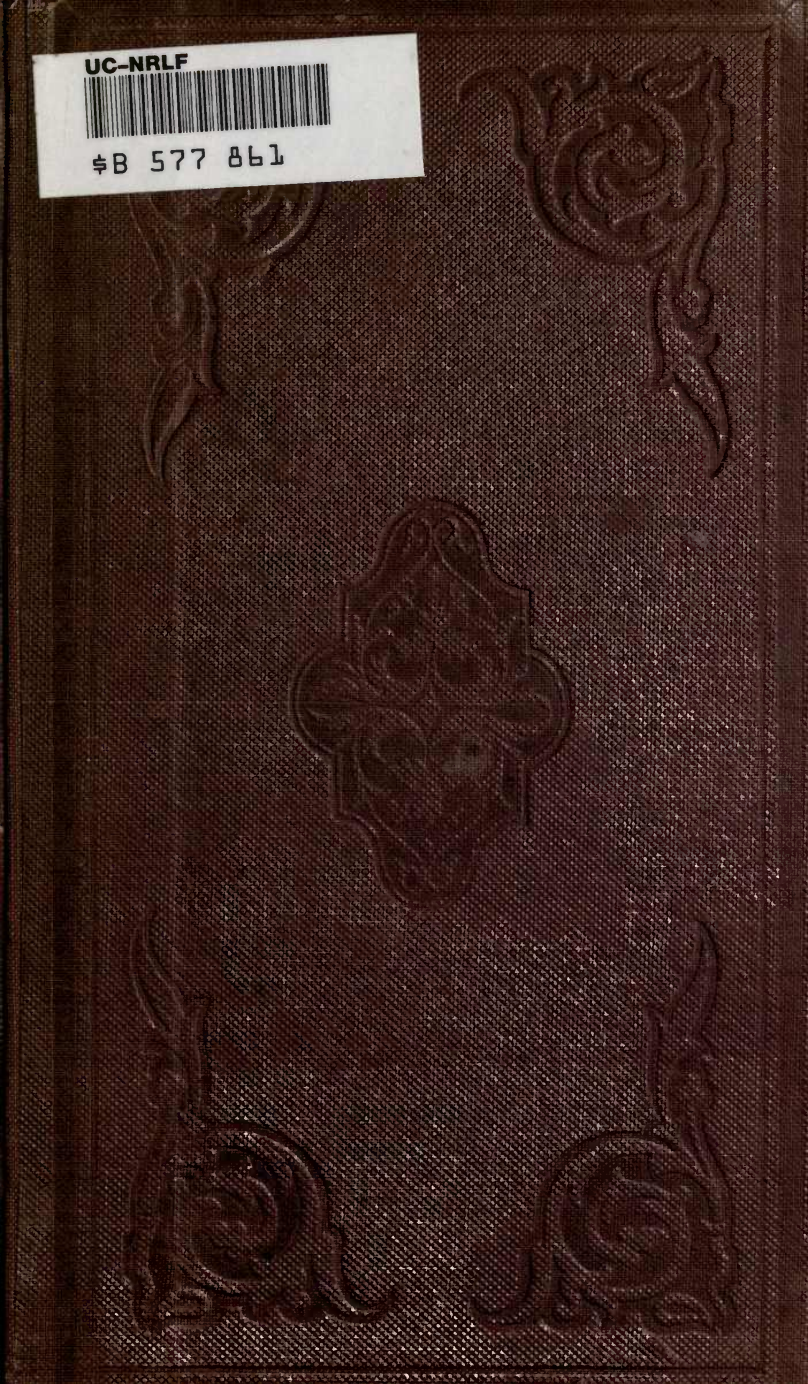
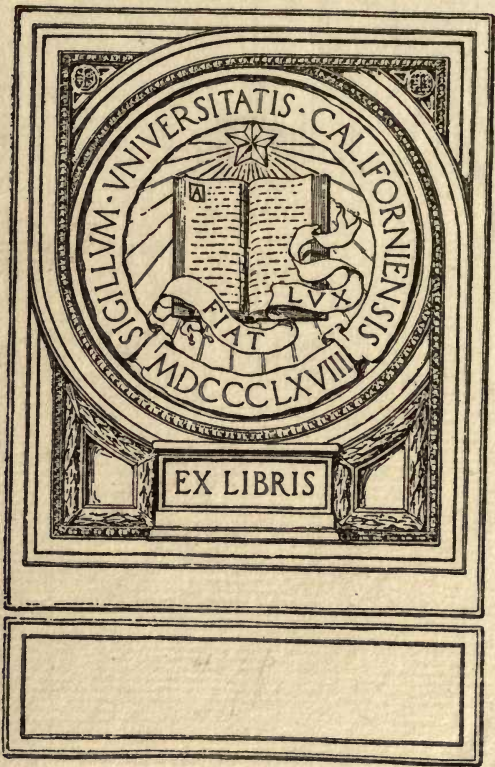


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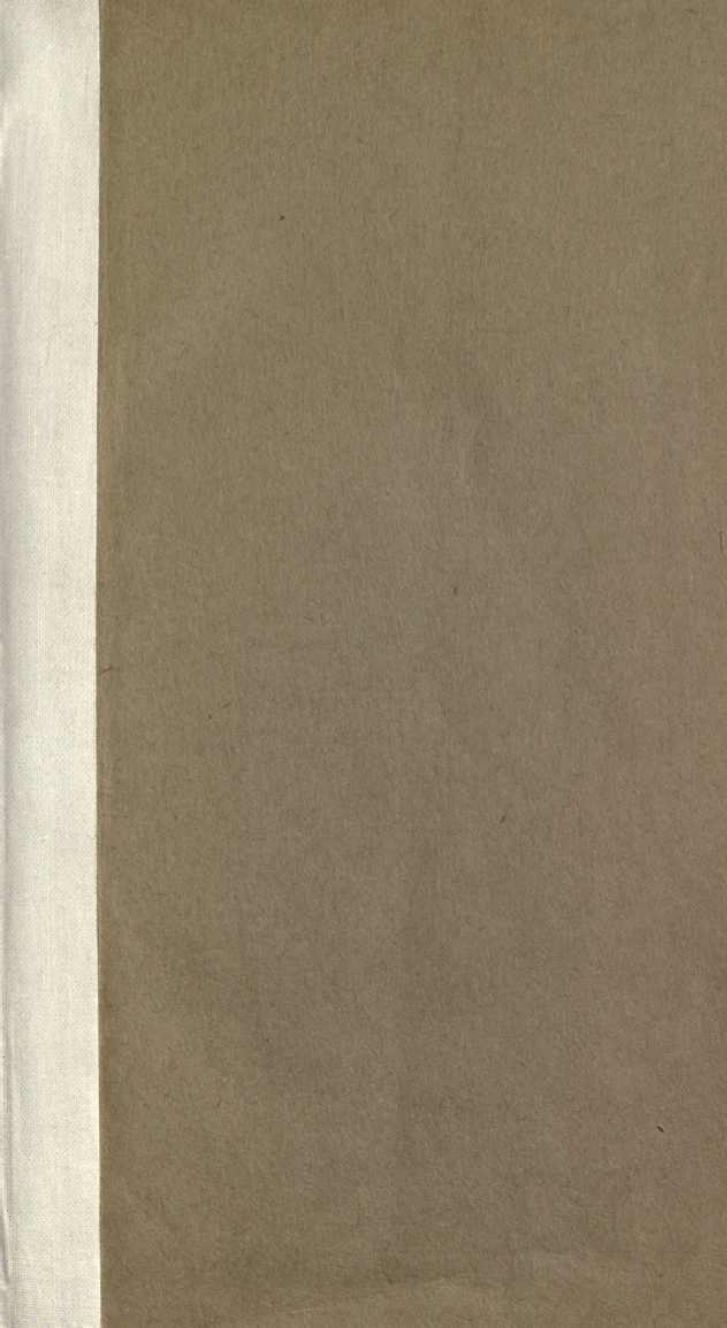


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A TREATISE  
ON  
DIAMONDS AND PEARLS.



A

**TREATISE**

ON

**DIAMONDS AND PEARLS;**

IN WHICH

THEIR IMPORTANCE IS CONSIDERED;

AND

PLAIN RULES ARE EXHIBITED FOR ASCERTAINING THE  
VALUE OF BOTH;

ALSO

THE TRUE METHOD OF MANUFACTURING  
DIAMONDS.

BY

**DAVID JEFFRIES,**  
JEWELLER.

*The Fourth Edition, with large Improvements.*

LONDON :

TO BE HAD OF E. LUMLEY, 56, CHANCERY LANE.

*(Price to Subscribers, 1l. 1s.)*

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1871

## TO THE READER.

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As the following treatise is calculated to inform the world concerning the value of diamonds and pearls; the weights made use of relative thereto are here previously explained, as the knowledge of them will be found necessary to the public. They agree the nearest to troy weight of any other, and are commonly called carat weights; 150 carats make about an ounce of that weight. Carats are divided into halves, quarters, or grains; eighths, sixteenths, and thirty-two parts.

The draughts of the sizes of brilliant and rose diamonds, exhibited in the plates, are tests to prove the truth and defects of the manufacture of any diamond, and will be found as necessary as scales and weights, in attaining to a right judgment of their value. To make the truth of this assertion appear more evident, it is here to be observed; first, that either a brilliant or rose diamond may be wrought in such a manner as to con-

tain one fourth, or even one third, more weight than it ought to have, which necessarily injures the beauty of its form, and likewise injures its true spirit and lustre; and, if that overweight be injudiciously valued, together with its due weight, the price will be thereby greatly heightened above its just value, more especially in large diamonds. All which overweighted stones will easily be discovered by the sizes exhibited in the plates, which exactly shew the true expansion of well-wrought diamonds.

Secondly, it is to be observed, that the sizes before referred to will discover if any stones do not carry their true substance. An important circumstance to be regarded, inasmuch as any degree of want thereof necessarily lessens the spirit and lustre they would otherwise be possessed of. In both cases, directions are given in the treatise, in what manner every such stone is to be valued, as well as all other well-proportioned ones, according to their water, and several degrees of perfection or imperfection, of what size or weight soever.

Should precede vii,

## TO THE QUEEN.

---

MADAM,

I BEG leave, with the profoundest humility, to dedicate the following Treatise to your Majesty, the patron of truth and justice, and friend to the common interest of mankind, more particularly to that of your Majesty's subjects: in which your royal character shines with the brightest lustre.

It contains rational and plain rules for estimating the value of diamonds and pearls under all circumstances, and for manufacturing diamonds to the greatest perfection: both which have hitherto been but very imperfectly understood. From hence, all property of this kind has been exposed to the greatest injury, by being subject to a capricious and indeterminate valuation; and

the superlative beauty of diamonds has been much debased.

To countenance a work calculated to promote a general benefit, it is humbly apprehended, will not be deemed unworthy the condescension of a crowned head, as these jewels constitute so large a part of public wealth; and as they are, and have been in past ages, the chief ornaments of great and distinguished personages, in most parts of the world.

That the supreme Disposer of all things may long preserve your Majesty, the guardian of the commerce and properties of these your kingdoms, and that you may continue to reign in the hearts of a grateful and loyal people, is the fervent prayer of,

May it please your Majesty,

Your Majesty's most dutiful and  
most faithful subject,

DAVID JEFFRIES.

## POSTSCRIPT.

---

THE price of this book, I hope, will not be thought too large, when the following matters are taken into consideration.

First, that of its being calculated to settle the value of diamonds and pearls, on a rational and firm basis; a circumstance of no small concern, inasmuch as their worth has hitherto been rated by fancy and caprice, which has frequently proved very injurious even to traders in them, as well as to others who have bought them for their use.

Next, as the subject concerns only persons of rank and fortune, and those of the trade for whose use the book is principally designed, the sale of it is not like to be very large. To this may be added, that what it

contains is the product of many years' study, and difficult labour of various kinds, attended with an expence much beyond what can readily be imagined.

And here I shall take leave to observe, that inasmuch as the tables of the prices of diamonds and pearls answer the same purposes in attaining to the knowledge of the value of these jewels, as scales and weights, they may be considered in the same light; and, that the diamond sizes may be depended on for their truth, they are all engraved by myself, not daring to trust that performance to any one else; which is likewise the case in respect to some other things, that I shall not here particularize: all which have ingrossed my thoughts and time to the neglect of my private concerns: by that means I have greatly injured a fortune (not got by trade) that put me above entering on this work with any mean lucrative views; and least of all that of publishing for the sake of the profit that might arise therefrom. On

the contrary, my former circumstances enabled, and my inclinations led me to engage in this attempt, in order to serve the public, and the jewel trade. And to my great satisfaction, I find the principles of the book begin already to operate; from whence it may be presumed they will more and more, and that the world will experience their utility. That this was my original motive is a fact well known to some; and that I formerly intended to have published the matters contained in this treatise, without having any regard to the profit arising thereby. These circumstances, doubtless, will have their due weight in accounting for the price of the book.

And now I think it my duty to mention, that whatever knowledge I may have acquired by applying my thoughts and time this way, I shall endeavour faithfully to employ in any business that I may be honoured with in the jewelling trade. This I have not spoke of in my former edition, nor should I now, if

I were not countenanced in so doing by some persons of rank, and many of my particular friends, both which have of late favoured me that way : and this leads me to hope for an increase thereof, which I flatter myself will not be found disadvantageous to any that may engage me in their service. In saying this I am not apprehensive of having said too much.



## AN EXPLANATION

OF SOME TECHNICAL TERMS MADE USE OF IN THIS  
TREATISE, IN ALPHABETICAL ORDER.



THE bezils are the upper sides and corners of the brilliant, lying between the edge of the table and the girdle.

The collet is the small horizontal plane, or face, at the bottom of the brilliant.

The crown is the upper work of the rose, which all centres in the point at the top, and is bounded by the horizontal ribs.

The facets are small triangular faces, or planes, both in brilliants and roses. In brilliants there are two sorts, skew or skill-facets, and star-facets. Skill-facets are divided into upper and under. Upper skill-facets are wrought on the lower part of the bezil, and terminate in the girdle; under skill facets are wrought on the pavilions, and terminate in the girdle; star-facets are wrought

on the upper part of the bezil, and terminate in the table.

The girdle is the line which encompasses the stones, parallel to the horizon ; or, which determines the greatest horizontal expansion of the stones.

Lozenges are common to brilliants and roses. In brilliants they are formed by the meeting of the skill and star facets on the bezil : in roses, by the meeting of the facets in the horizontal ribs of the crown.

Pavilions are the under-sides and corners of the brilliants, and lie between the girdle and the collet.

The ribs are the lines, or ridges, which distinguish the several parts of the work, both of brilliants and roses.

The table is the large horizontal plane, or face, at the top of the brilliant.

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## INTRODUCTION.

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DIAMONDS and pearls being, of all jewels, of the greatest importance to this and most nations of the world, justly demand the highest regard of any; inasmuch as they constitute the largest share of wealth of this kind, and are the chief ornaments of great and distinguished personages: more especially diamonds, as being the most beautiful and valuable of all. On which account, as I have been above thirty years a considerable trader in them, and a manufacturer of diamonds, I have studiously employed great part of my time in search of rules to ascertain the value of

both under all circumstances, whatever be their weight and magnitude; and, likewise, for manufacturing diamonds to the greatest perfection. And apprehending that I have fully succeeded—for the promotion of the commerce, and for the benefit of the public, I have exhibited, in this treatise, means by which the inquisitive may attain to a right knowledge in these matters; and more especially concerning those from one carat weight, to those of one hundred carats.

The plates of the sizes of diamonds, and the tables of the prices of both, are extended no farther than to diamonds and pearls of that weight. They might be carried on *ad infinitum*; and the rule of valuing will hold good, though they should weigh as much as Governor Pitt's diamond, purchased by the Regent Duke of Orleans

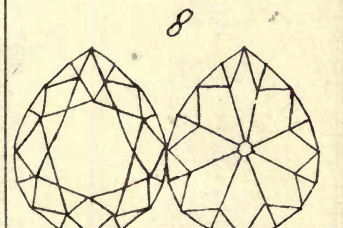
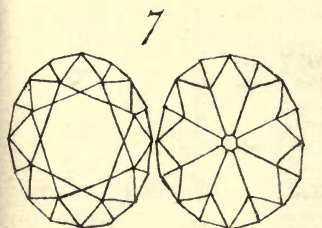
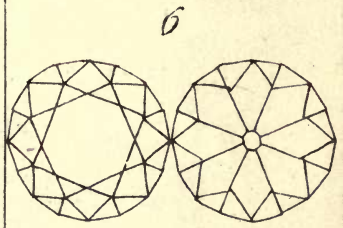
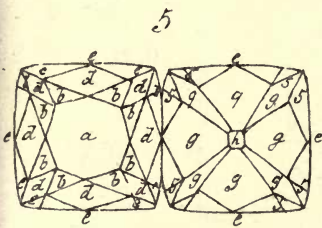
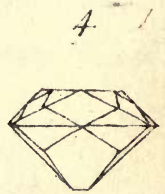
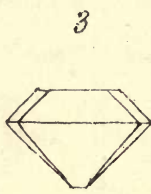
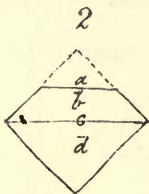
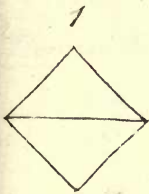
for Louis the Fifteenth, then a minor, which weighs 136 carats  $\frac{3}{4}$ ; or as three others mentioned by Monsieur Tavernier, in the second part of his voyages, p. 148, English translation, viz. that of the Great Duke of Tuscany, which weighs 139 carats  $\frac{1}{2}$ ; or that in a merchant's hand, which weighs 242 carats  $\frac{5}{16}$ ; or that of the Great Mogul, which weighs 279 carats  $\frac{9}{16}$ .

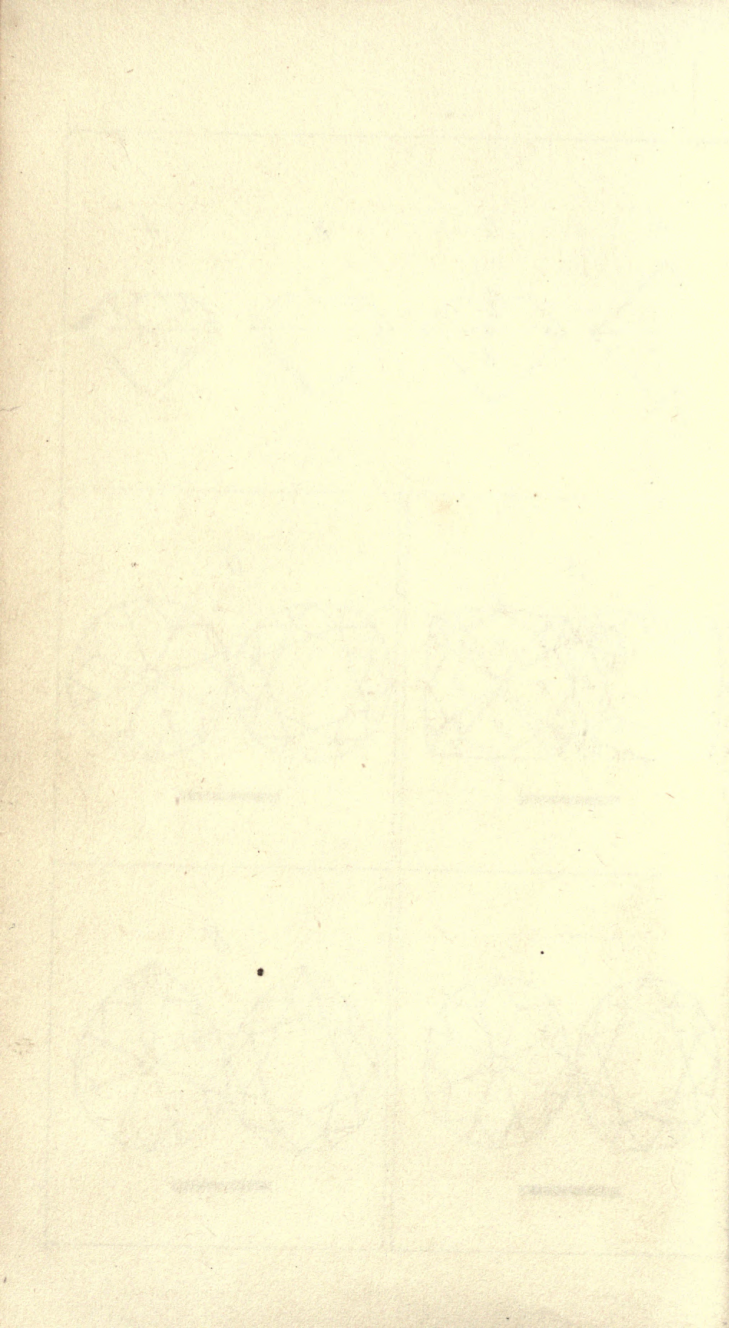
If what is contained in this treatise be found true, it will confute the notion that some diamonds and pearls are inestimable, on account of their extraordinary magnitude; which, to this time, prevails, upon the supposition that no methods can be found to determine their value; and will likewise greatly contribute to support the dignity of the diamond manufacture.

