speaking of the year 1844); but when I mentioned this patent, the person to whom I was referred did not recollect the names connected with it, but he was polite enough to let me look through his register. I then looked under the letter P, and was amazed to find that in that one office alone there were at least 100 patentees whose names began with the initial P. I was utterly astounded at that time, and came to the conclusion that the business of a patent agent must be a very good one; but inasmuch as barely one patent out of every 100 registered turns out to be of any value, I came to the conclusion that the patent agents benefit most by the present system. Will you be kind enough to explain to the Committee your experience in taking out licenses for the working of patents?—I have taken out a license under a patent for the manufacture of bleaching powder. There was great difficulty in making the process answer; in fact, the patentee took out three

patents, each of which was described as perfect, but the third one, I think, succeeded in establishing the invention. But if I am correctly informed, the process which made the invention valuable was discovered by an Irish labourer in one of the Lancashire works, where the experiment was carried on. Mr. Weldon and his partners in the patent have charged a reasonable royalty on the licenses granted by them, and I think they must now be in a pretty fair receipt of money from their patent. I hope that Irish working man came well out of the matter?—I do not know what he has got by it, but very likely he has been remunerated. It was the addition of a given quantity of lime which decided the efficiency of the process, I understand. Were you successful in working that patent?—Yes; I was successful in working that patent. You had considerable difficulty in working it, but you attained success?—Yes; we had considerable difficulty, and the apparatus was very costly. Still I believe that about eight or nine of the principal chemical manufacturers in England have taken out licenses. Did you obtain much assistance towards attaining success from the patentee?—He furnished the plans, but I believe my manufacturing partner, who superintended the erection of the apparatus, made some improvements. Who receives the benefit of those improvements besides you and your own firm?—That improvement was entirely due to my partner; he had the construction under his own charge, and persons who now desire to erect similar apparatus can go to our works and copy the erection. Were you bound under the license to give the benefits of the ameliorations that you made to the original patentee?—I believe so. I think there was that clause in the patent. . . . Can you tell the Committee anything about your experience with regard to the extension of patents beyond the term of fourteen years?—I believe that some extensions have been granted, but I cannot mention any particular case; but I have been interfered with in my operations by useless patents being taken out. When I began to make bleaching powder in 1844-45, I tried to discover which was the best mode of manufacturing it; and I understood that to apply heat internally and externally was the best principle. I then constructed my plant, and it was hardly in operation when I received a legal notice that I had infringed a patent. I did not think I had done so; but when I inquired into it, I found that a patent had been taken out for applying heat internally and externally. Finding I had to choose between destroying my plant, which was erected in perfect innocence, or to pay a patent right for something which I thought was not worth any royalty, I cut my pipes and lost about £250 by the apparatus. But within six months after it turned out that the patent was useless. I think that a system permitting such interference should be remedied. It appears that almost anything whatever can be patented at present. I suppose you would propose to have some manner of examination to prevent the granting of patents for trumpery objects, would you not?—I would prevent the granting of patents for improvements in manufactures. When a person takes out a patent for laying a rail in a particular way, I do not think that a patent should be given to him. Wherever an improvement is likely to be made in working out an existing manufacture, do you

think that no patents should be granted?—Yes, because those patents generally are taken out when the process is first introduced, which I think is unfair to the person engaged in the process of manufacture, for the one person who first applies for a patent obtains a monopoly over his competitors in trade. Do you consider that, as a general rule, any one engaged in a particular manufacture will find out for himself sooner or later (more likely sooner than later) the various means of applying it most economically and effectually?—Yes; so far as my knowledge goes, I should say everything of that kind would be found out. I speak now specially of mechanical applications in chemical manufactories. You have referred to the saving effected by that process of yours, and you told the Committee you considered the principle would have been applied without M. Gay-Lussac's aid?—Yes; it would have been applied without M. Gay-Lussac's aid immediately after the granting of the patent, I believe. Was M. Gay-Lussac the discoverer of the principle as well as of the invention by which the principle was brought into action?—No; the principle was perfectly well known before. My partner, Dr. Turner, brother of the Dr. Turner who was at the time professor at the London University, to whom I made a remark with reference to the cost of sulphuric acid, explained to me how the nitrate of soda used in that process might be saved. We suggested that we should take out a patent, but we found that M. Gay-Lussac had been before us. With regard to Mr. Weldon's process, can you give the Committee any information with regard to that process for the recovery of manganese in the process of manufacturing bleaching powder?—I am not a chemist by profession, and therefore find it somewhat difficult to describe this process correctly. Is there any other patent having a similar object?—Lately a patent has been taken out by Mr. Deacon, in Widnes. He generates chlorine gas without the aid of manganese, and if he should succeed, there is no doubt that his invention will put Mr. Weldon's process aside. But so far, though he has been experimenting for some years, he has only produced eight to ten tons a week; and at present I am informed he cannot produce a saleable quality. The principle is therefore still under trial. You pay, I believe, a royalty of 5s. What would that gentleman be inclined to charge for the use of his patent?—Mr. Deacon charges 10s. a ton. Does any other manufacturer pay as much as you do?—For Mr. Weldon's we pay all alike; but in Mr. Deacon's case I should say he would only grant patents to a certain number of people, because if he were to grant them to everybody, there would be about twenty times as much bleaching powder made as could possibly be used. He would injure the existing manufacturers?—Yes; he might do serious injury to those manufacturers to whom he refused to give licenses. Do you think that the granting of patents does conduce to the interests of the country?—I think it is injurious to the interests of the country, and am of opinion that a new system should be adopted if patents are granted at all. Your general opinion is that the patent law is injurious to the country, is it not?—Yes; I think it is so. It only does good in very rare cases to the inventor; and the disadvantages attending the system are greater than the advantages. For whose

sake do you think the patent law was instituted, and for whose sake do you think it is maintained?—I think it was instituted to induce persons to benefit the public. And not for the sake of inventors?—It was to reward inventors, which is right enough. If a person invents something, he is entitled to a reward; but then there are so few inventions, and the way the inventor gets his consideration at present is most prejudicial to the nation. In fact, it is the worst system of protection that has ever existed in this country. In my opinion, it is worse than the corn laws or the navigation laws of old. You are of opinion that Mr. Weldon's principle will be generally applied to the process of producing bleaching powder?—No doubt it will be generally applied, unless Mr. Deacon's process supersedes it. Is there any objection, do you think, to patentees fixing the terms on which to grant licenses?—I should say there is very great objection, because they may make one person pay more than another, and exclude one person from the use of the invention, while they granted it to another. It is a very dangerous power to give the patentees. May they not do it out of ill will?—No doubt; they have the power, and some people do very queer things. You have already stated that you are in favour of the abrogation of the patent laws; suppose the Committee do not share your opinion in that respect, is there any medium course that you can suggest?—If the patent law cannot be abrogated, I would suggest a Commission to be appointed, with powers to decide: first, What is an invention entitling the inventor to a patent; secondly, The terms on which a patentee should be obliged to grant licenses; thirdly, That the number of inventions patented be limited to a certain number per annum. The object with which I make the third suggestion is to put a limit to the number of applications for patents. A manufacturer never knows where he is; a process is commenced, and all at once he hears that some one else has taken out a patent for the very thing which he has erected, or is about to construct. As a general rule, do people engaged in manufacturing businesses know what patents are being applied for?—I can only speak for myself. I am sure that I do not know. I have too much to do to read everything bearing upon that subject, and I do not think that there is any record of easy access. A witness told the Committee that the manufacturers at particular places generally learn in the local newspapers what applications are being made for patents at the Patent Office, in connection with their own manufactures. Is that your experience?—I have seen a notice of that sort occasionally. Any notice of that kind appearing in the Newcastle paper would refer to an invention made by a Newcastle person. I am not aware that information of that sort has ever appeared before the manufacturers in any conclusive form. By making a search at the Patent Office, which necessitates coming up to town and spending days over it, I believe information regarding inventions may be obtained. Do you consider that the present mode of dealing with inventors provides sufficient security for the interests of the public?—No; I think it does not. Would you consider it advisable to give manufacturers the power of demanding, after a patent has been granted and found useful, that the invention

should be valued with a view to their subscribing together the amount at which it is valued, and thereby securing for the public the speedy extinction of the patent?—I should say that any principle that would secure to the public the benefit of any invention would be very recommendable. Whether the precise principle of a certain number of persons buying it would be best, or whether Government should do it, I have not considered. The Committee understand that a very large sum of money has accumulated in the hands of the Government, which capitalised would yield, perhaps, £40,000 per annum. Would you think it desirable that that sum should be put at the disposal of a Patent Commission, with a view to buying for the public numbers of small inventions that stand in the way of the public interest?—I have only heard it mentioned that such a sum exists; but I suppose it does exist. If the Government is in possession of so large a sum of money, I do not think that that amount could be applied to a more legitimate purpose than that proposed, namely, to the purchase of inventions for the benefit of the public. Are there not a great number of small inventions which are troublesome to the public, and of very little pecuniary value to the inventor, for which the inventor would be glad to receive a small sum, more as an honorary acknowledgment than anything else?—I believe that is the case. I know of such things myself. How does the patent system affect the working men, do you think?—Some working men have an idea that they are very inventive, and I am afraid they waste a good deal of time to no purpose; but in the practice and the application of processes, working men sometimes hit on inventions for which they are entitled to some acknowledgment. Do you consider that patents in any great degree interfere with the trade of this country?—I consider they are prejudicial to the trade of this country. In so far as they are prejudicial to the trade of this country, do you consider that they are prejudicial to the interests of the working men?—Yes; they retard progress, and they give an advantage to the foreigner, which the English producer does not in all cases possess. There are some countries where there are no patents at all. I believe that is so in Switzerland, and I believe it is very difficult to get a patent in Germany. Would it be advisable, if we maintain the patent law, that we should aim at an international system of rewarding inventions?—That would be a very good thing to do, but how to make so many heads of one mind is a very difficult question. Your experience is chiefly in connection with the great trades of the country,—trades that manufacture bulky articles; but there are other trades of a very different character, such as lucifer match-boxes, and small articles of that kind. Do you conceive that the objections in your mind equally apply to the manufacturers who produce articles of a minor character?—If I had my own way I would have no patent in either case. I have heard of a patent being granted for a pair of snuffers for different descriptions of lamps, and for candles, which I think is objectionable. Do you think that a patent should lapse in England at the time that any corresponding patent privileges lapse in countries with which British manufacturers compete?—If the patent system is to be continued, I think it would be well to make them

lapse at the same time, but it would be very difficult to conform to all the regulations of the countries in Europe, and of America. Have you observed any proportion between the magnitude of the pecuniary receipts derived from a patent, and the intrinsic value of the invention patented, or the expense at which the invention has been introduced to public notice?—There must be a very wide difference in the expense and in the utility, but I have no means of answering that question.

Chairman.—With regard to the patent taken out by M. Gay-Lussac, I understood you to say you were perfectly certain that the process would have been invented if the patentee had not invented it. What grounds had you for that statement?—Because my partner told me the principle on which the recovery of the nitre could be effected; and on my remarking, "Why do you not apply it?" he said, "We had better take out a patent." But we found we were too late, as M. Gay-Lussac had been before us. You think with M. Schneider, that there is a kind of epidemic of inventions; and that if one man is not seized with the malady, another man will be certainly attacked by it?—No; I do not go so far as that. What took place with regard to M. Gay-Lussac's invention I believe has taken place in many other cases. My partner was extremely fond of taking out patents. I think he took out at least fourteen or fifteen, and I was foolish enough to join in some of them. I waited a long time for a return, but I never got any, though his patents in some cases were purchased by practical people, subject to the principle being right; but there was always a hitch, and consequently no result. But you think that in the long-run the patent laws have done very little good to the actual inventor?—I think the actual inventor has only been benefited in some instances. But do you think that the public are benefited in the long-run by the stimulus given to inventions, no matter who brought them into use?—The public have been benefited by all inventions, but the benefits arising from inventions have been retarded unnecessarily by the privilege of fourteen years granted to patentees. I maintain that many of the inventions of which we have heard would have been made without the patent law. I am pretty certain on that point; at least, that is my experience. But is it not conceivable that one man should make a great stride in advance of all existing inventions?—Yes; for instance, the invention of sending messages by electricity. I think inventors of that class ought to be well rewarded. You would prefer a patent law applicable to such inventions as that, I suppose?—I would give a reward to such inventors. I would limit patents to real inventions, and not grant them for mere improvements in processes of manufacture. When you said that you would limit patents to a certain number of inventions per annum, do you intend to draw a hard and fast line, or do you mean that there should be certain legal principles by which the Commissioners should be actuated, which would practically limit the number?—I am of opinion that if (I will say for argument's sake) the number of patents were limited to twenty, that figure would cover more than the real and valuable inventions; but there is no reason why, if there were twenty-one inventions, the

twenty-first should not come under consideration during the next year. But if the public at large or scientific men knew that only a certain number of inventions would be considered during any particular year, it would save the Commissioners a very great deal of time and trouble, and small things would never be brought under their notice at all.

Mr. Mellor.—You are President of the Newcastle Chamber of Commerce, I believe?—Yes, I am. And you told the Committee that according to your opinion, the continuance of the patent law is injurious to the public interest?—Yes, I am of that opinion. Is that opinion shared in by the Chamber of Commerce generally, do you think?—The question has been considered on two or three occasions, and the Chamber have always passed a resolution in favour of the opinion expressed by me. You say that if there is a public improvement, it is always made by some ingenious mind. Do you imagine that the stocking frame, the sewing machine, the combing machine, the card-making machine, and the self-acting stripper, would all have been invented had there not been the reward which the patent law gives a man reason to expect he will obtain provided he is successful?—I think that the persons who invented those various improvements would have brought them under notice one way or the other. There may have been some stimulus given by the existing law, that in any case the inventions would have come out. Some people bring their inventions into notice, because it improves their position among their fellow men, and others bring them into practice because they make a profit by them. You have stated that the number of patents in your opinion should be limited annually to about twenty?—That is a reasonable number, I think; but there is no objection to fix fifty as the maximum. Take fifty as the number to be granted annually, and suppose Mr. Bessemer's had been the sixtieth application, would you then have rejected that application?—I would have taken it in rotation the next year, or given it precedence over other applications on account of its importance. Then you would transfer the surplus applications made one year to the subsequent year, and test them all according to merit?—Yes; I would transfer the surplus applications made one year to the subsequent year, and test them according to merit, and leave the Commissioners to decide which is the most meritorious.

Mr. Pim.—You spoke of manufactures as suffering by competition with foreign manufactures on account of our having patents in this country which do not exist in foreign countries; was that a general opinion, or did you refer to any particular manufacture?—It follows, as a matter of course, that it is so. I believe I know one case in point. When foreign manufacturers visit this country, we invariably allow them to inspect our works. If they see anything which is novel and useful, they naturally copy it for their own use. In some of these cases we may pay a royalty, and they may have to pay none. Are you aware of that discrepancy having been severely felt in any particular case?—I cannot say that I can speak to any particular case. You admit that M. Gay-Lussac had made a valuable chemical discovery, do you not?—M. Gay-Lussac applied a principle which I believe was generally known. I am satisfied that it was known to one chemist at any rate.

At all events, he applied it in a certain way, which would be considered an invention, and I think you say that he deserved a recompense for that invention. In what way, other than by a patent, would you suggest that he could obtain a recompense?—I say that he should not have had a patent, because the manufacture of sulphuric acid was then in its infancy, and at that time the very principle he proposed to apply would, as a matter of course, have been applied by others; as it was, in fact, intended to be applied in my own manufactory by my partner, Dr. Turner. It was the granting of a patent to M. Gay-Lussac which prevented the general application of that principle till the expiration of his patent. How did he prevent the application of that principle for fourteen years elsewhere?—Because he obtained a patent, and the people who would not pay the royalty of 4s. per ton were not allowed to apply the principle. Further, the apparatus being somewhat complicated, several people who tried did not succeed; and the restrictions imposed by the patent lessened the inducement to make those further efforts to bring it into practice which would have been made under other circumstances. I only succeeded myself after a second trial. Do you mean to say that M. Gay-Lussac charged too much for the royalty?—No, I do not think that he charged too high. I think it was about fifteen or twenty per cent. of the savings; but inasmuch as the apparatus had to be constructed at the cost of the manufacturer, and apparatus of that kind is not always successful, a manufacturer runs considerable risk. In any case do you think a patentee should be compelled to grant licenses?—Yes, he ought to be compelled to do so. And on the same terms to every one?—No doubt he should. Should that be a question of bargain between the patentees and licensees, or should it be fixed by a public authority?—The simplest way would be to make it a bargain between the patentee and the manufacturer, with a reference to a Commission if they cannot agree.

Mr. Mundella.—You were asked, I think, whether a patent should not lapse in this country immediately it lapsed in a foreign country, and you said that you were of opinion it should lapse?—Yes, I think it should. Are you aware whether it does or does not so lapse?—A certain number of years may be given on the Continent, and it does not follow that the same number of years should be given here. What I meant was, that a patentee can take out a patent here for fourteen years, and he can go to the Continent and take one out there; and that the two patents so taken out do not lapse at the same time. The foreign patent being generally the longer of the two?—Yes, it will be so generally.

Mr. Macfie.—Your opinion I understand to be this: That no patent should continue in operation in this country after the corresponding patent taken out abroad lapses there?—Yes, that would be advisable.

Mr. Mundella.—You spoke of the disadvantages with which the British trader is weighted owing to the patent system. Can you give a single instance of the advantage which the foreigner possesses over the Englishman owing to our patent law?—No, I can only answer the question generally. You never saw a specific instance of that, did you?—No, I cannot bring a case to my mind where a foreigner has under-

sold a British manufacturer in consequence of the patent law. Your objections have all related, I think, to processes in manufacture, and not to inventions in machinery?—Inventions in machinery are the same thing in essence; they are very closely allied. If a new machine is invented, something that has not been known at all, that I should call an invention; but if a slight improvement in locomotives was made, I should say that it would be the mere result of the working of the locomotive, and of practical observations which are necessarily made, and which suggest improvements. But is a slight improvement made in anything of value as a patent unless it is valuable to the consumer; in other words, is any patent of any value except in proportion as it confers a benefit upon the consumer?—Any invention which benefits the consumer naturally is of value. And in proportion as the consumer is benefited by the patent, the patentee himself is benefited, I suppose?—The extent of gain depends upon the extent to which the patent is taken up by the manufacturers, and the patentee is benefited at the cost of the consumer. Can you give the Committee a single instance of a patent which has been of the least value to the inventor which has not conferred great benefits on the consumer?—I think the consumer has generally been benefited by inventions, but he has not received the full benefit as early as he would have had it without patent law restrictions. You spoke of patents for snuffers and match-boxes; do such patents in any way interfere with trade, or injure the consumer, if they are paltry and contemptible patents. Do patents for trivial things at all interfere with any benefit which the consumer would derive if there were no patent law?—I think if any particular way of putting a match into a box gives one matchmaker an advantage over another, and you preclude the second man by law from doing the same thing, that is not a good system. But is that patent of any value to the matchmaker unless he gives the public a good part of the value?—I am so little acquainted with matches, that I am not able to give an opinion with reference to the benefit derived from improvements patented in that branch of business. You said that you had taken out a good many patents which have been of no advantage to you. Have those patents been injurious to anybody but yourself?—No, I think not, except to some person who tried to bring the invention into practical use, and failed. If he had brought it into practical use, he would have conferred a benefit on the consumer, would he not?—He would have conferred a benefit on himself at once, and the consumer would have derived a benefit fourteen years afterwards. You are in favour of granting patents for what you would call distinctive inventions only?—Yes. Would you consider an invention which converted a handloom, making at the rate of ten articles per day, into a power-loom, which would make one hundred per day, worthy of a patent?—That would unquestionably be an advantage; but I am not much acquainted with the processes carried on in Nottingham and Manchester. Is it not the fact, that those patents are the most remunerative which confer the greatest benefit on the consumer, and in which the royalty is so small that it is scarcely to be discovered or felt?—The smaller the royalty the more the advantage that would be gained by the consumer.

And by the patentee also, I suppose?—And possibly by the patentee also.

Captain Beaumont.—You stated that the consumer would come in for the benefit fourteen years afterwards; but I think that would require some qualification, because you say in your present answer that the royalty only bears a small proportion to the whole; consequently the consumer shares the advantage at once, does he not?—What I mean is, that most of the improvements that are patented would have come into use without the patent law existing; and, therefore, the consumer would have had the advantage so much sooner. At present it is withheld from him, except subject to a certain payment for fourteen years; but during that period he derives a partial advantage from the invention. You base your argument, in fact, on the supposition of the inventor producing his invention, whether a patent law exists or not? Yes; in ninety-nine cases out of a hundred he would do so. I have had several persons apply to me for leave to experiment in my manufactory. I have allowed some of them to do so, and if they had succeeded I would have had some benefit from the invention for myself before other producers could have entered in competition with me. You are aware that a large sum of money has been spent in developing many of the most important inventions; take the steam plough, the steam hammer, and the invention of Mr. Bessemer. The evidence we have had goes to show, I think, generally, that those inventors thought that unless they had had the protection of the patent laws they would not have carried on their inventions; do you think your opinion requires qualifying, or do you disagree with that evidence?—I disagree with it. There may be isolated inventions which would not have been introduced at all without the aid of the patent law, but most of these, I maintain, would have been introduced; the preponderance of disadvantages, therefore, attaches to the present system. You think that it is quite possible that such inventions as those I spoke of might not have been produced within a reasonable approach to the same time at which they were produced unless there had been a patent law?—The introduction of those inventions would possibly have been retarded to a certain extent. To a considerable extent?—It depends on circumstances. I think when a person finds out something that will make his neighbour think he has got talent, he will for his own sake, make the matter known, and in nine cases out of ten the inventor would obtain a benefit from the manufacturer to whom he brings his improvements. Many manufacturers would be glad to give a certain percentage on any saving that could be effected by improvements introduced by inventors. In the cases I have mentioned sums varying from £20,000 to £50,000 were spent before the inventions had any value at all; do you think that any possible appeal to the manufacturer would have enabled the inventors to go on?—I think so; for instance, the expenditure on Mr. Weldon's process amounted to a good many thousand pounds. In Mr. Bessemer's case, which is perhaps an isolated one, the expenditure would be greater than in most cases. Take the case of the steam plough; the expenditure was very large there, was it not?—It is possible; I do not know. Did I und-

stand you to say that you had been actually stopped in your own manufacture by a patent?—Yes. And seriously hampered?—Yes, I have been stopped in my operations, because I unknowingly applied a principle which had been patented; but which was not worth the payment of a royalty. What proportion would the royalty bear to the whole value of the production?—I considered this invention was not worth the payment of a royalty, and think the patent should not have been granted at all, as proved by the fact that it was abandoned six months afterwards; but in the meantime the patentee had the power to compel me either to pay a royalty or to destroy the apparatus I had put up. I preferred the latter course. It was not a question of your business being interfered with, except in the sense of your having to pay a royalty?—No; that is not exactly it. I erected the apparatus without having any idea that I was infringing a patent, and the patent being abandoned shortly afterwards, I was unnecessarily interfered with. But if you had paid the royalty you would have had a free course of action, would you not?—Yes, no doubt; but I considered it a hardship to be taxed when I had received no benefit. Since, according to you, a prohibitive royalty was put on, I should like to know what proportion it bore to the value of the manufacture?—I do not recollect (it was in the year 1844) the precise sum mentioned; in fact, I am not even certain that the sum was mentioned at all, but this I know, I was either to arrange with the patentee or destroy my apparatus at once. I did not think that the invention was worth the payment of royalty, and I therefore decided to destroy my apparatus. You were stopped, you say, by a prohibitive royalty, though the figure was not mentioned?—I was stopped by a notice from the patentee's solicitor. Then you were not stopped by the royalty?—I was stopped because I had infringed a patent unknown to myself.

Mr. A. Johnston.—Do you consider that the common opinion that the patent law is a benefit to the manual-labour class is a correct one?—I hardly know how to answer that question; but I do not think that many workmen are benefited by the patent law. Could you name any proportion of working men who give up their time to inventing and taking out patents that you suppose obtain any benefit by the patent law?—No, I cannot name any proportion. I recollect when I had to do with a large iron concern, on one occasion one of the clerks invented a particular bogey for carrying iron plates from one place to another, but whether he ever succeeded in introducing it or not I cannot tell; I know that he took out a patent for it. In another case I recollect somebody experimented in puddling, by the introduction of a certain proportion of lead, which increased the malleability of the iron, and I think he took out a patent for it, but whether it was introduced extensively or not I cannot tell. You have not had much experience of working men taking out patents, have you?—No, I have not.

Mr. Macfie.—By way of explanation I wish to ask you this: A question was put to you by the Honourable Member for Sheffield as to whether patents did not confer something of value on the consumer; was not your answer rather with regard to the question whether inven-

tions confer value?—Inventions of course confer value upon all persons who are benefited by them. But do you consider that patents confer value?—I do not think so, as I am of opinion that inventions will be made. You were also asked, Do patents interfere with trade? What is your opinion about that?—I think they do, because patents, though the patent law be abolished, confer monopolies. Then a question was put to you with regard to patent snuffers; if a person abroad had an invention for an improvement in snuffers and refused to allow those improved snuffers to be manufactured in this country, would not that patent be injurious to the trade of Sheffield, or the trade of Birmingham, or the place in this country where the article patented was manufactured?—Precisely so, because it would impose a restriction which should not be permitted. . . . Will not a great deal depend on the meaning that you attach to the word "benefit"; the word "benefit" means the introduction of something new, or the rendering of some valuable service; do you not think, as a general rule, that it is the invention which confers the service, and not the patent, the invention rendering the service in proportion to the improbability of its being discovered by another person?—Yes; that is so. But you do not think, as a general rule, that the patent system elicits such discoveries?—The patent system may possibly stimulate discoveries; but the disadvantages of the system are, in my opinion, greater than the advantages derived from it. In one of your answers you seemed hardly to allow that, in the absence of patents, the more novel and valuable inventions, to which you have referred, would be carried out. Now, may I ask, what is the extent of your own operations; what is the area covered by roofing at your works?—I think it is fifty acres. Are there other chemical manufacturers in the same business as yourself, on a great scale?—There are several others. If any scientific gentleman had made an important discovery in his laboratory, do you think it is improbable, if he stated the case clearly to you, that you and the Messrs. Stevenson, and the Messrs. Tennants, and the Muspratts, would not cheerfully combine to put down a few thousand pounds for experiments, and promise him a handsome reward if he was successful?—No doubt they would gladly do so; at any rate I should not object. And in the absence of the patent law, that would frequently happen, would it not?—There is no question it would. The existence of the patent law deters manufacturers from combining in that way does it not?—Yes; they have not an opportunity of doing so under the present system. One of the Honourable Members put to you a question on the supposition that to introduce a new invention sometimes costs as much as £40,000 or £50,000; have you ever heard of any invention produced at a cost corresponding to that?—I have a notion that the Bessemer process must have cost a good deal in experiments, but whether it has cost anything like that sum I do not know. But is it not a fact that, as a general rule, a very small sum of money is spent on experiments in introducing an invention by the patentee himself?—The patentee often has not much money to spend; his expenditure in those cases must be limited. You have spoken of infringements made in ignorance; is it not in the very nature of the

patent system, as constituted in this country, that infringements would be frequently, and almost always, unconscious?—There is no question about it. A case was tried a short time ago with regard to the recovery of copper from pyrites; somebody took out a patent for the recovery of copper from burnt-out pyrites. The invention unquestionably was a very good one, but it so happened that half a dozen people invented it about the same time. A patent existing, litigation resulted, and persons like myself who would have erected plant for the purpose of extracting the copper from the waste, were debarred from doing so until it was decided whether the existing patent was valid or not. The litigation, I believe, lasted five years. Then a person unconsciously infringing a patent lays out a considerable sum of money to introduce what he considers a valuable improvement that he has himself made; and the extent to which he has spent money may be taken as the make-weight to induce him to compromise with the patentee, although he very often feels that the compromise is an injustice to himself?—No doubt many such compromises have been made, though perhaps no valid claim existed, as compromises are generally preferable to going into Chancery. . . .

Mr. Anthony John Mundella, a Member of the Committee.—*Chairman.*—Is there any statement that you wish to make to the Committee with regard to the patent law?—Yes; I have been connected twenty-five years with a trade which has been in a transition process: twenty-five years ago the whole of the manufacture was carried on by handlooms; to-day nine-tenths of it is done by power-loom. I believe that nearly every invention that has conferred value on the trade has been the subject of a patent. Although no longer actively connected with the business with which I was connected for so long, I may say that during probably twenty-three years I took out in England fully twenty-five patents, probably more, nearly as many in France and Germany, and some in America; but the patents which we took out abroad were always in relation to the power of the foreigner to compete with us, that is to say, if the article we were manufacturing was one as to which people in America could not manufacture in competition with us, we did not think it worth while to take out a patent in America, whether their inability arose by reason of wages, or by reason of want of raw material, or by reason of not having all the auxiliary processes; but if it was something, say, in the cotton manufacture, which, possessing the machinery, the Americans could manufacture in competition with us, we invariably took out an American, or a French, or a German patent, as the case might be. I may say that during the whole of this time I have never invented anything, nor any of my partners; we have no inventive capacity. Every invention that has been made, and which we have patented (and some of these inventions have created almost a revolution in the trade), have been inventions either of overlookers, or ordinary working men, or skilled working mechanics in every instance; and, I believe, I should have no difficulty in showing the Committee that every invention that has been successful has only conferred a benefit on the inventor and on the public, while every invention which has

been unsuccessful has only conferred loss and injury on the patentee. Have you got any statistics which would enable you to say what the proportion is between successful and unsuccessful patentees?—I think in my own experience two out of three patents have been failures, owing to the fact that we have over-estimated the capacity of the machine, or that it has proved, in bringing it into operation, too complicated and too expensive; but in that case the loss has been our own, and it was one that we should have equally sustained whether there had been a patent law or not. It is the interest of all firms to be at the head of the inventions in their trade, and we have been always employing mechanics to improve on this or that process, or this or that machine. But is it not within your experience that a great number of working men in regular employment are led to leave that employment and pursue what frequently turn out to be *ignes fatui*?—Decidedly a great number of workmen are stimulated by the reward conferred on the inventors to pursue mere will-o'-the-wisps, just the same as many literary people and painters fancy they have genius, and also pursue will-o'-the-wisps because of the rewards conferred on the successful writer or artist. Is it not also within your experience that a large number of working men who are successful in one patent perhaps obtain what to them is a considerable sum of money, and soon dissipate it all in pursuing other inventions, and eventually they are worse off than if they had never invented at all?—No; I demur to the use of the words "large numbers;" it is a very limited number of working men who attempt patents; it is generally men who possess real inventive talent.

Mr. Mellor.—They are skilled artisans, I suppose?—Yes, skilled artisans. The trade of the town with which we have been connected for twenty-five years has probably developed more patents than any other trade in existence. The machinery is the most wonderful of any machinery in existence; I speak of the hosiery and lace trade. I believe I should be justified in saying that nine inventions out of ten are made by the workmen, and I believe that number is under the estimate.