The first of these is the fact that the  
 number of cases is not constant, but  
 varies from year to year. This is  
 due to the fact that the number of  
 cases is dependent upon the number  
 of persons who are exposed to the  
 disease. The number of persons who  
 are exposed to the disease is in  
 turn dependent upon the number of  
 persons who are in contact with  
 the infected persons.

The second of these is the fact that  
 the disease is not contagious in the  
 ordinary sense of the word. It is  
 not transmitted by direct contact  
 with the infected person, but  
 is transmitted by the air. This  
 is due to the fact that the disease  
 is caused by a virus which is  
 present in the air. The virus is  
 present in the air in the form of  
 small particles which are inhaled  
 by the infected person. The virus  
 then enters the body through the  
 respiratory tract and causes the  
 disease.







# The Size of Brilliant Diamonds

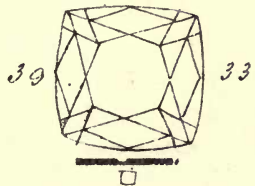
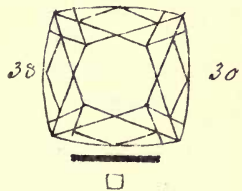
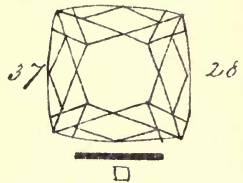
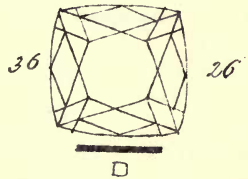
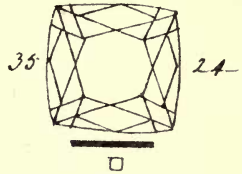
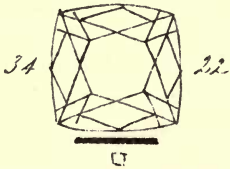
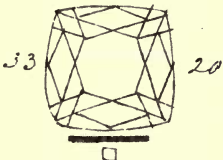
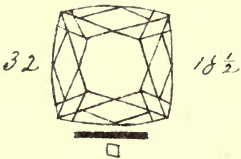
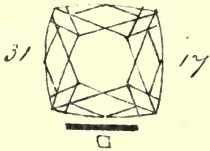
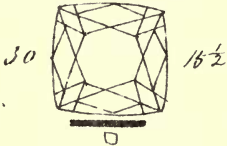
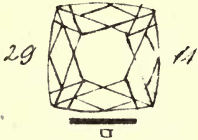
Number Weight		Number Weight		Number Weight	
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2	$1\frac{1}{8}$	14	4	23	$7\frac{1}{2}$
3	$1\frac{1}{4}$	15	$4\frac{1}{4}$	24	8
4	$1\frac{1}{2}$	16	$4\frac{1}{2}$	25	9
5	$1\frac{3}{4}$	17	$4\frac{3}{4}$	26	10
6	2	18	5	27	11
7	$2\frac{1}{4}$	19	$5\frac{1}{2}$	28	$12\frac{1}{2}$
8	$2\frac{1}{2}$	20	6		
9	$2\frac{3}{4}$	21	$6\frac{1}{2}$		
10	3				
11	$3\frac{1}{4}$				
12	$3\frac{1}{2}$				



# Brilliant Diamonds.

Number Weight

Number Weight

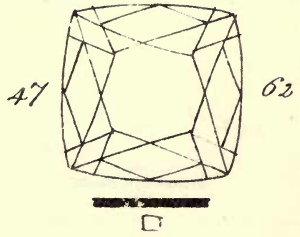
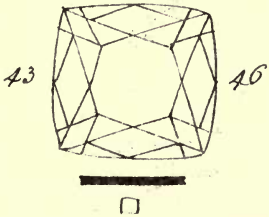
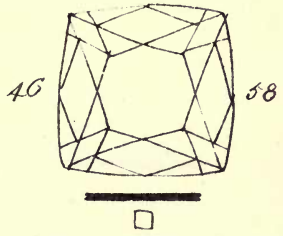
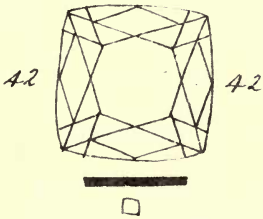
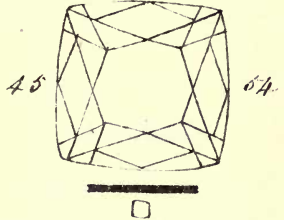
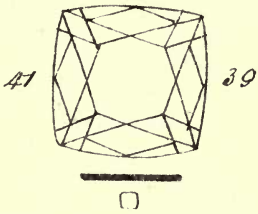
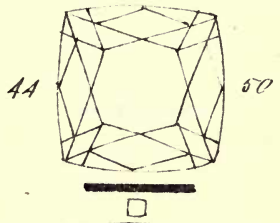
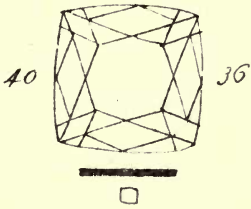




# Brilliant Diamonds.

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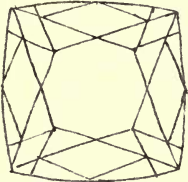


# Brilliant Diamonds

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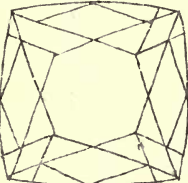
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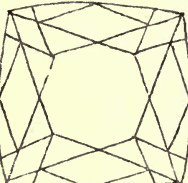
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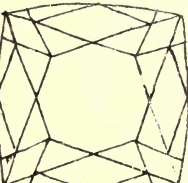
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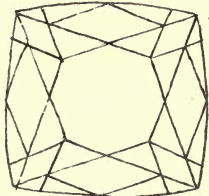


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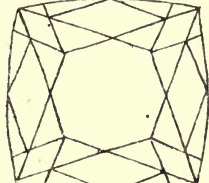
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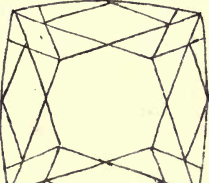
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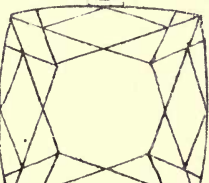
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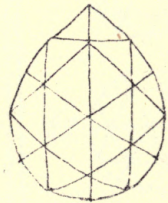
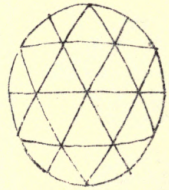
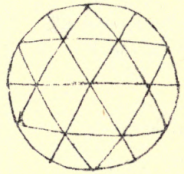
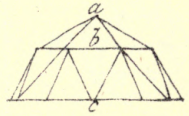
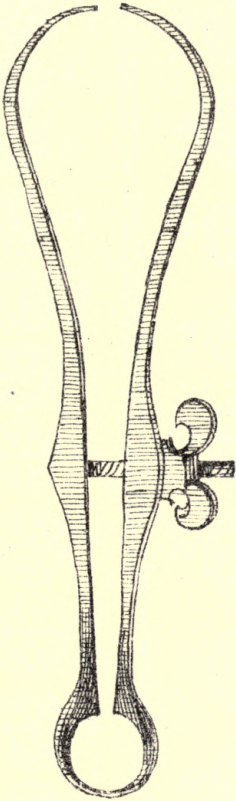
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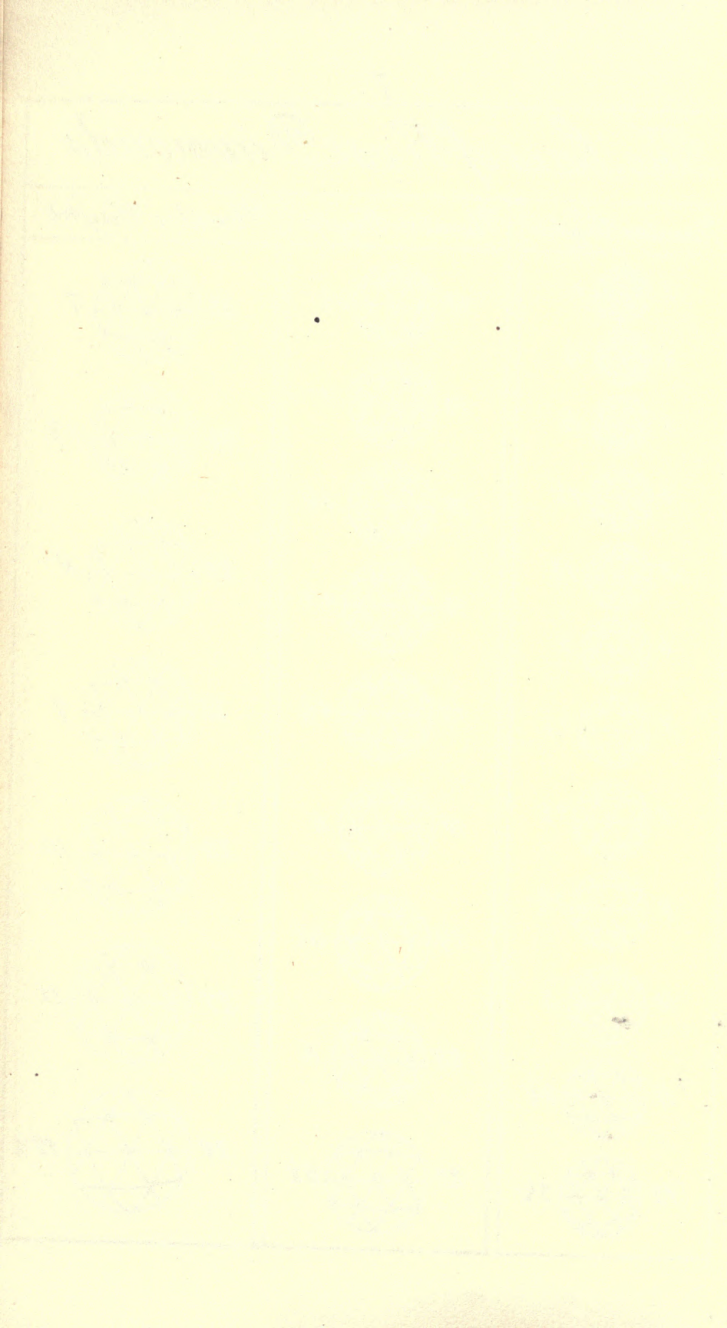






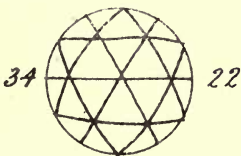
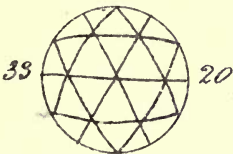
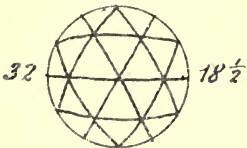
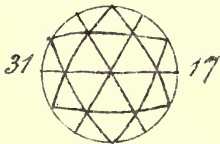
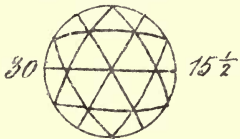
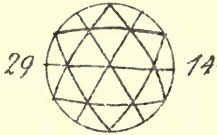
# The Sizes of Rose Diamonds

Number	Weight	Number	Weight	Number	Weight
1	1	13	$3\frac{3}{4}$	22	7
2	$\frac{1}{2}$	14	4	23	$7\frac{1}{2}$
3	$\frac{1}{2}$	15	$4\frac{1}{4}$	24	8
4	$1\frac{1}{2}$	16	$4\frac{1}{2}$	25	9
5	$1\frac{3}{4}$	17	$4\frac{3}{4}$	26	10
6	2	18	5	27	11
7	2 $\frac{1}{4}$	19	$5\frac{1}{2}$	28	$12\frac{1}{2}$
8	$2\frac{1}{2}$	20	6		
9	$2\frac{3}{4}$	21	$6\frac{1}{2}$		
10	3				
11	$3\frac{1}{4}$				
12	$3\frac{1}{2}$				

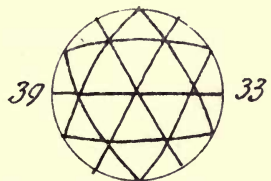
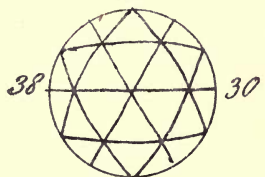
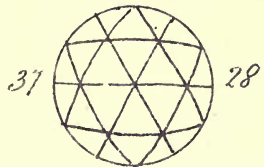
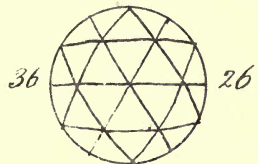
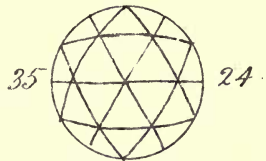


# Rose Diamonds.

Number Weight



Number Weight



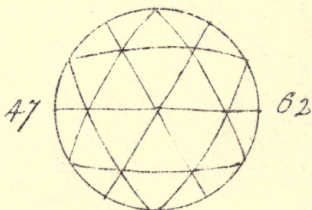
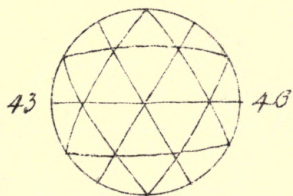
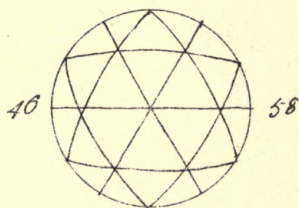
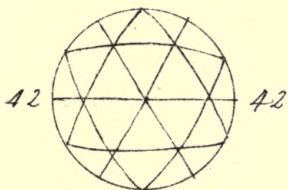
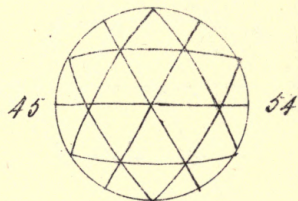
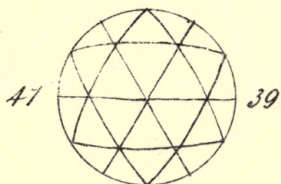
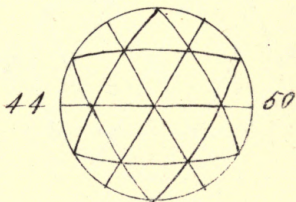
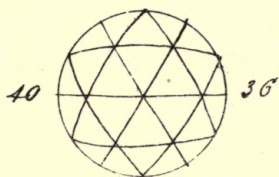




# Rose Diamonds

Number      Weight

Number      Weight





# Rose Diamonds

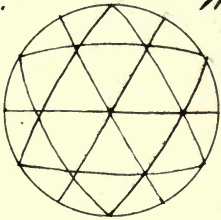
No

Wt

No

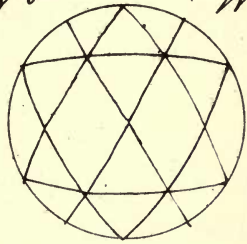
Wt

18



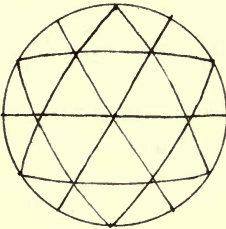
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52



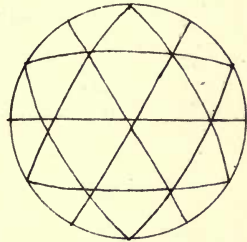
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49



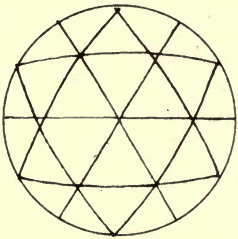
70

53



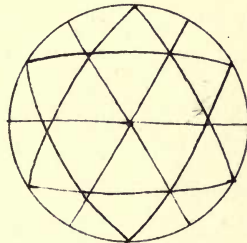
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50



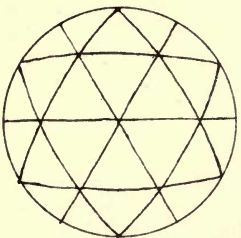
75

54



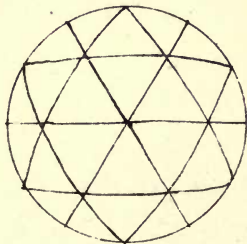
95

51



80

55



100



# The Tables of Diamonds.

Wt	Price	Wt	Price	Wt	Price
C <sup>r</sup>	£ s d	C <sup>r</sup>	£ s d	C <sup>r</sup>	£ s d
	8:0:0	3 <sup>5</sup> / <sub>8</sub>	103:2:6	6 <sup>1</sup> / <sub>4</sub>	312:10:0
1 <sup>1</sup> / <sub>8</sub>	10:2:6	3 <sup>3</sup> / <sub>2</sub>	112:10:0	6 <sup>3</sup> / <sub>8</sub>	325:2:6
1 <sup>1</sup> / <sub>4</sub>	12:10:0	3 <sup>3</sup> / <sub>8</sub>	120:2:6	6 <sup>1</sup> / <sub>2</sub>	338:0:0
1 <sup>3</sup> / <sub>8</sub>	15:2:6	4	128:0:0	6 <sup>5</sup> / <sub>8</sub>	35:2:6
1 <sup>1</sup> / <sub>2</sub>	18:0:0	4 <sup>1</sup> / <sub>8</sub>	136:2:6	6 <sup>3</sup> / <sub>4</sub>	364:10:0
1 <sup>5</sup> / <sub>8</sub>	21:2:6	4 <sup>1</sup> / <sub>4</sub>	144:10:0	6 <sup>3</sup> / <sub>8</sub>	378:2:6
1 <sup>3</sup> / <sub>4</sub>	24:10:0	4 <sup>3</sup> / <sub>8</sub>	153:2:6	7	392:0:0
1 <sup>7</sup> / <sub>8</sub>	28:2:6	4 <sup>1</sup> / <sub>2</sub>	162:0:0	7 <sup>1</sup> / <sub>8</sub>	406:2:6
2	32:0:0	4 <sup>3</sup> / <sub>8</sub>	171:2:6	7 <sup>1</sup> / <sub>4</sub>	420:10:0
2 <sup>1</sup> / <sub>8</sub>	36:2:6	4 <sup>3</sup> / <sub>4</sub>	180:10:0	7 <sup>3</sup> / <sub>8</sub>	435:2:6
2 <sup>1</sup> / <sub>4</sub>	40:10:0	4 <sup>7</sup> / <sub>8</sub>	190:2:6	7 <sup>1</sup> / <sub>2</sub>	450:0:0
2 <sup>3</sup> / <sub>8</sub>	45:2:6	5	200:0:0	7 <sup>5</sup> / <sub>8</sub>	466:2:6
2 <sup>1</sup> / <sub>2</sub>	50:0:0	5 <sup>1</sup> / <sub>8</sub>	210:2:6	7 <sup>3</sup> / <sub>4</sub>	48:10:0
2 <sup>5</sup> / <sub>8</sub>	55:2:6	5 <sup>1</sup> / <sub>4</sub>	220:10:0	7 <sup>7</sup> / <sub>8</sub>	406:2:6
2 <sup>3</sup> / <sub>4</sub>	60:10:0	5 <sup>3</sup> / <sub>8</sub>	231:2:6	8	512:0:0
2	66:2:6	5 <sup>1</sup> / <sub>2</sub>	242:0:0	8 <sup>1</sup> / <sub>8</sub>	528:2:6
	72:0:0	5 <sup>5</sup> / <sub>8</sub>	253:2:6	8 <sup>1</sup> / <sub>4</sub>	544:10:0
3 <sup>1</sup> / <sub>8</sub>	78:2:6	5 <sup>3</sup> / <sub>4</sub>	264:0:0	8 <sup>3</sup> / <sub>8</sub>	561:0:6
3 <sup>1</sup> / <sub>4</sub>	84:10:0	5 <sup>3</sup> / <sub>8</sub>	276:2:6	8 <sup>1</sup> / <sub>2</sub>	578:0:0
3 <sup>3</sup> / <sub>8</sub>	91:2:6	6	288:0:0	8 <sup>5</sup> / <sub>8</sub>	595:2:6
3 <sup>1</sup> / <sub>2</sub>	98:0:0	6 <sup>1</sup> / <sub>8</sub>	300:2:6	8 <sup>3</sup> / <sub>4</sub>	612:10:0