Chairman.—But still you say there is a very limited number of working men who are affected by the question one way or the other?—Yes. Take the case of a factory like our own, with 500 people in it. I do not think that there are five working men who in the course of as many years would be trying experiments with machinery; but of those five, perhaps two would make some really useful discovery, and they would be promoted and rewarded for it. I will give you an illustration I found a working man with a little circular machine in a wretched garret; the support and standards for this little circular machine were a wooden chair with a hole in the bottom, and he was working it by hand through the bottom of this wooden chair. He was ill, full of rheumatism, and almost starving, and yet he had got a capital machine. I saw at once that it was a good invention, and I took him into our own employ to perfect this machine under a skilled mechanic, and I gave him 30s. a week. I think it was a year before he perfected it. Then I patented the machine, and gave him one-third of the profits. It did not bring him in a good deal, perhaps £300 or £400; but it started him in the world; and I see him now at the head of a nice

ittle business, and driving his pony-cart about with his goods in it. I could give many instances of that kind. One in particular, a machine which makes underclothing, such as shirts, drawers, and stocking-legs. The man, when he invented that, was really just coming out of the bankruptcy court from a little business of his; myself and my partners negotiated the transaction. I saw his machine, and was very much struck with it; and I said, "We will patent it, and take all the expenses and risk of bringing it to perfection, and we will give you one-third of the profit." Now my honourable friend the Member for Bristol took out a license under us, for which he paid £3000. I paid the man £1000 down, and we are licensing other manufacturers, and that man who invented the machine obtains his one-third, wherever it is done, whether at home or abroad. To show the Committee how little that taxes the consumer to the benefit of the patentee, I may say the article is an article for which there is great demand. Take a dozen of men's cotton drawers; formerly they would cost, weaving from the frame, without putting them together by hand, 10s. or 12s. The same thing is made now by this steam-power machine for 2s. 6d. a dozen pairs. Now, a farthing on a pair of drawers, or a farthing per shirt, upon all the machine produces, would be in itself a very large fortune, and it is very very much more than we, as patentees, ever dream of realising. But as a matter of fact, drawers are as dear as they used to be, are they not?—What the consumer pays is inappreciable. I never knew a patent of any value that did not so materially reduce the cost to the consumer as to make him give the preference to it over any other article. If a man came to me and said, "I have got a patent to do so-and-so, it will make the article half the price," that is an invention of some value; but if it is only a trifle under the existing cost, or if it is not a better article, the invention is of no value. You are aware that the proportion of successful to unsuccessful patents within your own experience is very much greater than the general run, are you not?—Yes, quite so; nine out of ten are unsuccessful, and more than that; but that I think is owing to our bad patent system. In what way is it bad?—That a man can obtain a patent for anything if he will pay the price for it, and numbers of people delude themselves. You are distinctly in favour of sifting the applications, are you?—I am, distinctly. It is within your experience that there is now no practical check whatever, is it not?—None. A man can patent any mortal thing?—Yes. If I have a patent, and if I see a man going to take out a patent for something else connected with my trade, I inquire what it is at once; and if it turns out to be worthless, I say, "Let him do what he likes." But supposing he is patenting something that would be injurious to you, or that you do not believe to be a proper subject for a patent, do you ever oppose it?—Never. Does anybody take the trouble to oppose those applications?—No one. A good deal has been said before the Committee on litigation in patent cases. Now, in my long experience, I never had a lawsuit about a patent, and never was the subject of a lawsuit, though I have very often been threatened. You have been threatened with a lawsuit for a supposed infringement of a patent, I presume?—Yes, and I have had occasion to threaten others. I have had others admit that

they were mistaken, and they have paid the royalty at once; but I never carried it to the extent of a vindictive lawsuit, and never had an instance of such a lawsuit in my own case Have you formed a distinct opinion on the subject of compulsory licenses?—Yes; I think you may leave it safely to be regulated by the question of what the inventor deems the most profitable method of getting rid of his invention. My difficulty has always been to persuade the trade to take licenses, even in the best and most successful inventions which I had. The trade is always suspicious about taking licenses. They want it proved to demonstration that the principle is a success before they will touch your license, and then they would rather try to elude and evade your patent if they can. . . .

Mr. Mellor.—But the moment they see it is profitable, they are glad to take a license, I suppose?—Yes; when it becomes so clear and convincing that it is necessary for their success in business, then they will take out a license. . . . I might have to develop and work it secretly; but I have never found in a single instance where that has been done that it has been successful. It is impossible to work extensively any machine, however good it may be, without its gradually leaking out through some of the workpeople. . . . I have never met with working men in my life, and I have talked with a good many, who were not in favour of a patent law. They look at the attempt at its abolition as an attempt on the part of capital to steal their brains. . . . I do not think that the failures are such a heavy source of loss as is generally imagined. . . . Admitting that there is a very considerable loss by unsuccessful patents, do you think the improvements of the law with regard to patents would lessen that loss to an important extent?—Yes, it would do so very materially, especially by a strict examination of patents. In what respects do you consider that the granting of patents benefits the community as a whole?—By stimulating inventions, which inventions are valueless unless they really confer a benefit on the community; that is to say, unless the patent either makes an article very much better than it is made now, or very much cheaper, it is of no value to the owner, and it then does no harm to the community; but if it is very much better, and very much cheaper, it must give the benefit of that goodness and cheapness to the community, reserving a very small remuneration for the inventor himself. You are decidedly of opinion that the patent law stimulates invention?—Clearly so; and I am equally clear on another point, that if you abrogate the patent laws in England, so long as they exist in France, Germany, Belgium, America, and other competing countries, you would simply have your best inventions go there. I have already had experience of cases where French manufacturers have bought inventions over our heads in Nottingham, in more than one or two instances. But suppose the invention did go there first, it could not be kept secret, and it would come back here, say, within twelve months; would the priority of twelve months, or even longer, be an advantage equivalent to the disadvantage of the patent right which we are obliged to pay for?—In that case the invention would come back here when the English manufacturer had lost his market, and that is the practical effect of that. When a manufacturer found that he was beaten in the

markets of the world, he would set about to know how it was done, and would go abroad to try to find out the invention. I have known American and other foreigners come and hang about our factories for months to find out things, and then they have gone away unsuccessful. It is not an easy thing to discover what foreign manufacturers are doing; let any one who thinks so go abroad and try; I have been abroad year by year, and could very rarely get inside a mill. . . . Are there not cases in which he really has a pecuniary advantage in holding it entirely himself, or in confining the license to two or three persons?—Yes; I have confined a license to two or three persons and myself at first. In the instance I referred to, I confined it first to my own firm, and then to Messrs. J. and R. Morley, because we could only build so many machines a year; we could absorb a certain number of machines, but as soon as we had got enough for our own works, we let in the whole of our trade, and the whole of the trade of the United Kingdom is now let in with licenses, on quite as favourable terms as the original licensees. But in that case there is a protection given by the statute law; do you think it is just that that protection should be made use of for the benefit of certain individuals, and to the injury of other individual traders?—No; I say that the original proprietor of the patent has the first right to supply himself with machinery. The machinery is valueless except for the quantity of goods that it produces for the benefit of the public; but having supplied himself and his immediate neighbours, it may be extended. It is a matter that may be fairly left to the proprietor of the patent. . . .

Mr. Macfie.—The favourable views which you have of patents might have been changed, I suppose, if you had had experience such as the previous two witnesses have had of chemical manufactures?—No, it would not have been changed at all. I think Mr. Allhusen's evidence was altogether in favour of the patent law. His evidence has strengthened me in my own view as much as my own experience. There is a considerable difference between the two kinds of trade, is there not; in your trade it is chiefly a matter of visible machine, whereas in his trade it is chiefly a matter of process, is it not?—Yes, no doubt. And then there is another difference, namely, that the value of your commodity in proportion to its bulk is very much greater than the value of chemical commodities in proportion to their bulk; is not that so?—I cannot say. A ton of Mr. Allhusen's manufacture was worth last year £6, 10s.; you never heard of a ton of the manufactures of Nottingham being so cheap as that; perhaps it is 50,000 times more in lace, for instance, is it not?—Yes, it is very much more valuable. Then there is a third difference; that is to say, that the margin of profit in proportion to the value is very much greater upon the articles that you are familiar with than on ordinary chemical articles which are bulky?—No, I do not think that our trade has averaged 5 per cent. profit during the whole of the years I have known it. Do you think that the average profit on chemicals is anything like that?—I cannot judge; but from some of the evidence which I have heard, I think it ought to be a good deal more. Take sugar refining, for example; if a refiner could get 1 per cent. guaranteed him for seven

years, he would treble his works instantly, would he not?—I do not understand sugar refining, nor am I acquainted with chemicals, except so far as regards their use in certain subordinate processes. There is a sugar-house in your town, is there not?—Yes. And it is conducted on a very moderate scale, I believe?—I do not know. Are you aware that a relation of the gentleman who was formerly the owner, but who is now deceased, was ruined because he could not obtain a license under Howard's patents?—No, I never heard of that. Presuming that was true, would you not consider that that was a very harsh operation of the patent law?—I can quite as well understand that a man may be ruined by a successful invention of his neighbour's, whether it is patented or not. I will tell you the circumstances of the case as narrated to me: The owner of the patents to which I refer gave a license to a house in Liverpool for a radius of so many miles round Liverpool, excluding all other persons; he also gave a license for a a corresponding radius around Hull; Sheffield was so placed, that by means of those two exclusive licenses this gentleman was unable to secure the use of the patent, and he was ruined in consequence. You would consider that nothing like that should be allowed under any proper patent system, would you not?—I have been in quite that position myself. All my opponents have been working at an advantage, because they have had a license which I have not had, and what I have done is to try and compete with them in some other way. I find that by saying to the workmen, "I will give you £100 if you will do so-and-so, or I will give you a share in the profits if you will produce such a result," I have very seldom failed to approximate to a successful competition. You have yourself refused licenses, I suppose?—No, I think not. You have stated that you have postponed them?—I have restricted them, but my difficulty has been always when I have tried to offer licenses to the trade; the trade are very slow to appreciate the advantages, and until it becomes clear that they cannot do without them they will not take out licenses. Supposing those inventions were important for which you refused licenses, what then?—I have already stated that I never refused a license. I mean for which you refused certain parties licenses?—I never refused to grant certain parties licenses.

Chairman.—Then what do you mean by "restricting" licenses?—I have not offered them to the trade until I have supplied two or three other persons to begin with; simply on account of the difficulty or impossibility of building more than a certain number of machines per month or per year.

Mr. Macfie.—Then where it was possible to manufacture a sufficient quantity of machines, you would disapprove of a patentee using his patent privilege for the purpose of discriminating between one British manufacturer or another; in other words, for the purpose of favouritism?—I think if a man has property in anything, he has a right to refuse it to any one. I often refuse to sell goods to people, and why should I not do so in patented goods? I choose my customers in ordinary cases, and why not in other matters? Here are A. B., good solvent people, whom I can rely upon to sell on fair terms; here are

D. E. F., who are not so favourably situated; they will undersell my market, and I will not sell to them. You know that that is a common thing in all trades. But is there not a speciality in the case of patents, namely, that patents confer a monopoly; and is it not clearly consistent with the spirit of a monopoly that it shall be so administered as to deal fairly with all British subjects?—I do not regard it as an exclusive privilege or monopoly. I regard it thus: that the law recognises my property in an invention, and, having done so, I deal with my property as I please. Under the copyright laws, there is or was a condition that if any book is sold too dear in consequence of the copyright, certain parties have the right of demanding that the price of the book shall be reduced. Would you propose to have anything of the same kind introduced with regard to patent articles?—No; because I think that such a clause in the Copyright Act is unnecessary, for a man asking too much for his book would not be able to sell it. Would you have any similar condition as to the rate at which patent rights should be sold to persons who were willing to pay for them?—No; but I should be glad to see some means introduced to prevent men holding dog-in-the-manger patents; that is to say, patents that are not workable. Neither would I permit a foreigner to come here and take out a patent for a thing that he did not intend to work in this country. I would assimilate the English to the French law. A man taking out a patent must construct the machinery in that country, and carry on the process in that country, and put it to work within a given time; but I do not see how you can fix the amount, or the conditions of the license, or how you can throw it open to the whole of the public. Is there any difficulty in fixing the price of a license by arbitration, or by some court?—Yes; I think there is a difficulty. Suppose I am a small manufacturer, and I have got a good patent, it would take me some time to develop it, and I am compelled to license it at a rate fixed by some arbitrator. One of my large competitors might take my machine and build ten by the time I get one, and sell the article in the market at such a price that it would ruin me to compete with him. Suppose you were allowed a few months, so as to get ahead of your competitors, would you approve of the law enabling you, for all the remaining years of the patent, to deprive your neighbours of the power of using your patent privileges?—In the use of a complicated machine, a few months, or even a few years, is of very little value. . . . I suppose that could only be determined after the thing was in operation, so as to know its value. May I then ask whether, in the case in which you received £3000 from Messrs. Morley, you were in a position to demand from rival manufacturers on the Continent a similar sum?—Certainly. And did you demand it?—Certainly. Did any one pay it?—We sold a part only of the Continental rights; half the patent, I think, to manufacturers in France, to manufacturers in Germany, and to manufacturers in America, and they paid quite at the same ratio, and a larger ratio in proportion to the number of machines used than the English. You kept half the interest to yourselves?—Yes. You have agents in those countries, I suppose?—Certainly. Did you lay down directions for governing the agencies with respect to the rates at which they should

license the rival manufacturers?—Yes; and I may inform you that those rates were higher than the English rates. You think that should always be done, as a general rule, do you?—It is optional with the patentee. If you had acted otherwise, I suppose you would have considered that you had acted unpatriotically?—I cannot imagine a man being content to take less money from a foreigner than from an Englishman; besides, the law of supply and demand settles that. But if a man were to do that, you would think that he acted injuriously to his country?—Yes, I might have given patents away for nothing abroad, but I should never have done it. Suppose this person who dealt unequally, and sold licenses on the Continent at a lower rate, was a foreigner who, having taken out an English patent, wished to subvert British manufactures, ought our law to tolerate that?—The foreigner would fail miserably, because if he licensed at one rate in France and asked an exorbitant license in England, the English manufacturer would not take his license. But that might be the very thing that he wished for, might it not?—I do not find that inventors want to keep their inventions to themselves; they want to obtain pecuniary benefit from them, and the only way to obtain pecuniary benefit from them is to license them as far and as wide as they can. But what would you say with regard to that case of a watchmaker in Switzerland, the Committee have been told, who will not grant any license in this country?—If a watchmaker in Switzerland takes out a patent for a watch in England, I would insist on his constructing the watches in England, and selling them under the patent, or granting licenses within a certain time, otherwise his patent should fall into the free domain. But if he chose to make, say, 100 watches in this country (just to clear the law), would you let him debar all the watchmakers of London, Liverpool, Birmingham, and Sheffield of the power of making watches?—It would be exceedingly injurious to him to do so; and I cannot imagine a man doing that. If I were the proprietor of a patent in France, Germany, and England, though I might be a Swiss, my object would be naturally to develop that patent in those three countries. There would be no gain to me in confining the manufacture to France and Germany, and excluding England. I never knew an instance of that kind. I have been a licensee under French patents; I have been a licensee under Belgian patents; and I have been a licensee under German patents; and I never knew a single instance where we suffered from any such arbitrary conduct on the part of a patentee as that. . . . Are there any articles made in Nottingham which are also made in Switzerland?—Yes. Is that done to any extent?—They cannot do it to any extent, because they cannot successfully compete with us. Why is that?—The inland position of Switzerland is very much against her in competing with us in cotton manufactures. . . . Here is a patent for a watch that is likely to become fashionable; but the patentee residing in Switzerland, continues to refuse the London and Liverpool watchmakers the right to manufacture on that system; it will deprive, will it not, our British operative watchmakers and master watchmakers of that trade which they have hitherto to a large extent enjoyed. Have they not a natural right to expect that our patent

laws would be so framed as not to interfere with their employment?—If what you presuppose was true, then those consequences would follow. But the success of the Swiss watch trade is not dependent in the least on the absence of patents, because they make articles that everybody else could make if they pleased. It is dependent on the fact that watches are made by women and children. But the absence of a patent law in that particular case of the watch enables them to carry on that manufacture which our patent laws are made the means of preventing our operatives and manufacturers from carrying on; is it not so?—If the manufacturer applied that dog-in-the-manger policy, it would.

Chairman.—Take the case of an improvement in watches patented in England, and being really a manifest improvement in some respects, would not the Swiss manufacturers, who are *au fait* at everything in watches, obtain great advantages by being able to use that patent without paying royalties, while the English paid them?—Yes, they would; in the case of watches they possess great facilities for making them, and trained labour. But I believe that a country which has not a patent law will lose infinitely more by the inventions which will leave them than the advantage they will gain by those they can steal.

Mr. Macfie.—You use the word "steal;" but I think God, in his providential arrangements, has so constituted mankind, that one receives the benefit of that which another discovers, and I think that the patent laws have a tendency to interfere with those Divine arrangements; I look on the patent laws as facilitating a denial to the nation of that which in their absence they would enjoy; do you really think the word "steal" appropriate?—But the majority of your countrymen are of a different opinion from you, as is evidenced by a man like John Stuart Mill and the whole of the nation supporting a patent law. Do you think that the patent laws elicited the twenty-five inventions which you patented?—I am sure that they elicited some of them, and I am sure that they enabled me to develop most of them. But if the patent laws had not elicited one of them, I maintain that it would have been as unjust to have stolen from those working men their inventions, and used them for the benefit of capital, as it would have been to steal their purses, or anything else belonging to them. Would the absence of the patent laws have facilitated your stealing them, as you call it?—Certainly. In what way?—I should have sent one of my mechanics to see the machine, or paid some one to look through the window at it, perhaps, and carry off the idea. Would the inventor not have been at liberty to make the machine according to his own system?—He is at liberty to do that now. Then what you mean is, that a patent law should be constituted in order to enable this first inventor to prevent others, who may invent as independently as he did, from making the very same machine?—What I mean is this: that the laws of every civilised country ought to recognise property in that which is the creation of a man's hand or brain; whether it is brain labour or hand labour, it is all the same. Then suppose you are one of two men who have manufactured a machine which you have patented, and No. 2 having done it independently of knowledge from you, you claim that the fact of your priority by a single week should

entitle you to say to the other man, "Destroy your machine." Do you think that is right?—You ask me to suppose an utter impossibility. A certain thing is to be done, and two men may set about doing it; the man I employ may succeed, and do it, and patent it, but the chances are 10,000 to one against another man doing it by precisely the same process; he may succeed in doing it by another discovery, and if he does, he can patent it, as I have patented mine; he has property in his patent, and I have property in mine. With regard to great inventions, it may be so; but with regard to minor applications, it is not so. Suppose a man in your town of Nottingham invents the hydro-extractor, it was a very natural thing after it was invented, to apply it, not as he did, merely to the wringing of cloth, but to the extraction of syrup from sugar. Several parties, altogether independent of one another, and without any mutual knowledge, took out patents for that process, and not one of them applied the system. That was first introduced into this country from abroad, where some person had picked up that knowledge. One had, I believe, adopted the application independently of those inventions. Now, was any service done to the public in that case by those persons obtaining patents?—In the first place, you ask me to admit facts which I have heard contradicted by the people themselves. I can guarantee the facts, because I travelled hundreds of miles in my own business to verify them; and after I had travelled those hundreds of miles, I discovered that the first patentee of the application of the principle was a friend of mine, residing a few yards from my own place of business, who had altogether failed to introduce his patent into use. Would you think that such a system as that ought to continue; that is to say, that any person should be at liberty to take out a patent, and his patent to continue valid, though he does not bring it into use?—If a person has something which he does not bring into operation for the public, and somebody else brings it out and develops it for the benefit of the public, then the one who develops it is the one who should have the prior claim. And the man who lets his patent lie dormant should be deprived of it, you think?—I would not allow my patent to lie dormant; he should forfeit the patent in that case. It is the fault of our present system that we allow a number of patents to be taken out which are mere stop-gaps. I am with you in the reform of the patent law to that extent. On what ground do you think that some of those patents to which you referred elicited inventions that were patented?—Because, in some instances, I had actually offered a reward if a man could do so-and-so. I can see what is needed in a machine to bring about certain results; and I have gone to a clever man and said, "You see what this machine will do; we want it to do something more, but there is a defect in it; get over that defect, and we will patent it if you do so." Sometimes I have said to a man, "I will give you £100 if you do so-and-so," and I know through my brother, who manages the machine department, that he has offered rewards and brought about results. The reward brought the invention?—Yes; the reward brought the invention. Then in some cases you would approve of rewards being given?—I approve of private people giving rewards,

but I should be very sorry indeed to see any British inventor waiting on the Chancellor of the Exchequer to obtain a reward from him. The public is the best judge whether an invention is good or not. Would you approve of some part of the funds that have accumulated in connection with the Patent Office being applied to eliciting by rewards inventions that might be of general benefit?—What I should be afraid of would be not so much that some unmeritorious inventions would be rewarded, but that some very meritorious ones would be discarded. In my opinion it is impossible for any Commission to judge of the merit of an invention. . . . Suppose, after a number of years, the telegraph system comes into successful operation, then the Commission can tell its value; but if Sir Charles Wheatstone had brought his first attempt at sending telegraphic messages before a Commission, the Commission would probably have laughed at him, and told him it was a scientific toy. But might not the matter have been divided into two stages, the first stage being the recording of the principle of the invention, and the second stage being the recording of its practical application; and might it not be that it was only after the second stage had been attained that the Commission should interfere?—I am against anything of the kind, for the reasons I have given. Might not the Government funds, accumulated in connection with the Patent Office, be applied in that way, do you think?—No; I think that they might be very much better applied. Do you not think that, in the absence of a patent law, there would still remain very large inducements for you and Mr. Morley and others in the Nottingham trade to combine and encourage the talent of the men to work out some problem which is submitted to them?—That would not be an equitable way of rewarding invention, and large firms ought not to combine in that way, simply because they have capital. It appears to me that a small manufacturer often gets hold of a good invention, and that he has a right to property in that invention, and to develop it to the fullest extent in his own behalf. But if there was no patent law, would not you and other large firms very frequently encourage men to work out a problem for you, and throw the benefit of it open to the public?—If there was no patent law made here, what would happen would be this: that where a man had an invention he would seek the market where he could get the best price for it, and the best price would be obtainable where there was a patent law. But suppose it was his own invention, and he did not wish to throw it open, secret working would be constantly resorted to. What harm would that do to the public?—The greatest possible harm. The owner of the invention, not being able to make a profit by it except in that limited way, would make as much as he could out of the invention by working it secretly and charging the public the full market price of the article. But you have said, have you not, that it is almost impossible to keep an invention secret beyond a short time?—Yes. Would there not be, only for a very short time, a loss to the public?—That is the reason why the invention would not be developed as it ought to be; and it would very often happen, if a man saw great difficulties in perfecting his invention, that he would throw it aside. You have already told us of a case where the cost of an article was

reduced 75 per cent.; would not a probable margin of 75 per cent. justify, beforehand, any reasonable amount of experimental expenditure?—I cannot tell you how many years, or the amount of capital that was laid out on that machine before it was brought to perfection; and it was only the protection of the patent law and our patenting every new piece as it was discovered that enabled us to bring it out. It never would have been brought out but for the patent law. Men do not invent for amusement; they invent for profit. A margin of 75 per cent. surely would warrant a considerable number of experiments, would it not?—But if a man could not retain that 75 per cent. margin afterwards, he would not invent for the benefit of his neighbour; it would be better to steal. . . . But might not the whole administration of the Patent Office be in the hands of the manufacturers of machinery, and persons actually concerned with the use of inventions, rather than the Government?—I should be very sorry to see that. If you find all those difficulties with regard to estimating the proper value of inventions, how can the Government, to which you would commit the granting of patents, determine whether a patent should be granted or not, in this or that case?—I would commit nothing to the Government but the power of rejecting those things that were not absolutely new. You differ entirely from the evidence of Messrs. Schneider, Allhusen, Muspratt, Justice Grove, and others who are in favour of restricting patents to a small number of important inventions?—I entirely differ from the evidence of Messrs. Schneider and Allhusen. . . . Suppose a person takes out a patent for a particular object, and specifies the particular means of attaining that object, does not that patent very often conflict with the adoption of the same means by other manufacturers for a different object; the idea in my mind is something like this, that a person hits on something by the way in a patent that is really unprofitable to the patentee; but the fact of its existence in a specification debars all others who might wish to use that particular process that is his?—I have seen patents of that kind; patents that were of no value to the first inventor apparently, and which stood in the way of some succeeding patents of great importance; but I never found any practical difficulty in dealing with men of that kind. You go to a man and say, "You have got a patent for so-and-so; it is of no value to you; but I can turn it to account." A man will always sell such an invention for a trifle. In practical working for a quarter of a century, and close application to business, dealing day by day almost with patented articles, I have found no practical hindrance to business from anything in the patent laws, except that I believe there are occasionally dog-in-the-manger patents taken for mere hindrance to other inventors, and those I would not allow. Have manufacturers on the Continent in any way been interfered with more than you have been interfered with in this country?—The manufacturers on the Continent do not like paying royalties to English inventors, but they generally have to do it. The manufacturers at home and on the Continent, and the men who complain about the patent laws, are men who have never invented anything as a rule, but who want to make use of other people's inventions without paying for them.

Chairman.—Is there any improvement that you wish to suggest to the Committee in the patent law as it stands?—I am quite favourable to the American system of examination, and to the exhibition of models. I have seen it in practical operation in America. . . . I have seen men in America who have taken out patents in England, and they think there is a great advantage in their patent system, and that it so stimulates invention that one of the Commissioners said to me, "Almost every sharp lad in a farm-yard gets out a patent in this country if he can; he is always trying to improve on the mode in which our system of agriculture is carried out; the mowing machine, or the reaping machine, or something."

Captain Frederick E. B. Beaumont, a Member of the Committee.—You have patented some inventions, I believe?—I have taken out two or three patents. One, especially, for what is called the diamond drill for boring tunnels?—Yes, and for prospecting. . . . I do not venture to tender any opinion on the general question of the patent law, and I would rather wish to be examined with respect to my own experience as an inventor. On that point I hold the following principles: In the first place, I believe that copyright and patent right, as far as I understand them, are identical; but at the same time I would not, either in one case or the other, base the argument for patents on that fact; in either case, I think the granting of a patent or the granting of a copyright should be based on the question of advantages to the public. In the next place, I think patents are essential to any full development of inventive talent, and that an invention, until it is applied and shown to be practically profitable, is worth nothing. The patent is the lever by which a person obtains funds to carry out his invention; he cannot rely on the public or on capitalists in any shape whatever to develop an invention. The invention that I am connected with, that of the diamond drill, was originally brought out as long ago as the year 1862, and was patented by a man of the name of Leschol, in Paris. He spent a very considerable amount of money over it, and he brought it up to what some thought was a practical success; and he had no more money to continue the development of it. It was developed practically so far as this, that a small company was formed in Paris to put the operation in practice, and from that company I bought the patent, paying for it £320. That was at the time of the Paris Exhibition; at that time Messrs. Laroche Toley, very eminent French engineers, and Messrs. Perier, with M. Leschol, had been engaged in perfecting this invention. It was tried in driving tunnels in France, and the English patent was bought by me for £320, it having failed in France. Since that time I suppose something like £20,000 has been spent in developing the invention. I have no doubt that in all a sum of £30,000 has been spent upon it; and to this minute I do not believe that anybody can really say that they have made any money out of it. I am quite in a position to say that unless it had been for a patent law, the thing would hardly have been brought out in the first instance; the cutting of stones by means of diamonds had been known and practised for some time previously, but not this

application in this manner. . . . Some two or three different people have been engaged with me in developing the invention, and they one and all have got stalled off, to use a Yorkshire phrase. I am the only one who has stuck to it, and I have brought it to a successful position. . . . Were it possible that a sum like £50,000 could be given to a man to develop his invention, that would alter our ideas; but I maintain that the reverse of that is the case. When an inventor takes his final plans in his hands, and thinks his troubles are all over, he having perfected his invention, his troubles are only just beginning; unless he has the lever which enables him to touch the pockets of capitalists, he had better stay at home. . . . At this moment, I should say £30,000 has been spent, gone altogether; supposing there was no further work to be done, and the accounts balanced, there would be £30,000 lost. . . . I only bought the English patent. . . .

Mr. Macfie.—In what form was this large sum of £30,000 spent?—It was spent in taking contracts which were necessary to be taken in order to prove the utility of the system. It was spent in experiments on the method of setting the diamonds, the methods of driving the drills and working the compressors, and, in fact, in developing the idea from the first shape into a practical shape, in which it could be used in mining. Was this money then spent in experiments or in unsuccessful attempts?—To say it was spent in unsuccessful attempts is not a fair way of putting the thing. The principle was proved, but there was a great expenditure necessary in trials before it could be well applied. In fact, it was a similar case on a small scale to Mr. Bessemer's experiments and the steam plough. If those several patents had been in one hand, or, in other words, if there had been an international patent law, would not the loss which you mention as having been incurred in this country have saved corresponding losses in other countries?—You mean that if you could obtain a patent for the whole world, one set of experimental trials would have served for the whole world; certainly, that is so. . . . The process of cutting burr stones by Brazilian diamonds is a different application of the same thing; the same stone is used, but in the one case it is for dressing mill-stones, and in the other case it is for the purpose to which I have applied it. Have you any information with regard to the difficulties that had to be encountered with reference to following out that invention, and its eventual success?—Not from my own direct knowledge; but I do not believe that there was any difficulty like mine, because the idea there is so simple, and as soon as it had once been struck, and the mechanical arrangements had been made for making it traverse up and down the millstone, the thing was done. Your experience in this case you regard as a very strong argument for a patent system of some kind?—Yes. Would you think it an argument on behalf of such a system as now exists, which allows every person, however trumpery his invention, to take out a patent?—I think the present patent law requires amending very much indeed. I think it is bad, and it is bad in the sense of it being possible to take out a patent for any matter, however trivial, and whether novel or not. . . . Your case being, in my eyes, exceptional and being one in which it was obvious from the first that a number

experiments would be required which might cost a deal of time and money, would not your case have been met by having a principle for regulating the granting of patents of this kind, viz., that anybody might obtain a patent who had something to propose that was at once novel and likely to require for its development the loss to the inventor in introducing it of a considerable sum of money?—That of course would answer that case, but mine is only an individual instance, and there are other cases that are not similar to it.

Mr. Mellor.—Have you ever heard it stated before this Committee that whenever a necessity is proved to exist of the want of some mechanical appliance, there is generally something invented to meet the necessity?—I think that is true to a certain extent; but people who argue in that sense lose sight of the fact, that there is a wide difference between striking an idea and carrying out an idea. If it is such a thing as putting a spiral spring to a machine in place of a flat spring; or take the case of the corless valve, where the valve was first of all actuated by a spring, and afterwards released by air, that might be done rapidly enough; but in the case that is intended to be met by the question, when the idea is struck, it almost always necessitates some series of experiments, more or less long, which cost money to carry them out, but the money is not forthcoming unless the security of the patent is there.