## Diamonds continued

<i>N<sup>o</sup></i>	<i>Price</i>	<i>N<sup>o</sup></i>	<i>Price</i>	<i>N<sup>o</sup></i>	<i>Price</i>
<i>C<sup>r</sup></i>	<i>£ s d</i>	<i>C<sup>r</sup></i>	<i>£ s d</i>	<i>C<sup>r</sup></i>	<i>£ s d</i>
$8\frac{1}{8}$	630:2:6	$11\frac{1}{2}$	1058:0:0	$14\frac{1}{8}$	1596:2:6
9	648:0:0	$11\frac{5}{8}$	1081:2:6	$14\frac{1}{4}$	1624:10:0
$9\frac{1}{8}$	666:2:6	$11\frac{3}{4}$	1104:10:0	$14\frac{3}{8}$	1633:2:6
$9\frac{1}{4}$	684:10:0	11 8	1128:2:6	$14\frac{1}{2}$	1682:8:0
$9\frac{3}{8}$	703:2:6	12	1152:0:0	$14\frac{5}{8}$	1411:0:6
9	722:0:0	$12\frac{1}{8}$	1176:2:6	$14\frac{3}{4}$	1740:10:0
9	741:2:0	12	1206:16:0	$14\frac{7}{8}$	1770:2:0
9	700:0:0	12	1225:2:6	15	1800:0:0
9	780:2:6	$12\frac{1}{2}$	1232:0:0	$15\frac{1}{8}$	1830:2:6
10	800:0:0	$12\frac{5}{8}$	1275:0:0	$15\frac{1}{2}$	1860:10:0
$10\frac{1}{8}$	820:2:6	$12\frac{3}{4}$	1300:10:0	$15\frac{3}{8}$	1891:2:6
$10\frac{1}{4}$	840:10:0	$12\frac{7}{8}$	1326:2:6	$15\frac{1}{2}$	1922:0:0
$10\frac{3}{8}$	861:2:6	13	1352:0:0	$15\frac{5}{8}$	1933:2:6
$10\frac{1}{2}$	882:0:0	$13\frac{1}{8}$	1373:2:6	$15\frac{3}{4}$	1984:10:0
$10\frac{3}{8}$	903:2:6	$13\frac{1}{4}$	1404:10:0	15.	2016:2:6
$10\frac{3}{4}$	924:0:0	13 8	1431:2:6	16	2048:0:0
$10\frac{7}{8}$	946:2:6	$13\frac{1}{2}$	1458:0:0	$16\frac{1}{8}$	2080:2:6
11	968:0:0	$13\frac{5}{8}$	1485:2:6	$16\frac{1}{4}$	2112:10:0
$11\frac{1}{8}$	990:2:6	$13\frac{3}{4}$	1512:10:0	$16\frac{3}{8}$	2145:2:6
$11\frac{1}{4}$	1012:10:0	$15\frac{7}{8}$	1540:2:6	$16\frac{1}{2}$	2178:0:0
$11\frac{3}{8}$	1035:2:0	14	1568:0:0	$16\frac{5}{8}$	2211:2:6





## Diamonds continued

Wt	Price	Wt	Price	Wt	Price
C <sup>r</sup>	£ s d	C <sup>r</sup>	£ s d	C <sup>r</sup>	£ s d
16 $\frac{3}{8}$	2244:10:0	19 $\frac{3}{8}$	3003:2:6	22	3872:0:0
16 $\frac{7}{8}$	2278:2:6	19 $\frac{1}{2}$	3042:0:0	22 $\frac{1}{8}$	3916:2:6
17	2312:0:0	19 $\frac{5}{8}$	3081:2:6	22 $\frac{1}{4}$	3960:10:0
17 $\frac{1}{8}$	2346:2:6	19 $\frac{6}{8}$	3120:10:0	22 $\frac{1}{2}$	4005:2:6
17 $\frac{1}{4}$	2380:10:0	19 $\frac{7}{8}$	3160:2:6	22 $\frac{1}{2}$	4050:0:0
17 $\frac{3}{8}$	2415:2:6	20	3200:0:0	22 $\frac{3}{8}$	4095:2:6
17 $\frac{1}{2}$	2450:0:0	20 $\frac{1}{8}$	3240:2:6	22 $\frac{1}{4}$	4140:10:0
17 $\frac{5}{8}$	2485:2:6	20 $\frac{1}{4}$	3280:10:0	22	4185:2:6
17 $\frac{3}{4}$	2520:10:0	20 $\frac{1}{2}$	3321:2:6	23	4232:0:0
17 $\frac{7}{8}$	2556:2:6	20 $\frac{3}{8}$	3362:0:0	23 $\frac{1}{8}$	4278:0:6
18	2592:0:0	20 $\frac{1}{2}$	3403:2:6	23	4324:10:0
18 $\frac{1}{8}$	2628:2:6	20 $\frac{3}{4}$	3444:10:0	23 $\frac{1}{8}$	4371:2:6
18 $\frac{1}{4}$	2664:10:0	20 $\frac{7}{8}$	3486:2:6	23 $\frac{1}{2}$	4418:0:0
18 $\frac{3}{8}$	2701:2:6	21	3528:0:0	23 $\frac{5}{8}$	4465:2:6
18 $\frac{1}{2}$	2738:0:0	21 $\frac{1}{8}$	3570:2:6	23 $\frac{3}{4}$	4512:10:0
18 $\frac{3}{4}$	2775:2:6	21 $\frac{1}{4}$	3612:10:0	23 $\frac{1}{2}$	4560:2:6
18 $\frac{7}{8}$	2812:10:0	21 $\frac{3}{8}$	3655:2:6	24	4608:0:0
19	2850:2:6	21 $\frac{1}{2}$	3698:0:0	24 $\frac{1}{8}$	4656:2:6
19	2888:0:0	21 $\frac{5}{8}$	3741:2:6	24 $\frac{1}{4}$	4704:10:0
19 $\frac{1}{8}$	2926:2:6	21 $\frac{3}{4}$	3784:10:0	24 $\frac{3}{8}$	4753:2:6
19 $\frac{1}{4}$	2964:10:0	21 $\frac{7}{8}$	3828:2:6	24 $\frac{1}{2}$	4802:0:0



## Diamonds continued.

N <sup>o</sup>	Price	N <sup>o</sup>	Price	N <sup>o</sup>	Price
C <sup>r</sup>	L. s. d.	C <sup>r</sup>	L. s.	C <sup>r</sup>	L. s.
24 <sup>5</sup> / <sub>8</sub>	4851:2:6	29 <sup>7</sup> / <sub>8</sub>	6962:0	34 <sup>3</sup> / <sub>4</sub>	9660:10
24 <sup>3</sup> / <sub>4</sub>	4900:10:0	29 <sup>1</sup> / <sub>4</sub>	7080:10	35	9800:0
24 <sup>7</sup> / <sub>8</sub>	4960:2:6	30	7200:0	35 <sup>1</sup> / <sub>4</sub>	9940:10
25	5000:0:0	30 <sup>1</sup> / <sub>4</sub>	7320:10	35 <sup>1</sup> / <sub>2</sub>	10082:0
25 <sup>1</sup> / <sub>4</sub>	5100:10:0	30 <sup>1</sup> / <sub>2</sub>	7442:0	35 <sup>3</sup> / <sub>4</sub>	10224:10
25 <sup>1</sup> / <sub>2</sub>	5202:0:0	30 <sup>3</sup> / <sub>4</sub>	7564:10	36	10368:0
25 <sup>3</sup> / <sub>4</sub>	5304:10:0	31	7688:0	36 <sup>1</sup> / <sub>4</sub>	10512:10
26	5408:0:0	31 <sup>1</sup> / <sub>4</sub>	7812:10	36 <sup>1</sup> / <sub>2</sub>	10658:0
26 <sup>1</sup> / <sub>4</sub>	5512:10:0	31 <sup>1</sup> / <sub>2</sub>	7938:0	36 <sup>3</sup> / <sub>4</sub>	10804:10
26 <sup>1</sup> / <sub>2</sub>	5618:0:0	31 <sup>3</sup> / <sub>4</sub>	8064:10	37	10952:0
26 <sup>3</sup> / <sub>4</sub>	5724:10:0	32	8192:0	37 <sup>1</sup> / <sub>4</sub>	11100:10
27	5832:0:0	32 <sup>1</sup> / <sub>4</sub>	8320:10	37 <sup>1</sup> / <sub>2</sub>	11250:0
27 <sup>1</sup> / <sub>4</sub>	5940:10:0	32 <sup>1</sup> / <sub>2</sub>	8450:0	37 <sup>3</sup> / <sub>4</sub>	11400:10
27 <sup>1</sup> / <sub>2</sub>	6050:0:0	32 <sup>3</sup> / <sub>4</sub>	8580:10	38	11552:0
27 <sup>3</sup> / <sub>4</sub>	6100:10:0	33	8712:0	38 <sup>1</sup> / <sub>4</sub>	11702:10
28	6272:0:0	33 <sup>1</sup> / <sub>4</sub>	8844:10	38 <sup>1</sup> / <sub>2</sub>	11858:0
28 <sup>1</sup> / <sub>4</sub>	6384:10:0	33 <sup>1</sup> / <sub>2</sub>	8976:0	38 <sup>3</sup> / <sub>4</sub>	12012:10
28 <sup>1</sup> / <sub>2</sub>	6498:0:0	33 <sup>3</sup> / <sub>4</sub>	9112:10	39	12168:0
28 <sup>3</sup> / <sub>4</sub>	6612:10:0	34	9248:0	39 <sup>1</sup> / <sub>4</sub>	12324:10
29	6728:0:0	34 <sup>1</sup> / <sub>4</sub>	9384:10	39 <sup>1</sup> / <sub>2</sub>	12482:0
29 <sup>1</sup> / <sub>4</sub>	6844:10:0	34 <sup>1</sup> / <sub>2</sub>	9522:0	39 <sup>3</sup> / <sub>4</sub>	12640:10



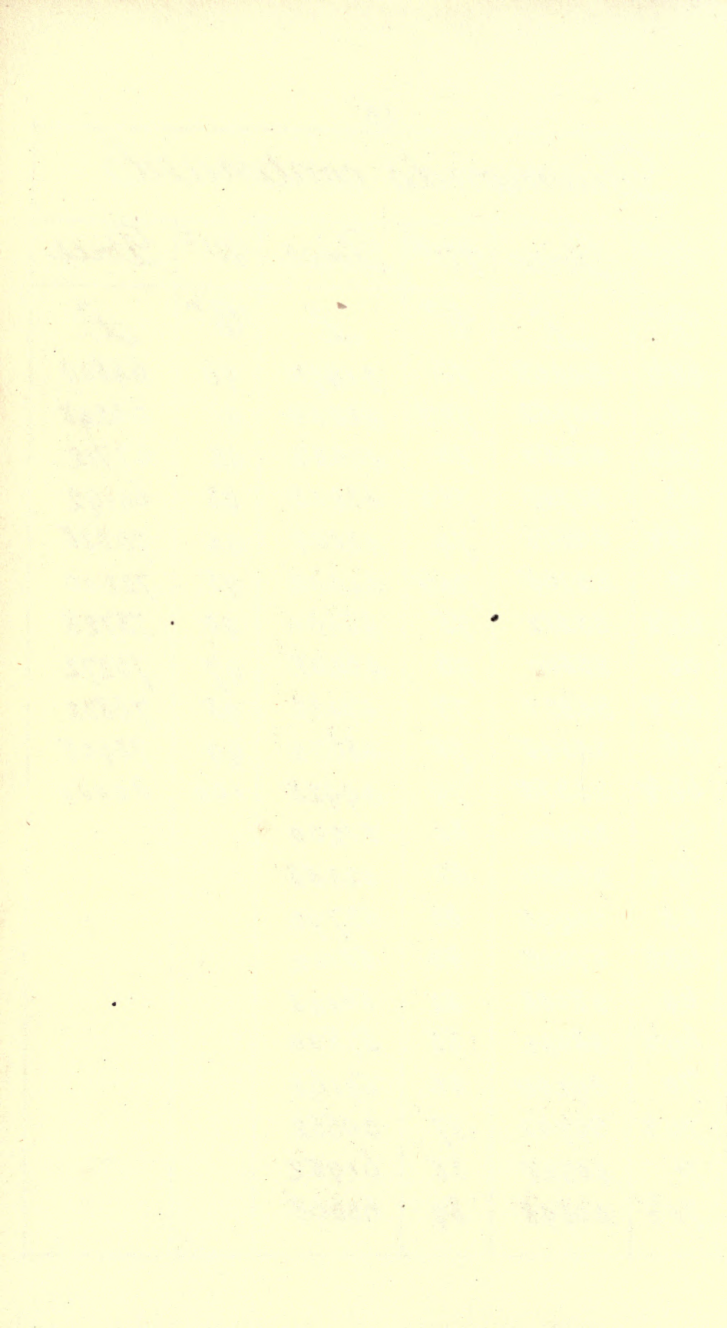
## Diamonds continued

<i>W<sup>t</sup></i>	<i>Price</i>	<i>W<sup>t</sup></i>	<i>Price</i>	<i>W<sup>o</sup></i>	<i>Price</i>
<i>C.<sup>r</sup></i>	<i>£ s</i>	<i>C.<sup>r</sup></i>	<i>£ s</i>	<i>C.<sup>r</sup></i>	<i>£</i>
40	12800:0	45 $\frac{1}{4}$	16880:10	51	20808
40 $\frac{1}{4}$	12960:10	45 $\frac{1}{2}$	16562:0	51 $\frac{1}{2}$	21218
40 $\frac{1}{2}$	13122:0	45 $\frac{3}{4}$	16744:10	52	21632
40 $\frac{3}{4}$	13284:10	46	16928:10	52 $\frac{1}{2}$	22050
41	13448:0	46 $\frac{1}{4}$	17112:10	53	22472
41 $\frac{1}{4}$	13612:10	46 $\frac{1}{2}$	17298:0	53 $\frac{1}{2}$	22898
41 $\frac{1}{2}$	13778:0	46 $\frac{3}{4}$	17484:10	54	23328
41 $\frac{3}{4}$	13944:10	47	17672:0	54 $\frac{1}{2}$	23762
42	14112:0	47 $\frac{1}{4}$	17860:10	55	24200
42 $\frac{1}{4}$	14280:10	47 $\frac{1}{2}$	18050:0	55 $\frac{1}{2}$	24642
42 $\frac{1}{2}$	14450:0	47 $\frac{3}{4}$	18240:10	56	25088
42 $\frac{3}{4}$	14620:10	48	18432:0	56 $\frac{1}{2}$	25538
43	14792:0	48 $\frac{1}{4}$	18624:10	57	25992
43 $\frac{1}{4}$	14964:10	48 $\frac{1}{2}$	18818:0	57 $\frac{1}{2}$	26450
43 $\frac{1}{2}$	15138:0	48 $\frac{3}{4}$	19012:10	58	26912
43 $\frac{3}{4}$	15312:10	49	19208:0	58 $\frac{1}{2}$	21378
44	15488:0	49 $\frac{1}{4}$	19404:10	59	27848
44 $\frac{1}{4}$	15664:10	49 $\frac{1}{2}$	19602:0	59 $\frac{1}{2}$	28322
44 $\frac{1}{2}$	15842:0	49 $\frac{3}{4}$	19860:10	60	28800
44 $\frac{3}{4}$	16020:10	50	20000:0	60 $\frac{1}{2}$	29282
45	16200:0	50 $\frac{1}{2}$	20402:0	61	29768



## Diamonds continued

<i>W<sup>t</sup></i>	<i>Price</i>	<i>W<sup>t</sup></i>	<i>Price</i>	<i>W<sup>t</sup></i>	<i>Price</i>
<i>C<sup>r</sup></i>	<i>£</i>	<i>C<sup>r</sup></i>	<i>£</i>	<i>C<sup>r</sup></i>	<i>£</i>
61½	30258	72	41472	90	64800
62	30752	72½	42050	91	66248
62½	31250	73	42632	92	67712
63	31752	73½	43218	93	69192
63½	32258	74	43808	94	70688
64	32768	74½	44402	95	72200
64½	33282	75	45000	96	73728
65	33800	76	46208	97	75272
65½	34322	77	47432	98	76832
66	34848	78	48672	99	78408
66½	35378	79	49928	100	80000
67	35912	80	51200		
67½	36450	81	52488		
68	36992	82	53792		
68½	37538	83	55112		
69	38088	84	56448		
69½	38642	85	57800		
70	39200	86	59168		
70½	39762	87	60552		
71	40328	88	61952		
71½	40898	89	63368		





# The Tables of small Pearl.

The Number of Pearl in an Oz Troy	Their Weight	Their Value p Piece, at 2 p Carat	Their Value p Ounce. at that Rate
N <sup>o</sup>	C <sup>r</sup>	s d	£ s d
150	1	2:0	15:0:0
160	$\frac{15}{16}$	1:9 $\frac{3}{32}$	14:1:3
171	$\frac{7}{8}$	1:6 $\frac{3}{8}$	13:1:10 $\frac{1}{8}$
184	$\frac{13}{16}$	1:3 $\frac{27}{32}$	12:2:11 $\frac{1}{4}$
200	$\frac{3}{4}$	1:1 $\frac{1}{2}$	11:5:0
218	$\frac{11}{16}$	11 $\frac{11}{32}$	10:6:0 $\frac{15}{16}$
240	$\frac{5}{8}$	9 $\frac{3}{8}$	9:7:6
266	$\frac{9}{16}$	7 $\frac{19}{32}$	8:8:3 $\frac{15}{16}$
300	$\frac{1}{2}$	6	7:10:0
342	$\frac{7}{16}$	4 $\frac{19}{32}$	6:10:11 $\frac{1}{16}$
400	$\frac{3}{8}$	3 $\frac{3}{8}$	5:12:6
480	$\frac{5}{16}$	2 $\frac{11}{32}$	4:13:9
600	$\frac{1}{4}$	1 $\frac{1}{2}$	3:15:0
800	$\frac{3}{16}$	$\frac{22}{32}$	2:16:3
1200	$\frac{1}{8}$	$\frac{3}{8}$	1:17:6
2400	$\frac{1}{16}$	$\frac{3}{32}$	18:9
4800	$\frac{1}{32}$	$\frac{3}{128}$	9:4 $\frac{1}{2}$



## Small Pearl continued.

The Number of Pearl in an Oz Troy	Their Weight	Their Value p. Piece at 4 p. Carrot	Their Value p. Ounce at that Rate
N <sup>o</sup>	O <sup>r</sup>	s d	£ s d
150	1	4:0	30:0:0
160	$\frac{15}{16}$	3:6 $\frac{3}{16}$	28:2:6
171	$\frac{7}{8}$	3:0 $\frac{3}{4}$	26:3:8 $\frac{1}{4}$
184	$\frac{13}{16}$	2:7 $\frac{6}{10}$	24:5:10 $\frac{1}{2}$
200	$\frac{3}{4}$	2:3	22:10:0
218	$\frac{11}{16}$	1:10 $\frac{11}{16}$	20:12:18 $\frac{7}{8}$
240	$\frac{5}{8}$	1:6 $\frac{3}{4}$	18:15:0
266	$\frac{2}{10}$	1:3 $\frac{3}{16}$	16:16:7 $\frac{7}{8}$
300	$\frac{1}{2}$	1:0	15:0:0
342	$\frac{1}{16}$	9 $\frac{3}{16}$	13:1:10 $\frac{7}{8}$
400	$\frac{3}{8}$	6 $\frac{3}{4}$	11:5:6
480	$\frac{5}{16}$	4 $\frac{11}{16}$	9:7:6
600	$\frac{1}{4}$	3	7:10:0
800	$\frac{3}{16}$	1 $\frac{11}{16}$	5:12:6
1200	$\frac{1}{8}$	$\frac{3}{4}$	3:15:0
2400	$\frac{1}{16}$	$\frac{3}{16}$	1:17:6
4800	$\frac{1}{32}$	$\frac{3}{14}$	18:9



## Small Pearl continued.

The Number of Pearl in an Oz Troy	Their Weight	Their Value p. Piece at 6 p. Carrot	Their Value p. Ounce at that Rate
N <sup>o</sup>	Co <sup>r</sup>	s d	£ s d
150	1	6:0	45:0:0
160	$\frac{15}{16}$	5:3 $\frac{9}{32}$	42:3:9
171	$\frac{7}{8}$	4:7 $\frac{1}{8}$	39:5:6 $\frac{3}{8}$
184	$\frac{18}{16}$	3:11 $\frac{17}{32}$	36:8:9 $\frac{3}{4}$
200	$\frac{3}{4}$	3:4 $\frac{1}{2}$	33:15:0
218	$\frac{11}{16}$	2:10 $\frac{1}{32}$	30:18:2 $\frac{13}{16}$
240	$\frac{5}{8}$	2:4 $\frac{1}{8}$	28:2:6
266	$\frac{9}{16}$	1:10 $\frac{25}{32}$	25:4:11 $\frac{13}{16}$
300	$\frac{1}{2}$	1:6	22:10:0
342	$\frac{7}{16}$	1:1 $\frac{25}{32}$	19:12:9 $\frac{3}{8}$
400	$\frac{3}{8}$	10 $\frac{1}{8}$	16:17:6
480	$\frac{5}{16}$	7 $\frac{1}{32}$	14:1:3
600	$\frac{1}{4}$	4 $\frac{1}{2}$	11:5:0
800	$\frac{3}{16}$	2 $\frac{17}{32}$	8:8:9
1200	$\frac{1}{8}$	1 $\frac{1}{8}$	5:12:6
2400	$\frac{1}{16}$	$\frac{9}{32}$	2:16:3
4800	$\frac{1}{32}$	$\frac{9}{32}$	1:8:1 $\frac{1}{2}$

# Journal of the Expedition

The first day of our journey was spent in  
 preparing our provisions for the trip.  
 We set out at 8 o'clock in the morning  
 and traveled for about 10 miles.

Date	Distance	Remarks	Temperature
Jan 1st	10 miles	Prepared provisions	50°
Jan 2nd	12 miles	Reached camp	45°
Jan 3rd	8 miles	Light snow	40°
Jan 4th	15 miles	Very cold	35°
Jan 5th	10 miles	Windy	30°
Jan 6th	12 miles	Clear	35°
Jan 7th	10 miles	Snowing	30°
Jan 8th	12 miles	Reaching destination	35°
Jan 9th	10 miles	Rest day	40°
Jan 10th	12 miles	Good progress	45°
Jan 11th	10 miles	Clear weather	50°
Jan 12th	12 miles	Reached home	55°
Jan 13th	10 miles	Final day	50°
Jan 14th	12 miles	Home	55°

## Small Pearl continued.

The Number of Pearl in an Oz. Troy	Their Weight	Their Value p. Piece at 8 p. Carat	Their Value p. Ounce at that Rate
N <sup>o</sup>	G <sup>r</sup>	l s d	£ l s d
150	1	8:0	60:0:0
160	$\frac{15}{16}$	7:0 $\frac{3}{8}$	56:5:0
171	$\frac{7}{8}$	6:1: $\frac{1}{2}$	52:7:4 $\frac{1}{2}$
184	$\frac{15}{16}$	5:3: $\frac{3}{8}$	48:11:9
200	$\frac{3}{4}$	4:6	45:0:0
218	$\frac{11}{16}$	3:9 $\frac{3}{8}$	41:4:3 $\frac{3}{4}$
240	$\frac{5}{8}$	3:1 $\frac{1}{2}$	37:10:0
266	$\frac{9}{16}$	2:6 $\frac{3}{8}$	33:13:3 $\frac{3}{4}$
300	$\frac{1}{2}$	2:0	30:0:0
342	$\frac{7}{16}$	1:6 $\frac{3}{8}$	26:3:8 $\frac{1}{4}$
400	$\frac{3}{8}$	1:1 $\frac{1}{2}$	22:10:0
480	$\frac{5}{16}$	9 $\frac{3}{8}$	18:15:0
600	$\frac{1}{4}$	6	15:0:0
800	$\frac{3}{16}$	3 $\frac{3}{8}$	11:5:0
1200	$\frac{1}{8}$	1 $\frac{1}{2}$	7:10:0
2400	$\frac{1}{16}$	$\frac{3}{8}$	3:15:0
4800	$\frac{1}{32}$	$\frac{3}{32}$	1:17:6

Small Farm Experiment

Date	Description	Amount	Balance
1890	...	...	...
1891	...	...	...
1892	...	...	...
1893	...	...	...
1894	...	...	...
1895	...	...	...
1896	...	...	...
1897	...	...	...
1898	...	...	...
1899	...	...	...
1900	...	...	...
1901	...	...	...
1902	...	...	...
1903	...	...	...
1904	...	...	...
1905	...	...	...
1906	...	...	...
1907	...	...	...
1908	...	...	...
1909	...	...	...
1910	...	...	...
1911	...	...	...
1912	...	...	...
1913	...	...	...
1914	...	...	...
1915	...	...	...
1916	...	...	...
1917	...	...	...
1918	...	...	...
1919	...	...	...
1920	...	...	...
1921	...	...	...
1922	...	...	...
1923	...	...	...
1924	...	...	...
1925	...	...	...
1926	...	...	...
1927	...	...	...
1928	...	...	...
1929	...	...	...
1930	...	...	...



## Small Pearl continued

The Number of Pearl in an Oz Troy	Their Weight	Their Value ¢ Piece at 10¢ Currat	Their Value ¢ Ounce at that Rate
N <sup>o</sup>	G <sup>r</sup>	s d	£ s d
150	1	10:0	75:0:0
160	$\frac{15}{16}$	8:9 $\frac{15}{32}$	70:0:3
171	$\frac{7}{8}$	7:7 $\frac{7}{8}$	65:9:2 $\frac{5}{8}$
184	$\frac{13}{16}$	6:7 $\frac{7}{32}$	60:14:8 $\frac{1}{4}$
200	$\frac{3}{4}$	5:7 $\frac{1}{2}$	56:5:0
218	$\frac{11}{16}$	4:8 $\frac{23}{32}$	51:10:4 $\frac{11}{16}$
240	$\frac{5}{8}$	3:10 $\frac{7}{8}$	46:17:6
266	$\frac{9}{16}$	3:1 $\frac{31}{32}$	42:1:7 $\frac{11}{16}$
300	$\frac{1}{2}$	2:6	37:10:0
342	$\frac{7}{16}$	1:10 $\frac{31}{32}$	32:14:7 $\frac{5}{16}$
400	$\frac{3}{8}$	1:4 $\frac{7}{8}$	28:2:6
480	$\frac{5}{16}$	11 $\frac{28}{32}$	23:8:0
600	$\frac{1}{4}$	7 $\frac{1}{2}$	18:15:0
800	$\frac{3}{16}$	4 $\frac{7}{32}$	14:1:3
1200	$\frac{1}{8}$	1 $\frac{7}{8}$	9:7:6
2400	$\frac{1}{16}$	$\frac{15}{32}$	4:13:9
4800	$\frac{1}{32}$	$\frac{15}{128}$	2:6:10 $\frac{1}{2}$



# Small Pearl continued

The Number of Pearl in an Oz Troy	Their Weight	Their Value p. Piece at 12 p. Carat	Their Value p. Ounce at that Rate
N <sup>o</sup>	Gr	s d	£ s d
150	1	12: 0	90: 0: 0
160	$\frac{15}{16}$	10: 6 $\frac{9}{16}$	84: 7: 6
171	$\frac{7}{8}$	9: 2 $\frac{1}{4}$	78: 11: 0 $\frac{3}{4}$
184	$\frac{15}{16}$	7: 11 $\frac{7}{16}$	72: 17: 7 $\frac{1}{2}$
200	$\frac{3}{4}$	6: 9	67: 10: 0
218	$\frac{11}{16}$	5: 8 $\frac{1}{16}$	61: 16: 5 $\frac{5}{8}$
240	$\frac{5}{8}$	4: 8 $\frac{1}{4}$	56: 5: 0
266	$\frac{9}{16}$	3: 9 $\frac{9}{16}$	50: 9: 11 $\frac{3}{8}$
300	$\frac{1}{2}$	3: 0	45: 0: 0
342	$\frac{7}{16}$	2: 3 $\frac{9}{16}$	39: 5: 6 $\frac{3}{8}$
400	$\frac{3}{8}$	1: 8 $\frac{1}{4}$	33: 15: 0
480	$\frac{5}{16}$	1: 2 $\frac{1}{16}$	28: 2: 6
600	$\frac{1}{4}$	9	22: 10: 0
800	$\frac{3}{16}$	5 $\frac{1}{16}$	16: 17: 6
1200	$\frac{1}{8}$	2 $\frac{1}{4}$	11: 5: 0
2400	$\frac{1}{16}$	$\frac{9}{16}$	5: 12: 6
4800	$\frac{1}{32}$	$\frac{9}{64}$	2: 16: 3



## Small Pearl continued

The Number of Pearl in an Oz Troy	Their Weight	Their Value p. Piece at 14 p. Currant	Their Value p. Ounce at that Rate
N <sup>o</sup>	G <sup>r</sup> .	s d	£ s d
150	1	14:0	105:0:0
160	$\frac{15}{16}$	12:3 $\frac{21}{32}$	98:8:9
171	$\frac{7}{8}$	10:8 $\frac{5}{8}$	91:12:10 $\frac{7}{8}$
184	$\frac{13}{16}$	9:2 $\frac{22}{32}$	85:0:6 $\frac{3}{4}$
200	$\frac{3}{4}$	7:10 $\frac{1}{2}$	78:15:0
218	$\frac{11}{16}$	6:7 $\frac{13}{32}$	72:2:6 $\frac{9}{16}$
240	$\frac{5}{8}$	5:5 $\frac{5}{8}$	65:12:6
266	$\frac{9}{16}$	4:5 $\frac{5}{32}$	58:18:3 $\frac{9}{16}$
300	$\frac{1}{2}$	3:6	52:10:0
342	$\frac{7}{16}$	2:8 $\frac{5}{32}$	45:16:5 $\frac{1}{16}$
400	$\frac{3}{8}$	1:11 $\frac{5}{8}$	39:7:6
480	$\frac{5}{16}$	1:4 $\frac{13}{32}$	32:16:3
600	$\frac{1}{4}$	10 $\frac{1}{2}$	16:5:0
800	$\frac{3}{16}$	5 $\frac{29}{32}$	19:13:9
1200	$\frac{1}{8}$	2 $\frac{5}{8}$	13:2:6
2400	$\frac{1}{16}$	$\frac{21}{32}$	6:11:3
4800	$\frac{1}{32}$	$\frac{21}{128}$	3:5:7 $\frac{1}{2}$

## Small Boat (continued)

Date	Time	Place	Remarks
10-1-00	10:00	...	...
10-2-00	10:00	...	...
10-3-00	10:00	...	...
10-4-00	10:00	...	...
10-5-00	10:00	...	...
10-6-00	10:00	...	...
10-7-00	10:00	...	...
10-8-00	10:00	...	...
10-9-00	10:00	...	...
10-10-00	10:00	...	...
10-11-00	10:00	...	...
10-12-00	10:00	...	...
10-13-00	10:00	...	...
10-14-00	10:00	...	...
10-15-00	10:00	...	...
10-16-00	10:00	...	...
10-17-00	10:00	...	...
10-18-00	10:00	...	...
10-19-00	10:00	...	...
10-20-00	10:00	...	...
10-21-00	10:00	...	...
10-22-00	10:00	...	...
10-23-00	10:00	...	...
10-24-00	10:00	...	...
10-25-00	10:00	...	...
10-26-00	10:00	...	...
10-27-00	10:00	...	...
10-28-00	10:00	...	...
10-29-00	10:00	...	...
10-30-00	10:00	...	...

## Small Pearl continued

The Number of Pearl in an Oz Troy	Their Weight	Their Value of Piece at 16 <sup>1</sup> / <sub>4</sub> Carat	Their Value of Ounce at that Rate
N <sup>o</sup>	G <sup>r</sup>	l s d	£ s d
150	1	16:0	120:0:0
160	$\frac{15}{16}$	14:0 $\frac{3}{4}$	112:10:0
171	$\frac{7}{8}$	12:3	104:14:9
184	$\frac{13}{16}$	10:6 $\frac{3}{4}$	97:3:6
200	$\frac{8}{4}$	9:0	90:0:0
218	$\frac{11}{16}$	7:6 $\frac{3}{4}$	82:8:7 $\frac{1}{2}$
240	$\frac{5}{2}$	6:3	75:0:0
266	$\frac{9}{16}$	5:0 $\frac{1}{4}$	67:6:7 $\frac{1}{2}$
300	$\frac{1}{2}$	4:0	60:0:0
342	$\frac{7}{16}$	3:0 $\frac{3}{4}$	52:7:4 $\frac{1}{2}$
400	$\frac{3}{8}$	2:3	45:0:0
480	$\frac{5}{16}$	1:6 $\frac{3}{4}$	37:10:0
600	$\frac{1}{4}$	1:0	30:0:0
800	$\frac{3}{16}$	6 $\frac{3}{4}$	22:10:0
1200	$\frac{1}{8}$	3	15:0:0
2400	$\frac{1}{16}$	$\frac{3}{4}$	7:10:0
4800	$\frac{1}{32}$	$\frac{3}{16}$	3:15:0





# The Tables of large Pearl.

N <sup>o</sup>	Price	N <sup>o</sup>	Price	N <sup>o</sup>	Price
0 <sup>r</sup>	£ s d	0 <sup>r</sup>	£ s d	0 <sup>r</sup>	£ s d
1	8:0	3 $\frac{5}{8}$	5:5:1 $\frac{1}{2}$	6 $\frac{1}{4}$	15:12:6
1 $\frac{1}{8}$	10:1 $\frac{1}{2}$	3 $\frac{3}{4}$	5:12:6	6 $\frac{3}{8}$	16:5:1 $\frac{1}{2}$
1 $\frac{1}{4}$	12:6	3 $\frac{1}{2}$	6:0:1 $\frac{1}{2}$	6 $\frac{1}{2}$	16:18:0
1 $\frac{3}{8}$	15:1 $\frac{1}{2}$	4	6:8:0	6 $\frac{5}{8}$	17:11:1 $\frac{1}{2}$
1 $\frac{1}{2}$	18:0	4 $\frac{1}{8}$	6:16:1 $\frac{1}{2}$	6 $\frac{3}{4}$	18:4:6
1 $\frac{5}{8}$	1:1:4 $\frac{1}{2}$	4 $\frac{1}{4}$	7:4:6	6 $\frac{7}{8}$	18:10:1 $\frac{1}{2}$
1 $\frac{3}{4}$	1:4:0	4 $\frac{3}{8}$	7:13:1 $\frac{1}{2}$	7	19:12:0
1 $\frac{7}{8}$	1:8:1 $\frac{1}{2}$	4 $\frac{1}{2}$	8:2:0	7 $\frac{1}{8}$	20:0:1 $\frac{1}{2}$
2	1:12:0	4 $\frac{3}{4}$	8:11:1 $\frac{1}{2}$	7 $\frac{1}{4}$	21:0:6
2 $\frac{1}{8}$	1:16:1 $\frac{1}{2}$	4 $\frac{3}{4}$	9:0:6	7 $\frac{3}{8}$	21:10:1 $\frac{1}{2}$
2 $\frac{1}{4}$	2:0:6	4 $\frac{1}{2}$	9:10:1 $\frac{1}{2}$	7 $\frac{1}{2}$	22:12:6
2 $\frac{3}{8}$	2:5:1 $\frac{1}{2}$	5	10:0:0	7 $\frac{5}{8}$	23:0:1 $\frac{1}{2}$
2 $\frac{1}{2}$	2:10:0	5 $\frac{1}{8}$	10:10:1 $\frac{1}{2}$	7 $\frac{5}{8}$	23:0:6
2 $\frac{5}{8}$	2:15:1 $\frac{1}{2}$	5 $\frac{1}{4}$	10:0:6	7 $\frac{7}{8}$	24:0:1 $\frac{1}{2}$
2 $\frac{3}{4}$	3:0:6	5 $\frac{3}{8}$	11:11:1 $\frac{1}{2}$	8	25:12:0
2 $\frac{7}{8}$	3:6:1 $\frac{1}{2}$	5 $\frac{1}{2}$	12:2:0	8 $\frac{1}{8}$	26:8:1 $\frac{1}{2}$
3	3:12:0	5 $\frac{5}{8}$	12:13:1 $\frac{1}{2}$	8 $\frac{1}{4}$	27:4:6
3 $\frac{1}{8}$	3:18:1 $\frac{1}{2}$	5 $\frac{3}{4}$	13:4:6	8 $\frac{3}{8}$	28:1:1 $\frac{1}{2}$
3 $\frac{1}{4}$	4:4:6	5 $\frac{7}{8}$	13:16:1 $\frac{1}{2}$	8 $\frac{1}{2}$	28:18:0
3 $\frac{3}{8}$	4:11:1 $\frac{1}{2}$	6	14:8:0	8 $\frac{5}{8}$	29:15:1 $\frac{1}{2}$
3 $\frac{1}{2}$	4:18:0	6 $\frac{1}{8}$	15:0:1 $\frac{1}{2}$	8 $\frac{3}{4}$	30:12:6