Mr. Bernhard Samuelson, a Member of the Committee.—I think that the importance of the question of foreign competition as affecting the policy of a patent law has been somewhat underrated by some of the witnesses examined before this Committee. I think it is a very serious matter that patents should be published in the handy form in which they are published in this country in those little Blue-books, costing from 3d. to 2s., and that they should at once be disseminated all over the world, so that any persons interested in the subject in countries in which there happens from any cause not to be a patent for the same invention, should be able to avail themselves of the information as against manufacturers generally in this country. In many cases those descriptions are not sufficient to enable a person to carry on the manufacture successfully; but there are many other cases in which they are quite sufficient; for instance, where they relate simply to some new mechanical combination not of a very complex character. Now, in the year 1867 I visited Switzerland, and I was surprised to find how successfully our inventions in spinning machinery are immediately copied there; the result being, that our trade in spinning machinery, so far as certain neutral markets are concerned, more especially the South of Germany and the North of Italy, has been transferred almost entirely to the Swiss. And they have this advantage, that they are able to avail themselves of a combination of English patented inventions, each of which is a monopoly, or something approaching to a monopoly in this country, and in that way it happens that they may be able actually to produce a better spinning machine occasionally than any single manufacturer can do in this country. Now it appears to me that some remedy ought to be sought, at all

events, to diminish this evil to the English manufacturer, and for my part I can see no other remedy than that it should be made a condition of patents that the patentee should grant licenses, and that in the terms of those licenses regard should be had to the exigencies arising out of foreign competition. There must be considerable difficulty in fixing what the amount of royalty should be, but I think that is a less evil than the one which our trade is likely to suffer if inventions are to be absolutely free in certain countries, and absolutely closed, except at the will of the patentee, for fourteen years in this country. I think also that the objection raised by the Honourable Member for Leith has considerable weight, namely, that it should not be in the power of a patentee to confine the use of his invention to one or more persons in certain districts of the country, thereby excluding all competitors, no matter how long they may have been established. Then in favour of compulsory licenses we have the experience and the precedent of what has been done by the Government itself. The Government had found it so inconvenient to leave itself at the mercy of patentees with regard to the use of their inventions for Government purposes, that the law-officers now insert, I believe, in all patents a condition leaving the patentees pretty much at the mercy of the Government in regard to what they ought to pay. But then, I think, setting aside altogether the exigencies of private trade, this principle ought to be carried further with regard to such improvements, at all events as affect the public convenience and the public health. I could imagine, for example, that a discovery should be made, and that it might be a very simple one, by which the waste of water supplied for domestic purposes might be entirely prevented, and that thereupon the State might insist on a continuous supply of water to all private houses. But if a law were to be passed insisting on such a supply, and that it could only be furnished by means of some one patented invention which is very likely to be the case, the result would be simply this, that all localities of the country would be as completely at the mercy of that patentee as the Government was, until lately, at the mercy of any one who made an invention in arms or armaments. I think it would be of great importance in such a case that there should be some authority who should be prepared to say on what terms licenses for the use of such an invention ought to be granted. There is one other matter on which I should like to say a word, and that is the extent of the interest which manufacturers have in perfecting the processes or machines which are the subject of their manufacture, apart from the patent law, and I think there also the advocates of a patent law, although I believe they are substantially right, have rather underrated the stimulus which self-interest provides. Now, of that also there is a very remarkable instance in Switzerland. One of the Honourable Members called attention to the very great disadvantage under which the Swiss manufacturers labour for want of coal. He spoke of water-power as being a very expensive power. Now it happens very curiously that notwithstanding the absence of a patent law, the use of water-power has been brought to the utmost perfection in Switzerland. I do not know whether any of the Members of this Committee have visited the Falls

of Schaffhausen; but if they have, they will have seen there a most remarkable instance of what can be done in the utilisation of water-power. Turbines of immense power have been erected there, and I believe that they are more perfect than any turbines existing in any other part of the world; and from those the motive power is transmitted and distributed to the small manufactories by very ingenious means to distances, I believe, exceeding a mile. Now, that has been done entirely under the stimulus and the interest of the engineers in perfecting those inventions, and, of course, under the stimulus of public spirit. So that although I believe a patent law is desirable, I do not agree with those who rate so very low what would be done if there were no patent law. . . . I think our danger from the foreigner has been very much underrated. I gave the spinning machine as an instance; but I believe with regard to the sewing machine that a very large manufacture is rising up now in the north of Germany, where, it may be said, there are no patents; and that before long the continental demand will be supplied from their own manufactories, to the detriment of the English and American manufacturers. This is already the case in a great degree as regards the manufacture of locomotive engines. Does not the tendency of that recommendation run against a patent monopoly altogether?—The whole system is a balance of advantages and disadvantages. Suppose we are dealing with copyright. We have copyright here, and our books are printed in the United States; you would recommend that, by way of preventing the United States from pirating, the man who has the copyright should grant licenses to other publishers and booksellers to print his books. Do you think that would in any way affect foreign competition, I mean that system of licensing?—Yes, I do, most decidedly, as regards patented inventions. . . . I understand you to state this, that those men in Switzerland, and other places, have taken a little bit out of each patent, and made a more perfect machine?—Yes, certainly; with the object of making a more perfect machine. Sometimes they are very much mistaken, but at other times they are able to produce a better product than any individual maker here can do. But is it not the fact that the whole of that argument rather tends to the abolition of patents here?—*Pro tanto*, no doubt it does; and if I did not see a preponderance of advantages in favour of patents, I should say, Abolish them on this account, and the time may come when it will be necessary to abolish them. You think that if a man patented a good invention here, he might be churlish with regard to that invention?—Yes. And at the same time he would have given sufficient information to the world to enable foreigners to steal his invention?—Yes; I do not think we should grant such a monopoly as would leave us entirely at the mercy of the good sense of the grantee. . . . Then it comes to this, that a patentee has duties as well as rights?—Just so. . . . It would prevent this: that a man in this country should shut up, or nearly shut up his patent, while the field was left open to foreign manufacturers. . . . With all our other advantages, we should then be able to hold our own. . . . The duty of the licensing authority in fixing the price should be to take into account the question of foreign competition. . . . I do not think that the publication now is sufficiently early. . . .

Mr. Mellor.—But with regard to the power of producing articles at a low rate, Switzerland has an advantage in the price of labour, and in the mode of living, which enables them to manufacture cheaper than we can in England. Is not that a great element in their success?—I do not care what may contribute to the result so long as that result is this: that they are able to deliver an equally good article at a less price in a neutral market. . . .

Mr. Orr Ewing.—Then Switzerland has a great advantage over this country with regard to obtaining better machines, and getting them at a cheaper rate?—I do not go so far as that; what I stated was, that the competition of the Swiss machine-makers was formidable in neutral markets near their own doors. But is it from the superiority of the machine, or from not paying any patent right?—From the machine being equally good and possibly superior, and amongst other causes from not paying any patent right. If any of the great states of Germany were to place themselves in a similar position, your opinion is, I suppose, that it would be impossible for us to maintain our patent laws?—I stated just now that I believed the policy of our patent law must depend, from time to time, on that of other countries. At present Germany gives no patent to anything that has been taken out in this country first, does it?—I believe that it is so. And they are very wary of granting a patent for any new invention, even a very important and good invention, unless it is brought out by some one belonging to themselves?—I admit all that; and I stated to the Committee what I thought was the policy we ought to adopt in consequence. . . . Is it possible to maintain our patent law if Germany, Holland, and Switzerland have none, and are able to adapt all the patents we bring out on any one subject, and make better machines than we can possibly make in this country, where every person is restricted from combining patents?—I think it is possible to-day to maintain a properly devised patent law in this country; whether it will be possible ten years or twenty years hence, I should be very sorry to say. But perhaps it would not be possible a year hence?—I do not say a year hence. I have no fear that it will not be possible a year hence, but I should be sorry to say what will be possible twenty years hence. You can foresee the course of events for ten years, you think?—I forsee that it is possible that in ten years hence we may have to alter our policy; and I have always thought so. . . .

Mr. Macfie.—I think such evidence coming from you deserves the earnest attention of the Committee; allow me, therefore, to put one or two questions to you, in order to bring out more fully the knowledge which actuates you in bringing forward these views. You are cognisant, I presume, of the great change in the position of the British trade from the position which it occupied half a century ago?—I think that foreign nations have made greater strides than we have in manufactures during the last twenty years, but we are still a long way ahead of them. Some of the changes which have taken place are results of our own legislation, or are developments of science and improvements in practice. Now I will ask you a question with regard to the former of those. The law of 1852 put the British trade in a very different

position from that which it occupied previously in one respect, if I am right, namely, that if at that time licenses were high in England, the probability is that there was not a patent in Scotland, and almost a certainty that there was no patent in Ireland. There was therefore this influence to keep down the price of licenses, that if the licenses were high in England, the trader, rather than pay those licenses, would set up rival manufactories within the kingdom, either in Scotland or in Ireland; was not that so?—I cannot answer that question, because I had no experience of the patent system before 1852, and I do not know how it worked. . . . I can only say, in general terms, that I believe foreign manufacturers are treading much more closely on our heels than they were twenty years ago. . . . You can get goods more cheaply and expeditiously in London from the port of Antwerp, than you can from the port of Liverpool. . . . You have told us that the question of maintaining patents is a question of relative advantages and disadvantages; would you not think it extremely desirable, if we could attain it, to have some system of rewarding inventors, that would not contain any element of monopoly or of taxation by royalties?—Yes, I should; but I do not see my way to any such plan, and I do not believe in any plan of that kind. . . . You are aware, I suppose, of a case in which the iron trade endeavours to make terms with an inventor in a matter that has occurred within a recent period; are you at liberty to state the circumstances of that case to the Committee?—I would rather not do so.

Mr. Howard.—You spoke of a scheme which you thought was possible for economising water, or preventing waste, which would be a national advantage. Do you concur in the opinion I expressed in the evidence which I gave before the Committee, that it would be desirable Government should give the power of buying up any such inventions for public use, and that out of the funds of the Patent Office?—I think it would be much better indeed, that inventions of that kind should be thrown open on the payment of a fair royalty to all the trade.

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Extracts from THE REPORT FROM THE HOUSE OF COMMONS' SELECT COMMITTEE ON THE PATENT OFFICE LIBRARY AND MUSEUM. 19*th July* 1864.

BENNET WOODCROFT, Esq., Superintendent of Specifications of Patents.—Foreign countries keep gentlemen for the special purpose of obtaining such information; that is done in all countries. The American consuls all over the world give an annual report to the Government of the United States of all the new natural productions discovered, and all arts that are carried on in each country where they are stationed; and that report is printed, published, and circulated yearly, to the number of 200,000 volumes. Do not foreign nations thus benefit immediately by our improvements; and as it is utterly impossible to prevent them so doing, do you not think we ought to collect all information openly, for the benefit of our manufacturers?—I am convinced of it; we do to a large extent do that in the Patent Office. . . . I would give every man a patent who asked for one, but I would give him no power to bring an action until that question had been sifted; I would have the office to sift those things where proper parties would investigate them, and if they found the patent old they would quash the patent. The majority of patents have no vitality in them; they are perfectly inert, and it is no use having a coroner's inquest to sit on still-born children. . . . Before they can bring an action we should have a tribunal to state whether the patent is good or bad. . . .

LEONARD EDMUNDS, Esq.—Nine-tenths of the patents that are taken out cannot afford to pay £100 at the end of seven years. The patentee declines to pay the £100, and, therefore, I come to the conclusion that nine-tenths of the patents that are taken out are not inventions, but failures or abortions. . . .

EDWARD ALFRED COWPER, Esq., a consulting mechanical engineer.—The Patent Office should contain complete abridgments and indices of all inventions, whether patented or not, so that a person should be able to inform himself, first of all, whether the information of which he is in search is to be found in the office, and, if so, whether it is to be found in a book or in a model, in the specification of a patented invention or in the description of an invention not patented; and then having completed his search, and found the specification which came nearest to the idea which he had in his mind, a man would be tolerably sure whether it was a new idea or an old one. That is, in my opinion the great object of all the work in the Patent Office, of course exclusive of the mere fact of granting patents. In foreign countries they catalogue inventions to a very large extent. Russia, Prussia, Germany, and France have agents here, through whom they obtain information of all inventions as quickly as possible, for the purpose of completing

their own list; and, of course, they particularly seek for early information of recent and successful inventions. . . . Foreign countries are now collecting and publishing information with respect to inventions to such an extent that, unless we do the same, our artisans, manufacturers, and inventors will inevitably be left behindhand. . . . Not only through their consuls, but by other methods. There is scarcely a drawing issued in this country of any good piece of machinery which is not sent over to the Continent, within a fortnight, by an agent employed in this country. . . .

Sir Charles Fox, a civil engineer.—I have a vast number of people who call upon me with inventions, and I should say that perhaps nine out of ten I condemn at once, as not being patentable; either they are good for nothing, or they have been published or patented before. . . . I have had to pay for several patents in my lifetime for articles that had been patented before, though the patent agent was not aware of it. . . . It is lamentable to see the things that are patented. You will see a poor man half-starving his family for the purpose of bringing out an invention, and when he comes up to London, the patent agent finds that the thing is as old as Methuselah. . . . Do you think that there are many taken out yearly for original machines altogether?—No; there are far more taken out for improvements. What I mean is entirely original machines?—There are many patents taken out for original machines, no doubt; but most of those machines have in them the characteristics of other machines. . . .

Sir William Fairbairn, C.E.—The non-inventive public, generally speaking, are not a generous body. . . . Where it is an invention of public utility, I think that the inventor is entitled to remuneration.

Mr. Waldron.—The public are gainers when the patent expires, are they not?—Yes; and even during the time it lasts, the public are gainers. . . .

Thomas Webster, Esq., Barrister-at-Law.—At present there is no preliminary inquiry. There is a sort of shadowy inquiry which is positively mischievous. Every specification is supposed by the ignorant public to receive the inspection, as it does possibly, of the law-officers, but nothing which can at all warn an inventor. The invention gets a credit from that fact, which it ought not to do. Ample provision was made in the Act of 1852 for some kind of preliminary examination. That has been very much pressed on the Commissioners again, but no examination worthy of the name exists. There ought either to be a great deal more or less done than there is done. What is now done is worse than useless; but a great deal might be done which would be very useful, taking care not to attempt so much as is done in America where they attempt too much. . . . Will you be good enough to explain what you mean by their doing too much in America?—I mean that they examine very minutely into the novelty of an idea; they examine to such an extent that it occasions great delay, and they absolutely refuse patents. . . . A book may turn up, or a practice may

turn up, which will upset a patent notwithstanding any examination. America is almost the only country in which anything like a system of examination has been tried. . . . Mr. Woodcroft has suggested in his evidence a certificate from the law-officers of some *prima facie* case, made out as a ground for an action. A large capitalist will very often think it worth while to bring an action against a rival, however ill-advised an action. Take the litigation about the sewing machine. A great deal of that would never have been allowed if there had been anything like such a check as Mr. Woodcroft suggested. I do not think it right that a patentee should be encouraged to go to the expense of a patent without some check. . . . Do you ever find that patents which appeared to be abortions are really not so, but have not been carried out owing to the want of capital or enterprise on the part of the patentees?—There are cases of every complexion. We have more experience in this country than any other country with regard to those things from the hearings before the Privy Council when they come for extensions, and you find that inventions that interfere materially with any existing branch of industry, meet with an enormous amount of obstruction. They cannot be carried out without great capital and enterprise. Take the case of the screw-propeller. That, in one sense, was an old invention, but Mr. Francis Pellit Smith made a step in it which led to a company being formed which built the *Archimedes*, and I remember perfectly well the sensation it produced when that vessel made its first trip to Dover. That was a case in which the invention required to be forced on the public. It required an enormous amount of capital, and it would never have been introduced but for the protection of the patent. Take the case of the electric telegraph again. There you had an enormous amount of capital employed in buying up the patent, that they might have all the telegraphs in their own hands, and that there might be no obstruction to using the best thing. In fact, you might have instances of all kinds, so that it is difficult to give a general answer to your question. . . .

William Carpmael, Esq.—If inventors would have more confidence in the patent agents, they would not so often spend their money uselessly. I have taken out many patents that I have advised not one shilling to be spent on. I stop two or three out of every five or six that come to me, and advise them not to spend a shilling upon them. It is the practice with respectable agents to do that. If patent agents took out all they are asked to do, there would be 4000 or 5000 patents annually [1864]. . . .

Sir David Brewster, Principal of the University of Edinburgh.—My opinion is that a person who wishes for a patent ought to have the patent right secured to him at once after he has submitted his invention to a Board of Commissioners, whose duty it would be to ascertain whether or not it was an original invention. . . .

BRITISH ASSOCIATION'S ACTION.

WE have before us a "Report of the Patent-Law Committee of the British Association, March 24, 1879," presented to the Attorney-General on 27th May, and make the following observations:—

The membership of this Committee, though acting for a body organised in order to promote *Science*, and comprehending many opponents of the patent system, is such as to account for the one-sided and narrow character of its report. We read there—

"The Committee observe with regret that, while providing for extra commissioners, no suggestion is made that these should be paid. . . . If the additional commissioners are to be of real use, they must devote themselves continually to the conduct of the business." . . . .

It appears to us that there are two diverse and scarcely compatible positions and functions which the commissioners are to occupy and discharge. They are to be both directors of a board and its executive staff,—in no small degree to be law-makers, law-expositors, law-administrators, and law-enforcers, all in one. Qualifications of very different kinds are required for these so diverse duties. For the organising and control of the system, and the supervision of its working and of the persons who work it, comparatively little time is wanted; after the business is fairly in operation, a meeting once a week or once a month may be enough. Men, therefore, who are engaged in other avocations, or whose health, age, or inclinations would permit only occasional attendance, could with perfect propriety be entrusted therewith. Indeed, such men—who need not be legal nor scientific experts, but rather men of weight of character, possessed of general commercial experience, proud to serve actively in an honorary capacity—are in general the best qualified. While, on the other hand, for the daily examination of specifications, and for adjudicating, at least in ordinary cases, persons specially educated are wanted, who could devote their whole time, or a large part of it. Such men of course must be paid. No doubt men of a higher class or sort would be obtainable without pay than with it; but these could only have occasional and not closely-confining duty to do. By dividing the two diverse functions, and committing them to two separate sets of persons, the one over the other, great advantages will be secured. In particular, the business will be done with a more distinct consciousness that the balance must be held fairly as between inventors and the public (whereas, otherwise, the beam would soon incline to the side of individual interests, which are always well presented, and pushed into prominence and a good place); and the major, hitherto neglected, question as to the most effectual means to attain the *end* for which the patent system is maintained will at last emerge, and receive, as circumstances call for it, more consistent attention, while liberal recommendations for amend-

ment will be made more boldly and command more attention. Besides, changes could be made more easily and satisfactorily, whether of the *personnel* or of the principles that are carried out in practice, whenever, as must be expected, occasions arise or occur that call for them.

"In lieu of the average of nine causes per annum, which prevails under the present law, there would in effect be as many causes as there were oppositions to the sealing of patents. And, while considering this subject, the very serious demand upon the time of the law-officers which would ensue upon oppositions thus conducted must not be lost sight of." Well, even if so, better all that than that industrials should be injured and the public should suffer, which is in effect the alternative presented. By "the twenty-one years as of right, proposed by the bill, . . . a more than sufficient payment might be made by the public for the disclosure and bringing into operation of the invention." True, and pleasant to read; but of *seventeen* years, which is the term that the Committee favour, the same thing (though, of course, not to the same degree) can and must be said.

". . . The Crown shall pay royalties for the use of a patent." I hope a round sum paid down is, in the Committee's mind, a "royalty."

". . . A patent cannot be regarded as an obstruction to manufacture, when any responsible manufacturer wishing to use it can do so by paying a reasonable royalty." Here is a welcome acknowledgment in favour of compulsory licensing. But does not any one see that, as a general rule in manufacturing businesses, *trials* of things offhand, as they occur, are continually wanted; yet without a license (a very clumsy procedure for a mere temporary experiment) they are unlawful? This is a formidable obstruction in practice, surely.

"The old notion of a patent-law was that the inventor was a person seeking to obtain a protection for himself at the expense of the public, who should . . . do all they could to procure the disclosure of the invention upon the shortest possible term of payment by patent-right; or better still, by no such payment at all." Not only a very old, but a sensible notion, this! "A patent-law can only be desirable so long as it is for the benefit of the community as a whole." True, most true, again; but the patent system which the Committee favours, like the present system, we contend does not fulfil the condition. "Nothing short of a person having a strong interest in developing the invention will cause it to be taken up. . . . If an invention 'were found lying in the street, it would be for the benefit of the community that a father should be assigned to it.'" This extract contains one of the noxious generalisations referred to on p. ix. of volume first. It confounds all classes of inventions. Most inventions require no special nursing care. Foster-fathers in abundance offer themselves. No doubt there are some inventions which would not be introduced without the monopoly privilege. Few people object to the grant in such cases; but these are exceptional, and belong to the class in which secrecy is an untoward excrescence. See the Evidence, and also p. ix. of volume first.

From this great scientific body *spero meliora* yet.

Extracts from THE PATENT QUESTION IN 1875.

ACCORDING to Mr. Coryton's Treatise on Patent Law, "on the assumption that a patent confers a monopoly, it follows directly that the subject-matter of the patent must be a *material thing capable of sale*, and cannot be an *improvement*, principle, method, *process*, or system. In other words, the subject-matter must be, as it was originally defined, a new *manufacture*. A thousand evils have arisen from affixing other than literal interpretation to the terms," etc. So, according to Heath, "the subject of a patent ought to be *vendible*, otherwise it cannot be a new *manufacture*." . . .

Legislators and Governments are exposed to a temptation to regard the people's silence as consent, and to regard the persistent cry of a few as the voice and will of the many. In such business as this the inference is wrong. This is not a subject that the people have taken into their own hands. . . .

The Associated Chambers' Report contains a statement that "many Germans came over to this country and took out patents, thus shutting English manufacturers out of the market entirely." This worse than absurdity let us hope legislation will soon remove. . . .

The following suggestion is from Mr. Brown's *Popular Treatise on the Patent Laws*:—

In amending the law, a rule could be made whereby the Patent Office should commence the publication of a weekly journal, say in the form of a supplement to *The Commissioners of Patents' Journal*, and let it be ruled that any person making improvements in machinery, manufactures or processes, *and who does not care to Patent the same*, should send full particulars of the improvements to be published gratuitously in the Patent Office Journal. This publication would not only form a useful record of the improvement for the benefit of society, but would testify to the merit of the invention, and fix its date beyond any chance of future cavil or dispute on that score. This plan would not very materially increase the expenses of the Patent Office, as the Commissioners, or those examiners whose duties were lightest, could, with the help of a general editor, easily put the matter weekly into a form suitable for publication. Some descriptions would of course be sent in to the office in a state quite unfit for publication; but in such cases the editor should have full power to cut down, revise, or re-write the same in an appropriate form. In order to simplify the duties of editor and others, special forms could be printed and issued gratis by the Patent Office, to all who wish to avail themselves of this method of publishing or recording their inventions; and these forms could be divided into sections for the guidance of the inventor as to the kind of particulars required. Section (1), for the name and address of the inventor; (2), for the title of the invention; (3), for the nature and object of the invention; (4), for the recitation of the several parts or features of

novelty, giving references by letters or figures to an accompanying drawing or sketch; and (5), for a concise description of the mode of operation. The journal, if properly conducted and freely taken advantage of by the community, would become a thorough "Repertory of un-Patented Inventions," and indeed it might appropriately bear that title; it would also be a useful record of progress, and a most substantial auxiliary to the system of preliminary examination as to the novelty of those inventions sought to be Patented. Further, if this journal could be as ably conducted as are our leading scientific and technical journals, it might become a question worthy of serious consideration whether publication of an invention therein might not be as meritorious and as useful to those who appreciate such publicity as would the Patenting of the same. These journals, as well as our reviews and newspaper press, are now become valuable repertories of all those improvements in art and industry which affect the progress of society; but independent journals cannot be expected to open their pages for the reception of those secondary or untested schemes which are daily devised by *quasi* inventors or mere hobbyists—the *Official Journal* is the best medium for these; and there is no reason why a few mad-schemes should not be quite as much entitled to publicity in that way, as are many such schemes which are published in the form of Blue Books, and bearing the dignified name of "Patented." Some of these apparently wild schemes may, no doubt, suggest ideas to more practical minds, and be thus utilised for the benefit of society. . . . Observe what Sir David Brewster once said with reference to frivolous Patents:—"They contain ideas which suggest others more useful and practical; and what is a simple and amusing experiment in one age becomes a great invention in another." It would be a hopeless task to attempt to separate the wheat from the chaff as it were, but no system devisable can be wholly free from imperfections. Again, we cannot expect our legislators to frame laws which shall *compel* inventors either to publish or Patent their improvements; but in order to avoid many grievances, and to remedy many imperfections of our Patent Law for the general good of society, inventors might be persuaded that it is not only advantageous to themselves and others, but is a positive duty, to record and fix the authorship and date of their own inventions; either by Patenting those of which they wish to retain the sole benefit and monopoly to the exclusion of others; or, by publishing those of which they simply wish to retain the honour or merit. . . . Surely it would be as much or more to their advantage to record the fact that they have made a particular improvement in the arts or manufactures, especially when they are provided with the means of doing so *gratis*; and if it were understood that if they failed to take advantage of such a simple method of recording their inventions, any subsequent plea on their part of prior use, as against a Patentee, would lose much of its force, we are of opinion that few would fail to observe the simple precaution of protecting themselves against such a contingency. . . . Let it be clearly understood that any person working out a process secretively has no right to claim exemption from royalties in the event of any subsequent inventor discovering and Patenting the same process;

and that they have by their secret working forfeited their right to interfere with the development of the Patented process. This would be no injustice to the public, because, a person working out a process secretively, is considering only his own individual interests, and is keeping knowledge locked up which might be useful as well as profitable to the community. . . .

If patents are continued, should we not try to mingle with the pecuniary and somewhat mercenary motive, or at least make more prominent and more potent, other and nobler mainsprings of action, including a conscious sense that there is rendered to the public a compensating and real service? . . .

To be a patentee should be in all cases honourable. It should mark a man as ingenious and in some degree a benefactor. This would be very agreeable to the feelings of well-constituted persons, and, besides, it would, for business ends, be a good recommendation. Further, I make bold to say, that there are thousands of clever people, inventors, who don't need money, or would rather not have it in the way which alone is now open, who would specify inventions, and exhibit them in operation, much to the benefit of their fellows, for the rightness, or the pleasure, or the credit of the thing, if there were but means and encouragement afforded. But at present all that is held out is the dull monotony of selfish monopoly, a miserable stagnant low level, which represses and deadens high and pure aims and aspirations. . . .

The State, in sheer thoughtlessness as I believe, in no case offers a medal nor honourable mention, nor any money prize (A). More than that, there is not even a record-office where new inventions can be registered as a gift to the nation, or fresh and pregnant ideas can be deposited, to be hatched or germinate under the fostering influences which the constitution of nature has provided, but which our present mean uniformity and repelling conditions keep from coming into play and force. My conviction is, that the nation loses many happy thoughts, from want of proper encouragement and receptiveness, many practical hints and valuable experiences that would be got for a national "thank ye."

There is another reason why facilities for registering inventions should be opened. It has been given in evidence, that of the inventions for which patents are granted, a considerable portion are applied for merely to prevent other persons engaged in the same business as the applicants from exercising the stupidly conceded legal power of ousting the original inventor, who does not patent, from enjoying what he has a better right to.

To show another like injurious effect of our present manner of dealing with inventors: when an invention is patented, the reward being monopoly, a stop is put to improvement, except at the hands of persons who will take patents—a course from which many shrink, and I don't at all wonder they do. If we substituted for monopoly a sensible system of grants in money, thus preserving a pecuniary stimulus to publish inventions, I predict that almost every new machine or process would be studied, scrutinised, and subjected to such an amount of diversified and intelligent thought, that in the course of a

few weeks after it is specified, that is, in the infancy of the novelty, and therefore at the most desirable time, already it would be greatly prefectionated. At present it practically is nobody's part but the patentee's (except, indeed, that of a sort of undesirable parasites and hangers-on) to perfectionate, and this he does but very rarely and indifferently, for he has already incorporated his best ideas, and has scant inducement to seek other ones. It is to independent minds and diversified or fresh experience we must look for such agglomerations of improvements, as I have just held out as one among the several benefits the nation would derive from a radical and broad reform of our manner of dealing with inventions. Every one familiar with patents knows that when any striking novelty in the way of mechanism or material is introduced, there immediately follow and cluster round it a host of minor ones, ameliorations and adaptations, many of them serviceable enough in their way, but rendered by patenting practically unavailable. It is grievous that not unfrequently it is the comparatively undeserving among these that carry off the principal part of the profit of the major invention to which they are but subsidiary.

As we have said, a patent is a concession of monopoly of the exclusive right to make, or use, or vend an invention.

I believe that originally an invention meant an article or commodity made according to the description given in the patent. But the law has expanded or twisted the meaning, so that now processes by which articles or commodities are made, and operations by which things are done can be patented. The result is a very awkward change. As long as a patent could only refer to and cover a novelty of the kind contemplated, trade was little interfered with, as nobody was already a maker or user of the novelty; the utmost harm, if any, that could be done by the monopoly was that the price might, and probably would, be dearer than it would be in the natural course of free trade and free manufacture. But when processes and operations became the subject of patents, which, I must confess, was at a very early period—I don't say whether warrantably or unwarrantably—existing manufacturing businesses were interfered with, and that grievously. The patentee and the manufacturers whom he licensed had an important and invidious, but also injurious, advantage over the other houses engaged in the trade affected. . . .

Mr. Bramwell, C.E., contended that such a case as I am going to mention, suggested by himself, should be one of these exceptions. Suppose, said this gentleman, a process is invented for utilising some waste stuff, it would not do to compel licensing of all applicants, if the quantity were limited, because—what think ye of this?—the price of the refuse would rise, and the profit of the patentee would thereby be diminished. The meaning of which is—put the owners of the refuse into the power of the inventor—let them have none of the benefit of competition, or, at any rate, let the lion's share of the now discovered value of the article be by force of law secured, not to the owners, but the person who first knows how to turn it to account. I deliberately say this—which is the present law, you know—is substantially State intervention to injure subjects whom the law ought to protect. Any

of you would scorn the man who saw his neighbour's property accidentally running to waste down the sewer and would not tell him of it except on the promise of money or a share? Is the difference between the conduct of the scoundrel who goes to the sufferer and tries to extort money as a consideration for showing him where he is ignorantly sustaining loss by such waste, and that of the respectable and ingenious gentleman who has devised or hit upon a mode of utilising a product voluntarily run to waste through chemical ignorance, so marked and substantial as to make the one highly reprehensible and the other worthy of generous State favour? Yet something of the sort is in the essence of a great many patents. . . .

Allow me to carry you back to the times when a patent-law was first passed for England. These were times when commerce and manufactures were but little developed. The field was, so to speak, clear. The intrusion of a monopoly that introduced a new business, or even a new process in an existing manufacture, was therefore pretty nearly all gain and no harm. (I would like to ask how many patents now introduce new businesses, new articles!) The population was small, the consumers or users of inventions were few, and these not generally rich or in any case extensive. There was little or no exporting. It was therefore possible for the patentee to supply—through working his patent alone or by means of a single company—the utmost demand. The minimum of inconvenience or disadvantage accrued to individuals by concessions of monopoly, and the profit to be obtained was not, in the most favourable circumstances, exorbitantly disproportionate to the end which the public may presumably have had in view. It was, speaking generally, the profit made in a single establishment. There being few businesses and places of business, no difficulty existed to ascertain whether the manufacture to be patented was novel. But mark a contrast. The population of England has multiplied, I know not how many fold. The wealth and means of the people have increased in a still higher ratio. Industrial establishments of every possible kind are innumerable. Export trade is now vast. Scotland and Ireland are added to England. The home field is therefore much enlarged. (I say the home field, because a few years ago the West Indians, who previously were subjected to English patents for their sugar and rum, contrived to get themselves free of the burden, which they left to be borne by the rival industries of the mother country.) It is no longer possible for any individual or company, save in most exceptional and rare instances, to supply the whole demand for any new article.