## Large Pearl continued

Wt	Price	Wt	Price	Wt	Price
C <sup>r</sup>	L s d	C <sup>r</sup>	L s d	C <sup>r</sup>	L s d
8 $\frac{7}{8}$	31:10:1 $\frac{1}{2}$	11 $\frac{1}{2}$	52:18:0	14 $\frac{1}{2}$	79:16:1 $\frac{1}{2}$
9	32:8:0	11 $\frac{5}{8}$	54:1:1 $\frac{1}{2}$	14 $\frac{3}{4}$	81:4:6
9 $\frac{1}{2}$	33:6:1 $\frac{1}{2}$	11 $\frac{3}{4}$	55:4:6	14 $\frac{5}{8}$	82:13:1 $\frac{1}{2}$
9 $\frac{1}{4}$	34:4:6	11 $\frac{7}{8}$	56:8:1 $\frac{1}{2}$	14 $\frac{1}{2}$	84:2:0
9 $\frac{3}{8}$	35:3:1 $\frac{1}{2}$	12	57:12:0	14 $\frac{5}{8}$	85:11:1 $\frac{1}{2}$
9 $\frac{1}{2}$	36:2:0	12 $\frac{1}{8}$	58:7:6:1 $\frac{1}{2}$	14 $\frac{3}{4}$	87:0:6
9 $\frac{5}{8}$	37:1:1 $\frac{1}{2}$	12 $\frac{1}{4}$	60:0:6	14 $\frac{5}{8}$	88:10:1 $\frac{1}{2}$
9 $\frac{3}{4}$	38:0:6	12 $\frac{3}{8}$	61:5:1 $\frac{1}{2}$	15	90:0:0
9 $\frac{7}{8}$	39:0:1 $\frac{1}{2}$	12 $\frac{1}{2}$	62:10:0	15 $\frac{1}{8}$	91:10:1 $\frac{1}{2}$
10	40:0:0	12 $\frac{5}{8}$	63:15:1 $\frac{1}{2}$	15 $\frac{1}{4}$	93:0:6
10 $\frac{1}{8}$	41:0:1 $\frac{1}{2}$	12 $\frac{3}{4}$	65:0:6	15 $\frac{3}{8}$	94:11:1 $\frac{1}{2}$
10 $\frac{1}{4}$	42:0:6	12 $\frac{7}{8}$	66:6:1 $\frac{1}{2}$	15 $\frac{1}{2}$	96:2:0
10 $\frac{3}{8}$	43:1:1 $\frac{1}{2}$	13	67:12:0	15 $\frac{5}{8}$	97:18:1 $\frac{1}{2}$
10 $\frac{1}{2}$	44:2:0	13 $\frac{1}{2}$	68:18:1 $\frac{1}{2}$	15 $\frac{3}{4}$	99:4:6
10 $\frac{5}{8}$	45:3:1 $\frac{1}{2}$	13 $\frac{3}{4}$	70:4:6	15 $\frac{7}{8}$	100:16:1 $\frac{1}{2}$
10 $\frac{3}{4}$	46:4:6	13 $\frac{5}{8}$	71:11:1 $\frac{1}{2}$	16	102:8:0
10 $\frac{7}{8}$	47:6:1 $\frac{1}{2}$	13 $\frac{1}{2}$	72:18:0	16 $\frac{1}{8}$	104:0:1 $\frac{1}{2}$
11	48:8:0	13 $\frac{5}{8}$	74:5:1 $\frac{1}{2}$	16 $\frac{1}{4}$	105:12:6
11 $\frac{1}{8}$	49:10:1 $\frac{1}{2}$	13 $\frac{3}{4}$	75:12:6	16 $\frac{3}{8}$	107:5:1 $\frac{1}{2}$
11 $\frac{1}{4}$	50:12:6	13 $\frac{7}{8}$	77:0:1 $\frac{1}{2}$	16 $\frac{1}{2}$	108:18:0
11 $\frac{3}{8}$	57:15:1 $\frac{1}{2}$	14	78:8:0	16 $\frac{5}{8}$	110:11:1 $\frac{1}{2}$



## Large Pearl continued.

<i>N<sup>o</sup></i>	<i>Price</i>	<i>N<sup>o</sup></i>	<i>Price</i>	<i>N<sup>o</sup></i>	<i>Price</i>
<i>C<sup>r</sup></i>	<i>£.s.d.</i>	<i>C<sup>r</sup></i>	<i>£.s.d.</i>	<i>C<sup>r</sup></i>	<i>£.s.d.</i>
16 $\frac{3}{4}$	112:4:6	19 $\frac{3}{8}$	150:3:1 $\frac{1}{2}$	22	193:12:0
16 $\frac{7}{8}$	113:13:1 $\frac{1}{2}$	19 $\frac{1}{2}$	152:2:0	22 $\frac{1}{8}$	195:16:1 $\frac{1}{2}$
17	115:12:0	19 $\frac{5}{8}$	154:1:1 $\frac{1}{2}$	22 $\frac{1}{4}$	198:0:6
17 $\frac{1}{8}$	117:6:1 $\frac{1}{2}$	19 $\frac{3}{4}$	156:0:6	22 $\frac{3}{8}$	200:5:1 $\frac{1}{2}$
17 $\frac{1}{4}$	119:0:6	19 $\frac{7}{8}$	158:0:1 $\frac{1}{2}$	22 $\frac{1}{2}$	202:10:0
17 $\frac{3}{8}$	120:18:1 $\frac{1}{2}$	20	160:0:0	22 $\frac{5}{8}$	204:15:1 $\frac{1}{2}$
17 $\frac{1}{2}$	122	20 $\frac{1}{8}$	162:0:1 $\frac{1}{2}$	22 $\frac{3}{4}$	207:0:6
17 $\frac{5}{8}$	124:5:1 $\frac{1}{2}$	20 $\frac{1}{4}$	164:0:6	22 $\frac{7}{8}$	204:6:1 $\frac{1}{2}$
17 $\frac{3}{4}$	125:0:0	20 $\frac{3}{4}$	166:1:1 $\frac{1}{2}$	23	211:12:0
17 $\frac{7}{8}$	127:10:1 $\frac{1}{2}$	20'	168:2:0	23 $\frac{1}{8}$	213:18:1 $\frac{1}{2}$
18	127:12:0	20 $\frac{9}{16}$	170:3:1 $\frac{1}{2}$	23 $\frac{1}{4}$	216:4:6
18 $\frac{1}{8}$	131:3:1 $\frac{1}{2}$	20 $\frac{1}{2}$	172:6	23 $\frac{3}{8}$	218:11:1 $\frac{1}{2}$
18 $\frac{1}{4}$	133:4:6	20	: : 1 $\frac{1}{2}$	23 $\frac{1}{2}$	220:18:0
18 $\frac{3}{8}$	135:1:1 $\frac{1}{2}$	21		23 $\frac{5}{8}$	223:5:1 $\frac{1}{2}$
18 $\frac{1}{2}$	136:1:0	21 $\frac{1}{2}$	178:10:1 $\frac{1}{2}$	23 $\frac{3}{4}$	225:12:6
18 $\frac{5}{8}$	138:16:1 $\frac{1}{2}$	21 $\frac{3}{4}$	180:12:6	23 $\frac{7}{8}$	228:14:1 $\frac{1}{2}$
18 $\frac{3}{4}$	140:18:6	21	182:15:1 $\frac{1}{2}$	24	230:8:0
18 $\frac{7}{8}$	142:10:1 $\frac{1}{2}$		: : 18:0	24 $\frac{1}{8}$	232:16:1 $\frac{1}{2}$
19	144:8:	21	187:1:1 $\frac{1}{2}$	24 $\frac{1}{4}$	235:4:6
19 $\frac{1}{8}$	146:6:1 $\frac{1}{2}$	21 $\frac{3}{8}$	189:4:6	24 $\frac{5}{8}$	257:13:1 $\frac{1}{2}$
19 $\frac{1}{4}$	148:4:6	21 $\frac{7}{8}$	191:8:1 $\frac{1}{2}$	24 $\frac{1}{2}$	240:2:0



## Large Pearl continued.

N <sup>o</sup>	Price	N <sup>o</sup>	Price	N <sup>o</sup>	Price
C <sup>r</sup>	£. s. d.	C <sup>r</sup>	£. s. d.	C <sup>r</sup>	£. s. d.
24 <sup>5</sup> / <sub>8</sub>	242:11:1 $\frac{1}{2}$	29 $\frac{1}{2}$	348:2:0	34 <sup>3</sup> / <sub>4</sub>	483:0:6
24 <sup>3</sup> / <sub>4</sub>	245:0:6	29 <sup>3</sup> / <sub>4</sub>	354:0:6	35	490:0:0
24 <sup>7</sup> / <sub>8</sub>	247:10:1 $\frac{1}{2}$	30	360:0:0	35 $\frac{1}{2}$	497:0:6
25	250:0:0	30 $\frac{1}{4}$	366:0:6	35 $\frac{1}{2}$	504:2:0
25 $\frac{1}{4}$	255:0:6	30 $\frac{1}{2}$	372:2:0	35 <sup>3</sup> / <sub>4</sub>	511:4:6
25 $\frac{1}{2}$	260:2:0	30 <sup>3</sup> / <sub>4</sub>	378:4:6	36	518:8:0
25 <sup>3</sup> / <sub>4</sub>	265:4:6	31	384:8:0	36 $\frac{1}{4}$	525:2:6
26	270:8:0	31 $\frac{1}{4}$	390:12:6	36 $\frac{1}{2}$	532:18:0
26 $\frac{1}{4}$	275:12:6	31 $\frac{1}{2}$	396:18:0	36 <sup>3</sup> / <sub>4</sub>	540:4:6
26 $\frac{1}{2}$	280:18:0	31 <sup>3</sup> / <sub>4</sub>	403:4:6	37	547:12:0
26 <sup>3</sup> / <sub>4</sub>	286:4:6	32	409:12:0	37 $\frac{1}{4}$	555:0:6
27	291:12:0	32 $\frac{1}{4}$	416:0:6	37 $\frac{1}{2}$	562:10:0
27 $\frac{1}{4}$	297:0:6	32 $\frac{1}{2}$	422:10:0	37 <sup>3</sup> / <sub>4</sub>	570:0:6
27 $\frac{1}{2}$	302:10:0	32 <sup>3</sup> / <sub>4</sub>	429:0:6	38	577:12:0
27 <sup>3</sup> / <sub>4</sub>	308:0:6	33	435:12:0	38 $\frac{1}{4}$	585:4:6
28	313:12:0	33 $\frac{1}{4}$	442:4:6	38 $\frac{1}{2}$	592:18:0
28 $\frac{1}{4}$	319:4:6	33 $\frac{1}{2}$	448:18:0	38 <sup>3</sup> / <sub>4</sub>	600:12:6
28 $\frac{1}{2}$	324:18:0	33 <sup>3</sup> / <sub>4</sub>	455:12:6	39	608:8:0
28 <sup>3</sup> / <sub>4</sub>	330:12:6	34	462:8:0	39 $\frac{1}{4}$	616:4:6
29	336:8:0	34 $\frac{1}{4}$	469:4:6	39 $\frac{1}{2}$	624:2:0
29 $\frac{1}{4}$	342:4:6	34 $\frac{1}{2}$	476:2:0	39 <sup>3</sup> / <sub>4</sub>	632:0:6





## Large Pearl continued

<i>W<sup>t</sup></i>	<i>Price</i>	<i>W<sup>t</sup></i>	<i>Price</i>	<i>W<sup>t</sup></i>	<i>Price</i>
<i>C<sup>r</sup></i>	<i>£ s d</i>	<i>C<sup>r</sup></i>	<i>£ s d</i>	<i>C<sup>r</sup></i>	<i>£ s d</i>
40	640:0:0	45 $\frac{1}{4}$	819:0:5	51	1049:8
40 $\frac{1}{4}$	648:0:6	45 $\frac{1}{2}$	828:2:0	51 $\frac{1}{2}$	1060:18
40 $\frac{1}{2}$	656:2:0	45 $\frac{3}{4}$	837:4:6	52	1081:12
40 $\frac{3}{4}$	664:4:6	46	846:8:0	53 $\frac{1}{2}$	1102:10
41	672:8:0	46 $\frac{1}{4}$	855:12:6	53	1123:12
41 $\frac{1}{4}$	680:12:6	46 $\frac{1}{2}$	864:18:0	53 $\frac{1}{2}$	1144:18
41 $\frac{1}{2}$	688:18:0	46 $\frac{3}{4}$	874:4:6	54	1166:8
41 $\frac{3}{4}$	697:4:6	47	883:12:0	54 $\frac{1}{2}$	1188:2
42	705:12:0	47 $\frac{1}{4}$	893:0:6	55	1210:0
42 $\frac{1}{4}$	714:0:6	47 $\frac{1}{2}$	902:10:0	55 $\frac{1}{2}$	1232:2
42 $\frac{1}{2}$	722:10:0	47 $\frac{3}{4}$	912:0:6	56	1254:8
42 $\frac{3}{4}$	731:0:6	48	921:12:0	56 $\frac{1}{2}$	1276:18
43	739:12:0	48 $\frac{1}{4}$	931:4:6	57	1299:12
43 $\frac{1}{4}$	748:4:6	48 $\frac{1}{2}$	940:18:0	57 $\frac{1}{2}$	1322:10
43 $\frac{1}{2}$	750:1:0	48 $\frac{3}{4}$	950: :6	58	1345:12
43 $\frac{3}{4}$	765:12:6	49	960:8:0	58 $\frac{1}{2}$	1368:18
44	774: :0	49 $\frac{1}{4}$	970:4:6	59	1392:8
44 $\frac{1}{4}$	783:4:6	49 $\frac{1}{2}$	980:2:0	59 $\frac{1}{2}$	1116:2
44 $\frac{1}{2}$	792:2:0	49 $\frac{3}{4}$	990:0:6	60	1440:0
44 $\frac{3}{4}$	801:0:6	50	1000:0:0	60 $\frac{1}{2}$	1464:2
45	810:0:0	50 $\frac{1}{2}$	1020:2:0	61	1488:8



## Large Pearl continued.

N <sup>o</sup>	Price	N <sup>o</sup>	Price	N <sup>o</sup>	Price
<sup>Gr</sup> 61½	£ s 1512:18	<sup>Gr</sup> 72	£ s 2073:12	<sup>Gr</sup> 90	£ s 3240:0
62	1537:12	72½	2102:10	91	3312:8
62½	1362:10	76	2131:12	92	3385:12
63	1587:12	75½	2160:18	93	3459:12
63½	1612:10	74	2190:8	94	3534:8
64	1638:8	74½	2220:2	95	3610:0
64½	1661:2	75	2250:0	96	3686:8
65	1699:0	70	2610:8	97	3763:12
65½	1716:2	77	2371:12	98	3841:12
66	1742:8	78	2433:12	99	3920:8
66½	1768:18	79	2496:8	100	4000:0
67	1795:12	80	2560:0		
67½	1822:10	81	2624:8		
68	1849:12	82	2689:12		
68½	1876:18	83	2753:12		
69	1904:8	84	2822:8		
69½	1932:3	85	2890:0		
70	1960:0	86	2958:8		
70½	1988:2	87	3027:12		
71	2016:8	88	3097:12		
71½	2044:18	89	3168:8		



A

TREATISE

ON

DIAMONDS AND PEARLS.

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*Of the Production of Diamonds and the Principle of valuing them.*

THAT rules may be given for the just valuing of diamonds, according to their increase in size and weight, is reasonable to suppose, from this consideration; that nature has produced in times past, as well as it does at present, diamonds in the following manner, viz. a vast number of small ones, and progressively a less number of larger; and that they promiscuously inherit the same properties, and share alike of perfection, and imperfection. This, therefore, is a sufficient foundation for rules to be

given for valuing them in proportion to their size and weight, which will be found hereafter exhibited; and if the use and application of them were conformable to the production of nature, the rules thus founded and prescribed, would never be interrupted: and, therefore, if the humour of the world demands, at any time, more or less of any particular sizes and weights than nature provides, the price obtruded thereby must be reckoned the occasional, and not the just price, and complied with as such; which happens to be the case at present, by the extraordinary use of small diamonds in the decorations now fashionable in jewellery. And as the price of these small diamonds will always fluctuate by the alterations of fashions, little regard will be had in this treatise to any, under the weight of one carat.

It may be also observed, that the value of rough diamonds, from two to three carats, and also of polished diamonds, from one to one and a half, does not correspond with the rules hereafter laid down; the price at present being lower than what is asserted by

the rules ; which is acknowledged, and will remain so, as long as the humour prevails of supplying the place of diamonds of that weight, by meanly setting small stones in a cluster in their room, for the sake of a showy and flashy appearance, at a less price than stones of these sizes would admit of ; by which means these sizes are less used than formerly, and become cheaper (the production of nature being always the same), and from hence they are depreciated in their value ; so that the present prices of these sizes must also be reckoned the occasional, and not the just price.

The rules are, nevertheless, just, uniform, and consonant to nature ; and therefore are here proper to be offered, in order to assist in coming at the true knowledge of the value of diamonds of a higher worth, than such as are liable to be affected in their price by the alteration of fashions in jewelling.

The principle or rule is, that the proportional increase, or value of diamonds, is, as the square of their weight, whether rough or manufactured. For the explanation

whereof, an instance is first given in rough diamonds ; on which account it will be necessary to lay down a general price, which is supposed to be £2 per carat ; meaning, the whole species, good and bad blended together, which are worthy the expence of manufactory. For example, suppose the value of a rough diamond of two carats, at the rate of £2 per carat, should be required ; the rule is, first, to multiply 2 by 2, which makes 4, the square of its weight ; then multiply the product of 4 by £2, the price of one carat, that makes £8, which is the true value of a rough diamond of 2 carats.

To make this rule applicable to manufactured diamonds, it will be necessary to ascertain what waste, or loss of weight, will be sustained in manufacturing them. And here it may be advanced as a matter of fact, that half the weight will be lost ; consequently, doubling the weight of any manufactured diamond, renders the rule of the same use to show their value. This loss is to be understood to relate to the general manufactory of brilliant and rose diamonds, in the most perfect manner. To that end,



rules are to be offered for a general practice in both kinds of manufactory; which, if conformed to, will be found to exhibit diamonds in such a manner, as to be productive of greater perfection and saving of weight, than any other standards of practice.



*Of Brilliant Diamonds, and the Method of manufacturing them.*

BRILLIANTS are first to be considered. And the manufactory of a square one is fixed on for the fundamental and governing rule of practice; nature for the most part directing thereto, as it produces abundantly more apparent six-pointed stones than stones of any other form; and because the same depth or substance, and the same manner of proportioning that substance, which are essential in rendering a square brilliant of any other shape complete; and more substance, or any other manner of proportioning, will be found, upon experience, prejudicial to the beauty of their

form, and the true dignity of their spirit and lustre, compared with such as are made conformable to the following rules :

The form of a six-pointed rough diamond is previously to be described ; as the shape of it is not much known.

It is a figure composed of two square pyramids, joined at their bases, and which form an outline of a true square. The whole figure is composed of eight triangular faces or planes ; four above the base, and four below it ; all meeting in two points, one at top, the other at bottom ; terminating in the poles of the axis, or line passing through the centre of the stone from top to bottom. Some stones are found to answer this figure very nearly. To make a complete square brilliant from such a stone, if it be not exactly true by nature it must be made so by art.

The first thing therefore to be done, is to reduce that part, representing the base of the two pyramids, to an exact square, which forms what is called the girdle of the stone ; and then work by the square from the girdle, which will produce the two

points of the axis; and, if it be truly executed, the length of the axis from point to point will be equal to the breadth of the square from side to side. A draught of a side-view of such a stone will be found in the first plate, No. 1.

The next thing to be done, is to produce the table and collet. In order to which, divide the block into eighteen parts from top to bottom; and then take away from the upper part  $\frac{1}{18}$ , and from the lower part  $\frac{1}{18}$ . This gives the upper part, or table side,  $\frac{4}{18}$  above the girdle, which is  $\frac{1}{3}$  of the remaining substance; and the lower, or collet side,  $\frac{8}{18}$  or  $\frac{2}{3}$ ; only 12 of the original 18 parts being left in depth. And thus the table and collet are formed, which will be found to bear this proportion to each other, viz. the collet will be one-fifth of the breadth of the table. In this state it is a complete square table diamond.

Its different parts are denoted by the letters *a, b, c, d, e*.—*a*, shows what is usually called the table of the stone, which is an horizontal plane at the top; *b*, the upper sides or bisils; *c*, the girdle, which shows

its expansion; *d*, the under sides or pavilions; *e*, the collet, which is a small horizontal plane at the bottom. The pricked lines above the table, and those below the collet, show what has been taken away. A side-view of one will be found in Plate I. No. 2.