Licensing is therefore the practice, a thing, as I suspect, not conceived of by the Parliament that originated the patent system, and the gains therefore of a successful patent are enormous. Although it were possible to restrict the granting of patents to new manufactures, in the original sense of the word, there is obviously such a stupendous magnitude of operations, and so large are the resulting burdens on the public, or profit to individuals, that in its duty to the people even the Parliament which passed the famous Statute of Monopolies, which is the origin and charter of the patent system, would, if called on to

legislate in present circumstances, have shrunk from applying it as preposterous.

There were not at that time any of the heterodox doctrines that are now openly propounded as to an inherent right of property belonging to an inventor in his invention. A patent was viewed by the courts of law as an intrusion in the public domain, that required to be narrowly interpreted and jealously watched for the public's sake, and, for that reason perhaps, the cost of a patent was made and kept heavy. All appears to have gone on the principle that the fewer grants of such exclusive privileges the better—that patenting of petty inventions should be discouraged, and the favour and protection of the State be reserved for great ones. It was probably little desired, or thought of, to introduce and cherish a power, and still less a "system," that could hamper manufacturing establishments that already existed by exposing them to interference, or hindering them from recourse to every possible economy or application of science.

But let us proceed to state the now actual state of affairs developed by the Act of 1852. To its effect attention should be given, and particularly to the increased number of patents consequent on the reduction of the cost. In 1650 not one patent was granted in England. Half a century after there were 2. In 1750, 7. By 1800 these were still under 100. In Scotland 13 patents were granted in 1800; in 1850, 227. Now I think the yearly crop is above 3000.

As a natural consequence of the multiplication, a much larger number of persons are engaged in the business of patent agency. This has been followed by much more skill in the "exploiting" of patents and inventions, and, if I am not mistaken, that skill and organisation have been accompanied with enlarged pretensions. More patents have to be paid for by manufacturers, and at a higher ratio of charge for each (of course comparing patents of equal merit) than was the case under the old law.

But there is yet another and a simultaneous change of the most momentous character—the establishment of free-trade. Britain now opens her ports without duty to manufactures of every kind. Her industries are even in the home-market brought into competition with all the world's. No doubt she had a start in the race, which has enabled her to make progress hitherto notwithstanding. But her advantages and points of superiority are continually becoming fewer in number and less in degree. Let me specify some of these. Coals are dearer than they used to be. Labour is dearer and more uncertain, and its quality has retrogaded, I fear. Other nations are making rapid strides towards our perfection and styles. They have got our mechanism, and our people as foremen and auxiliaries. New channels, the work of time, are forming. Their manufactures can readily be brought to our ports—thanks to the extension of railways and steam navigation. They or their agents dwell among us, and communicate with home instantaneously by telegraph. Their ability to contend with us in our own markets still more leads them to hope to oust us in the markets of foreign countries, especially their own countries.

What does our lauded patent system for them? On the one hand it procures and publishes for their direction as for ours every specified invention. On the other hand it throws upon our manufacturers the burden of royalties which, of course, are nothing less than somewhat arbitrary and often oppressive *taxes*—a sort of private excise duties.

If protective duties had remained in operation, this self-inflicted differential treatment adverse to ourselves would have been of comparatively little moment, or if all countries of Europe and America were under one and the same patent-system. But the actual case is far otherwise. Our ports are entirely open, and no questions asked as to the payment of patent royalties in the countries whence goods come. How could there be cognisance of such distinctions, I ask, although this was mooted at Ghent by a member of the Liverpool Financial Association? Holland has ceased to burden itself with a patent-system. Switzerland scarcely ever had one. Prussia, shrewd and progressive Prussia, has about as good as none. She has granted on the average of the last five years, only fifty-five a year (B). Even in those other countries where patent-systems are in existence the state of matters is not favourable to us; for how few patents are taken out in them, and what assurance have we that the royalties will be as high as in Britain? Besides, abroad there are provisions, unknown to our law and practice, for cancelling any particular patent as soon as in other countries it has run its course or lapses, or if it has not within two years been worked.

Mitigations of this anomalous state of affairs are alleged. First, we are told that, so far as regards competition for the supply of our own country, our industries possess the advantage of having less or no freight to pay. This is in many cases not a fact. An Edinburgh furniture workshop has to pay a heavier carriage to London than some of the foreign ones. Take sugars. The distance to some parts of England is greater from Leith than from Holland, and of course Leith is much further from Denmark, whither much Leith sugar is shipped, than is Holland, which lies contiguous to her.

Mention of this trade to Denmark, as actually existing in spite of patent-laws, suggests that I should ask you to bear in mind that the apprehended injury does not emerge into practical effect until some invention or inventions be made which give superior advantages to our rivals by creating the disparity of burdens.

Again, we are told that it is not the interest of patentees to charge too much; that there is no fear they will be so foolish as to destroy the goose that lays the eggs of gold. Fond confidence! Would it were so. The fact is that it is quite customary for districts of the country to be parcelled out and the monopoly cut up into sections, which are handed over to be farmed or worked by other persons, over whom the holder of the patent has not control. Besides, there are mighty differences of opinion as to what is a burden that can be borne. I have known of excessive demands. To aggravate matters, there may be several inventions to pay for at one time, each in the estimation of its

patentee worth more, or more indispensable, than the others, and therefore entitled to be recompensed most highly.

To show how even men of intelligence view the exactions of patentees, Mr. Bramwell, of whom I have spoken, told the Society of Arts that Mr. Bessemer's royalties were "a small percentage." Well, what were these? They ranged from £1, 5s. 6d. to £2 per ton. How very many per cents. was that? What sort of rivalry is it that can stand its ground permanently if so weighted? I have in my eye a very important trade, the output of which would be indefinitely increased if even one per cent. were assured its conductors on each ton of goods.

Here we require to consider the vast change that has taken place in the manner of carrying on trade. In place of slow operations, long credits, and small sales, the new and irreversible system is to work on the great scale, and go on producing and selling, however small the margin, if it leaves any hope of profit at all.

I will now quote a case by way of illustrating my present point. Mr. E. H. Carbutt, of the Vulcan Ironworks, Bradford, writes, a few days ago, as follows to a London trade-journal:—His firm, he says, "were successful in obtaining a good trade with Germany, and at first everything went well; but there being no patent laws of any consequence in Prussia, we found that, after some little time one of the German engineering firms began making these blowers. . . . Our trade in Germany is nearly gone."

This single case is surely sufficient to justify the following enunciation given forth a quarter of a century ago by the Liverpool Chamber of Commerce:—

"We should oppose . . . any procedure . . . by which producers in this country, or the colonies, might be subject to restrictions and burdens greater than those to which parties engaged in the same occupation in a foreign country would be subject, as it must be evident that, if we are to act on free trade principles, exposed to equal competition with foreigners, it is essential to avoid burdening our country with unequal charges for patent rights; and we should recommend that there be a competent power to limit and regulate the charges for patent rights." Without such rectification, the *Economist* was well entitled to say that patents confer "privileges which are wrongs to the community. . . . The demand to have them is as completely and pecuniarily selfish as anything ever put forward under the mask of patriotism."

To further prove that my fears are not imaginary, let me quote a few words from the speech of Mr. Bernhard Samuelson, M.P., chairman of the last Parliament's Committee on Patents, at the Society of Arts Conference:—

"In Switzerland a dozen different inventions might be combined in one machine, while here every maker had to go on his own hook, the result being that better and more complete spinning machines could be obtained in Switzerland than in England owing to the obstruction of patentees."

But our own country is not the only one that has thus suffered. The *Avenir Commercial* tells us, under this title, "The Results of a Bad Law," that the existence of a patent kept the price of aniline up to £40, while out of France it could be purchased for £12, and the consequence was the founding of manufactures abroad, and "a general expatriation like the one that followed the revocation of the Edict of Nantes."

I am indebted to Mr. Muspratt for information regarding a frightful disadvantage from which his extremely important trade was delivered only by a patent affecting it missing its attempted applicability; otherwise a private company would have had the monopoly of the supply of sulphur ore, which is consumed to the extent of 500,000 tons a year.

With such actual exemplifications and authoritative warnings of the inevitable tendency of our patent royalties before you, are you prepared to accept and let pass unchallenged the cool observation by Mr. Bramwell, that "isolated cases of this kind can be found, but they must be left unremedied, the evil being irremediable"? In making such an acknowledgment should he not have avowed desire to seek and find a rectification or prevention of such flagrant wrongs? . . .

It has been often shown that the amount of money netted by means of a patent bears no proportion to any of the several elements that constitute an inventor's claim for a reward. These elements or grounds are: the advantages which the public will derive from his invention—the improbability of its being soon made by somebody else—the cost of time or labour or money involved in the inventing or testing or introducing it—its novelty or ingenuity—its capability of being worked in secret, and the danger of its being lost if not specified. On the contrary, it not unfrequently happens that a comparatively unmeritorious invention draws more than one eminently meritorious in some of these respects. The real ratio of remuneration is proportionate to the number of persons who consume or want the article affected by the patent, the number of persons who find it convenient to take a license, the facility of levying royalties, etc. Surely if we are guided by reason, or by commercial or any other principles in the matter, there would be, at granting the patent or at some other stage, an estimation of the merit or of the value, against which an assessed sum would be affixed, and the rule would be that the patent drops as soon as this amount is reached. Every pound beyond that which patents enable inventors to draw from the public is lavished, and the Parliament that sanctions or necessitates it ought *in foro conscientiæ* to be arraigned as *particeps criminis*, nay, rather as itself the agent of the extortion or waste of the people's resources.

Another remarkable disparity. By universal admission there is no proportion whatever between the money netted by the patentee, even when the patent proves a remunerative one, and the price paid by the public.

He may be netting but a trifle, while the public are burdened immensely. Consider what are the elements that combine to constitute this price and burden, and render it enormous—threatenings and troubles with patentees—multifarious litigations that are not more

frequent, only because they are proverbially costly and perplexing—the royalties that the users of a patented invention pay—the inferior service rendered to the people by their suppliers and providers in so far as in not using it they furnish an article of commerce that for the same money might be better in quality—the endangerment of our export trade—the transference of work to foreign parts that might be done at home.

This last disadvantage, in so far as it occurs, is a national and industrial loss of a kind which during the last thirty years has been strangely kept out of sight by economists and politicians, perhaps from some unworthy apprehension that it might be construed adversely to free trade policy. But surely we do well to look the matter fairly and fully in the face, and trust an intelligent public that knowledge of truth will do no evil. Let every individual among us feel this—that when he is using a French pair of shoes, or buying a Geneva watch, he is contributing directly to lessen the employment and gains of his neighbours, and in so far to expatriate some of them, and indirectly to lessen the employment and gain of a thousand others, who, in minute rills and driblets, derive sustenance from these neighbours. Every baker, butcher, schoolmaster, doctor, ratepayer, *et hæc genera omnia*, more or less, however minutely and imperceptibly, suffer.

"True, sadly so," rejoins somebody, "but we cannot help it. The rule is, buy where you can best and cheapest." Right, I reply, but, nevertheless, legislation is to blame if it contributes to the dearness, and inferiority, which, my conviction is, it does in a degree by continuing bad patent-laws. What is the effect of these laws on prices is well known. All experience tells that when patents for an article expire the article is bought cheaper.

To return from this episode to where we left the main track. Just reflect in the light of common prudence on what I have so briefly brought under your consideration as the elements that make up, and mount up, the price the nation pays for the specifying of inventions (I say the specifying, because that truly is what we obtain for our self-denial. In most cases the inventions would be got whether or not specified). A sensible man, before he ascertains approximately the value of what he is about to take, and buys a commodity, or engages a clerk, or rents a house, asks what or how much he is to pay, unless indeed there is a recognised fixed charge. In buying inventions—even supposing we could fairly be said to buy them—we receive a pig in a pock. For the positive monopoly we concede, we get, with some moderate advantage in the meantime, at the end of fourteen years an article of problematical value, while, as to the monopoly (and this is the view that impresses me most) which we give in exchange, it is the very worst substitute for money that could be handed over. It is most precious, so precious, whether we regard its nature or its amount, as to be beyond calculable value to the nation, yet withal of not only uncertain but even questionable value to the inventor. So that the bargain made for the public becomes shamefully extravagant. Can anybody in public or private affairs suggest a parallel? It is a reproach to the legislation of the nineteenth century.

But there is yet another aspect in which the preposterousness and folly of our patent system as a means to its end is apparent. Its end and object is to elicit inventions and to reward inventors, by means of money, the effect of which, of course, is proportioned to the amount they receive. We have already seen that of the several constituent elements that are the cost or price paid by the nation, only one element, the royalty, can reach the patentee (of course, except in the rare case of his licensing no one and himself working the invention). Let me now add that only a portion, and often or generally a very small portion, of the royalty does reach him. The practice is nowadays for the patentee to sell his invention, or to associate with him other persons. If he sells, what he gets is, compared with what the assignees draw, but little. If he takes the other course and retains an interest, the case is not greatly mended. I know that some plausible defence is constructed in this way—"Be it so, but there must be experimenting on the great scale, and trials, as well as actual regular use, in order to satisfy parties so that they may take licenses; and only thus, or most conveniently thus, are these necessary conditions fulfilled." To which the answer is: These purchasers or associates commonly are not manufacturers but speculators; and even if manufacturers, we miss our mark by making them recipients of what is intended for the inventor.

I pass from this part of the theme by remarking that surely that system cannot be favourable to trade that theoretically, and to no small extent actually, retards the full benefit of the invention for fourteen years.

I leave to others the task of exposing the unfairness of the present system towards simultaneous inventors, or inventors who, in the natural course of business-experience, could not fail to reach the same adaptations or applications of a mechanism or principle, and content myself by quoting a passage that proceeds on a most unsatisfactory theory of what a patent is and does, from Mr. Bramwell's address:—"Even supposing it to be the fact that there is simultaneity of invention, I do not see what argument this is for withholding the patent. . . . All that the public care for is that the invention should be brought to a working stage. . . . The giving of the patent to one man of two does not detract from the benefit to the public." True, if we are to continue the law as it is, unamended; but does not this defence show that it would be better to grant no patent in such instances?

As to the fancy that it is only by granting a patent we ensure that a new invention will be worked out and introduced, I have grave doubts. In opposition to it, and as a general case, I believe the effect of patenting is to limit seriously the number of people that will work the invention out, and the number of heads and hands that will be applied to its improvement.

I admit that there is occasionally public advantage in giving a patent. It was so in the case of Mr. Bessemer. But such a case falls under the exception which, with a view to special treatment, our foremost abolitionists (so called) are willing to allow. Not that it is at all necessary there should be any exceptions, for who can doubt that it

would have been possible and expedient, even in the case of Mr. Bessemer's revolutionary invention, for the wealthy and extensive trade concerned to subscribe a fund for experiments, and liberally recompense that ingenious gentleman? In such a way £50,000 would have secured what they only partially enjoyed till lately, and enjoyed by paying royalties of incredible magnitude—probably, if rumours are to be depended on, totting up to a million sterling or much more. Think, too, of the awkwardness of the position of our iron-trade—one which it was an object of prime national concern to guard from harm—during the last years. While ours were so burdened, Prussian iron-makers were paying nothing. Has this non-liability anything to do with the stupendous growth of Mr. Krupp?

This case is one of those adduced by Mr. Bramwell. I am inclined to found on his other illustrative recent cases arguments against him. What were these cases? Those of Mr. Siemens and Dr. Potts—which let others more competent expound—the fish-joint, Giffard's injector, and electric telegraphs. I confine myself to the three last, and remark, as to the fish-joint, that it was simply an application of a mode or principle already known, for which Mr. Adams—to whom the nation is so deeply indebted for it—I daresay would have been pleased to receive a thousand pounds reward. As to the electric telegraph, that it could hardly fail, after what Mr. Reynolds had shown the public, to be taken up sooner or later by the State or individuals; and as to Giffard's injector, that it in the same way as the fish-joint might have been secured at the cost of a moderate but prompt and substantial contribution of money; and with respect to all three, especially the joint and the injector, that they were not of a kind that admitted of being worked in secret or their mode of construction being concealed, so that there was not any danger that they would be lost to mankind even if there had been no patent.

Still, I avow that such cases make me approve and desire the introduction of facilities for money rewards or redemption, in some shape, as on the whole better than abolishing of our "paternal regard"—for whom?

That such rewards are a practicable as well as a reasonable mode of adjusting the question at issue—how to treat inventions—is evident from the support it has received from, among others, that most eminent economist (and vigorous opponent of patents as "outraging liberty and industry"), M. Chevalier; from the report to the Continental Association for Promoting the Social Sciences; from Sir William Armstrong; and from the sugar-refiners of Scotland, who petitioned for it.

Mr. John Stuart Mill wrote:—"Or the State must put a value on the service rendered by an inventor, and make him a pecuniary reward." A reason why he objects to rewards is the power it would vest in the State of deciding. My plan would vest this power, not in the State, but in individuals unconnected with the State, of high character and ample experience.

What, then, is that plan? Something like this. Constitute an Invention Board, whose province it shall be to promote invention and control all business affecting it, including an Invention or polytechnic Museum.

Appoint a Chief Commissioner of Patents, with high-class assistants.

Turn the Patent Office into a receptacle of specifications.

Let blank forms of application be given thence to all who apply personally or by letter, on payment of a moderate fee.

Every specification lodged, or at least every one that comprehends also an application for a certificate of merit, to be accompanied by a declaration, forming part of the form, by three persons familiar with the trade concerned, to the effect that the specified invention is believed to be new and may be useful.

The specifier to state whether he means to claim a reward, and, if he does claim it, whether he wishes the adjudication to be given at once, or after trial and proof of value in practical use.

If he prefers an immediate decision, it will be given, and, if favourable, published, with a specific distinguishing number and title assigned, that title indicating the name of the inventor, so as to be available if he wishes power to turn it to account as a personal recommendation or a help in getting the invention into use.

If he prefers a deferred judgment, the Chief Commissioner must arrange that the invention is seen in operation and certified by competent experts to be practically useful. If their report is favourable, the reward to be ampler than if given before actual habitual use.

The extent to which the public derive advantage from the invention, and all other circumstances, to be taken into consideration in adjudication.

For a highest-class invention, which of course would not turn up every year, a sum of £10,000 may be voted, a second-class £5000, a third £2000, a fourth £1000, a fifth £500, a sixth £250, seventh £100, eighth £50, and along with these, as in all worthy cases, a medal as well as the certificate. For smaller inventions medals in gold and silver and bronze, or their value in money along with certificates.

These moneys to be found by the Treasury out of the "accumulated" funds derived from past patents, or from an annual sum voted by Parliament; but with an understanding that if the requirements of the establishment exceed a certain fixed sum, say quarter of a million, in any year, the larger sums shall be subject to diminution, or part of the payment may be postponed.

It might also be left optional to the Board to concede to any inventor, on reasons shown and sifted, the exclusive use of his invention for such short period as would give him a start as a manufacturer in the race of competition, and in rare cases and after due advertisement, where otherwise nobody might be at the time likely to venture on bringing the invention into trial on the large scale required without this satisfaction, for a period of fourteen years.

To manufacturers who have been eminently instrumental in introducing a new trade the Board may decern some share of the due reward along with the inventor.

Rival claimants may be heard.

This plan, which I submit with deference, is elastic, and I think admits of easy modification, so as to answer the purpose.

Of course for singularly pre-eminent inventions Parliament might

with propriety and the nation's approval vote a larger sum than the maximum I have set down.

And Her Majesty the Queen no doubt might, especially where no pecuniary grant is claimed and a splendid invention is presented as a free gift to the nation, rejoice to honour such grand services to the people with decorations or other distinctions.

I am aware that in view of the tremendous harvests lately reaped by one or two giant patentees, even so liberal a sum as £200,000 net will be spoken of with contempt, but, if so, it may be construed into a good reason for adopting some better system than monopolies for invention-rewards—proving, as it would, how excessive are some prizes in the patent lottery. By the mass of the thinking portion of the population, and the Chancellor of the Exchequer, £200,000 will, on the contrary, be looked upon as excessive.

How will inventors regard it? This is best answered by another question—How will they, especially poor and working men inventors, fare under it compared with the present system? If better (and surely it will be better, perhaps very much better), whether with respect to sureness and promptness and magnitude of reward, or equitable apportionment, or honourable companionship, or facility of acquisition, we are warranted to expect it would be, when understood, a most welcome substitution.

International arrangements—a general *Patenten-Verein*—it would be difficult to negotiate on the basis of making patents co-extensive with the area of European civilisation, without which character the object would be attained too imperfectly. On the basis of pecuniary rewards and honours they probably would be easily attainable, and the advantage would be vast. The contribution of each of the associated countries would not require to be very heavy. If all European countries and the United States, along with the colonies, not to speak of India, were to contribute on the scale I have set down for the United Kingdom, the total net annual amount available for inventors would be more than enough to satisfy the most gluttonous appetite, and admit of being freely reduced at least to the extent of one-half; for, even if there were 10,000 new inventions a year, a thing incredible as a continued stream, it would be £200 for each, on the average of the whole; including the great majority of necessarily insignificant ones. . . .

What variety there is, and how different the degree of favour with which they should be treated, and the circumstances which should regulate the right and rate and duration of royalties!

It would be vain to attempt an analysis or catalogue of these diversities. Any person that desires can distinguish many of them. In one trade the margin for profits is large, and a high royalty (always provided we could conceive that there is no foreign competition) might be exacted. In another trade the margin is notoriously small, and a royalty of a tenth of the other's ratio might be destructive. In one manufacture there is vigorous foreign competition; in another there is not. One trade is conducted on a large scale; another on a small. One in monster establishments; another in little ones. One invention is for an insignificant improvement; another for a very important.

In one industry there are in force a great number of inventions that have to be paid royalties for; in another, few or none. In one trade the collection of royalties and the detection of infringements is easy and cheap; in another difficult and costly. In some cases the royalty must be paid, if at all, on a machine; in others a fearful power exists of charging a percentage on the work done by a machine or a process. One applicant for a patent is the real inventor, another is an importer, or mere picker-up. One is a British subject, another is a foreigner. One inventor is poor, another rich. One a boy, another aged. One has plenty of time to devote, another has already all his hours pre-occupied. One lives at the extremities of the island or of the empire, another at a focus of trade, or in the Metropolis. One trade has its sphere of activity under ground, another above; one on land, another on sea. In some businesses book-keeping and accounts are habitually kept, in others they are not. This invention has taken years to work out; that one is a happy inspiration. This one requires often years to perfect, that one not a day. This invention can be made or practised in secret, that only before all eyes. One covers the whole breadth of a new principle, another touches *minutiæ* only. One has for its intended area every wee shoemaker in the kingdom, another only two or three central factories. One invention interferes with and intrudes on trades that exist, another raises up an entirely new one. One is nobly original or beneficent, another has neither of these features; one is the result of laborious trials, another is a mere happy thought. To patent one invention may be cruel, as, for instance, if it were a just discovered medicine to cure one of our fatal fevers, another has no such stigma. How can you treat all these alike? Yet this is what we now do. Is it fair or humane to tie up such a one as this last instanced for a single day?

Consider too how advantageous it must be to industries and the community to have by a system in operation—or without any system, by simple abolition, as in Holland—deliverance from another radical fault of the existing system, the continual and augmenting danger of old or known inventions being patented again, along with a host of ignorant or vicious encroachments on the public domain.

I look upon the vast amount of watchfulness required for the maintenance of private and general interests under the very best conceivable amendment of the law as being superhuman. Manufacturers cannot give their time to the task of scanning voluminous Patent Office documents, and, if they could, to whom among the isolated individuals engaged in a trade does the task belong? Trade-combinations capable there are not.

How are the documents to reach persons concerned?

I know what the assumption is. As every subject is presumed to be acquainted with the law, with all Acts as soon as passed, so every one is to be held to have seen and read, in the inexplorable and dark recesses of Patent Office printings and proceedings, every new application for or notice about a patent; the idea is absurd, but it is acted on now, and the intention is to act on it still more boldly and stringently. . . .

A word to patent agents. Let them consider whether they ought not, even in the light of their own interest, to forward such a change; whether, in fact, their business is not likely to be enlarged by it. It appears to me this profession would alter its form, but would become more indispensable than ever,—to manufacturers and users of inventions more even than to inventors.

I am aware that there is a widespread, a modern and still growing, and very operative, prejudice in favour of inventors. That prejudice has in it the soul of good. It is nourished by the finest impulses of our nature—sympathy with, and wish to do justice to, what is supposed to be a class now ill used as well as deserving of gratitude and favour; and by a hazy notion that there is a certain foundation for the pretension recently set up, that the inventor has some right of property in his ideas, which, like all other property, the State ought to recognise and enforce.

In reference to the first of these impulses, it is but indifferently founded. Inventors are by no means a class or body. They belong to all ranks, classes, and occupations. They are the reverse of being ill-used, and need not, nor do they, claim sympathy. If sympathy is to be felt, let it rather be for the persons who are the victims of patenting inventors and their assignees, towards whom patent-rights, valid or invalid, are instruments of exasperative treatment, and whose freedom of industry is tampered with vexatiously. . . .

Let me refer to a statement that is often made. Our patent-laws attract inventors who establish themselves among us. No doubt they do. The carrion attracts the birds of prey. Grant that the inventor does so come. We might well welcome such a stranger, when he does establish a new business; but there is no reason why what we do in the way of helping on men of special gifts, as in the isolated and much-trumpeted instances of Mr. Bessemer and Mr. Siemens, should be done universally—with regard to all sorts of, and even the most insignificant inventors. Plainly it would be better commercially even in such notable cases to get the use of their inventions free after being tried in some other country than to come in first and be burdened for fourteen years with royalties that drive away existing trades and disable Britain in competing with other nations, a result which was very near happening in the Bessemer case. . . .

A grand puzzle is, the United States, how they should so hug this system. The only explanation that can be given is that protectionism is so ingrained and inwrought into the American nature and tariff, that they too readily favour the patent-monopoly as of a piece with their other institutions, and can let it be rampant, inasmuch as at any rate their manufacturers are defended by heavy customs-duties from suffering as those of a free trade country like ours could not escape doing. . . .

One is refreshed to learn that the stupendous "progress of the German beet-root sugar production rests mainly on the circumstance that the manufacturers have united into a society, and the members immediately communicate to each other all the improvements discovered in their factories by publishing them in the Journal of the Society. Instead of taking advantage for themselves from the tem-

porary enjoyment of a manufacturing secret, they give it in exchange for the common advantage of the discoveries made in all the other factories." This is given in a report, made on behalf of German engineers, by the propatent Dr. Klostermann. But much the same is the honourable habit of Scottish agriculturists and stock-rearers. How encouraging are both examples! . . .

Some branches of industry have in time past, but quite fortuitously, enjoyed a happy immunity from oppressive patents. It would be foolhardy to reckon on the same exemption in all time coming. If a new and powerful fertiliser be discovered and patented, will not farmers suffer greatly? If a new and economical motive power, how will our shipowners stand when competing with foreigners? Would they be allowed to hoist the Dutch flag and so escape? What would have been the position of our Mid-Lothian paper-makers, if the use of esparto had been patented, and all of them had been debarred from employing that necessary raw material? Or even had its cost been augmented by the imposition of a high royalty *ad valorem* (not paid in all countries), as on wood pulp, a trial regarding which was occupying the Court of Session last week? What would have been the condition of Greenock this day if the men of brains who, by overturning the old methods of refining, have been principal creators of its marvellous sugar-trade had patented their plans and, for fourteen years, allowed nobody else to practise them?

Here let me endeavour to disabuse any minds that may have harboured it, of the false conception that the individuals who pay royalty, or whom patents restrain from adopting new improvements, are the only or the chief sufferers. The burden and disadvantages fall on the community as a whole, wherever there is not foreign competition, for then the manufacturer can pass forward the charge for patents on the consumers, or palm on them an inferior or a dearer article. Where there is foreign competition with non-royalty-paying rivals, it is individuals that bear the loss in the first instance, but by-and-by trades conducted so unequally will dwindle or be transferred to the wiser countries which have not patents, and then, of course, we lose our masters and men with all the prosperity they diffuse through profits or wages spent among shopkeepers, house-owners, professional men, and in every direction.

A very gloomy picture? Prevent it being realised.

You are not called on, in your care for people engaged in commerce, to forget the interest of inventors. The interests are reconcilable. They are nearly identical—only, our at best barely logical and now unsuitable manner of treating their reciprocal relations must be exchanged for something that will serve the purpose better. I have reminded you that it has been said by high authority, that far the most convenient and appropriate mode of rewarding inventors is by State rewards. To that conclusion I will be glad you come. There are, in spite of all the disparaging criticisms that have been vented against this mode by persons who appear not to have understood the simplicity and facility of its working, imperative reasons why, at least, it should be fairly considered.

I will advert to one objection only. Some have alleged that it would be unfair to throw upon the public Exchequer the payment of these rewards. An answer to this might be made by repudiating the necessity of throwing them on the Exchequer. The principle might be applied thus:—Let every patent be granted subject to redemption at a valuation price, to be fixed and paid on the demand, accompanied by due security, of private parties or companies engaged in the business primarily affected, and let it continue to run its course of fourteen years if not so redeemed. But surely direct payment of the redemption money or reward by the State is infinitely more expedient.

With respect to the question of incidence, lay it down as a principle that in the end it is the general public who suffer the disadvantages that are inseparable from patents. At one time it may be this portion of the public, at another that, but all have their turn and their liability, so comprehensive and penetrating is the range of patents.

Or the argument might be presented in this way:—As Sir William Armstrong has said (to quote no other authority), direct public rewards will cost the country not a tenth, I would say not a fiftieth, of what the country now has to bear indirectly and unseen. Allow that the incidence will not be distributed in the exact proportion of the advantage conferred and relief afforded, yet the portions of the public who may find themselves relatively least favoured by the change will be in a better position than they occupy now.

From OUR PATENT LAWS.

Revised and Reprinted from THE NORTH BRITISH DAILY MAIL, *February* 2, 1875.

BY THE AUTHOR OF "A POPULAR TREATISE ON THE PATENT LAWS."

[*Member of an eminent Patent Agency Firm.*]

The supporters of that Law altogether ignore the fact that patents obstruct the development of trade; yet it is well known to the initiated that the powers invested by patents are at present almost illimitable, and many industrious men have had the development of their business obstructed by reason of the unwarrantable interference and assumed rights of patentees. What can be more pernicious than to give patentees the power of suing not only the manufacturer of an article, but also the sellers and the users thereof? If Smith has a patent for, say, a mincing machine, and Brown happens to make another machine for the same purpose, and sells it to Jones the ironmonger, who in turn sells it to Robinson the butcher, Smith can (even although the two machines are different in their principles of construction) drag Brown, Jones, and Robinson, jointly or separately, into an expensive and vexatious lawsuit; and if he fails to support his plea

of infringement all the penalty he suffers is to pay the *taxed costs* of his opponent. This fact, being generally known, has a most injurious effect upon trade, as the fear of being dragged into a lawsuit deters many people from purchasing or using what is probably the best machine in the market, simply because it comes second in date. Thus trade is directed out of its natural channels, which causes much inconvenience to the public by having the rate of production of certain goods impeded, or the quality of the product unimproved for a long period of years.

Again, it is well known that the difficulties encountered in attempting to introduce any revolutionary invention compel the inventor, in order to compensate for his labour and outlay, to charge heavy royalties upon his goods—hence foreign competition is encouraged. We could at the present moment name a machine which is one of the meritorious and revolutionary class, and which, having been patented in Britain but not in Germany, has been manufactured in larger numbers in Germany than in our own country; and this is clearly attributable to the fact that the royalties which have necessarily to be charged at home are far above the average rate of profit due to the manufacture —hence foreigners find that the machines can be manufactured abroad as cheaply, or sometimes cheaper than in Britain, and the royalty alone being saved gives a handsome profit. We have further to consider that Continental nations are now as easily accessible to Britain, or *vice versa*, as England was to Scotland fifty years ago; and those Continental neighbours, such as Holland and Switzerland, who have no Patent Law, and Prussia who has practically none, possess great advantages over us in the manufacture of numerous commodities, simply by being freed from the burden of this surplus or extra-judicial profit called royalties; and from the Evidence of Mr. Samuelson and others, there appears to be no question that our trade must in the end suffer in competition with these countries, unless some radical amendment of our Patent Law is introduced. . . .

We fail to see how any amendment of the law can ever prove satisfactory, unless the principle underlying the granting of patents is taken into consideration, and a preliminary investigation made as to the *novelty or newness* of every invention sought to be patented; as it is obvious that conflicting patents, instead of being *bona fide* property to the inventor, as patents ought to be, they simply lead the way to litigation, which in many cases is the prelude to ruin. It is well known that patents are daily granted for ideas and schemes which bear not the remotest relation to *new manufactures*. Some of the most frivolous and useless things that can possibly be conceived are patented for mere trade advertising purposes; and it is extraordinary to observe the measure of success which occasionally attends such practices. By obtaining a monopoly for some trifling commodity, which respectable traders would scorn to make or use, the monopolist can push the veriest rubbish into the market by the sheer persistence of his puffery, and it may be years before the public become convinced of the imposition. The extent of *newness* required to support a patent being scarcely definable also tends to encourage the patenting of the most

trifling improvements by some, which others never think of securing —hence, in many cases, the man whose inferior mental calibre leads him to attach an undue importance to small things, obtains a monopoly for improvements which are no more his property than that of his neighbours; and as a rule, peace-loving subjects prefer to retrace their steps rather than come into collision with the monopolist. . . .

As these laws at present stand, it is an open question whether the benefits derived from them are at all adequate compensation for the vexatious lawsuits, obstruction to trade, and injury to individuals which they have caused throughout the country; and unless British statesmen can so remodel them as to mitigate such evils, the abolition of the Patent Laws is simply a question of time. . . .

The *Revue de droit International*, No. 4, 1869, contains some historical matter quite worthy of notice on the subject of Patents at the present juncture.

"At the International Congress for Custom-house reform, held at Brussels in 1856, M. Akersdyck, Professor in the University of Utrecht, declared that, after having demolished the barriers that oppose free exchange of the products of commerce and industry, it would be necessary to suppress the obstacles which Patents occasion to *la liberté du travail*. In 1862 the International Association for the progress of social sciences, at its Congress in Brussels, occupied itself with a Memoir by Mr. Macfie, then President of the Liverpool Chamber of Commerce, in which the author insisted mainly on the obstacles that patents occasion to freedom of industry, and on the situation of inferiority in which industrials of countries where patents have been taken are placed in competing with their foreign rivals. . . .

"The kingdom of the Netherlands enters into the category of European countries which dispense with patents. The others, so far as we are aware, are Denmark, Switzerland, Mecklenburg, Turkey, and Greece. . . . . .

"The Prussian Legation having addressed to the Federal Council four questions touching the consequences to Swiss industry of absence of patents, the Federal Council charged with the duty of replying M. Bolley, Professor of Chemical Technology, and M. Kronauer, Professor of Mechanical Technology, both of the Polytechnic school of Zürich. Their work, dated 28th November 1861, appeared in 1862. It informs us that—

. . . "It is impossible to say what Swiss industry would have been, if it had been for years subjected to patents. But this is certain: —it prospers, and of late years especially, it has made great advance.

"It is indubitable that many branches of industry have at their commencement profited much by absence of patent law. Thus in ribbons, and silks, a beginning was made by imitating foreign models. To-day models invented in Switzerland predominate, and that greatly. It is well known that new inventions are often kept by patents in a state of imperfection. Suffice it to call to recollection the invention of Crompton, and Morse's telegraphy in England; in France, according to M. Boutarel, the law of 1844 smote industry with unproductive-

ness, and, it may be added, in a certain sense, dearness. Nothing of the kind in Switzerland: A multitude of examples might be cited of rapid perfectionment resulting from free exploitation, and the moderate price of most Swiss productions forms an element of their success. So the industrial whom I will cite affirms that the French law of patents prevents France from competing on equal terms with Switzerland. . . . The industrial population of Switzerland where, as is known, instruction is widely extended, possess the spirit of mechanical invention in a high degree, and free competition renders better service than any external means in the way of securing trade improvements.

"In fine, Messieurs Bolley and Kronauer emphatically pronounce against patents, and affirm that their conviction is shared by the great majority of Swiss industrials. Patents, according to M. Bolley, are demanded neither by fairness nor justice. . . . Like M. Boutarel, he considers that patenting strikes industry with sterility, that it puts inventions into a state of atrophy, in hindering or retarding their progress."

These official and authoritative declarations should set at rest the wild insinuation vented at the Society of Arts' recent conference and well answered by Mr. Samuelson.

PROLONGATION OF PATENTS.

The gratuitous impropriety of a general elongation of the term for which patents are granted is shown by a Parliamentary Return moved for by the Attorney-General. It authoritatively states that, of 607 patents which reached their termination in the *three* years 1876-78, for 20, = a little beyond one case in thirty, prolongation was asked, but it was [after due formal investigation by the Privy Council] granted in only 11 instances, *i.e.* in less than two per cent., or one in fifty. Taking the period of *nine* years, 1870-78, during which 1829 patents expired, applications were made to prolong 49, or less than three per cent., and prolongations were granted for 24, or = about $1\frac{1}{3}$ per cent.

GERMANY.

CIRCULAR concerning a uniform PATENT LAW in GERMANY, addressed by the PRUSSIAN GOVERNMENT to the different STATES of the ZOLLVEREIN.

THE question must be decided as to whether the grant of a patent is to be made dependent on the result of a previous examination as to the novelty and originality of the invention. . . . The convention . . . between the States of the Zollverein on the 21st September 1842 . . . stipulates that "only such objects shall be patented in each state as are really new and original." . . . The following plea may be put in against the principle of previous examination. . . .

Considering the immense progress made by industry in the last twenty or thirty years, and the extensive literature created by the same, it is even now very difficult, if not quite impossible, to ascertain whether an invention has not already been applied somewhere to trades, or been described in some foreign or German publication. This difficulty increases more and more every day, since, with the greater development and extension of industry and literature, examiners will be more exposed to overlook inventions already known before. . . . It would be quite different were applicants to receive a certificate of application without previous examination, and to be then left to defend their own rights against infringers. If afterwards novelty were to be contested, the production of evidence would not rest with the Government, since, in the case stated, two parties would appear, both bound to prove their assertions, whilst the Government would have only to decide whether a certain thing already existing was identical or not with another for which a patent has been taken. . . . New industrial inventions are as much the intellectual property of their authors as scientific and artistic works, for which there exists no previous examination as to novelty. . . . The danger of extending protection to futile inventions, by thus allowing their merits to pass unchallenged, might be easily obviated by the imposition of an appropriate tax.

Partisans of the other system, while admitting that it is difficult to deliver a safe judgment as to the novelty of an invention, still maintain that the principle of previous examination ought not to be given up on that ground. . . . In the general endeavours to remove monopolies in trades, it appears inconsistent, to say the least of it, to facilitate the grant of that class of monopolies, even to the extent of not inquiring whether there exist special reasons which would counterbalance the industrial disadvantages resulting therefrom. Now this is the very object of previous examination, and therefore it is required. Patents granted after previous examination will not only protect inventors, but also the public, from illegal claims, since by such an examination the novelty of the invention is legally recognised, for the advantage of both parties. . . . If official examiners, provided with

all kinds of resources, find it difficult to ascertain whether this condition be fulfilled, how much more difficult will it be to individuals who have no such resources, and who are still deeply interested in knowing whether the invention be new or not! Every invention is to become public property at last; but if patents are to be granted for every invention that is said to be new, means will thereby be afforded to speculation to renew a monopoly of what has become public property. If an examination as to novelty were to take place only in consequence of an opposition, many years might elapse before the patent were cancelled, during which time the patentee would have fettered, or even deceived, the public. Patents granted without previous examination will miss their special object, which is to promote industry and to reward real inventors; they will become an impediment for industrial development, and be made an easy legal tool in the hands of jobbers. A tax on patents will give no sufficient protection, unless it be very high; but high taxes will injure inventors of small means, and, besides, would be at variance with the nature of patents, which purport to be a reward of inventive genius. How very few inventions can claim the title of novelty is best shown by the small number of applications taken into consideration by the Prussian Commissioners (an annual average of 11 per cent. between 1854 and 1856). Whilst in countries where no previous examination takes place several thousands are taken every year, the number of patents granted in Prussia scarcely amounts to 80 per annum. It cannot be maintained that the public are not injured by patents granted on mere application, by saying that it is left to any one to show that the invention is not new. A very considerable injury will be inflicted upon others by compelling them—if they wish to apply, work, or use known things—to enter legal proceedings against the patentee, and to bring in the requisite evidence. . . . By a previous examination a higher degree of probability is attained, and more cannot be obtained by evidence produced in legal proceedings. If now and then a patent be cancelled for want of novelty, neither the authority of the Commissioners nor the confidence of the public will be lessened thereby, since the public are well acquainted with the difficulty of the Commissioners' task. Examiners will render an important service to the public by rejecting the great number of applications made through ignorance or stupidity. . . .

The point relates to the grant of an exceptional extensive privilege, which can only be justified if the required condition be fulfilled.

When revision of the Prussian patent law was proposed, the advice of the different provincial governments, chambers of commerce, and corporations of trade, was taken as to the continuation of the system of previous examination. Most of them decided in favour of the same, and against the so-called system of free application, as existing in Austria, France, Belgium, etc. From the mere theoretical point of view, we ourselves think that the principle of previous examination is preferable; but as it cannot be denied that the difficulties of carrying it out practically increase more and more with the progressive development of industry, we are inclined to decide in favour of the system of

free application—an inclination in which we shall be strengthened if it be found that the limitations of patent-right can be uniformly extended to the industry of a large territory. . . .

Berlin, 3d March 1857.

(Signed) MANTEUFFEL, Minister for Foreign Affairs.

NEW GERMAN PATENT LAW.

THE compiler has been favoured by the Patent Office with numbers of *The Commissioners' Journal* that contain full information regarding the above. He subjoins extracts. He has italicised a few words which seem to show that the danger adverted to on pp. 187 and 191 is provided against in that Empire's seas and rivers. In other respects disappointment must be felt, along with apprehension of ill consequences from a retrograde policy which *seems* to pervade the new legislation.

GERMAN EMPIRE.

1*st July* 1877.

FIRST SECTION.

1. Patents are granted for new inventions which may be turned to account in trade. . . .

2. No invention is to be considered as new if, at the time of the application made according to the provisions of the present law, it has already been described in publications or been publicly worked in Germany, so as to admit of the use thereof by other competent persons. . . .

4. The operation of a patent is to restrain other persons from manufacturing, trading in, or offering for sale the object of the invention, without the permission of the patentee.

Whenever the object of the invention is a process, a machine, or any other working apparatus, a tool or any other implement, the operation of a patent is, moreover, to restrain others from employing the process or the object of the invention without the permission of the patentee.

5. The patent has no effect against those who at the time of the application of the patentee had already employed the invention at home, or made the required arrangements for working the same.

Furthermore, patents are ineffectual whenever the Chancellor of the Empire thinks proper to employ the invention for the army, the navy, or otherwise for the public welfare. In such cases, however, the patentee can claim a proper compensation from the Empire or the State which proposed the limitation of the patent in its own interest, such compensation to be settled by mutual agreement or by judicial proceeding.

Patents do not affect apparatus in ships, locomotives, railway-carriages, and other means of transport, *whose sojourn in the country is only temporary.* . . .

7. The duration of a patent is fifteen years, beginning with the day following the application for the patent. Should the invention relate to an improvement of another invention patented by the patentee, the latter can apply for a patent of addition, which terminates with the original patent.

8. A fee of 30 marks is due at the delivery of a patent.

With the exception of patents of addition (§ 7), patents at the beginning of the second and each following year are subject to a fee amounting to 50 marks the first term, and increasing by 50 marks each following year.

Patentees giving evidence of necessitous circumstances can be released from the payment of the fees for the first and second year up to the third year; and in case of extinction of the patent in the third year, such fees may be entirely remitted.

9. A patent becomes extinct whenever the patentee gives it up, or whenever the fees are not paid within three months, at the latest, after having become due.

10. Patents are liable to be annulled whenever it is found—

(1.) That the invention was not patentable according to §§ 1 and 2;

(2.) That the essential part of the application was taken from the descriptions, drawings, models, implements, apparatus, or process adopted by another person without his consent.

11. At the expiration of three years patents will be cancelled—

(1.) Whenever the patentee omits to work his invention in Germany to an adequate extent, or whenever he omits to do all that is required for securing such working.

(2.) Whenever, in case of licenses being required for the public interest, the patentee should be unwilling to grant such licenses for an adequate compensation and against good security.

12. Persons not residing in Germany can only apply for a patent, and claim the rights resulting therefrom, by appointing a proxy in Germany. The latter is empowered to act in all the proceedings prescribed by the present law, and in all civil law cases concerning the patent. . . .

Second Section.

13. . . . The Patent Office is situate in Berlin. It consists of at least three permanent members, with a president, and of non-permanent members. These members are appointed by the Emperor, the other officials by the Imperial Chancellor. The appointment of the permanent members takes place by nomination of the Federal Council, such appointment being for life, unless the memberected el holds another appointment in the Government service, in which case the appointment terminates with the latter. The appointment of the non-permanent members extends to five years. Three at least of the permanent members must be qualified for a judgeship or for the

higher Government service; the non-permanent commissioners must be expert in a certain branch of industry. . . .

14. The Patent Office consists of several sections. Such sections are formed beforehand for one year at least. A member may belong to different sections.

A quorum of three members in these sections, among whom there must be two non-permanent members, is required for the grant of a patent.

A special section is formed to determine annulments and cancellations of patents. Such decisions are made by two members, including the president, qualified for a judgeship or higher administrative service, and three other members. For other decisions three members form a quorum. . . .

There shall lie appeals against the decisions of the Patent Office.

16. Appeals against the decision of a section of the Patent Office shall be heard by another section or by several sections conjointly.

No member who has taken part in the preceding decision shall be entitled to vote in appeal cases. . . .

18. At the request of tribunals, the Patent Office is bound to give an opinion on patent matters. Otherwise it is not entitled, without the consent of the Imperial Chancellor, to form resolutions or give an opinion beyond its official sphere of business.

19. The Patent Office keeps a record of the subject and duration of patents granted, together with the name and address of the patentees and their proxies, if any, at the time of application. . . .

The Patent Office publishes the specifications and drawings, as far as their inspection is open to the public, by abridgments in an official journal. . . .

Third Section.

24. At the expiration of eight weeks from the day of publication (par. 23) the Patent Office will determine the grant of the patent. Until that time the grant of the patent may be opposed at the Patent Office. The opposition must be made in writing, and the reasons therefor must be given. It can only be founded on the assertion that the invention is not new, or that the supposition of par. 3 is applicable.

Previous to the determination, the Patent Office may summon and hear the interested parties, obtain the opinion of special experts, and take other steps for the elucidation of the matter.

25. Applicants may prefer a complaint against the decision of refusal, and applicants as well as opponents may do so likewise against the decision bearing on the grant of the patent within four weeks from the date of delivery. . . .

Witnesses and experts who will not appear, or refuse to give evidence, or to confirm it by oath, are liable to be fined or punished, on application, by a court of justice; and the appearance of an uncomplying witness may be also enforced by warrant.

32. The decisions of the Patent Office may be appealed against. The appeal is to be lodged at the Supreme Imperial Tribunal of Commerce. . . .

34. Persons who deliberately work an invention contrary to the provisions of pars. 4 and 5 are liable to a fine of 5000 marks at most, or to imprisonment for one year at most, besides damages to the injured party. . . .

35. In criminal cases the injured party is entitled to publish the sentence at the cost of the condemned party. The way of publication, and the term allowed for it, is to be determined in the sentence.

36. In lieu of damages, as due according to the present law, the injured party may, besides the penalty, demand an amercement of 10,000 marks at most, to be paid by the condemned parties jointly and severally.

Such amercements exclude all further claims to damages. . . .

38. The term of prescription for complaints for infringement is three years, with respect to every single act on which the complaint rests.

39. The claim to damages and amount thereof shall be determined freely by the tribunal, with due consideration of all the circumstances.

40. Fines of 150 marks at most, or a term of imprisonment, are inflicted—

1. On such persons as mark articles or their covers so as to induce others to believe that the articles are patented;
2. On those who, in public advertisements, on sign-boards, on trade cards, or by similar notices, use a sign which might induce others to believe that the articles mentioned therein are patented. . . .

ORDINANCE concerning the ORGANISATION, PROCEDURE, and MANAGEMENT of the PATENT OFFICE, dated 18th June 1877.

§ 1. The Patent Office shall consist of seven Sections.

The respective competency shall be as follows:—

Sections I. and II. shall determine all applications for patents relating exclusively to mechanics (mechanische Technik). Sections III. and IV. shall determine all applications for patents relating exclusively to chemistry (chemische Technik). Sections V. and VI. shall determine all applications for patents relating both to chemistry and mechanics, and also all other applications for patents. Section VII. shall determine all proceedings relating to the voidance and revocation of patents.

§ 4. . . . Sections I. and II. must contain at least five non-permanent members each; Sections III. and IV. at least three each; Sections V. and VI. at least four each, and Section VII. at least six.

Sections V. and VI. shall each comprise at least one member taken from each of the first four sections. Among the members of Section VII. there must be at least one taken from each of the first six sections.

Each section must contain one permanent member at least; Section VII., moreover, must include the President of the Patent Office.

§ 5. The sections shall be formed by the President of the Patent Office, who designates the members of each section for the term of one year or for a longer term. . . .

§ 7. . . . The assistance of experts (Patent Law, § 14, 5) shall be determined by the sections. . . .

§ 12. Witnesses and experts shall be indemnified for loss of time and expenses incurred, according to the provision for civil law cases in usage at the places of their abodes; experts, moreover, shall receive a compensation for their trouble. . . . .

The following distinctive mark for patent articles is recommended to patentees :—

Deutsches Reich Patent.
or
D. R. P.;

in both cases adding the date of patent.

The above mark might be affixed on the patent articles themselves, or, if not feasible, on their covers.

Berlin, 9th Oct. 1877.

The President of the Imperial Patent Office, JACOBI.

The specifications of the German patents [Patentschriften] are published by the *Königliche Staatsdruckerei*, Berlin, S.W., Oranienstrasse, 94, and may be ordered by post, subject to the following conditions :—1st, By subscribing for special classes, at the rate of 50 pfennig (6d.) per number, with a remittance of 20 marks (£1). 2d, By subscribing for 20 copies of a particular specification, with a remittance of 10 marks (10s.), the order thereof to be made within a fortnight after the publication of the grant of the patent. 3d, Single numbers, if still in stock, to be had at the rate of 1s. each. Forms for subscriptions may be had gratis at the above address.

The general classification is as follows :—(1.) Treatment of ores, minerals, fuel. . . . (89.) Sugar and starch.

PROPOSED PATENT LAW FOR GERMANY.

From the JOURNAL OF THE SOCIETY OF ARTS, *March* 30, 1877.

The Imperial Government has already given unity to the currency, the bank, the post-office, and to the commercial, civil, and penal laws, and is now intent on producing a patent law for the Empire. This being announced, a Commission was formed of twenty-four or twenty-five persons, including professors, manufacturers, directors of schools of commerce, and industrial museums, and even the chief of a patent agency. This association began its work in August last. The results of its inquiry were made known to the Imperial Chancellor, who caused a draft bill to be drawn, and sent to each State of the Empire for consideration. This is further made known to the public through the papers, and is being discussed with interest. This project contains some points well deserving of consideration.

As in Prussia at present, so in all Germany, applications for letters-patent are to be submitted to examination, and the novelty of any claim is thus referred to in clause 3:—"An invention is not new when it has been clearly described in any other than an official publication of patents granted in foreign countries, or if it have already been sufficiently practised in Germany to have been copied or imitated." . . .

The new project fixes the duration of a patent at 15 years as in France and some other countries. The fees are made progressive, as in Belgium, the amounts being 30 marks for the first year, 50 for the second, 100 for the third, and so on increasing annually 50 marks, till the sum reaches 700—making a total of 3480 marks, or in round numbers, £170. No fees to be charged as additions to a patented invention. In case of the non-payment of an annual fee the patent is forfeited, but three months' grace is allowed.

In the case of an invention being obtained by fraud, or in case of a stranger not having a representative in Germany, the patent is forfeited; it may also be forfeited if the patentee refuse to allow it to be used in Germany on similar terms to those accepted in any other country, or, if he do not himself work it. The Chancellor attaches much importance to these provisions, more perhaps than will be generally accorded to them.

The most remarkable novelty in the plan is the establishment of a Patent Court (*Patenthof*), which is empowered to confer and withdraw patents, at once an administrative office and a tribunal. It is to sit at Berlin, and to be composed of three jurisconsults, one of whom will preside over the sittings, and of a certain number of specialists (engineers, chemists, mechanicians, and others), divided into committees. Experts may also be asked to take part in the proceedings of the Court, but not to vote. No patent is to be annulled without the presence of two of the jurisconsults. This Court is also to be a Court of Appeal, but the final decision rests with the Supreme Tribunal of Commerce of Leipzig.

When a patent is allowed, the name of the inventor is to be announced in the official journal, and the protection is accorded from that moment. From the day of publication, however, the claim undergoes public inquiry for eight weeks; all the documents are open to investigation, and any one may enter opposition in writing, accompanied by a fee of twenty marks. A curious arrangement comes in here, if the applicant persist, in spite of the Court's declaration that the invention is not new; publication and inquiry proceed as if the application were acceded to, but the inventor is not protected. . . .

If the Court be convinced that the applicant has not the means of paying the fees, it may give him credit for three years.

The Court is endowed also with the power of taking the initiative by declaring a patent void, but the patentee must have a month's notice and may oppose the motion.

Cases of infringement are left to the Civil Courts, which may ask the advice of the Patent Court in any case, just as it would take the evidence of an expert. The penalties are limited by a maximum fine

of 5000 marks, or six months' imprisonment, and damages; or the damages may, on the application of the complainant, be commuted to a fine, payable to him, of 10,000 marks, in which case all the defendants would be liable individually and collectively. The fees proposed to be charged are . . . nearly three times as heavy as those charged in France, and about six times those of Belgium. . . . Germany is a poor country, and fees which are considered high here appear exorbitant there.

Extracts from THE INTEREST OF SCOTLAND CONSIDERED WITH REGARD TO ITS POLICE IN IMPLOYING OF THE POOR, ITS AGRICULTURE, ITS TRADE, ITS MANUFACTURES, AND FISHERIES. 1733.

The Parliament of *Ireland* give great funds for the improvement of their linen-manufacture, no defect is sooner discovered, that can be supplied by encouragement, than it is done. The Trustees in *Ireland* gave, at one time, 10,000 check-reels, which were all made, and sent and distributed to the spinners in different places of the country, at the public charge; they also at several times have made great numbers of good looms, completely mounted, of the best kind, and give them *gratis* to the best weavers. They are likewise careful to remove, by publick laws, every thing that has the least appearance of a discouragement to the linen-trade. They, by Act of Parliament, exempted linen cloth of every kind from the payment of all petty Customs, or small Duties that were in use to be paid upon it at weekly markets and country fairs. . . . Those petty Duties are a part of the revenue of those boroughs and towns where linen cloth and linen yarn are sold at weekly markets and fairs; and a very small part of the revenue they are, for the collecting of them costs very near as much as they yield. . . .

Rules for the government of the Work-house. All the boys that remain in it at eleven or twelve years of age should then be put on a loom, and taught to weave plain linen, and be there kept constantly at work till they are twenty-five or twenty-six years of age, and the girls kept constantly employed in spinning, until they are taken out for servants. . . .

Every burgh, every city, every state, at least every free state that is governed by laws, and has its Police regulated by right reason, and the just and true rules and maxims of its political interest, will take all imaginable care to encourage strangers to settle amongst them, especially traders, artificers and tradesmen, who are the chief wealth and strength of every country. All guilds, exemptions, seclusive privileges, and monopolies in any particular trade, business or profession, and every other bar that proves a hindrance, or the least discouragement to such to live amongst them, is no sooner discovered, than by publick authority it is removed. . . . The industrious will always go where industry is most encouraged, and where he may carry

on his business with the greatest freedom, without any restraint or incumbrance; but where a heavy sum must be paid in the threshold for freedom to work, and the liberty of being a profitable member to the community, there industry cannot enter, nor wealth reside. . . .

They know, from experience, the unfree trade, as it is, and ever will be managed, can yield them but small relief; but if the trade and the freedom of handicraft imployments was laid open, as the *African* trade was, the Royal Boroughs would reap as great benefit by the one as the nation in general gains by the other. Many of those unfree traders, who are now disperst thro' the country, would come and reside in burghs, where they could carry on their business to greater advantage; the best tradesmen, the most ingenious artificers, mechanicks, and manufacturers would, in like manner, settle in the great towns. . . .

How unlike is it to freedom and liberty, that a trader in a Royal Burgh cannot imploy a tradesman in the country, who, by his superior industry and diligence, can work cheaper; and that the country manufacturer cannot bring in his goods for sale, but on a certain day, and at a certain hour, as if commodities for exportation ought to be subjected to the same rules of sale with market-provisions? How much is the trade within burghs discouraged by this practice? And who are the gainers by this great loss to the country? Not even the tradesman who is the cause of it; he can hinder others to thrive, but does not thereby thrive himself; the merchant will not buy his goods for all his privilege, unless he can sell as cheap as he that has none. He has indeed the opportunity of taking advantage of people's necessities, and is in use (to the shame of the rulers of all royalties be it spoken) of taxing his neighbours by making them pay three or four *cents* for a dead coffin more than it is worth, or more, according to the circumstances and quality of the Person; and so on every other such occasion, where one can be served no other way; and are they enriched by these great profits? On the contrary, as this practice encourages idleness, they are wretchedly poor and miserable; and yet, for the sake of this mighty privilege, is the trade of the country discouraged, and its manufactures kept low, as they are thereby, in some measure banished from Royal Burghs where they might be carried on to the greatest advantage. . . .

The Trustees appointed by his present Majesty's Letters Patent, for the distribution of the funds appropriated for encouraging the fisheries and manufactures, have been so careful in their application of these funds committed to their care, to the best advantage; and to encourage those stamp-masters who have been faithful, diligent, and exact in the execution of the great trust committed to them; and to discourage and cashier those who have been negligent or unfaithful, that the linen trade is already increased in its quantity, and improven! exceedingly improven! in its quality, even beyond our utmost hopes.

THE IMPROVEMENT IN STEEL-MAKING.

SEVERAL experts, representing large ironworks in Austria, lately visited England, in order practically to test the value of the new process for dephosphorising iron, especially with regard to the quality of the steel produced. The representative of the Witkowitz Company has now returned home, and reports that the Bessemer steel which he saw produced from phosphorus iron is entirely satisfactory in respect to hardness and elasticity, but he is doubtful whether the process will not prove too costly, at least for Austria. The cost of the process for that country will be increased by the circumstance that the patent-rights for Germany and Austria have been sold to the Horde Iron Mining Association in Westphalia, and this Company naturally demands an apparently considerable royalty per ton for further concessions. In connection with the question of competition in the international market, this enhanced cost of the process abroad will seemingly be a considerable advantage to the Cleveland district.

The above clip, from an Edinburgh paper of 11th July 1879, is very suggestive. I continually see cropping up such significant indications that a change of view with regard to patents, involving dismissal from the public mind of the glamour which the "interests" have successfully nursed, must be near at hand. Let this be understood, that the report of the 1872 Commons' Committee—which (I say it without blame to any parties) was selected most unsatisfactorily—ought not to be regarded as at all an authoritative—as if it were a *judicial*—decision. Let us be thankful it is so good as it is in the circumstances. The report of the Royal COMMISSION *was* in a great measure judicial, thanks to the different character of such a body, and to its constitution, which was the result of excellent selection.

Extracts from THE SCOTSMAN, *July* 15, 1879.

SINCE 1868, the imports of Great Britain have risen from, in round numbers, £294,000,000 to £366,000,000 sterling. . . . The exports of American merchandise are now two and a half times as valuable as in 1868, the total last year being £142,000,000. The growth of the last three years amounted to £38,000,000, and in 1878 alone there was an increase of £19,000,000. It should be remembered that in the United States, as here, there was a decrease in 1878 in the prices of nearly all commodities, so that the increase in the bulk of the exports for the year was much larger than these values represent. Another notable fact is that 82 per cent. of the whole exports consisted of agri-

cultural produce, a larger proportion than in any year since 1861. This country alone took £80,000,000 worth of the produce of the States, or nearly 55 per cent. of the whole exports; while we supplied them with £24,000,000 worth of our goods, or rather more than 25 per cent. of their total imports. . . . The American manufacturers have been straining every nerve to compete with our own in supplying neutral markets. Mr. Drummond, in pointing out wherein consist the advantages of the United States in this struggle for ascendency, takes occasion to give some valuable advice both to the British employer of labour and to the British workman. American manufacturers, he considers, are quicker than our own in discovering what are the requirements of trade, and in taking means to supply them. They beat us as originators, and have a great advantage over us in their labour-saving machinery. . . . In the meantime he is only striving to push his goods into notice, and he takes care that his samples shall be of superior quality. While British manufacturers ought to take a leaf from the American book in judgment and fertility of resource, the English workmen should learn a lesson of prudence from the conduct of their brethren beyond the Atlantic. Mr Drummond considers that the ease and rapidity with which the trade of the United States has recovered strength, is largely attributable to the good sense shown by the working classes in accepting the inevitable in the shape of low wages, and waiting patiently for the return of better times. Strikes only serve to increase the distress and depression. . . .

SUPPLEMENT TO VOL. I. ON COPYRIGHT.

INTERNATIONAL COPYRIGHT.

[*From* MACMILLAN'S MAGAZINE, *June* 1879, *written by the distinguished American journalist whose name it bears.*]

THERE has been of late a gradual *rapprochement* between the authors and publishers of both countries with regard to the general principles. . . . The agreement must be in the nature of a compromise. When, therefore, we come to consider the important and now pressing question of international copyright, which involves material interests as well as abstract rights, it behoves us to look for a substantial practical basis for the equitable adjustment of the claims, rights, and interests of authors, publishers, and society. . . . The most that society is at present willing to concede is that the author is entitled to "an adequate reward" for his labours. . . .

Americans of the present day are, as a people, . . . not in favour of taking the productions of English or other foreign authors without suitable remuneration. . . . When our country was poor, when our authors were few, and when the facilities for multiplying books were comparatively limited, our American publishers used that advantage to reprint, without authorisation and without payment, the works of popular foreign authors. . . . It had one good result, namely, the rapid development of a national taste for reading, a wide-spread popular craving for the pleasures and the benefits of literature, which have created in this country a market for English authors larger, and in a few cases more lucrative, than that which they possess at home. . . .