Note.—This species of manufactory has been exhibited time out of mind; and the brilliant, which is an improvement upon it, has been introduced within the last century; as will appear to those who shall give themselves the trouble of an inquiry. But this not being essential to the present undertaking (which will be pursued with the utmost brevity) an historical account of these matters is omitted.

This is the foundation of a square brilliant; and, in order to render it a perfect brilliant, each corner must be shortened  $\frac{1}{20}$ th part of its diagonal; and then the corner ribs of the upper sides must be flattened, or run towards the centre of the table  $\frac{1}{8}$  less than the sides; and the lower part, which terminates in the girdle, must be  $\frac{1}{8}$  of one side of the girdle; and each corner

rib of the under sides must be flattened at the top, to answer the above flattening at the girdle; and at the bottom  $\frac{1}{4}$  of each side of the collet. A side-view of one will be found in Plate I. No. 3.

The parts of the small work which completes it a brilliant, are called star and skill fassets, and are of a triangular shape. Those which join to the tables are the star fassets, those which join to the girdle the skill fassets. Both of these partake equally of the depth of the upper sides from the table to the girdle, and meet in the middle of each side of the table and girdle, as also at the corners; and thus they produce regular lozenges on the four upper sides and corners of the stone. The triangular fassets on the under sides joining to the girdle, must be half as deep again as the above fassets, to answer to the collet part: that is to say, in the proportion of three to two. A draught of a brilliant rendered complete, will be found in Plate I. No. 4.

Under the before-mentioned draughts, are represented four complete brilliants in a horizontal view, by double draughts, weigh-

ing 36 carats each. No. 5 is a square; No. 6, a round; No. 7, an oval; No. 8, a drop. The left-hand draughts regard their upper parts, and those on the right their under parts, which are supposed to be divided at their girdles. They are thus separately represented, the better to show their whole work, and in what manner it should lie; and likewise their size and expansion, and the size of their tables and collets.

Note.—Their perpendicular depths, from table to collet, are shown by the length of the bars placed under each double draught. The octagon in the middle of the left-hand draught of No. 5 is the table, which is an horizontal plane or face, at the top, and is denoted by the letter *a*. The triangular fassets adjoining to the table are star fassets, and are denoted by the letter *b*. Those adjoining to the extreme part or outlines, are skill fassets, and are noted by the letter *c*. These, meeting in the middle of the upper sides and corners of the stone, form figures of a lozenge shape, round the upper sides and corners of the stone, and are denoted by the letter *d*. The outlines of this, and that

of the right-hand draught, are the girdle of the stone, and are denoted by the letter *e*. The triangular fassets adjoining to the outlines of the right-hand draughts, are the under skill fassets, and are denoted by the letter *f*. The lower sides are denoted by the letter *g*. The octagon in the middle is the collet, which is denoted by the letter *h*; and is an horizontal plane or face, at the bottom of the stone. This description serves as an explanation of the other three double draughts. All lines within the outlines of the draughts, are called ribs in diamonds. These draughts, with these explanations, will always be found of use to give a right idea of a brilliant diamond. In Plate VI. there is a draught of an instrument, useful for examining the size and depth of any diamond, called a prover.

*Of the Sizes or Expansion of Brilliants.*

IN Plates II. III. IV. V. is exhibited a list of the draughts of the horizontal representation of 55 square brilliants, from one carat weight, to an hundred carats, ranged in a progressive order, according to their increase in size and weight; which are so many tests to prove the truth or error, of the manufacture of any brilliant diamond. Here it is to be observed, that their depths are expressed by the length of the bars placed under each draught; and the size of their collets, by the octagons under the bars, in order more distinctly to discern their several parts. The numerical figures on the left-hand of each draught, regard their number; those on the right-hand, their weight.

The reason why the number of size is not more multiplied, is, lest the progression of increase in size should not be discernible; and, by that means, should create too great difficulty in adjusting the degrees in which any stone departs from truth. And this the rather, on account of other stones differing



in their shapes at the table, girdle, and collet, from those of square brilliants; which increases, in some measure, the difficulty of determining any difference to a great nicety; the use of the sizes being to expose any considerable or gross departure from truth, and to prevent the carrying on the base and heavy manufacture, which has of late prevailed in an extravagant degree, to the great disparagement of the diamond species; and has contributed, likewise, to a great deception and imposition on the public. It may with truth be said, regarding small stones (which mean stones under the weight of a carat), that, in general, they are so ill-made, as to be void of their true beauty in all respects; and, by reason of their closeness or want of due expansion, they will not fill up, by one-fourth, the same space as well-made stones do in a piece of jewellery work. Consequently, they are so much less in appearance; and as they retain one-fourth more weight than well-made stones of the same expansion; and, as they are wrought for one-third, or half the price, the vendor of such can afford to sell them at least 30 per cent.

less, than he can afford to sell well-made stones.

The truth of these matters will evidently appear by future inquiry and observation.



*Of the Use of the Brilliant Sizes in discovering ill-wrought ones.*

HERE it may be proper to show, how far this ill manner of working before mentioned may debase diamonds of larger sizes, and how much it may contribute to the deception both of buyer and seller. To that end will be shown the use of the sizes in discovering a well or an ill made brilliant. For example, suppose two stones of six carats weight each, the one a well-made, the other an ill-made stone; the first will tally in all circumstances with No. 20, of six carats weight; and the last may be loaded with undue substance, by which means its expansion may not exceed one of five, or four carats weight. If any brilliant be so circumstanced, it is to be valued only as it

agrees with any of the same expansion in the list, allowing for the expense of rectifying; because, whatever substance, or weight, it carries beyond what its size demands, destroys, in proportion to such excess, the beauty of its make, and its true spirit and lustre. And here may be seen the difference it would make to a purchaser, who may be induced to give the price that a well-made stone of six carats weight demands, for one whose expansion may not exceed that of five, or four carats weight. For example, a stone of six carats weight, by the rule before laid down, is worth

	£	s.	d.
	288	0	0
One of five carats -	200	0	0
One of four carats -	128	0	0

If the difference be so great in the instance given, how much greater must it be in regard to stones of larger weights; and as that may be easily known by the same method of inquiry, no other instance need be here given.

Since, then, so great a deception may arise

from the ill manufacture of diamonds, the great use of the sizes in discovering such, evidently appears. And, as the attaining a right knowledge of the true make of diamonds will be found, of all other circumstances, the most necessary in arriving at their value, some remarks are here made, by which the reader is informed in what manner the defects of ill-made brilliant diamonds will appear. To that end, an instance is given of a stone of six carats weight, which is but of the expansion of one of five carats. It will partake, more or less, of all the following defects. Either it will be deeper than a stone of five carats, or, if not deeper, its table and collet will be larger, and that will render it blocky, by the sides being too upright ; or it will be left too thick at the girdle, before the small work (which means the star and skill fassets) is performed ; and, if such thickness be sufficiently reduced, that is, so as to be consistent with safety in setting, the skill fassets will be executed in an obtuse or blunt manner, and that will cause an undue swelling in the stone ; or it may, after all, be left too thick at the girdle.

A stone thus made will unavoidably be of an ill form, and be rendered lifeless and dull ; which cannot be rectified without the loss of its super-abounding weight, which will reduce it to five carats ; and therefore it is to be valued only as one of five carats. And in case a stone, weighing six carats, should tally only in size with one of four carats, these defects will be proportionably increased, to the still greater prejudice of the stone ; and therefore it will be purchasing deformity at the price of beauty.



*Of the Method of manufacturing, and valuing,  
Spread Brilliants.*

CONCLUDING it unnecessary to add anything farther on the head of full-substanced and over-weighted brilliants, the next thing that requires notice, is, the method of manufacturing and estimating spread brilliants. And as to the method of making them, to do it in the most complete manner, they must be proportioned, as in the

case of full-substanced ones,  $\frac{1}{3}$  at the upper, or table side, and  $\frac{1}{3}$  at the under, or collet side; and whatever be the diameter of their tables, that of their collets must be  $\frac{1}{3}$  thereof. The small work is to be performed in the same manner as is practised in full-substanced stones. This is all that is necessary to be taken notice of, in regard to their manufacture. But, previously to the method of valuing them, the following observation may be suggested:—that, as sufficient reasons have been given to make it appear that brilliants may be injured in their shape and true beauty by a super-abounding of weight, so, on the contrary, it will appear, that if they do not carry their true or full-substance they will be injured in both these circumstances; by reflecting on the consequence of rendering them very thin or spread, which has frequently been carried to so great an excess, as to deprive them of the benefit of workmanship; for the work must necessarily be so flat, as to cause such stones to be faint and languid in lustre, and thereby less worthy of esteem in proportion to such excess. Notwithstanding which, it will be

found, that in past times, instead of valuing the weight of such wrought diamonds less on that account, it has been valued the more; merely for the sake of their making a showy appearance. To which may be added, that all such stones are more liable to receive injury by blows, falls, or hard pressure, than full-substanced ones.

Here it is necessary to explain what is meant by excess, because it must be allowed, that some stones are so formed by nature as not to be capable of being manufactured by art into any other than spread brilliants, without too great a waste of the diamond species. Therefore, it may be laid down as a fit rule, to include under that denomination (*viz.* of excess) all spread brilliants expanded beyond the size of full-substanced ones of double their weight; and such are to be valued only as they may be supposed to weigh, if reduced to this standard.

It remains to show in what manner spread stones are to be valued; which is, as full-substanced ones are of the same weight, similar in all other circumstances. And they are to be so valued, on account of their ex-

pansion to the degree above mentioned ; for it must be admitted, that the spaciousness of their appearance to that degree counter-balances the deficiency of lustre, owing to their want of substance. And this is all that can be offered in justification of so valuing them, which carries the appearance of partiality rather in their favour than disfavour ; especially in regard to such as are of the greatest expansion within the limits mentioned ; considering, that full-substanced stones have all the advantages that both nature and art can bestow.



### *Of Rose Diamonds.*

HERE it is to be observed, that nothing can more perpetuate rose diamonds in the esteem they have hitherto had in the world, than maintaining the truth of their manufacture. Nor was it ever more fit to be recommended than at present, on account of the corrupt taste that has of late prevailed, in converting rose diamonds into brilliants, under pretence of rendering them,



by that means, a more beautiful and excellent jewel. This has frequently been done, to the great prejudice of their value, by lessening the weight and expansion they bore in their preceding state ; and they have frequently been more injudiciously manufactured in the new species, than they were in the old. This will appear to have been often the case, by the upper part of such stones not carrying a true proportion of the substance of the stone ; which of course renders the upper part flat, and the table of an immoderate extent ; so that the side-work, or bezil, appears but as a narrow border. This method of working has been introduced for the sake of preserving the expansion and weight of such stones, which unavoidably would be more reduced, if they were allowed their true proportion of top : which reduction, both of their weight and expansion, will appear ever necessary to be done, to render such stones complete spread brilliants ; for such only are they capable of being manufactured into.

*Of the Impropriety of transforming well-wrought  
Rose Diamonds into Brilliants.*

FROM what has been observed, it will appear, that no rose diamonds are proper subjects of this metamorphosis, but such only as are over-weighted; and of such, those are the most proper subjects of the metamorphosis which have the base, or girdle, too thick. The over weight will be discovered by the sizes hereafter mentioned. To convert any rose diamond, not so circumstanced, to a brilliant, will be shown to be a practice not founded in reason; and which carries in it the appearance of an attempt to depreciate this ancient and spacious manufacture of diamonds, in order to exalt a new one beyond its real and true merit.

For it will be found, that a complete rose diamond will be more expanded than a complete brilliant of the same weight, and proportionably so in regard to spread stones; therefore, as it has been shown that an increase of expansion is substituted in the room

of depth, or substance, in brilliants, the same is to be admitted in regard to rose diamonds, provided their expansion does not exceed the limits prescribed in the case of spread brilliants.

And if it be admitted, as some have asserted, that there is a superior excellency in brilliants, what must be the consequence, but that rose diamonds must sink in their value, to the great prejudice of the most noble and ancient families, who are greatly possessed of them, as being a more ancient jewel than brilliants; but, on the contrary, it will appear that rose diamonds, when truly manufactured, are not inferior to brilliants, all circumstances considered.



*Of the Form of a Rose Diamond.*

SOME observations are now to be made concerning their form. Their being called rose diamonds probably took its rise from their shape, in some measure, resembling that of a rose-bud before it expands its

leaves. They appear in a kind of semi-globular form, only terminating in a point at the top; which form, and likewise the work, or facets thereof, covering the whole face of the stone, being more equal, exhibit a more even display of beauty than a brilliant, whose lustre is derived from the angles, or facets, of the sides only. And as their angles are larger than those of a brilliant, they throw forth more copious rays; the lustre of which appears to be equivalent to the sparkling vigour of the smaller, and more numerous angles of a brilliant.

The fitness of asserting the dignity of the rose-diamond manufacture having been shown, the manner in which it is to be performed is next to be pointed out. But first, it is necessary to lay down what is requisite to constitute a complete rose diamond. A round or circular stone, is found the fittest for that purpose; because its form is the most beautiful, and productive of more vigour than any other shaped stone; which arises from its admitting of more equal and better connected facets than other shaped stones will allow of. And for this further reason :

that the same substance and manner of proportioning, which render them most complete, will render stones of any other shape as beautiful as their forms will admit. The right substance, proportions, and manufacture of a circular rose diamond, are as follow.



*Of the Manufacture of a Rose Diamond.*

THE depth of the stone from the base to the point, must be half the breadth of the diameter of the base of the stone; and the diameter of the crown must be  $\frac{2}{3}$  of the diameter of the base; and the perpendicular from the base to the crown, must be  $\frac{2}{3}$  of the depth of the stone; and then the lozenges, which appear in all circular rose diamonds, will be equally divided by the ribs that form the crown. The upper angles, or facets, will terminate in the extreme point of the stone, and the lower in the base or girdle.

In the sixth plate, there are four draughts of rose diamonds manufactured by the before-mentioned rules. The first is a side-

view of a circular shape. The second, an horizontal view of the same. The third, an oval. The fourth, a drop. Their several parts are explained by the first and second draughts. As to the first, *a*, is the point; *b*, the crown; *c*, the girdle. The upper triangles, or facets, show half the work of the crown; the under triangles, half the side. As to the second draught, the common intersection of the six cross lines meeting in the centre of the draught, is the point; the lines that form the hexagon, and the triangles within it, compose the crown; the triangles without the hexagon compose the sides; the outlines show the girdle. All lines in the draughts are called ribs in diamonds, except what express the girdles. These draughts are representations of rose diamonds of 36 carats weight each, and may be of perpetual use to give a right idea of their proper figures and workmanship.

*Of the Sizes of Rose Diamonds, and their Use in  
discovering ill-wrought Ones.*

IN the following plates, VII. VIII. IX. X., is exhibited a list of 55 draughts of circular rose diamonds, from one carat weight to an hundred carats, which are so many tests to prove the truth, or defects, of any manufactured stone of that kind. Their use, as in the case of brilliants, will be shown in proving a rose diamond to be either truly made, or not. For example, suppose one of five carats weight; if it be truly made, it will be as expanded at the base, or girdle, as No. 18, of five carats, and the size of the crown will also agree therewith; its depth will be likewise half its diameter or breadth. But if it be basely made, and left loaded with undue weight, its expansion at the base may not exceed one of above three, or four carats weight. Such a stone, according to the degree in which it falls short of its just size, will partake of some, or all the following defects. Either its depth, from the base to the point, will exceed the rule; or,

though it should not be too deep, its sides below the crown may be too upright, which will be discovered by the crown exceeding its proper extent, and that will consequently cause a flatness from the crown to the point ; or the crown may be situated too high ; if so, the size of the crown may not exceed its just extent, but then it will occasion an increased flatness of the crown, and produce an extravagant depth below it ; or the girdle may be left too thick. If any rose diamond is made after this manner, it will, according to the degree in which it is thus defective, be injured in its shape, spirit, and lustre ; and therefore is not to be valued by its weight, but only as it agrees in size with any in the list ; for the same reasons as are given in the like case of brilliants.



*Of the Method of manufacturing and valuing  
Spread Rose Diamonds.*

THE next thing to be regarded, is the manner of making and valuing spread rose



diamonds. As to the manner of making them; what is necessary to be observed, is, that their crowns must be of such an extent, and placed in such a situation, as to prevent any disproportionate flatness in the crown, and unequal division of the lozenges: and, that they be made as thin at the girdle as is consistent with safety in setting them. This is all that is necessary to be observed on that head. As to valuing them; the same method is to be observed as in the case of spread brilliants in all respects.

Note—This article of making spread rose diamonds, is as necessary to the same ends and purposes, as the manufacture of spread brilliants; inasmuch as they occupy thinner matter than brilliants can.

From what has been said of rose diamonds, it seems evident, taking in all circumstances, that they deserve as much esteem and regard as brilliants, and are entitled, weight for weight, to an equal value: some persons with us, and those of great reputation for knowledge in diamonds, prefer the former to the latter; but, although this be the opinion of particular persons, it seems no

better grounded than that of others, in giving brilliants the preference ; for the same consequence must follow from thence to the possessors of brilliants, as has been mentioned concerning the possessors of rose diamonds ; which was, that if brilliant diamonds were preferred to rose diamonds, these latter must sink in their value ; so, on the contrary, if rose diamonds are preferred, brilliants must sink in their value ; and if they are equally esteemed and valued, as it appears they ought to be, it will conduce to the saving of weight, that a bias to either mode of working will unavoidably occasion.

The next thing that falls under consideration, is the methods of valuing diamonds.



*The first Method of valuing Wrought Diamonds, in Conjunction with Rough Diamonds, out of which they are supposed to be wrought.*

AN example is here given to show in what manner the value of a manufactured, or wrought diamond, of one carat, is to be found, upon the principle advanced, sup-

posing rough diamonds to be valued at two pounds per carat.

The weight of such a stone must be doubled (on account of half being supposed to be lost in working it) which is considered as its original weight, making two carats; then multiply that weight into itself, which squares it, and makes four; lastly, multiply the four by two, that produces eight pounds, which is the value of a stone of one carat, wrought or polished, and is equal to the value of the rough diamond of two carats, out of which it is supposed to be made. This single instance is here given to show the value of rough diamonds in the price of wrought ones; and as a farther explanation of the rule of valuing them, and previous to the offering any other, it is to be observed, that although two pounds is laid down as the general price of rough diamonds, it is nevertheless to be understood, that rough diamonds differ in their value, according to their different degrees of perfection or imperfection, and according to the loss of weight they may be supposed to sustain in being truly wrought; as it is well known,

that some will lose abundantly more than others, arising from their ill forms and other defects that may attend them, which defects are so numerous and difficult to be expressed, that what may be said of them would probably not be understood, but by the most experienced traders and manufacturers of them. This consideration, and that of its being but of little concern to the public, prevent my saying anything more relating thereto.

In farther explaining the principle of valuing wrought diamonds, three other instances, besides that already given, will be offered, to show the operation of the principle in coming at the value of wrought diamonds, which, it is judged, will be sufficient in all other cases in this way of proceeding. After that will be offered three more of the same weight, in a different manner of proceeding, but to the same end.

Here it may be proper to hint, that all the instances that will be given, are founded upon the price of rough diamonds in general, being put at two pounds per carat, viz. good and bad blended together, as has been before noticed ; so that two pounds is the price of

the middle sort only. And it is also to be remembered, that in manufacturing, half the weight is supposed to be wasted. And as mistakes may be made in calculating the value of particular diamonds, in the manners hereafter prescribed, it is here noted, that the prices of diamonds, from one of one carat to one of an hundred carats, of this degree of goodness, are contained in plates XI. XII. XIII. XIV. XV. XVI.; which will prove the truth or falsity of any calculation: and it is also to be observed, that the expense of manufacture, or workmanship, is excluded in all the instances that will be given on this occasion, the reasons of which will hereafter appear.