In those early days the works of Byron, Scott, Moore, Wordsworth, and other popular authors, were borne from hamlet to hamlet, to the extreme verge of advancing civilisation. . . . Expensive books would have been out of their reach, and but for the facilities afforded by cheap reprints, they would have been unable to supply themselves with the means of education and culture. . . . An international copyright at that time, while it would have added very little to the revenue of English authors, would have retarded the progress of American culture at least half a century, and delayed for many years that wide-spread intellectual development from which your authors reap so large a benefit. The evil was comparatively small and transitory; the benefits were incalculable and permanent. . . .

There is a general feeling here that international copyright is urged on your side of the Atlantic chiefly in the interest of British publishers. . . . This feeling is especially strong in the South and West, and it is heightened by the fear that, by introducing English methods of publication, the measure would enhance the cost of reading. America is emphatically the land of cheap books. Our people buy and keep the

volumes they read, instead of hiring them from circulating libraries. . . . The system is distasteful to our people, who like to form little libraries of their own. Books for general circulation in America must be issued, therefore, in a comparatively cheap form. . . . Owing to this system, the names of Dickens, Charles Reade, Wilkie Collins, Thackeray, George Eliot, and a hundred other English authors, are as well known in the cabin of the settler in the remote West as they are in their own country. . . . We are keenly alive to the necessity of the general diffusion of intelligence. . . . We welcome here the poor, the outcasts of every land. . . . They must be educated, must become intelligent, if we would preserve our institutions from decay. There is a wide-spread feeling that the Old World, which contributes this mass of ignorance and superstition to our population, should also contribute to the alleviation of the resulting ills. . . . This does not, of course, imply literary piracy, or a right to levy on the works of aliens; it implies simply a determination to keep in our own hands the control of the book market in this country, in order to prevent foreign books from becoming scarce and dear, and thus passing out of the reach of the great mass of the people. . . .

As the question of international copyright had not been thought of when the Constitution was framed, it is safe to assume that it "was not within the contemplation of the Constitution." . . .

An equally indefensible measure, one similar to which was afterwards laid before your Copyright Commission, was brought forward by Mr. Morton, a publisher of Louisville, Kentucky, providing that any one should be at liberty to reprint a foreign book on condition that he would engage to pay the author or his representative a royalty of ten per cent. on the wholesale price of all copies sold. Mr. Morton was also in favour of allowing the sale of foreign editions in the American market, leaving competition wholly unrestricted. This scheme attracted as little notice as Mr. Bristed's measure, and it is mentioned here only as one of several conflicting and utterly impracticable plans which were pressed upon the attention of the committee. . . .

It reflects, beyond a doubt, the general sentiment of the American people, to which allusion has already been made in this article, that the question involves many interests besides the abstract rights of authors, and that no permanent settlement can be made except upon a broad, general basis, in which those interests shall be recognised and protected. Whilst it should throw efficient safeguards around authors' rights, and secure to the literary workman the just reward of his labour, it should be equally just to the reading public and to publishers; to those who buy books and to those whose intelligent enterprise, whose judgment and capital contribute in so large a degree to the culture and pleasure of the public, and to the material welfare of authors. On any narrower basis than this, international copyright must fail through lack of popular support, and would deserve to fail. . . . It might be argued that English authors in general would not commit the folly of acting against their own interests, and that editions of popular works would be printed in London especially designed to suit the American market; but this is taking for granted that the

English author or publisher would see his interest in selling a large edition at a low price, when the sale of a small costly edition would afford an equal pecuniary return. . . . Even now, in some cases the importation of a small London edition at a high price practically shuts our market against a cheaper issue. . . . As a temporary measure of self-defence against this ruinous competition, Harper and Brothers established their cheap "Franklin Square Library," in which they have printed a large number of English novels, narratives of travels, etc. The extremely low price at which these issues are sold necessitates a decrease in the amount paid to the foreign author. . . . One New York house alone has paid more than $250,000 within a few years as royalties, or what is equivalent to royalties, on reprints of English books. . . . Not more than one in ten of the English novels offered here is reprinted; the rest are declined as unsuited to the American market. Legal protection will not make them less so, and it would be no inducement to print an unsaleable book that no other publisher could print a rival edition. . . .

The publishers of this country have evinced a generous wish to bring about this desirable consummation. Their claim to the right of conducting the publishing business of their own country their fellow-citizens acknowledge to be just. It is understood also that a considerable number of British authors have expressed their willingness to concede this claim, and to leave the American reprints of their works under American control; and as this is the main condition for which our people contend, should the conference fail to agree upon a treaty, the blame for miscarriage will not rest upon us.

S. S. Conant.

Franklin Square, New York.

An Englishman's View of the Foregoing.

The simple substance of Mr. Conant's argument is that the citizens of the United States, being accustomed to get their English reprints cheap, do not intend to assent to any legislation that would interfere with their being kept cheap; and they are not yet sufficiently indoctrinated with the higher morality—if it has any bearing on the question—to recognise any necessity for modifying this resolution. . . . English writers are fairly keen about getting money, if they are not always sharp to keep it. An English writer having a valuable privilege to sell in the United States would negotiate with more than one publisher there before publishing here, and by playing off one against another would endeavour to obtain the very highest sum that could be realised. The publisher, forced to protect himself, would issue his book so as to bring back what he had laid out, and he would balance the results of a comparatively small issue at a high price, and a large issue at a low price. I do not suppose that the reprint of a novel—even supposing the scheme could be adopted—would at once go up from 50 cents to $5, but it would be gradually enhanced until the limit of profit was reached. The question does not depend upon probabilities. We have facts to guide us to a conclusion. How do

the publishers of the United States act when they have the protection of copyright to prevent rivalry? Although the American book market is always full to repletion with reprints of English works, thus bringing down the standard of price of books of first-class merit, yet the sum demanded for a volume of native origin is as high as it can be pushed. . . . The publisher is everywhere a publisher. . . . Mr. Conant is so intimately associated with publishing as it exists on the other side of the Atlantic, that he does not seem to have contemplated the possibility of a general law of copyright, based on the principle of open publication, subject to a royalty.

Dr. LEONE LEVI'S ARTICLE.

THE following passages, from an article entitled "COPYRIGHT AND PATENTS," in *The Princeton Review* for November 1878, which we have just seen, contain, along with opinions, especially at the outset, wherefrom we differ, materials for reflection:—

"More than any other species of property, intellectual and artistic property needs the protection of the law for its enjoyment; for whatever else may be retained by possession, the products of the mind altogether elude the grasp. . . . What, then, is copyright? It is a public recognition of property. . . . It is the right, the exclusive right, to copy, print, engrave, photograph, translate, abridge, and multiply what we have ourselves produced by pen, pencil, or chisel. . . . The recognition of literary property is a matter of comparatively modern date. . . . The first said to have received any compensation for copyright or for the right of copying was Dr. Hammond, for his annotations on the New Testament. . . . In those days of utter darkness, Milton sold the copyright of his *Paradise Lost* for the miserable pittance of five pounds. . . . Any objection raised against copyright as a monopoly is not nearly so strongly put as against patents, and for many and valid reasons: because, whilst there can be no rival claimant to the authorship of any particular book, many persons may, honestly and indisputably, lay claim to originality in an invention; because, whilst when you buy a book you may do what it prescribes, when you buy a specification of a patent you find in it just what you must not do. . . . With booksellers there is calculation; with authors, only hopes and expectations. Few of them ever expect any remuneration for their labour, at least in a direct manner from the sale of their works. Some are satisfied with whatever amount of popularity they can thereby win for themselves, or with seeing their names printed on the title-page of the book. Some count beforehand upon losing money, besides time and labour. . . . But there is another party whom booksellers and authors alike must consult, and that is the general public. Are books published in sufficient quantity and at moderate prices? Are existing arrangements adapted to the increasing requirements of the people? Are good books, and in readable types, brought out sufficiently cheap? Must a novel be always published at a guinea and a half? What is meant by publishing books at a price thirty or forty per cent. higher than they are ever sold at?

And are not books published in too sparing a manner, in order to secure for a length of time a monopoly price? From the manner the different issues of a library, a student, and a popular edition are brought out, it would seem as if they were intended as so many concessions to an undeserving public. . . . Is the advantage of the extension of literature and science by the publication of a larger number of copies ever taken into consideration? Alas! the general public has not much reason to be satisfied with the present working of the system. . . . Have booksellers yet to learn the first lessons of political economy respecting supply and demand? Do they not see the wonders of the penny newspapers and the success of the penny periodicals. . . . The privilege of copyright is, after all, in the hands of the Legislature, which must see that it be used for the advancement and not for the retrogression of learning.

It was suggested to the Copyright Commission, and the proposal met the earnest support of one of its most eminent members, Sir Louis Mallet, whether, in the interest of literature, it might not be better, instead of granting to the author or his assigns the exclusive right of publication, to entitle any person to copy or republish the work upon paying or securing to the owner a remuneration in the form of a royalty, or a definite sum, prescribed by law, payable to the owner for each copy published. It was alleged in favour of the proposal that it would secure to the public an early publication of cheap editions, that a greater competition would be thereby engendered among publishers, and that a larger sale would result, advantageous alike to the author and the public. Against this, booksellers alleged that their chance of profit would be greatly reduced by such a system, and that with diminished profits their power to remunerate authors would be in proportion diminished. We fear that the system of royalty would not work: because we could never think of allowing a State officer to control the cost of books; because it would be all but impossible to define what shall be a reasonable royalty in any and every case, or what proportion should it bear to the selling price of any book; and because the system is incompatible with the existence of copyright. . . . The system of royalty among other suggestions may deserve consideration. With some modifications, it may yet be the most convenient method to be pursued with regard to the colonies, and once admitted within the range of practical legislation, who knows but it may be applied with advantage in home legislation for the encouragement of literature, science, and art. . . .

In these days of railway speed, when the real worth of books is so soon tested, a curtailment rather than an extension of the term might be better advocated. Nor do we think that authors are likely to benefit by the increased term of copyright. . . . In all cases the term allowed seems far too long, for thirty or forty years are not needed, in almost any kind of work, to compensate the author or publisher. Copyright for an extreme length of time unduly fetters the circulation of literature. Concede, by all means, a reasonable copyright; but after that, any one should have the right to publish the work on payment of a royalty to the original author or his assigns. . . . The law now is, that no person, except the proprietor of the copyright, can import into the

United Kingdom, or into any part of the British dominion, for sale or hire, any book composed or written or printed or published in any part of the United Kingdom, and reprinted elsewhere. Let it be remembered that in the case of colonial reprints the proprietor himself has given permission for the same, and why should not the public in England benefit by what the publisher has permitted in the colonies? This case is totally different from the importation of foreign reprints, where no such permission is asked; and if we give to the publisher an enlarged market, extending all over the colonies of the empire, it is but right that the monopoly price should be proportionally modified. . . .

The Prussian code not only prohibited piracy within the State, but rendered it illegal to import books so pirated. The Emperor Charles VI. gave redress to the Russian Government for the piracy of a work published by the Academy of Sciences of St. Petersburgh. Kant, Fichte, Schlettwein, wrote against it. . . . Voltaire said: "The law which prohibits the introduction of a book the copyright of which belongs to the State, is doubtless just, necessary, and useful. It is an act of protection which each State owes to its national industry and commerce." . . .

The Publishers' Circular showed that in the United Kingdom in 1877 there were published 3049 books, including American publications. The American publications numbered 481, or a proportion of 15·77 per cent. . . . While in the United States 20 per cent. of all the books published were on fiction, in the United Kingdom the proportion was only 9 per cent. . . .

It has been suggested that a mixed commission should be appointed by the Governments of Great Britain and the United States to arrange terms for a copyright convention which may be mutually acceptable. By all means let this be done. . . .

How far patent laws have contributed to the present wonderful progress of art industry, is extremely difficult to say. Doubtless some of the most remarkable inventions have been made without any patent to foster them. Paper, glass, gunpowder, printing, and a hundred more inventions were made when no reward or monopoly was at hand. Nevertheless, it is a matter of common experience that progress has been more rapid and thorough in modern times, and under the *régimes* of the patent laws, than was the case at any former period. What is wanted is a little more care in the granting of patents, a little more sifting of inventions, a little more regard to their utility. . . . There is no reason why international conventions may not be concluded for the exercise of the rights of invention, in the same manner as in the case of copyright and trade-marks." . . .

COST OF BOOK MANUFACTURING SEVENTY YEARS AGO.

EVERY edition of a book of 750 is calculated to pay all the expenses *of every kind* when half the number is sold; and if the edition consists of 1500 copies, less than half is calculated to pay the expenses. . . .

Every new book consisting of one or two 8vo volumes is calculated to cost £30 to advertise it, which makes a part of the first estimate, but in subsequent editions this sum is necessarily diminished. . . .

The items of expense of the last edition of Shakespeare, in 21 volumes :—

Paper—1614 reams 7½ quires,				£3345	3	0
Printing—136 sheets, at £2, 10s.,	£340	0	0			
„ 511½ „ £2, 14s.,	1379	14	0			
				1719	14	0
Editors,				400	0	0
Engraving a head,				15	0	0
Repairing plates, paper, and printing,				27	17	11
Assignment, and altering index,				17	8	0
Incidents,				6	11	6
Four sets of the late edition and sets of the present for the editors,				89	10	0
Advertisements,				62	0	1
				£5683	4	6

This, divided by 1250, the number printed, is £4, 11s. each; and, the selling price being £11, 11s., leaves a profit . . . of £7, deducting the price of putting the copies into boards, which may have been 6d. or 8d. a volume.[1] Since the printing of this pamphlet, another edition has been published, in 21 volumes, price 12 guineas.—*From an "Address to Parliament, by a Member of the University of Cambridge,"* 1813.

From THE PUBLISHERS' WEEKLY, *the American Book Trade Journal, New York, May* 3, 1879.

THE "MONOPOLY" OF COPYRIGHT.

EITHER an author or a compiler puts into a book time, labour, skill, and other elements of value, however original or the contrary (in its presentation of ideas as such) the book may be. In these respects literary productivity is on the same basis as all other; if a worker is at all to be paid for his work, the pen is entitled to *something an hour* quite as much as is the pickaxe. If the cry of monopoly is to be carried thus far, it must be raised as much against Paddy as against Plato; every worker, to get anything for his work, must hold a monopoly in it, and withhold it if necessary, *until he is paid.*

So much for the monopoly of the author,—the monopoly of a single publisher is next attacked. The attack comes partly from theoretical people, as a matter of principle, but more strongly just now from the "cheap library" interest, whose aim is to get the benefit of the ortho-

[1] This £7 is subject to a reduction, therefore, of from 10s. 6d. to 14s. It will be observed that interest, presentations, and a variety of charges are omitted.

dox publisher's experience and outlay without paying for it. The "royalty scheme" is thus very clearly shown up by Mr. E. Marston in his recent pamphlet:—

"By the *Royalty System* is meant that authors shall be paid a royalty on all copies sold, and that when the book has been once published, it shall be open for all publishers to take it and print it, subject always to payment of a fixed royalty. Thus, if publisher No. 1 publishes at 10s., and the royalty is 10 per cent., the author will get 1s. for every copy sold; No. 2 may publish at 5s., and the author would get 6d.; No. 3 at 2s. 6d., which would give 3d. to the author. No. 1 may have expended a large sum in advertisements, corrections, and arrangements generally; he may even spend a large amount in illustrations, all of which expenses No. 2 and No. 3 would save, and thus No. 1's edition would be ruined—truly 'an effectual way of disengaging him from the author.' The author's chief difficulty would be to find publisher No. 1."

This, it seems to us, is a complete and sufficient reply. Those who advocate the royalty scheme disinterestedly simply overlook the fact that almost the chief components of cost in publishing books are risk—the possibility that a book may not sell at all, and advertising—the outlay in pushing a book which perhaps will not make any return for pushing. The second, third, fourth, and fifteenth publishers of a successful book simply propose to rob No. 1 of the results of all that he has done to make a market.

"Give a dog a bad name and hang him," says the proverb. Monopoly is a bad name; but it is sometimes used against very good things. Every man holds the monopoly of the house he lives in, nor does he propose to entertain every tramp because he is called a monopolist. In a certain sense, monopoly is a necessity of property, and in this sense an author is entitled to the monopoly of his brain product, and to transfer that monopoly to another in such wise as to secure himself *payment for his work.*

COPYRIGHT NATIONAL AND INTERNATIONAL: A BILL OF EXCEPTIONS.

By Henry Carey Baird.

As I have hitherto been, so am I now, opposed to all International Copyright. . . . My attitude comes from an unwillingness to see anything whatsoever done which may in the least tend to perpetuate, here or elsewhere, the domination of England—the great trading buccaneer of the world's history—now that that domination seems to be toppling to its fall. When once it is overthrown an era will, in my opinion, be ushered in for the people of the world, for freedom, second only to that which came of the founding of the American Republic. . . .

Of all property, there is no species which, when thoroughly analysed and sifted, will show so imperfect a title in its reputed proprietor as intellectual property,—nearly all of the ideas, and even many of the

expressions, having been picked up from a thousand sources, often difficult to trace, but nevertheless merely gathered, not produced, simply strung together as it were upon a string. . . . An eminent house some years ago took out a copyright for an entire volume, a reprint, when they were only the proprietors of a poor index, the like of which I could have had made for $5. Another house now take out copyright for the mere cover of a series of books, when to all appearances they have copyright in each book in the series. Thus do all these gentlemen appear before the world, under our absurd copyright laws, as the proprietors of these goods when they are really not; but nevertheless the burden of proof lies with those outside the patents, called copyrights, in these several cases. . . .

Our copyright laws should be assimilated to our patent laws, and a copyright office should be established as a bureau of the Patent Office, with a corps of literary experts as examiners of all books, papers, etc., for which copyright is claimed. . . . It is not a little amusing to see the author of a recent elaborate paper—who attempts to place the claims of English authors to a right to control over our machinery of distribution for books, and to a market created by means of the expenditure of hundreds of millions of dollars on public-school systems, to which the English people have contributed nothing, upon the high plane of an absolute moral right, invasion of which is a crime—proposing, as a condition precedent to protection of this sacred right:—

"That the work be republished in the United States within six months of its publication abroad.

"That for a limited term, say ten years, the stipulation shall be made that the republishing be done by an American citizen.

"That for the same term of years the copyright protection be given to those books only that have been printed and bound in this country, the privilege being accorded of importing foreign stereotypes and electrotypes of cuts."

What is to be thought of the logic of a gentleman who, in connection with these provisions, holds up as his touchstone "the copy-book motto, 'Honesty is the best policy,'" and adds, "If the teaching of history makes anything evident, it is that, in the transactions of a nation, honesty *pays*, even in the narrowest and most selfish sense of the term, and nothing but honesty can ever pay?" Now, if the rights of the English author upon our soil be so absolute and sacred that any invasion of them is an act of piracy, why exact any such conditions in connection with their recognition as those named, but why not rather protect him absolutely, or at least in the same manner as we do the American? I can see none. Rather let the heavens fall than that justice be not done. But according to my view the Englishman's literary house is built of borrowed bricks, mortar, or timber, or of all three combined, and he therefore has no such absolute and sacred right; and that his own Government does not take so exalted a view of his rights as he does himself, or as does his American advocate, is quite evident from the fact that it only protects him through a limited period of time.

With the manifest advantage which the English publisher has in

being able to produce cheap editions of his books for this market by reason of having the type already set up, over the American publisher who has to set it up anew, he would seem to have all the protection for himself or his author which he has a right to demand. That these advantages are real and substantial is evident from the extent to which English publishers have obtained control of our markets since 1865. In that year the imports of books from abroad amounted to $307,028, while in 1877 they were $1,892,589, and generally invoiced at greater discounts than in 1865. To be sure there is a duty of 25 per cent., but in practice this amounts to but 8, 10, or 12½ per cent. generally upon the retail price, and by no means countervailing the advantages arising out of the one bill only, for "composition," for two markets. To-day the American people are paying not less than $6,000,000 per annum at retail for books printed abroad, and mostly in Great Britain. I for one believe that the English author now enjoys all the rights to which he is entitled under a Government towards the support of which he contributes neither money nor service, and I am decidedly opposed to any and all attempts to throw around him the mantle of our absurd copyright laws.

FREE TRADE IN BOOKS.

[A Reply to Prof. S. I. CURTISS, Jr. By A. D. F. RANDOLPH. From the *Advance*, Chicago, *April* 16.]

PROF. CURTISS, in his notice of Ewald's *Syntax of the Hebrew Language*, writes as follows :—

"We cannot refrain . . . from expressing our indignation at a modification of the international laws of the Postal Union, so far as they apply to our country, in the interests of certain importers of books in such a way as to be cruelly oppressive to American scholars, and as to set a premium on ignorance. . . . They [the scholars] are denied the privilege formerly allowed of importing books by mail which cost more than a dollar, unless they are willing to pay duty and express, rendering them at least 50 per cent. dearer."

Prof. C. says further that professors and their students "are prevented by the rapacity of a few importers from freely obtaining those foreign works which are so stimulating to the best scholarship," and asks "if it is not time that our American scholars should rise in their might to crush out such an ungenerous alteration, in the interest of a few of the laws of the International Postal Union?"

Will you permit me to say to him and to your readers—

I. That there is a duty of 25 per cent. imposed by Congress, on all printed books of modern date.

II. That the amount of smuggling through the mails during the last few years was so great that the Government was compelled to take measures for its suppression. The Post-Office is not a custom-house, so the duties could not be levied or collected, and hence the modification of the postal law.

III. That the *importers* of books are free-traders, and would gladly see all duties removed.

IV. That so long as tariff duties are imposed, no one has a right to evade the imposition; and so long as there is a duty on the book which a medical or a legal professor or layman wants for his use, there is no good reason why a professor of theology should receive his duty free.

V. That all public *libraries* are permitted by act of Congress to import all books free of duty.

Professor Curtiss' cry concerning the rapacity of the bookseller is the re-echo of the old one against the publishers. It is also another plea for the pauperisation of the religious teacher. Shall not the man who sells books live by his calling? He cannot import his stock free of duty; and if I import an invoice of Clark's publications, to meet the wants of professional men, and pay the duty at the custom-house according to law, shall some one else be permitted to buy direct and use the Post-Office, the cheapest means of transportation, and get the same books duty free? Let such a principle as this be established, and the stocks of English books would soon disappear from the American market. If a discrimination is to be made in behalf of professors of theological seminaries, why not in favour of poor professors of religion? There are in use to-day, in this country, a good many copies of Bagster's Bibles, which came here through the mail, on which the Government lost its just claims for 25 per cent. of duty. Some found out that this might be done, and it was done, contrary to the spirit of the law, while those who did not know it, or would not do it, paid the lawful duty through the custom-house and the bookseller. . . .

Religious newspapers are compelled to offer premiums for subscribers. Public libraries, endowed by towns or States, or by private munificence, demand to buy their books at rates that leave no margin to the bookseller—forgetting that the bookstore, as far as it goes, is as valuable to a community as a public library. How has all this been brought about? Simply because many of those who form public opinion are unwilling to recognise the truth that *all* men are worthy of *their hire*. . . .

My hope is for that day . . . when the professors in our theological and our other schools, when our ministers, outside the cities especially, and all others who labour in the interest of higher education, in which latter classes I venture to place the intelligent bookseller, shall receive a *proper reward* for their labours.

We have taken the liberty to italicise a few words in the preceding extract, and make the following remarks:—

There is hardly any difference of opinion between the writers and us if they allow that adequate or liberally adjusted remuneration is what authors and publishers are entitled to. The royalty system proceeds on the basis that competition does not commence until presumably authors and publishers have received fair remuneration; after which the receipt of royalties of course is so much clear gain to them. The great expenses of advertising the first edition are *not* a loss to either, but seed sown in order to reap a series of abundant crops of royalty. The complaints about Post-Office obstruction justify arguments or appeals used in our first volume in favour of abolishing it.

STEREOTYPE PLATES.

UNDER the ameliorated practices which will probably become general in the book trade, stereotyping will no doubt be much more frequent. Let us hope that the ugly habit will be discountenanced of *destroying plates* after a definite limited number is thrown off. When one reads between the lines an advertisement of such and such an engraving, with the statement, as an inducement to buy, that the plates have been, or are to be, destroyed, he understands the caterer to human weakness's meaning is this:—"The article offered is made artificially scarce. No doubt the cost of each copy's production is far below the selling price, but the monopoly or scarcity gives factitious value. Few people can have what you will have, few enjoy what you enjoy." Considering that privilege granted implies conditions imposed, we do not see any impropriety, but the reverse, in the State which grants the privilege, imposing a condition that, except for reasons adduced that are satisfactory, no stereotype plate shall be destroyed until first offered for public sale by auction.

ANSWER TO "THE PUBLISHERS' CIRCULAR."

I AM much pleased with an article in *The Publishers' Circular* of 17th June. The writer "condescends" upon reasons and figures in support of his contention that the royalty system will not do. Yet after all he deals chiefly or only with matters that have little or no necessary connection with that system, *e.g.*, the price affixed to our first volume. No doubt it is offered at a price below the ordinary trade-rates. "Let us try," he says, "by an example, how such a plan would work." Nothing can be fairer in tone and in purpose than the manner in which he proceeds to the trial. He refers to our tables on pp. 122-5, and with the figures there given demonstrates that to sell an edition of 500 copies of *Copyright and Patents* at 5s. cannot pay. He then supposes what would happen if the edition were 4000. The cost he sets down, as from the same tables, at £484, including £90 for advertising, and the nett proceeds as £505. I do not know by what method this last sum is reached. As I read my tables, it should be 5-12ths of £1600; less for risk of sale, interest, etc. (say), £50 = £616 —leaving for author and publisher to divide between themselves a nett profit of £132, or above 27 per cent. on the money outlay—a success in business, this, which is not usual in commerce. Intelligent agriculturist! does not your mouth water? How would you smack your lips after a taste of such returns! No doubt this result depends

on the whole being sold within a year or two. But, *per contra*, it must not be forgotten that *five* shillings is an extremely low price for a volume of 424 large pages, closely printed and neatly got up. I would think, as books sell, *twelve* shillings would be unusually cheap. Take that price, now, and in the first case—viz., that of an edition of only 500 copies—there would be, again as I read the tables, a profit of £46 on £121, or 38 per cent.; and in the second case—viz., that of an edition of 4000 copies—a profit of £1019, or above 210 per cent., besides, in all these cases, large allowances for discounts to buyers and for profits to the retail trade. If the publishers are, at the same time, the book-manufacturers—like Messrs. Thomas Nelson and Son, Harper, Appleton, Osgood, Lovell, etc.—and not, as is customary in this country, mere contractors or negotiating speculators, profits from the printing and binding operations would have to be added. Two observations now: First, nowhere have I contended that the book trade should be expected to be a paying one when conducted on the petty scale, or, to speak plainly, when stunted. On the contrary, Volume I. abounds with reprehension of small sales, as the preposterous and injurious result of a vicious system. Second, I fail to see, in all, any proof, or even any *prima facie* indication, that the royalty system is objectionable, as hard upon publishers and authors. On the contrary, after profits like these, the system might rather be reprobated as lavish waste of the people's resources, and each concession as too favourable by far to be granted, except, indeed, like the prolonging of patents, it were consequent upon proof satisfactory to the Privy Council that the privilege had, during its term, been in this particular case not fairly remunerative. The writer may allege, in rejoinder, that truth and reason lie between the two extremes. Reasonably, we admit, he may plead that part, say a third, of the issue might require to be sold at a reduction. Well, be it so. Take, then, an average in which two-thirds of the number of copies will sell at 12s., and the other third at 5s., and we find the surplus is still £735 = nearly 150 per cent. Large room here, surely, for reduction of the retail price! If 5s. is too low, at any rate 12s. is excessive. Of course, there are now many books published that have no such good sale of the first edition as 4000. But then at present the large field of the United States is virtually closed. By the royalty system it may be opened, to the great benefit of both nations. That system my experience of trade would lead me to hail with a welcome. If I were a publisher, I would at my own risk purchase at a high price only works of authors whose reputation is established. Books of unknown authors, and those on subjects which are not likely to command a quick and extensive sale, I would pay for, and publish on my own account, only after strict application of business tests of pro-

bable productiveness, endeavouring to persuade the authors to allow their copy-moneys to be proportionate to sale or results, if they would not rather allow me to sell on commission. In all these ventures I would, on the royalty system, be satisfied even if the first edition yielded no profit whatever, inasmuch as the gains that will accrue from the coming royalties and (for this would happen almost always) from my own continued sale—generally of copies produced by stereotypy—would be a standing revenue-bearing possession.

I admit that the competition of a cheaper edition before the first edition is disposed of would be a serious inconvenience to the original publisher, and that his exposure to it would affect the payment due to the author. Still the like is what every manufacturer and every merchant has to face. It is in the nature of (*free*) trade to engender and encounter competition, which on the whole works for good. There are considerations though, which may be urged, that will lessen in practice the admitted seriousness. First, then: We do not find that great trade inconvenience or disadvantage arises from competition in the strictly analogous cases of republishing books whereof the copyright has expired and of American books whereon there is no copyright. Secondly: In the United States there has, with respect to books first published in the United Kingdom, prevailed a "courtesy of trade," which acts as a protection against undue competition. Like courtesy would have legitimate sway in this country, we are warranted to assume. But, thirdly, the royalty system can be modified in such a manner as to allow, at least in ordinary cases, more than a year, if that time is not enough, for a first edition to be disposed of, and that edition may be made large enough to produce the remuneration that is appropriate for each venture, especially in cases where, at an early period, a cheap issue follows the first and comparatively high-priced one. The royalty republishing system might be adjusted so that it do not take effect until the first edition is sold off, and therefore not until the outlays incurred by its publisher are repaid along with a fair sum for profit and authorship. The proportion of profit which shall accrue to the book-author is a matter of bargain. In the case of authors whose reputation is established, a skilful publisher (and nobody should engage in any business who is not an adept at it) will in general make a pretty correct estimation of what he can fairly proffer. In the case of other book-authors it is not reasonable that they should expect much money. The sensible course for any author who does not need money down, is to stipulate for remuneration in proportion to the extent of sale. Business conducted on this principle, I apprehend, would seldom, that is, in very few ventures, be an actual loss to any one. The true relationship between author and publisher either is

that of *agency*, in which the latter sells on account of the author on commission, *i.e.*, receives a percentage for his time and help; or else is that of *partnership*, in which the two parties have a common, though not necessarily an equal, share of risks and profits. This is, as a rule, a good and satisfactory mode of dealing; but it is the too frequent habit of authors to part with their share at a price or definite sum of money fixed beforehand.

Again, authors should have this impressed on their minds, that, leaving out of sight exceptional works, they ought not to expect there will be any profit, and for them remuneration, whatever, when the sale is small. Cases wherein limited sale is all that can be reckoned on ought to be provided for by some form of patronage or of friendly or philanthropic aid, or else, especially where the author can afford to lose (and it is of men of leisure or fortune as well as education that the book-authorship of our country should chiefly be composed—men therefore who have capital of their own), he should enter upon the venture on his own account and, let us hope, often in the spirit of the quotations that front our title-page. Yet, lastly, the royalty system contains within itself the promise of mitigation of difficulties and lessening of risks, in the facility it presents for enlarging the copyright or profit-yielding area. If the United States are by the attractions of this system induced to conclude a copyright arrangement,—that more than duplication of area for demand and sale,—a mighty impulse will be given to the publishing business, and the employment, both on salary and piece-work, of British writers will make their occupation more comfortable than ever it has been, though, so far as my observation and conceptions go, there is no ordinary occupation of time more pleasant or even fascinating. Hence people even betake themselves to it in their leisure hours. I hope *The Publishers' Circular* will become convinced of this. I must remove a misconception. Says *The Circular*: "There is nothing on earth to prevent the adoption, at any moment, of Mr. Macfie's absurd royalty system. The law allows it already." Does it? Why, no; at this moment not a creature dare publish without negotiating with the author and, if this be the issue of the suit, obtaining his consent as well as commonly that of his publisher. In other words, there is *not* a legalised and cannot be an organised *system*. There is not even any provision by which authors can voluntarily subject any one of their works thereto, and register accordingly.