Now follow the three other instances proposed, to explain this first method of finding the value of any wrought diamonds.

*The first Instance.*

To find the value of one of five carats weight, the weight must be doubled, on account of half being supposed lost in working it; that replaces its original weight, which

makes ten carats ; then multiply ten by ten, that squares the weight, and makes one hundred carats ; and, lastly, the one hundred must be multiplied by two pounds, the price of one carat ; that produces two hundred pounds, and is the value of a wrought stone of five carats, and the price of the diamond when rough.

## E X A M P L E.

	10 Carats
Multiplied by	10 Pounds
	———
Makes	100
Multiplied by	2 Pounds
	———
Makes	£200
	———

*Second Instance.*

To find the value of one of five carats  $\frac{2}{3}$ , the weight must be doubled, that makes ten  $\frac{1}{3}$  ; next multiply that weight by four, to bring it into fourths, or grains, which makes forty-one ; then multiply forty-one by

forty-one, that makes one thousand six hundred and eighty-one, the square of the weight in sixteenths; therefore divide the one thousand six hundred and eighty-one by sixteen, that brings it again into carats, and makes one hundred and five carats  $\frac{1}{16}$ ; which multiplied by two pounds, produces 210*l.* 2*s.* 6*d.* and is the value of the stone, rough or wrought.

## EXAMPLE.

$$\begin{array}{r}
 \text{Carats} \\
 10\frac{1}{4} \\
 4 \\
 \hline
 41 \\
 41 \\
 \hline
 41 \\
 164 \\
 \hline
 \text{Carats} \\
 16) 1681 \text{ (} 105\frac{1}{16} \\
 \hline
 2 \\
 \hline
 \text{£}210 \ 2 \ 6 \\
 \hline
 \end{array}$$

*Third Instance.*

To find the value of one of five carats  $\frac{1}{4}$ ; the weight doubled is ten carats  $\frac{1}{2}$ ; reduce that weight into grains, by multiplying it by four, that makes forty-two; then multiplying forty-two by forty-two, that makes one thousand seven hundred and sixty-four, the square of the weight in sixteenths; which divide by 16, that brings them again into carats, and makes one hundred and ten carats and  $\frac{4}{16}$ ; which multiply by 2*l.*, that produces 220*l.* 10*s.* and is the value of the stone, rough or wrought.

## EXAMPLE.

$$\begin{array}{r}
 10\frac{1}{2} \\
 4 \\
 \hline
 42 \\
 42 \\
 \hline
 84 \\
 168 \\
 \hline
 \text{Carats} \\
 16) 1764 \text{ (} 110\frac{4}{16} \\
 \quad 2 \\
 \hline
 \text{£}220 \text{ } 10
 \end{array}$$



*The second Method of valuing Wrought Diamonds, in Conjunction with the Rough Diamonds, out of which they are supposed to be wrought.*

*First Instance.*

To find the value of a diamond of five carats weight, as in the foregoing cases, so in this, the weight must be doubled; that makes ten carats. As a rough diamond of one carat is valued at two pounds, every carat in this stone accumulates ten times that value; and so every carat in this stone is to be valued at twenty pounds; therefore multiply ten carats by twenty pounds, that will produce two hundred pounds, and is the value of the stone, rough or wrought.

EXAMPLE.

	10 Carats
Multiplied by	20
	——
Makes the total	200 Pounds

*Second Instance.*

To find the value of one of five carats  $\frac{1}{8}$ ; the weight doubled makes ten carats  $\frac{1}{4}$ ; next reckon that weight in the foregoing manner, that makes every carat in this stone worth twenty pounds, ten shillings: so first multiply ten carats by twenty pounds, that makes two hundred pounds; then multiply ten carats by ten shillings, that makes one hundred shillings, or five pounds; next add the value of a fourth of a carat at the rate of 20*l.* 10*s.*, that makes 5*l.* 2*s.* 6*d.*; lastly, cast up these three sums, the total will be 210*l.* 2*s.* 6*d.* and is the value of the stone, rough or wrought.

## EXAMPLE.

	10	Carats
Multiplied by	20	Pounds
	<hr/>	
Makes	200	Pounds
10 cts. mult. by 10 <i>s.</i> makes	5	
The value of $\frac{1}{4}$ of a carat } at 20 <i>l.</i> 10 <i>s.</i> is	5 2 6	
	<hr/>	
Makes the total	£ 210 2 6	

*Third Instance.*

To find the value of one of five carats  $\frac{1}{4}$ ; the weight doubled makes ten carats  $\frac{1}{2}$ ; reckon that weight as in the two other cases, that makes every carat in this stone worth twenty-one pounds: so multiply ten carats by twenty-one pounds, that makes 210*l.*, then add the value of the half carat at twenty-one per carat, that makes 10*l.* 10*s.*; lastly, add the two sums together, the total will be 220*l.* 10*s.* and is the value of the stone, rough or wrought.

## EXAMPLE.

	10 Carats
Multiplied by	21
	-----
Makes	210
The value of the $\frac{1}{2}$ carat } added, which is	10 10
	-----
Makes the total	£ 220 10
	-----

The instances that have been given of two methods, for finding the value of wrought diamonds, as they stand connected with the rough (out of which they are supposed to be made) it is apprehended, are a sufficient explanation of the principle for valuing rough and wrought diamonds ; and prove its being founded on reason.



*Of the Method of valuing Wrought Diamonds,  
exclusive of any Regard to Rough Diamonds.*

As instances have been given of two different methods of attaining the value of wrought diamonds, in which cases the value of rough diamonds of double their weights have been jointly considered, they being supposed to be made from such rough diamonds ; three instances of manufactured diamonds, of the same weights, will be now offered, to show in what manner their value may be found, exclusive of any regard to rough diamonds : and as the last method appears the shortest, and most easy to be

understood, that method will be made use of on this occasion.

This is to be known by applying the price they bear manufactured, which has been shown, viz. that as rough diamonds are valued at two pounds per carat, a wrought diamond of one carat is worth eight pounds; so to find the value of a stone of that degree of goodness, whatever number of carats are contained in such a diamond, each is to be valued at eight pounds; and whatever sum they make, must be multiplied by the weight of the diamond.

The instances are as follow :

*First Instance.*

To find the value of such a diamond of five carats weight, reckon every carat at 8 pounds; then multiply 5 carats by 8 pounds, that makes 40 pounds; so every carat is to be valued at 40 pounds; then multiply 5 by 40, that produces 200*l.* and is the value of such a diamond.

## EXAMPLE.

	5 Carats
Multiplied by	40 Pounds
	——
Makes the total	£ 200
	——

*Second Instance.*

To find the value of one of five carats  $\frac{1}{8}$ , at the rate of 8 pounds per carat; multiply 5 by 1, that makes 40; then add to that the value of  $\frac{1}{8}$  of 8 pounds, that is 1 pound; so the value of every carat in this stone, is 41 pounds; then multiply 5 by 41, that makes 205 pounds; next add the value of  $\frac{1}{8}$  of 41 pounds, that makes 5*l.* 2*s.* 6*d.* These two sums cast up, produce 210*l.* 2*s.* 6*d.* that is the value of the diamond.

## EXAMPLE.

	5	Carats
Multiply by	41	
	-----	
Makes	205	
To which is to be added	5 2 6	
the value of $\frac{1}{8}$ of 41 <i>l.</i>		
which is		
	-----	
Makes the total	£ 210 2 6	
	-----	

*Third Instance.*

One of five carats  $\frac{1}{4}$ ; the value of each carat is 42 pounds; multiply 5 by 42, that makes

210      Pounds

Then add the value }  
of  $\frac{1}{4}$  of 42, which is }

10 10

Makes the total      £ 220 10

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*Of the highest and lowest Price of Rough and Polished Diamonds.*

HAVING explained the different methods of finding the value of rough and wrought diamonds, of the middle sort, the first being rated at two pounds per carat, the second at eight pounds: as rough and polished diamonds may be of a higher and lower value, it remains to show what may be the highest and lowest of each.

First—I shall speak of rough diamonds, and shall suppose three prices; for instance, one pound, two pounds, three pounds; the middle being two pounds, there appears an advance of one pound above the middle price, and a fall of one pound below; which is a deviation of fifty *per cent.* each way, and makes the worst sort be but  $\frac{1}{3}$  the value of the finest.

That the two extreme prices naturally proceed from that of the middle price, I shall endeavour to prove; and in order thereto, I shall first show, that no rough diamond, which is not worth one pound per



carat, ought to be manufactured; because all that are of less value must be very defective, carrying many, or all of the following blemishes: foulds, or stains, specks, flaws, being veiny, craggy, ill-formed, and of an ill colour; which, consequently, must obstruct and defeat the purposes of manufacture; for with all that art can do, they will be void of lustre, which will sink them below the rank of a jewel.

Next, it is to be observed, that all under that value will sell for as much, to be used in cutting and forming the better sort, as any one can afford to give for them, with the view of manufacturing them; for the expense of workmanship must be the same as for better stones, if well done; and if not well done, it will add to the other defects; and the loss of weight must be greater than what attends better stones, by its being frequently necessary to discharge or lessen the defects before mentioned: indeed, when a stone of a very large size falls in the way, it may be thought worth the expense of working, as its size may recommend it; these being rarely to be met with, but not as orna-

mental to any thing ; and such may be valued below four pounds per carat, as the buyer and seller may agree on.

As it cannot but appear, that no rough diamond ought to be wrought that is not worth one pound per carat, this must be allowed the lowest price of rough diamonds, worthy of manufacture ; which, as has been observed, is half the value of the middle price ; so allowing as much advance above it, makes the price of the finest rough diamonds worth three pounds per carat.

This being admitted, it shows that manufactured diamonds, of the worst sort, are worth four pounds per carat, and the finest twelve pounds per carat ; and this, probably, will be thought scope sufficient to employ speculation and judgment ; and if the value of rough diamonds should rise or fall, the middling price must be always that which the whole was valued at, good and bad blended together ; and as many prices as will lie between those of the lowest price and those of the middle price, so many must be admitted above the middle price, and that will determine the highest price : or,

in other words, whatever the worst are valued at below those of the middle sort, so much must the finest be valued at above the middle sort. And, therefore, the value of all diamonds is to be adjusted within the limits of the extreme prices.

---

*Remarks on Brazil Diamonds.*

FROM the want of this knowledge, and the rule of valuing diamonds, has arisen the wide difference of jewellers' sentiments concerning their just and natural value; the ill effects of which difference to individuals I shall be silent about, that having been too sensibly felt to need any remarks; but proceed to show what an effect it has had, in times past, on this important property in general.

In the year 1733, rough diamonds were not worth twenty shillings per carat; in the year 1735, not worth thirty shillings; in the year 1742, not worth more than thirty shillings per carat; all which may clearly be

made appear, from public sales in the before-mentioned years. Catalogues of them I have preserved, on which I have made particular remarks, and shall be ready to show them on any proper occasion. I have been the more careful to preserve them, believing there never will be the like exhibited again ; and the farther cause of publishing these facts, is to show, that if the traders had better known how to value diamonds at that time, and had been better informed of the real cause of so great a plenty as then appeared, they would not have discovered so great a consternation as then possessed them ; which occasioned many, even of the most capital traders in London, to believe, that diamonds were likely to become as plenty as transparent pebbles ; and they were so far influenced by this opinion, that most of them refused to buy diamonds on any terms.

The adventurers were chiefly persons of low circumstances, on which account the Lisbon merchants dreaded any returns made them in diamonds, or any sent them for sale ; being forced to deal with such persons upon

credit, and at any price that these purchasers were pleased to give for them.

One of the most considerable Portugal merchants, with whom I dealt, told me, in the month of January, 1733-4, at which time I bought a parcel, to the amount of seven hundred and fifty pounds, that he had been forced (for want of more reputable buyers) to sell and give credit for many hundreds of pounds, to such as he would not have trusted with five pounds cash; and that he found other merchants were in the like case: on which account there were many large parcels returned to Lisbon, they not being able to find buyers enough, even of this sort, to take off their goods.

I shall here mention some other matters, that arose in conversation at this time. This gentleman observing me to be more exact than others, in weighing the large stones of the parcels I bought of him, and some of other parcels, asked me the reason of it; upon which I told him, that no man who did not know how to value diamonds in proportion to their weight (whatever knowledge else he might have of rough diamonds) could

be a proper judge of the value of any stone. Upon which he was pleased to say, if I had that secret, he apprehended I might get what money I pleased. I told him, it could be of no service to me till it became public, and the world made sensible of the truth of the principle. Upon this he said, he thought it might be of great use to make it public; and asked, if I did not intend to communicate it to the world. I told him, it was my intention, when circumstances rendered it more proper; observing it would be by no means proper then, as the public, and likewise the traders in them, were so apprehensive of the Brazil mines producing an inexhaustible store; judging from thence, the world would scarcely think diamonds worth any consideration, especially as jewellers so undervalued them.

As this has been, and still is, in a less degree, the state of the case in regard to diamonds, it may be proper to inquire, whether it be fact, that these mines have produced any diamonds; or whether the diamonds that have been sent from thence, be not such as they procured by trade.

Having many years past been very solicitous to know the truth of this matter, I have spared no pains to come at as good a knowledge thereof as I could procure ; and what information I have met with, I shall disclose.

In the year 1734, I had the pleasure of being acquainted with a gentleman that had been, but a few years before that time, governor of Fort St. George. He told me, upon my talking with him about the Brazil mines, that he did not believe a tittle of the report, and gave this as a reason for his disbelief of it ; namely, that when he was at Fort St. George, he was informed that the Brazil people had long carried on a secret trade with the India people at Goa, for diamonds, and was assured they had a vast stock, but not very fine, they generally choosing to buy the more indifferent sort, for the sake of cheapness ; and he said, whatever quantity came from thence would not alter his opinion, in regard to the value of what he was possessed of, nor would he abate of the price they were valued to him at, in India ; saying, they only knew how to value diamonds. In this resolution he persisted to

his death, which happened but a few years since. Some of these diamonds he sold before his death, at his own price; and he then said, it was his opinion, that their sending their diamonds to Lisbon, was not a matter of choice, but necessity; being forced thereto, in order to raise a large sum of money to discharge great arrears of indulto, which they then owed the king of Portugal; and the same has, since that, been said by others. And, moreover, it has been said, that the late king having been made acquainted that they were greatly in debt to their European correspondents, he insisted upon their sending a sufficient quantity to discharge those debts; and when they came to Lisbon, in order to give immediate satisfaction to the merchants, it was said, the king ordered them to be sold in a public manner, for the sake of expedition; and some have thought it was done out of resentment to his Brazil subjects, for their using him and the European merchants ill; he knowing they had it in their power, long before, to have remitted these diamonds.

Another circumstance had like to have



escaped my notice ; which is, that it has been also reported here by persons of figure and unquestionable veracity, who happened to be at Fort St. George, when it was reported that the Brazil mines had furnished Europe with a great quantity of diamonds very cheap, that the India people laughed, and said, it would not alter their price.

From what has been observed, there seems room to think, that these diamonds are the effect of the king of Portugal's subjects' trade, and not the produce of his Brazil mines ; for it cannot be thought any prince would have countenanced such a disadvantageous method of disposing of the produce of his own mines, as was practised in getting rid of them, notwithstanding any redundancy ; on the contrary, that he would have restrained the sending any quantity, that must tend to sink their value, which is always carefully avoided by the India people.

And if it were true that his Brazil mines so abounded with diamonds, they must be come at with a great deal less expense than attends the search of diamonds in India ; and of course he must become the richest

prince in Europe : for it would be an additional employment for his Brazil subjects, in consequence of which his commerce must be greatly increased ; inasmuch as we should always encourage it, rather than that of the India trade, on account of our purchasing diamonds in India chiefly for bullion. And can it be supposed a wise prince would disregard a gift of Providence, so highly esteemed by the eastern part of the world ? And therefore the methods made use of, must be supposed to proceed from the late king's knowing they were the effects of trade ; if so, it cannot but be judged a wise and just step in him, to force them to discharge their obligations to himself and their correspondents, knowing they could procure no advantage to them, by lying in their hands as a dead stock. Besides, trading in diamonds has been disallowed by the late king ; and to conceal it from his knowledge, is supposed to be the reason of their giving out, that the diamonds they were formerly possessed of were the produce of his Brazil mines ; and to make it the more plausible, they suffered it to be reported, that they were of a dif-

ferent nature, as well as worse than India diamonds.

Upon this occasion I will venture to say (from critical observations in an extensive commerce and manufacture of both) that there has not appeared to me a circumstance, in those called Brazil diamonds, that I have not found in India diamonds; and it is likewise noticed, that some years' cargo from the Brazils have been as fine as any year's cargo from India; and that the small diamonds have sold at as high a price as ever was given for small India diamonds. And it is also remarked, that what have of late been brought from Brazil, we hear but little of; more than their quantity yearly lessens, notwithstanding their price is raised more than treble of what they bore some years ago. There are various sentiments among traders concerning the cause of it; but being much divided in their opinions, I shall not trouble my readers therewith; not doubting but their sending so few will appear to arise from their not being possessed of more. And, from hence may be inferred, that they are interrupted in this

commerce, and deprived of the means of procuring them as formerly; which means are supposed to have been their purchasing them with Brazil gold, wherein the Brazil mines are known to abound in a profuse degree; and in this sense it may be said, the diamonds that we have had from thence are the produce of the Brazil mines; and if there be a check, or an interruption thrown in the way of this barter, we cannot expect to have such quantities as formerly, although more or less may always come from thence; which has been the case before the great glut appeared; but they were not then called Brazil diamonds, and what was brought from thence was conducted with great secrecy: and it is likely this trade will be continued, from the circumstance of diamonds being so portable a commodity, and what may be conveyed with great secrecy, however strict his Portuguese majesty's orders may be in prohibiting thereof. As to the political reasons for prohibiting this traffic, it is not my province to meddle with that.

Amidst what has been said to show the improbability of the Brazil mines having

produced the diamonds, that of late years have been placed to their account, the circumstance that has been before mentioned deserves more than ordinary notice ; therefore I shall recite it again ; which is, that notwithstanding the India people knew what despicable prices Brazil diamonds sold for in Europe, in the before-mentioned years, they kept up the price of their diamonds ; which seems to prove they were the sellers of those diamonds to the Brazilians, and serves to explain what they meant by laughing at the report of the Brazil mines furnishing Europe with diamonds, and their saying it would not alter their price.

This conduct, surely, deserves the highest applause ; for had they copied after the Brazilians, this great article of wealth, by this time, would have been reduced almost to nothing ; the ill effects of which, words cannot sufficiently express : the prevention of this evil the India people must have the honour of.

To maintain as invariable a price of these jewels as is possible, must be of the greatest utility to the public ; which they appear to

be sensible of, from their past conduct ; but there is more to be offered in proof of this.

It is attested by unquestionable authority, that when they find a slack demand for diamonds, they always withdraw them ; the consideration of any quantity they may be possessed of seems to be no motive with them for abating their price ; which is believed to arise from their supposing they have competitors to subject them thereto ; and from what has been observed, the truth of it can scarcely be doubted ; and their manner of trading with us seems to be a further proof of it, which is thus :

They first find out what sorts are wanted, and then show such goods and put their price : if they are sold, they have their demand ; for they suppose themselves to be the only judges of their value ; and it does not appear that any one has disputed the truth of it. From hence it is, that diamonds are sent here in bulces, which means parcels of diamonds neatly tied up in muslins, and sealed by the sellers of them ; which diamonds are generally bought here by the invoice, that is, are bought before they are

opened ; it being always supposed they contain their value which they were sold for in India ; and the buyer here gives the merchant such a profit as contents him. The diamonds being thus bought, the buyer opens the parcel, separates them, and then values them separately as his judgment directs ; making to himself, likewise, such a profit upon the whole parcel, as he thinks proper. And as this is the case, it is referred to the consideration of reflecting minds, whether or no any man can properly judge of the value of stones of different sizes and properties, without some rule to direct his judgment. As for the different properties of diamonds, speculation, assisted by the knowledge acquired in manufacturing diamonds, is the only guide ; but whether any can judge of their value, regarding their magnitude, is the thing in question. It seems as if our traders thought the India people were masters of some rule for that purpose, by placing such confidence in them, as it appears they do by this representation ; and it is believed, when the European part of the world are acquainted with the true

method of estimating diamonds, it will be found, that the India people have generally valued their large diamonds alike at all times, let the demand for them vary as it may.