The article concludes with a statement that the English readers prefer borrowing from libraries to buying. They certainly lean on them, and the result is that their supply or selection of books is narrowed, and their circle of knowledge is left very incomplete. Here

is an instance. Pray don't smile! This compilation of mine interests or should interest not a few; yet it is not to be had, at least while I write, at the great lending establishment of our age! *Ex uno disce!*

I have been honoured also with an indulgent notice by *The Athenæum*. My regret is considerable that the article, which, so far as it goes, is fair, passes over the (with reformers) main point,—the interest of the British public in respect to books,—to get them not only good but at more moderate prices, prices within the *buying* mark, prices that do not, like those presently aspired after, *deter* from the very idea of *owning* books.

THE TRACT SOCIETY.

THE literary critic of *The Daily Review*, in noticing this Society's publications on 6th June, writes:—"The Tract Society is doing a grand work in the country, which only those can appreciate who know what the absence of similar institutions in other countries means." The remarks on pages 172, 173, of volume I. were in type more than two years ago. The compiler has recently obtained accurate information regarding the Society. Its profits appear to be ten times what he then guessed them at. Its business is conducted in a systematic, judicious, and safe manner. His previous convictions are fully established, that the management need not, and would not, shrink from any investigation of accounts. Their prudent, perhaps we may say extreme, reticence, which there is reason to believe a resolution had been arrived at to relax, is defended on the plea that publicity, by revealing sources and modes of obtaining profit, might introduce rivalry injurious to the concern and even to persons who would be led to compete with it. Nevertheless, doubt may be expressed whether such "opposition" should not rather be rendered unlikely, because unprofitable, by the Society being habitually content with a less margination and affixing lower prices which may be followed by a question, viz., Would not the apprehended competitive multiplication of outlets for, and sales of, the books and publications that have so high a sanction be, if, contrary to what should then be expected, it should occur, beneficial to the public, and so be carrying out, though indirectly, the very objects which the Society has in view, the circumstance of that wholesome literature being issued from other establishments and in legitimate trade rivalry being immaterial and unobjectionable, or possibly a co-operation that should be welcomed? The authorities at headquarters, of course, are best able to judge and decide as to these matters. In no unfriendly spirit a suggestion may now be offered, that the directorate of Societies so truly benevolent and trustworthy as the above and others mentioned in volume I., they being very like to ordinary commercial companies, should give an assurance, however unnecessary even in these times, that their constitution, name, and working are consistent with presumed limitation of pecuniary liability. The Tract Society has a large capital, and takes the least possible amount of credit, paying its purchases at the moment or monthly.

From MEMORIAL FOR THE BIBLE SOCIETIES IN SCOTLAND.
Edinburgh: Printed for the Edinburgh Bible Society. 1824.

THE Memorial, considerably enlarged, is now therefore laid before the public, in the hope that the merits of the cause will be gravely and earnestly considered. . . .

In March 1575. . . . "Anent the godly proposition made to the bishops, superintendents, visitors, and commissioners, in this General Assembly, by Alexander Arbuthnot, merchant burgess of Edinburgh, and Thomas Bassanden, printer and burgess of the said burgh, for printing and setting forward of the Bible in the English tongue, conforme to the proof given and subscribed with their hands; it is agreed betwixt this present Assembly, and the said Alexander and Thomas, that every Bible which they shall receive advancement for, shall be sold in albis for £4, 13s. 4 pennies Scottis, keeping the volume and character of the saids proofs delivered to the clerk of the Assembly. . . .

"James, Archbishop of Glasgow, etc., have, in presence of the Assembly, faithfully bound them and obliged them, and every one of them, that they shall travel, and do their utter and exact diligence, for purchasing of such advancement as may be had and obtained within every one of their respective jurisdictions, at the hands of the lords, barons, and gentlemen of every parish, as also with the whole burghs within the same, and shall try how many of them will be content to buy one of the saids volumes, and will advance voluntarily the foresaid price, whole, or half at the least, in part of payment, and the rest at the receipt of their books, and shall try what every burgh will contribute to the said work, to be recompensed again in the books in the prices foresaid." . . .

Both under the grant of June 30, 1576, and that of August 24, 1579, one of the worst effects of monopoly was guarded against by the proviso that the price was to be fixed, not by the printer, but by the King; or rather, that it was not to exceed the sum stipulated in the contract between the General Assembly and Arbuthnot and Bassandyne in March 1575. . . .

It appears from the *Obligation for Prenting of the Bybill*, inserted in the Register of Privy Seal, 18th July 1576, that the Regent Morton, who granted license for printing of the Bible, also caused to be advanced to Arbuthnot and Bassendyne a great proportion of the sum requisite for furthering of the work; not, however, out of the public purse, but by contribution of the parishioners of the parish kirks, collected by the diligence of the bishops, superintendents, and visitors of the dioceses, according to the agreement allowed and authorised by the Regent's Grace. . . .

In July 1599, it is stated that "John Gibson has, on his awin grit chargeis, and be his privat mean and devyse, *causit imprent within Middleburgh in Flanders*, ane new psalme buik in littil volume, contain-

ing baith the psalmes in verse, as likewise the same in prose upon the margin, in ane forme never practisit nor devisit in any heirtofor, and tending gritly to the furtherance of the trew religion." He therefore received "free and only license and liberty to bring hame and sell the said impression, at convenient prices, for seven years." In four months after the date of this license, Robert Smith obtained license to print the Psalm-book, and many other books, for twenty years. . . .

Hart presented a petition to the Privy Council, 8th February 1589, representing the hurt sustained by the lieges through the scarcity of books, and to what exorbitant prices books had risen, which were brought from England and sold in this realm at the third hand, in consideration of which he and Norton enterprised two years before (in 1587) to bring books from Germany, whence England was chiefly supplied with the best books, and whence this town is furnished now with better books than heretofore, as cheap as they are sold in London. They asked to have their books custom free, as in all other States; and they stated that Thomas Vautroullier, printer, had obtained a decree discharging the Provost, etc., from asking any custom. The Lords ordained the customers of Edinburgh, and the other burghs and ports, to desist from asking custom for any books or volumes brought, or to be brought and sold by them within this realm, etc. . . .

As a surer criterion of the general prevalence of a taste for reading, we may state that between the year 1565, when Lekprevik received a license to print part of the Bible, and the year 1610, when Andrew Hart's edition of the Bible was published, there were more than thirty foreign editions of Buchanan's Psalms, and not fewer than nine or ten Scottish editions of the collected works of Sir David Lyndsay, besides two editions printed in France, and three in England (chiefly for importation into Scotland); and as in three times that period there had not been more than twelve editions of the works of Chaucer, we may conceive that the passion for reading in Scotland was greater in proportion to the population than it was in England. . . .

In 1682 David Lindsay was appointed one of the King's printers. . . . It is further stated to be inconsistent with justice and sound policy that any one should monopolise the whole business of printing, and it is acknowledged that the heirs of Andrew Anderson were by no means sufficient for printing all the books necessary to the kingdom. Lindsay, therefore, whose superior qualifications had been amply manifested by his recent edition of the Acts of Parliament, already mentioned, received full power to print all kinds of books in every language, art, and science (except proclamations, Acts of Parliament and Council, not to be printed without special privilege), provided they contained nothing inconsistent with the established religion, or the government, authority, or honour of the King. (Under this description Bibles could not be excepted.) . . .

Mrs. Anderson (as we learn from Fountainhall) opposed this grant on the ground that one press was sufficiently able to serve all Scotland, and that, as the regulation of the press, by the 27th Act of Parliament 1551, is *inter regalia*, the King may give it to whom he will. The Lords, after due deliberation, found that Anderson's gift

contained exorbitant clauses, restraining the liberty of printing too much, and therefore they restricted his gift to the style, tenor, and books named in Evan Tyler's gift. . . . It gave him the sole right of printing within the realm, and exporting to any of the King's dominions, psalms for the Church of England, concordances, grammars, accidences, calendars, primers, psalters, and books of common law, for the use of England, with Bibles in all volumes. . . .

It is impossible to calculate the injury done both to religion and learning by the monopoly enjoyed by Mrs. Anderson, even after it was limited by the Privy Council. In a very sensible *Letter to a Member of the General Assembly concerning the Education of Children*—"It is certain (says this author) that while the right and liberty of printing is confined to one single person or society, the nation must expect to be grossly imposed upon, both as to the price and quality of the work, because the seller knows the buyer cannot go by him; whereas, on the contrary, when all printers have an equal liberty to print, and know that he who blows best will carry away the horn, there must arise a certain emulation among them to excel one another in the goodness of their work and reasonableness of their prices, which will likewise, of course, produce an improvement in the art itself." . . .

Till the beginning of the eighteenth century the Privy Council of Scotland continued to give licenses for printing. . . .

"Apud Edinb. 26. Feb. 1685.—The lords of his Majestie's Privy Councill . . . Doe heirby prohibite and discharge all persons whatsomever, from printing, reprinting, or importing into this kingdome, any copy or copies of the said book, dureing the space of eleven yearis after the date heirof, without licence of the author or his order." . . .

"At Edinburgh, the 7. of January 1696.— . . . Discharges any other Persons whatsoever to imprint, vend, or sell the said Book for the space of one year after the date hereof Except the said George Mosman and his assigneys under the penalty of having the said Book confiscat to the use of the said *George Mosman* & of paying to him the sum of 40 pounds Scots for each transgression besides the forsaid Confiscation *toties quoties*." . . .

"At Edin. the 25. day of Nov. 1697 years.— . . . Discharges all other Persons whatsomever to reprint, vend, sell or import the said book for the space of nineteen years, next after the day and date hereof, under the penalty of 500 merks to be payed to the said Lieutenant Hall." . . .

3d Dec. 1695, . . . for nineteen years, without the license of the said Mr. James Kirkwood, his heirs or assignees, under the penalty of 2000 merks Scots. . . .

The form of these privileges or licenses appears to have been originally copied from the French. Indeed it was in France that they were first introduced about the year 1507. . . .

"Par grace & Priuilege du Roy, en datte du 5. Auril 1635, . . . pendant le temps & espace de dix ans entiers, à compter du iour qu'il sera acheué d'imprimer." . . .

Baskett was one of the greatest monopolists of Bibles who ever lived. He purchased a third part of the gift to Freebairn in 1711.

. . . Before this time *he received a license from the University of Oxford* to print Bibles for twenty-one years, on condition of paying £200 a year. . . . Baskett's lease, authorising him to print Bibles and Books of Common Prayer, in part of the Clarendon printing-house at Oxford, granted soon after the erection of that building in 1712, must have been renewed, as his heirs continued to print there after the year 1760. During the early part of this period, Cambridge, which had gained much celebrity by the beautiful editions of Buck, Daniel, Field, and Hayes, attended very little to the printing of English Bibles. After the Revolution, their printer was Cornelius Crownfield, a Dutchman, of whose qualifications we happen to know nothing. The Stationers' Company had a lease afterwards from that University.

We have some reason to think that the influence of Baskett frustrated a scheme which might have proved equally honourable and beneficial to the University of Cambridge. In the year 1730, William Ged, goldsmith in Edinburgh, the inventor of stereotype, or block-printing, in conjunction with William Fenner, stationer in London; Thomas James, letter-founder, and John James, architect, applied to the University (at the suggestion of the Earl of Macclesfield) for the privilege of printing Bibles and Prayer-books. Baskett having heard of the design, offered £500 more than the University had agreed to take from this Company; but at last, on a favourable representation from the syndicate, a lease was sealed by the senate, 23d April 1731, in favour of the block-printers. . . . . He appears to have renewed his application to the University of Cambridge in 1742, but without success. . . . See *Memoirs of William Ged.* Lond. 1781. . . .

At the same period, the Society in Scotland for Propagating Christian Knowledge was actively employed in circulating *Bibles, Confessions of Faith, Catechisms,* and other pious books. In looking at some of the old accounts, from 1709 to 1721, we observe that several purchases of Bibles, Catechisms, and Books of Proverbs were made from the Queen's Printers in Edinburgh. The Confessions of Faith were all purchased from other booksellers, as well as a great number of *Bibles, Catechisms,* and *Proverbs.* The Bibles purchased from Her Majesty's Printer were twenty-two pence each, and the Proverbs one shilling per dozen. The prices charged by Thomas Ferguson, bookseller, were twenty-one pence for each Bible, and eleven pence per dozen for the Book of Proverbs. . . .

Many contributions of Bibles, etc., were furnished by individuals, and destined for the use of necessitous districts. For instance, the Earl of Mar, in 1713, sent 100 Bibles and 200 Psalm-books for the use of the schools and poor in the country of Mar. . . .

When complaint was made to George I. that the Bibles in the time of Baskett were printed on bad paper and with bad letter, that due care was not used in correcting the press, and that the books were sold at unreasonable prices, His Majesty issued an order (dated Whitehall, 24th April 1724) that . . . they shall print on the title-page of each book the exact price at which each book is to be sold *to* the booksellers. Such a regulation must have proved advantageous both to the booksellers and to the public, and, whether it may have been

uniformly observed or not, it is a satisfaction to the people of England to know that it is binding. . . .

It is of vast consequence, therefore, that, though the traffic be perfectly free, the greatest care shall be taken to prevent any edition from being published before it has been duly examined. . . .

It is at least to be hoped that the time will never come when the exercise of that religious liberty, for which we, above all other nations, have cause to be grateful, shall be so restrained, that we shall feel any difficulty in procuring, if we shall see cause, an improved translation of the sacred Scriptures, of which the Crown of Scotland will not be entitled to claim the property. . . . It is not to be supposed that this Society will ever meditate such a scheme as the execution of a new translation into English. But it is not by any means improbable that an association may be formed for accomplishing this object. . . .

If the attempt which is now made had been made in the days of our fathers, we decidedly think that they would have done us the greatest injustice if they had tamely stood still, and witnessed the infliction of permanent wrong on their descendants, which they might have averted by timely resistance. It is our determination to do our utmost to prevent such a charge being brought against us by our posterity. . . .

In our apprehension it appears undeniable . . . that whenever His Majesty's Printers have been in any considerable degree supported by Government in their attempts to establish a monopoly, the editions of the Bible have been most incorrect. . . . Finally, that it is the duty and the interest of all who wish well to the cause of religion to resist every claim arising from any quarter, however respectable, the result of which may be to subject the circulation of the Scriptures to restraints unknown in this kingdom during the long period of two hundred and eighty years. . . .

Licence to Alexander Arbuthnot to Print the Bible. Aug. 24, 1579.

. . . Provyding that he sell the saidis bibillis to be imprentit in tyme cuming as said is to all the lieges of this realme according to the prices to be appointit be his hienes and the personis that sal haue commissioun of his Majestie to that effect. . . .

Licence to John Nortoun, Inglischeman, for Inbringing and selling of Bukis. Jun. 25, 1591. [*Reg. Sec. Sig.* lxxii. 88.]

. . . Being credablie informit That John Nortoun, Inglischeman, having be the space of four zeiris last bypast useit and exerceit himself in the tred and traffique of Inbringing and selling of buikis upoun easye prices within his Majesteis burgh of Edinburgh, and utheris his Majesties burrowis within this realme in ane honest maner. . . .

Andro Hart contra the Customaris. In Scaccario, primo Junii 1597.

Anent the Supplicatioun gevin in befoir the saidis lordis of Chekker be Andro Hart burges of Edinburgh Makand mentioun That quhair he haifing considderatioun quhat hurt the liegis of this realme sustenit throw the skairsitie of buikis and volumis of all sortis and to quhat exhorbitant prices the buikis and small volumis wer rissin vnto qlkis

war brocht hame frome lundoun and vtheris parttis of Ingland and sauld in this cuntrey at the third advantage he vpoun ernest zeall to vertew and vp bringing of youth within this realme interprysit a lang tyme bypast the hame cuming of volumis and buikis furth of almanyie and germany fra the qlkis the maist part of the best volumis in Ingland ar brocht. . . . The lordis auditouris of our souerane lordis chekker haifing respect and consideratioun of the foresaid supplicatioun and contentis therof . . . ordanis the said John gourlay customar . . . To decist and ceis fra all asking craving or suting of ony custome fra the said andro hart complenar foirsaid for ony buikis or volumis brocht in or to be brocht in or sauld be him within this realme in ony tyme cuming. . . .

Licence to John Gibsoun to Prent Ane New Psalme Buik. July 31, 1599. [*Reg. Sec. Sig.* lxxi. 1599-1600.]

. . . Full frie and onlie Licence and Libertie to him his airis and assignais To caus bring hame the said haill impressioun of the psalmes in the foirsaid forme Sell and Dispone thairon to his hienes liegis at conuenient pryces . . . during the space of sevin yearis. . . .

Licence to Sir William Alexander for the space of 31 *years, to Print the Psalms of King David, translated by King James, Dec.* 28, 1627. [*Registrum Secreti Sigilli*, c. 1627-1628, *fol.* 305.]

. . . Therefore his hienes with advice and consent of his counsell and exchequer of his said kingdome Ordaines a Letre to be maid vnder the Previe Seall thareof in dew forme Geving and granting Lykas his Majestie with advyce and consent foirsaid gevis and grantis to the said Sir William Alexander his aires assignais pairtneris and associatis thair servantis and workmen in thair name and to nane ellis full power libertie and sole licence during the space of threttie ane zeires nixt and immedeatlie following the dait heirof to print and caus print the said wark of the psalmes to be entituled the Psalmes of King David translated by King James With power *to him* and the said Sir William Alexander and his forsaids (gif neid be) . . . to sell bartar and dispose thairvpoune at quhat rait and after quhat forme thay sall thinke meitt. . . .

DIE UNRECHTMÄSSIGKEIT DES BÜCHERNACHDRUCKS.[1] 1785.

From page 345 *of Kant's* METAPHYSIK DER SITTEN. Leipzig, 1838.

THE following translations of views enunciated by the great German philosopher will be read with interest, and, if due discrimination be exercised, not without advantage. There is subtlety in his argument about copyright, though the conclusions may not be arrived at by sound logical deductions. How insufficient, for instance, is the distinction he draws between the act of reproducing a picture or statue and that of reproducing a book, as the ground for declaring the one legitimate and fair, and the other not so. I have ventured to insert in brackets a few words, which appear to give cogency to the reasoning. The reader may doubt if the idea of *property* does not occur quite in the specific sense now claimed by authors, and will observe that a *right of the public and duty to the public* in respect to supply of books, and this, of course, at a reasonable price, are strongly held. I presume the then state of the law, which called forth the observations of Kant, was then different from the present. His object appears to have been to substantiate authors' rights, in order to extinguish such and so-timed competition as would, or might, deprive booksellers of security that would warrant book enterprise, and particularly the printing of first editions.

[1] Translated = "infringer" and "reproducer without consent."

Those who regard the publication of a book as the exercise of the rights of property in respect of a single copy—it may have come to the possessor as a MS. of the author, or as a work printed by some prior publisher—and who yet would, by the reservation of certain rights (whether as having their origin in the author or in the publisher in whose favour he has denuded himself of them), go on to restrict the exercise of property rights, maintaining the illegality of reproduction—will never attain their end. For the rights of an author regarding his own thoughts remain to him notwithstanding the reprint; and as there cannot be a distinct permission given to the purchaser of a book for, and a limitation of, its use as property, how much less is a mere presumption sufficient for such a weight of obligations?

But I think I am right in looking at the publishing not as a business transaction carried on *in the publisher's own name*, but as *the management of a business transaction in the name of another;* and in this way I can easily and pointedly represent the injustice of literary infringing. My argument is contained in one proposition which demonstrates the right of the publisher, and in another which refutes the pretensions of the infringer.

I.—*Argument for the Claims of the Publisher* versus *the Infringer.*

He who carries on a business in the name and yet against the wishes of another is bound to relinquish to this other, or his representative, all the profit which has grown out of it, and to compensate for all the loss which it has done to the possessors.

Now the infringer is such a one who carries on the business of another, etc. Therefore, he is bound to relinquish, etc.

Proof of the Major Proposition.

Since the intruding man of business transacts business in the name of another, he has no rightful claim to the profits which may accrue from that business; but he in whose name he carries on the business, or another empowered by him to whom he has confided it, possesses the right to appropriate this advantage as the fruit of his

possession. And further, this intruder injures the rights of the proprietor by going on forbidden ground; he must, therefore, necessarily make good all damages. This lies, without doubt, in the most elementary principles of natural law.

Proof of the Minor Proposition.

The first point of the minor proposition is: That the publisher, by his publication, is the agent of another. Now all depends on the conception of a book or a pamphlet as a production of the author, and upon the general conception of a publisher, whether legally so or not. Is a book a kind of merchandise, which the author, by his own means or by the help of another, can sell for private purposes or for profit, with or without the reservation of certain rights? or is it not rather a mere *exercise of his powers* (*opera*), which he can indeed grant to others (*concedere*), but can never alienate? Further, does the publisher carry on a business of his own in his own name, or another's business in the name of another?

In a book, when in manuscript, the author *speaks* to his reader; and he who has printed it *speaks* through his copy, not for himself, but entirely in the name of the author. He represents him as a public speaker, and he himself is but the medium of giving these words to the public. The copy of these words, whether in manuscript or in print, may belong to whom it will, yet it is to use for himself, or to sell it—traffic which each possessor of the same can carry on in his own name and after his own pleasure.

But this causing of an author to speak in public means that another is speaking in his name, and at the same time addressing the public thus:—"Through me an author allows this to be brought before you, word for word, teaching you thus and thus; I am responsible for nothing, not even for the freedom he takes in his speaking through me, as if I were speaking; I am only the medium of its reaching you"—this is certainly a business which one can manage only in another's name, never in his own. In his own name he is but the mute instrument of producing the author's work; but through his printing of it, he ushers the speech that was once only a *thought* speech into the world, and consequently shows himself as the man *through whom the author is addressing* the world—all this he can only do in the name of another.

The second point of the minor proposition is that the infringer works not only without the consent of the author, but against his will. For as he is an infringer only because he injures another in his business who *is* empowered by the author, so we must ask whether the author can consent that a second should share the privilege. But this is clear: that because each of them, the first publisher and the infringer do business with one and the same public, so the traffic of one must injure the other; consequently a contract of the author with a publisher, with the proviso that the business is not reserved, would be impossible. It follows, then, that the author can share the privilege with no other; the latter has not even dared to pretend to this, consequently the infringement is entirely against the will of the proprietor, and of him in whose name the business is undertaken.

From this reasoning it follows that not the author, but his empowered publisher, is the injured party. For because the former has conceded to the latter, entirely and without reservation, his right to the management of the business, so the publisher alone is proprietor, and the infringer injures his rights, not those of the author.

But because this right to the management of a business, which with pointed exactitude can be carried on just as well by another, is, if nothing special has been previously agreed on, in itself not a *jus personalissimum*, the publisher has the power to hand over his copyright to another, because he is proprietor of the power, and to this the author must consent; therefore, he who takes the business at second-hand is not an infringer, but a legitimate publisher,—that is, he to whom the author's publisher has conceded his right.

II.—*Refutation of the alleged Rights of the Infringer* versus *the Publisher.*

This question still remains: Whereas the publisher has disposed of his author's work to the public, does there not follow, from the possession of a copy, the consent of the publisher to all and every use of it, that of infringing included, however disliked that might be? For probably the profit has induced him to take the business of the publisher at his own risk, without excluding from it the purchaser through a distinct contract, because this would have done his business an injury. That the possession of a copy does not guarantee this right, I prove by the following reasoning:—

The fact of possessing a thing does not prove that you have a personal, positive right to its possession.

Now the right of a publisher is a personal, positive right; consequently, it can never be proved from the mere possession of the thing.

Proof of the Major Proposition.

With the possession of a thing is associated the prohibitive right to oppose all who should hinder me in any use of it that pleases me; but a positive right over a person to demand from him that he should suffer, or be entirely at my service, does not proceed from the mere possession of a thing.

This follows from a special agreement in the contract through which I acquire the property of another. For example, that, if I buy an article, the seller shall send it carriage-free to a certain place. Now the obligation of a person to do something for me proceeds not from the possession of my purchased thing, but from a special contract.

Proof of the Minor Proposition.

Whatever any one can dispose of in his own name and at his own pleasure, over that he has a right; but whatever he may only do in the name of another, that he does in such a way as to bind that other as if it were conducted by himself. Therefore my right to conduct business in the name of another is a personal, positive right, entitling me to compel the author of the business to represent that he takes the responsibilities on himself. Now, publication is speech to the public through

the press in the name of the author; consequently, a business in the name of another. Therefore the right to it [the business] is a right of the publisher [giving authority] to a person [the publisher], not only binding him to protect the author's property for him by using it as he wishes, but also to acknowledge and answer for a certain business which the publisher carries on in his name; therefore, a personal, positive right.

The copy after the publisher has caused it to be printed is a work of the author's, and belongs to the publisher entirely, to do with it what he will and what he is able to do in his own name; for that is a requisite of the complete right to a thing, which is possession. But the use which he cannot make otherwise than in the name of another is a business that this other, through the possessor of the copy, exercises, and beyond this possession a certain agreement will be demanded.

Now book-publishing is a business which can be conducted only in the name of another—that is, the author, which author the publisher represents; so that the right to it cannot be comprehended in the right which depends on the possession of the copy, but can only become valid through a particular contract with the author. He who publishes without such an agreement with the author is an infringer, who injures the rightful publisher, and must make amends for the damages.

General Remarks.

That the publisher does not conduct his business in his own name, but in that of another, is confirmed by certain obligations which are universally acknowledged. Were the author to die after he had confided his MS. to the publisher for printing and the publisher had agreed to the conditions, still the publisher is not free. In default of heirs, the public has a right to compel him to publish it, or to give over the MS. to another who may offer himself as publisher. For it had been a business which the author, through him, wished to carry on with the public, and for which he offered himself as agent. It is not necessary that the public should have known this engagement to the author, far less that it should have accepted it. The public possesses this right as regards the publisher, a right sustained by law, for he possesses the MS. only on condition that he shall use it with the public in the interest of the author. This obligation towards the public remains intact, even though it have ceased towards the author through his death. At the bottom of this lies a right of the public not to the MS., but to a certain business it had begun to carry on with the author. If the publisher should mutilate or falsify the work after the death of the author, or if he should fail in producing a number of copies equal to the demand, then the public would have the right to require him to enlarge the edition and to exact greater accuracy, and, if he refused to meet these demands, to go elsewhere to get them complied with. All which could not take place if the right of the publisher was not derived from the business which he carried on with the public in the name of the author.

This obligation of the publisher, which will probably be allowed,

must also accord with a right founded upon it, viz., the right to everything without which that obligation could not be fulfilled. This is, that he *alone* exercise the right of publication, because the competition of another in his business would make the conduct of it impossible for him.

Works of art, as things, can, on the contrary, from a copy of them which has been lawfully procured, be imitated, modelled, and the copies openly sold, without the consent of the creator of their original, or of those whom he has employed to carry out his ideas. A drawing which some one has designed, or through another caused to be copied in copper or stone, metal or plaster of Paris, can by those who buy the production be printed or cast, and so openly made traffic of. So with all which any one executes with his own things and in his own name, the consent of another is not necessary. Lippert's daktyliothek can, by each of its possessors who understand it, be imitated and exposed for sale without the originator being able to complain of encroachment on his work. For it is a work—an *opus*, not an *opera alterius*—which each who possesses, without even knowing the name of the artist, can dispose of, consequently can imitate, and in his own name expose for sale as his own. But the writing of another is the speech of a person—*opera*—and he who publishes it can only speak to the public in the name of the author. He himself has nothing further to say than that the author, through him, makes the following speech to the public. For it is a contradiction to make a speech in one's own name, which from one's own showing, and on account of the public demand, proceeds from another. The reason also why all works of art may be imitated for sale, but books which already have their author and publisher may not be reproduced without consent, lies here: The former are works—*opera;* the second, productions for sale, are articles of commerce—*operæ.* The former are each in themselves existing for the purpose of sale; the second can only owe their existence to one individual. Consequently these last belong exclusively to the author, and he has thus an inalienable right—*jus personalissimum*—always, through another, to be himself the speaker; that is, that no one dare hold that particular discourse with the public except in his name. If any one, in the meantime, should alter the book by shortening, adding, or improving, he would do wrong if this were given forth in the name of the author of the original; but improving *in the name of the editor* is not infringing, and therefore permissible. For here it is another author who carries on another business with the publisher, and does not injure the previous one in his business. He represents himself, not as that author as if he were speaking through him, but as another. Translation into another language is also not infringement, for it is not the very speech of the author although the thoughts may be the same.

If, now, the ideas which we lay here at the foundation of bookselling are correct, as I flatter myself they are in agreement with the niceties demanded by the old Roman laws, then the literary infringer can be brought to justice without its becoming necessary to make a new law.

LETTER TO HERR FRIEDRICH NICOLAI, THE PUBLISHER (page 482).

BOOK-MAKING is no insignificant branch among the improvements of our already far-advanced community, where reading has become an indispensable and general need. This branch of industry in a country is a source of extraordinary profit, if exercised in a business-like way—through a publisher who is competent to form an opinion on the taste of the public and the ability of each of the authors, and in a position to pay them. For the activity of his business it is necessary that he take into consideration not only the inner contents and value of the material lying before him, but also the market for them and the fashion of the day, so that the, at any rate, ephemeral products of the printing press may be brought into lively circulation, and find a quick, if not a lasting sale. An experienced connoisseur of book-making will not wait till the ever-ready, writing-loving authors offer him their own wares for sale. Like the director of a manufactory, he considers the material as well as the style which he presumes will be received by the reading public, as something to excite or to laugh at, either from their novelty or the scurrility of their wit; . . . which may have the greatest demand, or, at any rate, the quickest sale, though there may have been no demand; which or how much in one should be devoted to persiflage, . . . the blame of such a writing falling not to the publisher's reckoning, but on the head of the contracting author.

He who in manufacture and business carries on openly a trade consistent with the freedom of the people, is at all times a good citizen, it may annoy who it will. For selfishness which is not forbidden in the police laws is no crime, and Herr Nicolai, as a publisher, will grow rich in that quality much sooner than as an author.

From THE EPISTLE OF THEONAS TO LUCIAN, THE CHIEF CHAMBERLAIN, *date probably* A.D. 282-300 (Ante-Nicene Christian Library, vol. xiv. pp. 436-7).

VII. The most responsible person, however, among you, and also the most careful, will be he who may be entrusted by the Emperor with the custody of his library. He will himself select for this office a person of proved knowledge, a man grave and adapted to great affairs, and ready to reply to all applications for information, such an one as Philadelphus chose for this charge, and appointed to the superintendence of his most noble library—I mean Aristeus, his confidential chamberlain, whom he sent also as his legate to Eleazar, with most magnificent gifts, in recognition of the translation of the sacred Scriptures; and this person also wrote the full history of the Seventy Interpreters. If, therefore, it should happen that a believer in Christ is called to this same office, he should not despise that secular literature and those Gentile intellects which please the Emperor. To be praised are the poets for the greatness of their genius, the acuteness of their inventions, the aptness and lofty eloquence of their style. To be praised are the orators; to be praised also are the philosophers in their own class. To be praised, too, are the historians, who unfold to us the order of exploits, and the manners and institutions of our ancestors, and show us the rule of life from the proceedings of the ancients. On occasion also he will endeavour to laud the divine Scriptures, which, with marvellous care and most liberal expenditure, Ptolemy Philadelphus caused to be translated into our language; and sometimes, too, the Gospel and the Apostle will be lauded for their divine oracles; and there will be an opportunity for introducing the mention of Christ; and, little by little, His exclusive divinity will be explained; and all these things may happily come to pass by the help of Christ.

He ought, therefore, to know all the books which the Emperor possesses; he should often turn them over, and arrange them neatly in their proper order by catalogue. If, however, he shall have to get new books, or old ones transcribed, he should be careful to obtain the most accurate copyists; and if that cannot be done, he should appoint learned men to the work of correction, and recompense them justly for their labours. He should also cause all manuscripts to be restored according to their need, and should embellish them, not so much with mere superstitious extravagance as with useful adornment; and therefore he should not aim at having the whole manuscripts written on purple skins and in letters of gold, unless the Emperor has specially required that. With the utmost submission, however, he should do everything that is agreeable to Cæsar. As he is able, he should, with all modesty, suggest to the Emperor that he should read, or hear read, those books which suit his rank and honour, and minister to good use rather than to mere pleasure. He should himself first be thoroughly familiar with those books, and he should often commend them in presence of the Emperor, and set forth, in an appropriate fashion, the testimony and the weight of those who approve them, that he may not seem to lean to his own understanding only.

ALTHOUGH trade ought to be free, it would be a mistake to assume that in no sphere and in no circumstances ought legislation to exercise control over it, and that even a helping hand can never be held out, and encouraging words never be spoken. New systems of conducting business and of intercommunication—and, indeed, a new state of society and new habits—make advertising much more useful, and recourse to it much more frequent and more respectable, than formerly. There is, indeed, even in the high rents that are now charged for places of business, a double cause and vindication of the practice of extensive advertising. Our first volume has shown how large a part of the cost of books the advertising of them forms. It is consistent, therefore, with our object to offer any assistance we can render to the cheapening of the operation. May we be allowed to submit for consideration a project? It is this, taking Edinburgh and Glasgow, or such like cities, as an illustrative field wherewith to exemplify what we propose: Let an establishment or bureau for advertising business be set up, an agency call it, with offices in both cities, whereat shall be received all suitable advertisements, and let it, at a fair charge, print them on a sheet resembling a leaf or leaves of a newspaper, in sufficiently good time to allow a copy of this sheet to accompany every copy issued on the same day of the several newspapers of the two cities. Suppose, for instance, that newspaper A has a circulation of 50,000, to its printing or publishing office that number would be sent. If newspapers B, C, and D, and so on, have circulations of 20,000, 10,000, 5000, etc., their supplies would be represented by these figures. The remuneration of A, B, C, D, etc., would be proportionate to their respective circulations. This would be perfectly just and fair, whether regard be had to the claims of the presses or to the service or benefit they severally have rendered. The cost of producing each copy of this advertisement-sheet would be extremely small (see vol. i. pp. 122-5). So advantageous would such a system be, that we do not see any valid objection to adoption of it by all newspaper companies as a condition of transmissibility by post being required by law, nor to external supervision and restraint if charges under the monopoly are too high. In fact, the central printing establishment would be in some aspects=a Government establishment or *Gazette* office. Of course each paper would be at perfect liberty to continue, along with the new system, its own special advertisement apparatus and routine. Indirectly this good would arise—that the leviathan greatness and crushing preponderance of some journals (which we do not think a public advantage) would gradually, as a natural, but not evil, consequence, be subjected to a certain amount of relative equalising readjustment, which would enable smaller journals to thrive which cannot at present hold their ground. It would be a boon to the "minorities" in opinion. But the design and main gain is, that the area over which advertising extends would be served more evenly, and advertisements could be multiplied and made longer without much, if any, increase of the expense at present required to be incurred for far inferior accommodation. The principle of our proposal is not new. Of its practicability, and indeed its success, there can be no reasonable doubt.

THERE is a tendency in many minds to regard the conclusions of economists and statesmen in two lights: 1*st*, *As distinctive principles of a party* to which one belongs, and therefore no longer legitimate or open subjects for consideration, but dogmas already accepted and tenets to be held. Let us to the utmost avoid the affixing this characteristic to questions of trade. 2*d*, *As essential truths and principles*, independent of their relation to parties. This also is dangerous. What I understand these conclusions, whether, for instance, they affect inventions or competition, to be is this: They are conclusions formed after consideration of observed facts; that on such and such a side of the question the *balance of advantages* lies or to it turns, and that, therefore, it has in its favour *expediency*, and, consequently, morality too, which dictates the adoption of what is known or seen to be best in its effects, if at same time not in itself wrong. When we are judging what is best in its effects—that is, most beneficial—we keep in view the real and composite welfare of the nation and the individuals who compose it, but first and chiefly, of the nation as a whole.

CONCLUDING NOTE.

THE compiler takes leave to indulge in a few concluding remarks. He holds, in common with a large number of reflecting persons, that the existing patent-system acts in a manner adverse to British trade-interests, and is both in principle and in practice demonstrably inconsistent with freedom of industry and free-trade.

The whole question, of which that system is but a part, how the United Kingdom can best confront foreign competition, and seek to maintain its industrial and commercial pre-eminence, deserves and requires to be reconsidered deliberately and resolutely, and may well form the subject for investigation by an unprejudiced, truth-seeking, and practical commission, whose inquiry and report should be guided by evidence obtained in different parts of the kingdom. See vol. i. p. 98.

By statesmen greater attention must be paid to the subject of emigration. If our voluntary self-expatriants are persons employed hitherto in British industries other than those that are agricultural and pastoral, their removal from the mother-country is a very great and very saddening loss to her. It would be much better that they should be employed within the United Kingdom,—if this be possible, which hardly admits of doubt. Poor is the statesmanship which pleads the extenuating circumstance that their withdrawal makes room for others. At present most of these go to the United States, and carry hence a valuable consuming power, and also transfer thereto our choicest productive ability, as well as military strength, along with the intention to use both in rivalry, and possibly in hostility, as aliens. The class whose emigration is advisable are persons brought up to farming—some of them labourers, others skilled capitalists—who do not, any more than the others, change their occupation, but only the place and circumstances in which it is to be carried on. Their efflux should, by means of proper liberal encouragement, be directed towards parts of the British dominions where land and employ-

ment upon land can be at once obtained, and where their allegiance and fruitfulness will still contribute to the nation's well-being. See vol. i. p. 107.

A policy of colonisation and, in order to warrant, stimulate, and "utilise" it, Imperial federal co-relations ought at once to be framed and adopted. The want of this policy and interconnection is daily felt, a cry for it is continually heard. Among the most recent Colonial expressions in its favour are an article in an important Quarterly Review, and a volume just issued by Messrs. Hodder and Stoughton. The desiderated relationship or union implies colonial representation in a general Council of State, which shall (alone) have the power to regulate armaments, make treaties, impose Imperial burdens, etc. See extracts subjoined.

Thus, and thus only, may the British Crown, and its people so nobly posted in commanding positions over the world, no longer maintaining insufficient defensive establishments, continue to vie in available population and in beneficent power with the great countries of the earth, with whom this empire, vast in territories and in population, is at present, just because there is no proper constitutional uniting tie, by no means in a condition to cope. Not an hour should be lost. The nation must speak. Politicians look too much to party interests, and succumb to considerations which concern merely the immediate and not the remote future. A like state of mind prevails widely among rich and poor in general. Would that nobles and all whom rank and office render leaders of society, in realisation of the people's hitherto neglected claim on their time and influence, would rise to a sense of the duties and responsibilities of their position, and discharge the functions which logically and historically pertain to them. They could enlighten and arouse the public. They should settle their sons on colonial soil. Whatever these do, a very few men of vigour, be they of the working or whatever class, taking up this paramount question and making it their own, would find everywhere innumerable subjects of our good Queen loyally and patriotically sympathetic and responsive.

It is natural that in closing these volumes we add that one means of maintaining community of feeling in the nation is so to improve the copyright system, which now confines the

publishing trade to strangely small home dimensions and makes books dear, as to let British literature diffuse itself naturally and acceptably throughout the Empire, the mother country becoming at length, what easily it may be rendered, the grand fountain-head of useful information and wholesome influences, from which the whole family draws refreshment.

The use of the name *Parliament* by the patriotic colonist who, I believe, wrote the important article which is referred to in the preceding page, and from which the following noble passages are taken, implies that under the scheme of federation he contemplates the affairs of the empire would be subject to a governing body that meets during only a portion of the year. There is an advantage in a long intermission of sittings between session and session. It would enable the members to visit distant constituents in these intervals. The Scotch churches, which meet in the month of May, provide for the conducting of business arising between May and May, by constituting themselves a commission, and in that character meeting from time to time. In somewhat the same manner a committee of the grand Parliament, corresponding to the present Imperial Cabinet, and approved by the Queen, should sit all the year round in London, or at all events be liable and ready to be summoned for business, at very short notice, at any time of the year. Such a committee would very nearly resemble the council which I have at meetings of the Royal Colonial Institute and elsewhere been allowed to suggest.[1]

"The political genius of the Anglo-Saxon races requires that the Government should be carried on by the representatives of the people elected by the people. But there is no room for the representation of the colonies under the present Imperial system. . . . Any Imperial system of governing that lacks this fundamental principle of representation of the colonies in the chief Parliament of the Empire, contains the germ which, when developed, must break up the Empire; and however great may be the difficulty in the way of forming this chief Parliament, we must either deal with these difficulties, or accept the alternative of seeing in the near future the Empire of Britain

[1] I incline to the form of a *Council* without a central Parliament, in the first instance; this council to consist of the British Cabinet for the time being, and the agents-general of the Colonies Commission, or in preference, specially appointed representatives of at least the self-governing colonies.

broken up, and the present colonies constituted as independent and powerful nations. . . .

"The one great principle which must form the groundwork of the required changes is the separation of local [or provincial] from national or Imperial interests. . . . The first change would be the separation of local affairs from Imperial affairs, and this could only be effected by the formation of local Parliaments. . . . To these Parliaments should be left the management of all local business, such as education, sanitary inspection, railway regulation, liquor questions, licensing, traffic laws, and all the hundred and one local matters that at present clog the machinery of the Imperial Parliament. These Parliaments would be under a Lieutenant-Governor or a Viceroy (as in Ireland), who would be appointed by the Queen, with the advice of her Ministers, these Ministers being chosen from the Imperial Parliament. The Imperial Parliament would deal with all international, inter-colonial, and Imperial matters. It would be composed of men sent from various parts of the Empire, and would be formed on the same principles as at present. As the local affairs of Great Britain and Ireland would no longer have a place in this Chamber, it would be unnecessary to have so complete a representation of each locality, and therefore the numbers might be considerably less than at present, and still leave an adequate representation of England, Scotland, and Ireland, and a proper preponderance over the Colonial members.

"Under such a Parliament as this the whole Empire would be held together. This would be the central point from which would emanate the supreme and controlling force to every part of the Empire. To this Parliament every colony, as it grew in wealth and strength, would bring its support and health. England would not then look with an indifferent eye at the growth of the colonies, but their development and extension would be of as immediate importance to her as is the development of the wealth of an English county. The Empire of Britain would then truly be 'an Empire on which the sun never sets,' and an Empire vast and powerful such as the sun never shone on before. Boundless resources would be contained within herself, every conceivable want would be supplied from her own territory, while at the same time she would have at her call armies so vast that the whole world would stand in awe at the might of England. For such results as these would it not be desirable to carry out the federation of the Empire?"

THE following and concluding words of an important article from the July number of the same Quarterly (attributed to a colonial statesman

of eminence) we present, *first*, in order to express strong doubt whether, considering the peculiar frontier relations of Canada, it is wise to contemplate free commercial exchange between all the colonies and the mother country—a detail by no means calling for immediate solution; and *secondly*, in order to give some little additional publicity to the weighty and true dictum wherewith it closes.

"From a purely colonial point of view, a federation of the empire would also be of great benefit. . . . It is to be presumed that all duties between various parts of the empire would be abolished, and as each part could supply what the other lacked, there would be less necessity to import from foreign countries. . . . It has also been shown how the retaining of these outlying parts can only be effected by the adoption of the federation of the empire; and the question which daily becomes more vital is, whether this vast agglomeration of loosely connected States shall be moulded by some master-hand into one grand stupendous empire, unparalleled in its extent, unequalled in its wealth, and unrivalled in its political institutions, or allowed slowly to melt away and break up into numerous third-rate powers."

In one of our leading magazines for June, Earl Grey, at the conclusion of a valuable paper (in which, *inter alia*, the French Treaty is represented as impolitic and unfortunate), sketches another way of solving the problem how to maintain the integrity of the Empire. Anything coming from his Lordship on this subject is entitled to attention. He will probably be not disinclined to modify the scheme in such a manner as to invest the colonies with due community of actual voting *power to determine* Imperial concerns.

"I observe that when the delegates of the Australian colonies met to consider the question as to the propriety of maintaining the restrictions on their power of altering their tariffs, they asserted that "Great Britain must logically do one of two things, either leave the colonies unfettered discretion, or, if she is to regulate tariffs or reciprocal tariff arrangements, or to make treaties affecting the colonies, give to the colonies representation in matters affecting the empire." If this is meant to refer to a project which has not unfrequently been suggested of giving to the colonies the right of returning members to the House of Commons, it is open to insurmountable objections. . . . Yet, on the other hand, in the position to which the colonies have now attained, it could not be regarded as unreasonable if they were to ask that if they are to be made subject to a real control on the part of the Imperial Government, in order to make sure that their measures shall not clash with the policy of the empire, some effectual means should be afforded to them of making their wishes and opinions heard by that Government before it comes to decisions in which they are concerned. . . .

"I will venture to suggest that it might at least be worth considering whether some such arrangement as the following might not be adopted with advantage. A committee of the Privy Council to be formed for

the purpose of considering and reporting its opinion to Her Majesty on such questions affecting the colonies as Her Majesty on the advice of her ministers might think fit to refer to it. Her Majesty to signify her readiness, on the recommendation of the colonial governments which have agents in this country with suitable salaries, to appoint them to be members of her Privy Council and also of the Committee on Colonial Affairs so long as they held their posts as agents. Already the appointment of agent in this country is occasionally conferred by some of the more important colonies on one of their leading men, and it is probable that this would be done more frequently if the appointment by the arrangement just suggested were invested with an importance calculated to make it an object of ambition, and to give them greater authority in their communication with Her Majesty's Government. The advice and assistance of eminent colonists might be expected to be of great value in the proposed committee, and also to the Secretary of State in a less formal manner. In referring any question to the committee, Her Majesty to direct such members of her Privy Council as she might think fit to be summoned to assist the colonial members of the committee in considering it. On important subjects the Secretary of State for the Colonies, and perhaps some of his colleagues, would probably take part in the deliberations of the committee, and it is to be hoped that, in some cases at least, party feeling would not prevent the aid of former ministers from being also obtained, and from proving of great utility. . . . In the early days of the British colonies the authority of the Crown over them was mainly exercised through the Committee of Council for Trade and Plantations, now called the Board of Trade; and though its functions with regard to the colonies have long been transferred to the Secretary of State, the form of referring colonial Acts to it is still adhered to, and the assent to them of the Crown or their disallowance is signified by the approval by Her Majesty in Council of reports which nominally proceed from it, though really from the Colonial Office. . . . In concluding this paper I must again express my conviction that by some means or other this object must be provided for if it is desired that the connection of these important dependencies with the British Empire should be permanently maintained. GREY."

Extracts from VICTORIA BRITANNIA. Hodder and Stoughton. 1879.

MY proposition in this respect, and to meet the exigencies of colonial representation, is that the present British Parliament shall assume the character of *Two Legislatures;* in one capacity to act as a domestic legislature, in the other as an Inter-Britannic Imperial Parliament, uniting with it representatives from the colonies. I believe that no new legislative body can ever be created in England to act as a local legislative body, nor can any ever be created that can supersede the present Imperial Parliament in its joint capacity of Lords and Commons. . . .

And why cannot this same principle be extended to the colonies, so as to enable their representatives, in addition to legislating in their domestic matters in their own colonies, to enter fully into active Imperial legislation. and discharge also the same double obligations to their common country and the Empire that are now performed by the British Parliament? . . .

I think all will agree, in consideration of the vast and intricate relations of the British colonies to other nations, as well as in their Anglo-colonial aspect, and the rapidly-increasing proportions of all, that the colonies are not only fully entitled to a share in shaping the policy of the central Government, but that the time has fully come when the British Government and the English people themselves, in their own interests, should seriously consider this subject.

Now, while, as I have said, there can be no division of labour or power by the creation of new legislative bodies, and while the change, simple as it may seem, of dividing the present British Parliament into two divisions is the utmost limit to which there is any possibility of the Imperial Parliament adjusting itself to the requirements of the case, yet it is fully enough to consistently admit of colonial representation, and to make harmonious separate local legislation for England and the colonies, and united Imperial legislation for the colonies and England. . . .

This division would nominally create two Legislatures, but the same representatives would serve in both. . . . Without this division the colonies could never present themselves on the floor of a British House of Commons with any more propriety than English representatives could take active part in the discussions in the colonial Legislatures, except, by mutual arrangement, the representatives from the colonies abstained from voting on local affairs; but I cannot see that this would work harmoniously, and, indeed, it would be difficult sometimes to draw such a fine line as should perfectly discriminate between national and domestic legislation. . . .

It cannot be said that the colonies are, in any sense or degree, a party to, or a part of, the present British Government; the colonies are a part of the Empire, but in all their imperial interests they submit to the rule of England. . . .

There is no necessity that there should be an immediate or entire uniformity in colonial representation; that is to say, Canada, and perhaps one or two other of the more important colonies, or Canada alone, could enter into this projected union with the mother countries, leaving the less important and the more numerous to be governed by the then consolidated Empire, and perhaps to be admitted at a future time. . . .

For the colonies in general, perhaps at some future time those lying in sufficiently close proximity for the purpose may see the wisdom, like their sister colonies in British North America, of uniting into confederacies; and this consolidation among themselves would enable them better to present themselves as a certain great section of the British Empire, and so render representation for them both simple and dignified. Especially might this be done to advantage in the case

of the five flourishing colonies of Australia. In such a case, it is not unlikely that in course of time there would be found to exist less necessity than formerly for so many small Legislatures. . . .

The matter of a uniform nationality for the people of the four kingdoms and the British colonies cannot but appeal to the minds of men as reasonable, desirable, and, as I believe, essential. . . . The sooner dividing lines of distance, language, nationality, or anything else that tends to impede the national character, is utterly discarded as a relic of feudal times, the sooner will the British Empire rise to that high place as a nation to which Providence and nature has assigned her. . . .

If the English people are indifferent as to the future of their Empire, if the present is all that occupies their attention, if national pride and patriotism does not rise higher than a scramble for high office or party interests, then I acknowledge I am mistaken in the national characteristics of my countrymen, and any of these proposed changes are needless. But the great peculiar trait of the English character is their love of that which is strong, lasting, and durable, with an abundant caution to intrench themselves in this same defensory position. And while all may not be ready to endorse my plans, I doubt not but all will acknowledge the necessity of making due preparation for every national emergency.

One thing is certain—one upon which every man, I think, will be agreed—viz., that if anything is needed out of the regular order of legislation, if under any circumstances the English people could be brought to step out of the old measured beaten track of the footprints of a thousand years, then the present is the most opportune of all opportunities.

No such grand moment has ever been presented to the British nation as the present one, and the opportunity probably will never repeat itself. It is a time when there is a universal and undying attachment to the person of the Sovereign, and more could be accomplished in these last precious years of the Queen's reign than could have been accomplished at any preceding time of British history, or than in all human probability could be accomplished at any time in the future.

. . .

THE following clips are added without any note or comment, as such, in the main, would be but a repetition of observations already presented superabundantly :—

INTERNATIONAL COPYRIGHT.

To the Editor of THE TIMES.

In suggesting an International Copyright Conference, we simply propose to render obligatory and legally binding what has been for years heretofore a voluntary practice under our "law of trade courtesy." That unwritten law has enabled American publishers to grant to foreign authors many of the benefits which would accrue to them under the operation of a copyright treaty. We are unaware of the existence of any such law of courtesy among English publishers; and if there be one, certainly but few American authors whose works have been republished in England have reaped benefit from it. . . .

As a matter of fact, no British author complains of the republication of his work here; indeed, the aggrieved party is the author who cannot find a publisher in the United States. . . .

HARPER AND BROTHERS.

FRANKLIN SQUARE, NEW YORK, *May* 12.

THE PRICE OF BOOKS.

To the Editor of THE TIMES.

Regarding the pricing of books, this is a matter of detail that, I submit, must be left to the discretion of the proprietor; any legal interference could only be justified on communistic principles. If an author is willing to sell the fruit of his labour absolutely to a publisher, or any one else, surely the purchaser may do with his acquired property as he thinks fit? His mode of redisposing of it to the public or otherwise is a matter that concerns him alone.

Practically it is a mistake to suppose that mere cheapness will sell a book, and as an illustration of this, I would cite the publications of Her Majesty's Stationery Office. Many of the Government Blue-books, which may be of the greatest value to a limited few, are priced at a figure that could only recoup the cost of their production if the sale were very large; and the country, in its endeavour to act the bookseller, throws away its money in the most reckless manner. . . .

The new view taken by the American publishers is rather an amusing one. By their proposal, an English author disposing of his work jointly to an English and an American publisher for (say) £5000, will obtain protection in the States; but should the author sell his work solely and entirely to an English publisher for (say) £6000, the copyright will not be protected in America.

I observe you refer to the great difference in the price of English books at home and in the States, and you suggest that no international arrangement is probable unless the English author could so

manage as to sell his works in America at the present cheap prices. It must be remembered, however, that the American price of English books is the English price *minus* the value of the copyright, which has been purloined. American reprints are in the position of smuggled or stolen goods, and if the English author could not by a new arrangement obtain a higher price from the American public for the benefit they derive from his works, it is difficult to see how he would be advantaged.

I hope the more this question is ventilated, the sooner will the public both here and across the Atlantic come to recognise the principle of copyright being an indefeasible personal property, not the mere creation of the Statute-book; and that international legislation should be based on justice to the author, and not on the exigencies of the publishing trade or on the claims of the public for gratis literature.

A. W. Black.

Edinburgh, *May* 27.

INTERNATIONAL COPYRIGHT WITH AMERICA.

To the Editor of The Times.

Any reasonable arrangement by which an English author can obtain copyright protection for his works in the United States must be beneficial to authors, to publishers, and to the public. Such an arrangement would be beneficial to authors, for the obvious reason that it would double the market for their works. . . . An American publisher, in common commercial prudence, cannot pay an author at the same rate for a work which may be reprinted by any one in competition with him, as he would for a work of which he had the exclusive copyright.

It is not so obvious at first sight why the English public should be benefited should our authors be able to find a larger market for their wares. The reasons are twofold: they would get cheaper books, and more of them. . . . Both author and publisher would rather make, *cæteris paribus*, £100 by the sale of 3000 copies of a book at a low price, than by the sale of 750 at a high one—the author because he wishes to disseminate his ideas as widely as possible; the publisher because he knows that every copy sold is the best of all advertisements, and may lead to the sale of many more. . . . Many books of considerable value which remain unpublished because the authors cannot afford to print them, and publishers cannot see their way to doing so except at a loss, will be published when the existing small demand for such works is doubled. . . .

In some cases, at any rate, it would be desirable to avoid the cost of setting up the type twice, or of taking stereotype plates, and it would be more convenient to ship an edition from one country to the other. This would be so in the case of that large and often most valuable class of books for which the demand is very limited. It

would therefore be far better to have an arrangement by which the books should be produced in whichever country may be most convenient in each particular case. . . .

Mr. Harper's suggestion that a joint commission of eighteen American citizens and British subjects should be appointed to consider the question, and report to their respective Governments, seems to be a very good one. . . . The endeavour of the British representatives should then be to further a scheme for international copyright, which should be as fair for all classes in each nation as possible and as free as may be from any clauses which would tend to narrow and restrict its action. One restriction only would seem to be necessary, namely, that books manufactured in the one country should not be exported to the other without the sanction of the copyright owner.

A LONDON PUBLISHER.

May 24, 1879.

From THE TIMES, *May* 24, 1879.

The very abundance of readers which drew capital into the New York and Boston publishing trade, has for many years past excited the indignation and longing of British authors and booksellers. A popular work by an Englishman counts its tens of thousands of American readers to its thousands at home. American intelligence, which has been nourished since the United States became a nation on the produce of English minds, paid until very recently no toll whatever to its teachers. . . . Copyright anywhere owes its existence scarcely so much to a belief that the cultivator of ideas has a right to be paid like the cultivator of corn and turnips; it is rather the result of a sense of gratitude in the public towards its teachers. . . . American publishers threaten their countrymen with a sudden dearth of literature if they grant English authors a copyright without a condition appended that the copyright shall be administered by American printers and publishers. On the face of things there is more reason for the menace than our correspondents in the publishing trade are inclined to allow. The multitudes of American readers are not likely to tolerate the English publishing fashion of producing a work first in an expensive shape. Histories in two, three, or four thick octavos, novels in three volumes, are abhorrent to the tastes of a country in which a farmer's daughters in Minnesota read new literature as eagerly as the family of a London barrister. It may be objected that American publishers produce American works in as costly a form as English publishers produce those by English writers. That is little to the purpose so long as the American reader is free of a much richer literature at the price of a shilling or two within a few weeks of its original appearance. English readers either resort to a lending library or they wait the publisher's convenience to favour them with a cheap re-issue when the last pocket, well lined enough to expend a guinea and a half or two, has been probed. Lending libraries are scarcely as available in the Western States as in London or Brighton. Assuredly the Republican

spirit of equality would resent a suggestion that it must defer reading the book of the season until the whole of the popular excitement it has stirred has sparkled itself away. English publishers, like our correspondent of this morning, repudiate any love in the abstract for high prices over low. They urge the unreasonableness of limiting a sale to hundreds if they could sell an issue of the same number of thousands. Their arguments convince every one except themselves. A superstition has seized upon them that every book of importance must make its *début* in a garb proportioned to its importance. . . . "A London Publisher" pledges himself that, with an American public added to the English, the world shall see a revolution in the tariff of English literature. The American public will hardly patent him and his brethren as its sole purveyors of English literature unless they commence by offering their own countrymen an instalment of their munificent promises of reform.

. . .

THE INTERNATIONAL LITERARY CONGRESS, 1879 SESSION.

M. Edmond About.—The assertion of an international right of literary property might be traced back for upwards of twenty years, when the campaign was first opened by English authors and publishers. . . . All their friends appeared animated by the spirit which pervaded the present proceedings, viz., a spirit of justice and international fraternity.

. . .

Mr. Frederic Thomas.—He hoped that they would be permanently useful, and that at the close of the Congress they would transmit to other hands the duties they had undertaken, accompanied by the watchwords they had received—"The literary union of nations; advantages for each; fame and liberty for all!"

From The City Press, *August* 13, 1879.

Tuesday.

Professor Leone Levi read a paper. . . . Literary property is as sacred as any other description of property, and it makes no difference whether it is created at home or abroad. If so, no need should there be of international copyright in order to admit foreign literary property to the protection of the courts. Not to recognise the right is vandalism. It is piracy which no civilised state should permit. . . . Surely it should not be necessary to enter into a treaty for the fulfilment of a simple act of justice. . . . The British Government complained of the injustice perpetrated upon British authors. They brought forward evidence showing that the existing system discouraged, demoralised, emasculated American literature. But all in vain. And now, having exhausted all manner of direct negotiation, England may well ask a

verdict on the question from this international tribunal of jurists and publicists. What is it that the United States allege as a justification against international copyright? They deny the right of a foreign author to the exclusive control of his work beyond his own country. They plead that copyright would enhance the cost of literature, and thereby prove a barrier to the diffusion of literature and learning in the United States. . . . Why refuse the same protection to a foreigner when any other description of foreign property is scrupulously protected? The granting of international copyright may enhance the cost of foreign literature, at least in an infinitesimal degree. But is it not right that it should? Stolen property is cheap, but it is illegal. I deny, however, that international copyright will check the diffusion of literature and learning in the United States, for, on the contrary, it is certain to give a needed stimulus to American literature. . . . The Royal Commissioners said: "We have come to the conclusion that, on the highest public grounds of policy and expediency, it is advisable that our laws should be based on correct principles irrespectively of the opinions or policy of other nations. We admit the propriety of protecting copyright, and it appears to us that the principle of copyright, if admitted, is one of universal application." . . . If we recognise copyright, that is, the right of the author to forbid any one from copying his work, we must go a step further and grant him the full right to supply and control the translation of the same in any language. . . . The purpose of a treaty on international copyright should be simply to come to an understanding as to the means of proof of such right of property according to the laws of the contracting parties in such authors and artists, and the simplest and easiest method for establishing the necessary evidence the better. . . .

Mr. C. H. E. Carmichael, hon. sec. of the Committee on Copyright, brought up a report which stated:—Since the last conference of our Association several steps have been taken in various countries in the direction of international copyright. . . . The difficulty of legislating for the protection of authors of works of art is much greater than that experienced in regard to literary works, and it is complicated at least in France, and I think my recollections of the Antwerp Art Congress warrant me in adding Belgium, by the reluctance, almost amounting to absolute refusal, of the artists to take any steps whatever to secure the property which they nevertheless wish to have secured to them in the productions of their brush or chisel. "We are the children of Apollo," said the artists at the Paris Congress. A very interesting pedigree, no doubt, but it is somewhat difficult to see why such a descent should exempt those who boast of it from taking such simple steps as may be asked of them to secure their copyright. . . . I have to report a movement in favour of copyright legislation in the kingdom of the Netherlands, which appears to have had the approbation, as to its main outlines at least, of two successive ministries, and which may therefore be considered as likely to be kept before the Chambers until it is passed. . . . Newspapers are to be allowed to reproduce public addresses (*discours*) without exposing themselves to severe treatment (*sans s'exposer des rigueurs*); and musical pieces or dramatic works may

be rendered in private gatherings, and even, in certain cases, in public. It would seem, therefore, that in the Netherlands, if the proposed legislation is carried out, no one will run the risk of incurring a fine for singing a "copyright song," a case which has not unfrequently occurred of late in this country. The Dutch draft also allows the citation of portions of published works, and the making use of them for authologies and educational books. It is proposed that the law, when passed, shall extend to the Dutch Indian colonies. . . . I can only briefly refer to the interesting volume on the law of copyright which has just been published by Mr. Drone at Boston, and which we may hail as a mark of the progress of American thought in the direction of international copyright. . . .

General James Grant Wilson (United States) said that there was every probability that some kind of international copyright law would be passed between the Governments of America and Great Britain. . . .

Mr. H. W. Freeland . . . Any agreement would be better than the state of things now existing, for it was as injurious to authors as to publishers.

SCOTTISH SCHOOL BOOK ASSOCIATION.

From THE EDINBURGH COURANT, *September* 22, 1879.

The retiring Chairman (Mr. Penny, Culross) delivered the following address:— . . . In 1871, being the year previous to the passing of the Education (Scotland) Act, the income of the Association from the premiums of our publications was £2401, and the stock account amounted to £5831. . . . The income from premiums has increased in these six years by about £400 a year, and the stock account has increased in that time from £5831 to £10,888. . . .

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