If that be the case, is not this issuing out another staple commodity like that of gold and silver? And although its value is not ascertainable to so great an exactness as either of those, by an assay, yet it may appear they are reducible to as great a nearness in speculation, as either of the other two. But however beneficial this may be, the value of diamonds can never be at all settled in Europe, whilst we are amused with the notion of the Brazil mines being productive of diamonds. How far it is the interest of these parts of the world to be well informed of the truth of this matter, is left to the consideration of the public.

But suppose it should be remarked, that although diamonds in India may at all times be near the same value, it cannot be the case in other parts of the world, arising from various circumstances : the chief cause of which variableness in the price of diamonds, or any jewels, in other parts of the world, cannot



but be seen to be the disagreement in the sentiments of jewellers concerning the natural value of them. But the extraordinary instances in the late wars in Germany, will be a farther proof of it ; inasmuch as it has been told us by public papers, that not above one-third or one-fourth of the money which gems have cost, could be procured by way of pledge or sale : indeed the avarice of the buyers may have some share in occasioning so great a loss. Does this prove the intrinsic worth of jewels, so frequently talked of? Must not this be a vast discouragement to great personages from vesting themselves with this property?—How fit, therefore, is it to render them as invariable in their price as the nature of things will admit of; since they possessed themselves thereof, not only for personal ornaments, but also as articles of solid treasure, to serve such emergencies as have been noticed? And it is known, that there are some rough diamonds of great price, as well as polished, in Europe, which have been bought upon that principle.

Since it is thus, nothing can be a greater inducement to persons of high station to

purchase diamonds, than rendering their value more staple. And as nothing can accomplish that so much as being well acquainted with their true value, the following method will be found the only way of coming at that knowledge.

It appears from the reason of things, that all large diamonds are to be valued according to the rule advanced, by the price that one of a carat bears, which is similar to a stone, whose value you would know ; for as you value the weight in a stone of one carat, so must you that of a stone of the same properties, let the weight be what it may. And as a farther proof of its being right, it will be found, that jewellers, of the greatest experience and knowledge, have generally estimated diamonds as this rule directs, by dint of sound judgment : and as the younger and less experienced must want some assistance in this important concern, this will put them in the right way, and by means hereof the value of diamonds will be made universally known ; as it lies in so narrow a compass, as that of any one's making himself acquainted with the worth of a diamond

of a carat weight; which, it is presumed, persons of good judgment cannot be at a loss to know, let them be good, bad, or indifferent; and that such will agree in their sentiments concerning the value of a stone of a carat weight, be it, as it may, to five or ten per cent.



*Of the Table of Prices of Diamonds.*

THE next thing to be taken notice of, is a table, which will be found in the 11th, 12th, 13th, 14th, 15th, and 16th plates. This table consists of the price of diamonds, from one carat weight to an hundred carats; formed upon the principle of valuing them by the square of their weight, upon the supposition that the governing price of rough diamonds, good and bad blended together, is 2*l.* per carat; so that 2*l.* is to be reckoned the mean or middle price, and will be found of great use to prevent the trouble of calculating the price of every stone by the rule. If any stone differs in its value from this mean or middle price, whether higher or lower, so

much per cent. is to be added, or deducted, as judgment shall direct. It may be observed, that the tables do not descend to sixteenths of a carat; it is omitted for brevity's sake, which may be supplied by casting up any two adjoining prices, and then take the half, that will give the prices of the intermediate weight. For example: a stone of one carat will be seen to be the first article in the table, and to come to 8*l*. To find it out by the rule, the method is to multiply 2 by 2, that makes 4, which is the square of its weight; then multiply 4 by 2*l*., the price of one carat, that makes 8*l*. Here it is to be remembered, that all the prices which the table contains, are supposed to be of the middle sort: and also that half the weight is supposed lost in making, which occasions the first multiplying by 2; but, as this method is more laborious and intricate, in regard to stones of odd weights, the table will be found of much convenience.

An instance is here given as a proof of a diamond of seven carats  $\frac{7}{8}$ , in the two different methods of valuing. For example, the first method is this: the weight of a stone

of seven carats  $\frac{7}{8}$  must be doubled, which makes fifteen carats  $\frac{15}{4}$ ; next, that weight must be multiplied by 4 to bring it to grains, that makes 63; then multiply 63 by 63, that makes 3969, the square of the weight in sixteenths; therefore divide the 3969 by 16, that brings it again to carats, which makes 248 carats and  $\frac{1}{16}$ ; which multiplied by 2 pounds, produces 496*l.* 2*s.* 6*d.* The second method is this: first, see what a diamond of seven carats  $\frac{7}{8}$  is worth per carat, which will be found to come to 63 pounds; first, multiply 7 by 63, that makes 441 pounds; then add the value of  $\frac{1}{8}$  of 63 pounds, which comes to 55*l.* 2*s.* 6*d.*; these two sums added together, produce 496*l.* 2*s.* 6*d.*, so both totals are alike, and agree with the price of one of the above weight in the table.

It will be here proper to observe farther, that no notice is taken of the additional price, which the expense of manufacture would occasion in each stone. This is omitted on account of the different prices their different sizes and weights demand; and, likewise, on account of the different prices

which their various substances require. These circumstances render it impracticable to be inserted ; and, therefore, the prices of both are contained in four tables, exhibited at the end of the treatise. The first table contains the price of full-substanced, or full-proportioned brilliants, explained as follows : the first column exhibits a supposed increase of size and weight, from a stone of a carat, to one of a hundred carats. The first five articles are carried on by the increase of one carat each, the following by five carats each. The second column contains the price of their workmanship, according to their increase in weight, at the rate of 1*l.* per carat. The reason of carrying on the gradation by the increase of five carats, is for the sake of brevity ; as the different prices of the intermediate weights are inconsiderable, compared with the increased value of such stones. The first table being explained, it will serve as an explanation of the other three.

The second table exhibits the price of making spread brilliants, which is rated at 1*l.* 5*s.* per carat ; and is so done for the following reasons ; namely, that all spread

stones require more care than full-substanced ones, and are not so soon despatched. The third and fourth tables regard the price of manufacturing rose diamonds; which manufacture demanding less labour than that of brilliants, causes the price to be one-fourth less, as will be seen by the third table regarding full-substanced, or full-proportioned rose diamonds. The fourth table regards spread rose diamonds, the price of which is the same with that of full-substanced brilliants; which is so raised for the same reasons as have been given in the case of spread brilliants.

N.B. The prices in these tables are to be doubled in wrought stones, half the weight being lost in manufacturing.

If I had not inserted the different expenses of manufacturing diamonds, it would be found wanting in the value of every stone; but may now be easily supplied from the tables just explained. An instance will fully evince their use, which I will give in the case of a full-proportioned brilliant. For example: suppose the value is required of one of the mean, or middle sort, of  $7\frac{7}{8}$  carats: the diamond, exclusive of the expense

of workmanship, comes to 496*l.* 2*s.* 6*d.*; the expense of workmanship must be reckoned at 3*l.* 15*s.* per carat, which comes to 26*l.* 14*s.* 4½*d.*; that being added, the whole makes 522*l.* 16*s.* 10½*d.*

From the various helps contained in this book, it may be reasonably expected, that such as are skilful in diamonds, and acquainted with the current price of them, will hereafter universally agree.

The innate perfections and imperfections of diamonds, come next under notice.



*Of the innate Perfections, Imperfections, and  
Water of Diamonds.*

THE circumstances which distinguish the finest diamonds are these. Their complexion must be like that of a drop of the clearest rock water: and if such stones be of a regular form, and be truly made, and free from stains, fouls, spots, specks, flaws, and cross veins, they will carry the



highest lustre of any whatever, and will be esteemed the most perfect.

If any are tintured yellow, blue, green, or red, in a high degree, which seldom happens, they are next in esteem; but, if any partake of these colours only in a low degree, it sinks their value below the before-mentioned.

There are other complexions of a more compound sort, such as brown, and those of a dark hue. The first of these sometimes resemble the brownest sugar-candy, the latter dusky iron. And if any diamonds are attended with stains, foulds, spots, specks, flaws, and cross veins, it will abate their lustre and sink their value. Here it may be observed, that what is commonly called the first water in diamonds, means the greatest purity and perfection of their complexion, which, as was said, must be like a drop of the clearest rock water. When any speak of a diamond falling short, more or less, of that perfection, it is expressed by saying, it is of the second or third water, &c., till a stone may be properly called a coloured one. And to speak of a diamond imperfectly coloured, and con-

taining any other defects, as a stone of a bad water only, is very improper ; as it does not convey any idea of the particular colour or defects belonging to it.

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*Of the superior Worth of Diamonds over all other Jewels.*

DIAMONDS have, in every age, been esteemed the chief of jewels, on account of their innate specific qualities ; which, if not exhibited by proper skill, remain imprisoned. It is certain that, in their natural state, they have not so much beauty or lustre, as some other sorts of jewels ; but when truly and judiciously manufactured, they throw forth a splendour and lustre, surpassing all others, which justly entitle them to the most perfect workmanship, and will consequently be the most likely means of perpetuating them in the esteem of the world. And this will tend to establish their worth, and secure every one's property therein ; whereas a neglect of exhibiting and dis-

playing their beauty, by proper workmanship, will render them unworthy ornaments of the great and distinguished; which, of course, must sink their value. These considerations, doubtless, will influence the curious and discerning, to give all due countenance to their being exhibited, in future times, with that beauty and lustre of which they are susceptible.

And if the following additional circumstances be taken notice of, they will farther show, that diamonds deserve the chief regard of all jewels. First, they are the best repository of wealth; inasmuch as they will lie in the smallest space of any, and are thereby the most portable and best conveyance of treasure. Next, their superlative hardness secures them from all injury by wear; as nothing can make any impression on them, or prejudice their lustre, but their rubbing against each other. They can only be affected by fire, and that must be strong and lasting to do them much harm; and the injury they receive thereby, arises chiefly from taking them too hastily from thence, whereby the immediate impression of the

cold air may possibly produce flaws, &c. A moderate fire will only occasion a roughness on their surface, which may be repaired by new polishing.



*Reasons for working Diamonds in a complete Manner, and the Consequences resulting from a contrary Practice.*

WHAT has been said of the superlative properties of diamonds, &c., seems sufficient to recommend them to the protection of mankind, from any abuse arising by ill workmanship, as their pleasure, honour, and interest, are concerned in it; and nothing appears wanting to influence thereto, but that of the world being convinced of the necessity of it, from being made acquainted with the abuse that diamonds have sustained by the contrary practice. To that end I shall first resume the observation that has been made on small brilliants; which is, that they are in general so ill wrought, as to be void of their true beauty and lustre, and

will not fill up, by one-fourth or one-third, the space that well-wrought stones do, in a piece of jewellery work; of course, purchasers of such are deprived of one-fourth or one-third of the show or appearance that well-wrought stones would make, and of the beauty and lustre that always accompany such; next, that the same effects attend stones of larger sizes, made after the same manner.

N. B. The same ill effects also attend small or large rose diamonds, made in the same manner.

The ends and purposes that are to be served by this manner of working, naturally fall under consideration: the most that can be pretended, is, that by the world being brought into a favourable notion of these goods, on account of buying them at a lower price by weight than well-wrought stones, trade has been increased, and more hands employed; but it cannot mean the increase of England's trade, for that has been declining many years, and its hands unemployed, to the great impoverishment of the whole body of workmen, and those known to be

as good as any, if not the best, in the world ; and which has arisen from their refusing to work after this rude manner, and not being able to support themselves by the wages that are given abroad for such work, which appears not equivalent to the wages here given to the meanest handicraftsmen.

Admitting our neighbours have increased the traffic, and employed more hands of the lowest sorts than we could ever boast of, let the consequences which are like to flow from this manner of working be considered.

By the continuance thereof, the disesteem that has of late been shown to diamonds may increase ; which principally has taken its rise from thence, particularly in England : and that, probably, has been forwarded by the good appearance which crystal or false stone-work, commonly so called, has made of late (on which all the embellishment that care and skill can procure, has been bestowed). This is observed to the credit and reputation of these traders and their workmen ; and, in consequence thereof, this commodity frequently passes for diamonds : and if the same care should be taken in com-

pleting that sort of work for foreign use, they also may enter into the like contempt of diamonds; if so, what will become of this boasted increase of trade? But if the truth of the diamond manufacture be supported, their lustre will conspicuously excel the faint and languid efforts of all crystalline matter, with all the helps of art.

To disgrace this first-rate gem by ill workmanship, in bringing it down almost to the level of this commodity, seems to be very unwarrantable; especially as it tends to sink this part of public wealth, and is a manifest discouragement to art and ingenuity; and also of great prejudice to fair traders, who scorn to submit to the encouragement of such mean, deceitful artifices, to enrich themselves.

But, notwithstanding what has been offered, to show the impropriety and ill-consequences of working diamonds in an ill manner, it is to be feared, that such as have hitherto found their account in it, will pursue the same method, so long as they can find it their interest so to do. To prevent this abuse, the sizes of brilliant and rose diamonds are exhibited, by which any one may

know, whether a diamond of either manufacture be well or ill made; and this is thought the most effectual means of putting a stop to it; judging all persons, who have any considerable value of this kind, will afford their assistance in discountenancing such an injurious practice; if so, the world will see persons of rank and fortune distinguished from others, by the inimitable lustre of these jewels; for which purpose, doubtless, they were intended.

But it may be said, that many persons of rank and fortune are possessed of such ill-wrought stones; and the encouraging of this refinement of manufacture will make them appear in a worse light. This is allowed; but, at the same time, it is to be understood, that all ill-wrought stones are capable of being made as perfect, in respect to workmanship, as any, without the least loss of their expansion or breadth; and that such rectified stones will appear to sight rather larger than their present form; for by being made more open, every part of their upper surface will be more clearly seen, and what loss of weight they sustain will



be compensated by the remaining weight being of more value; or, in other words, that weight will be worth more per carat; and then such will weigh as much as they ought when sold; and by this means indifferent diamonds may be made fine, if the matter or stuff be such, which is frequently the case; and the reason of their being but indifferent before, was their being overloaded with weight, and otherways ill-wrought, which obscured their true lustre. This compliance with what is proposed, will make them of rather more value than when bought; and the loss to the purchaser is that which is paid for rectifying them. This will prove a greater disadvantage to the purchasers of small diamonds, than to the purchasers of larger stones, as the workmanship of small stones is a considerable part of their value.

Here it may be proper to observe, that the worst workmanship is frequently performed on coloured stones, to render them cheap, by which means they are generally despised; instead of that, they should have all the advantage that art can bestow on

them, to recommend them to the just favour of the world. And stones, however coloured, that are not attended with specks, spots, foulds, stains, or any other defects, to weaken their lustre, ought to have the utmost skill of workmanship; and numbers there are, if well-wrought, that would carry as much or more vigour and spirit, than many that do not fall under that denomination; and, therefore, if any made stones appear susceptible of an improvement of their lustre, by being rectified, it is fit that such should receive the benefit thereof; for the sake of the pleasure and credit it must afford the owners, and the reputation that such a conduct will bring to this species of jewels. And it is to be imagined, that this will be thought worthy of some notice, as the world seems so strongly disposed to value perfection in this jewel; and none can be said to be so, that has any manifest imperfection of workmanship.

And here I shall take the liberty to observe, that the truth of the manufacture of either was never brought under any stated rules of practice; nor was there any recourse

to be had to prove the truth of the manufacture of any diamond, till this treatise made its first appearance; and for want of something of this kind, there have been, in all times past, innumerable disputes amongst workmen, concerning the true method of working diamonds.

But this must be owned, that the fewest disputes on this head, have been found amongst those of the best judgment; and, moreover, it is known that their practice, when left to work agreeably to their own sentiments, has nearly been conformable to the rules here advanced; and to which practice they would always have adhered, if left at liberty; but the selfish views of those they have wrought for have obstructed it, and laid them under a necessity of working according to the directions given them. This has been the cause of so much defective workmanship on diamonds, and not only on middling stones, but likewise capital ones.

This was the very cause of the largest diamond, that ever appeared in Europe, being wrought in a deficient manner; which, if it be now as it came out of the hands of

those who wrought it, I take the liberty to say, may be rendered complete; by which means its form will be more comely and graceful, its lustre greatly increased, and of course its value, although its weight may be something reduced; and then it may be said to possess all the dignity that nature has favoured it with, and likewise that art has done it justice.

The first fact I can make appear, by two leads cast from the stone; one when it was a rough diamond, the other when cut and polished; and the second, how it came to be wrought as it was, I can prove by incontestable evidence, &c.

That this is the case of this and many other large diamonds, is not to be wondered at; but rather how those, who had the direction of manufacturing such stones, were influenced to submit to the loss of so much weight, having nothing but conjecture to direct their conduct; and their having left an over-weight, must be owned to be an error of the right side, as that may be discharged, whenever it is thought proper; and it can scarcely be imagined, that any

will be fond of retaining weight in a stone, that renders it ungraceful in its figure, and destroys its life and vigour; especially as its expansion is not lessened thereby, but will appear to sight larger than before; which, perhaps, may cause a stone to be deemed good, that before was ranked in a lower class. And, as it has been before said, such stones will be worth as much or more, notwithstanding the reduction of their weight, than when possessed of their former weight, by the remaining weight being of a higher worth; so the expense of rectifying them is the only loss that will be sustained.



*The Use of the Sizes in purchasing Rough  
Diamonds.*

As the use of the sizes cannot but be sufficiently seen in regard to wrought stones, they will appear of equal use in regard to rough diamonds; inasmuch as they will assist the judgment, concerning the loss of weight that may be sustained in working

any diamond; and therefore must be of great service towards forming a right notion of their value, as it is well known that some rough diamonds must sustain a much greater loss or diminution of weight than others, arising from their peculiar shapes. And to form a true judgment of the value of any rough diamond, the price or value of one of a carat weight, similar to the stone which is to be purchased, determines its value, as in the case of manufactured diamonds. But as it is more difficult to judge what a rough diamond will prove when cut, than to judge of one manufactured, the buyer, supposing him a merchant, must act with proper precaution, and make sufficient allowance to himself, for the uncertainty of the stone answering expectation when wrought. And, if it be a stone of a considerable value, he must allow himself also for the interest of the money he lays out, according to the time he supposes the stone may remain unsold. These precautions are the only means of guarding against the hazards and disadvantages that attend dealing in large rough diamonds; and, by such a conduct, dealers

may be enabled to sell at a price, agreeable to the estimation of the skilful; which estimation is the only thing to be regarded, by those who purchase them for their own use. To urge any other considerations to the purchaser, for augmenting the price of any diamond beyond its just value, will, it is humbly apprehended, be judged a weakness, and likely to hinder the sale of such goods.

But, if it should be here remarked, that particular cases or occasions may justify the seller in demanding an advanced price for any diamond, such deviations must be considered as merely occasional, and the buyer is at liberty whether he will comply or not.

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*Remarks on the India Manufacture of Diamonds, and their Custom in Regard to Rough Diamonds.*

ALTHOUGH it has been supposed, under the head of valuing diamonds, that the India people are acquainted with the prin-

ciple of estimating them, it will be now shown, that they are masters of no other essential parts of knowledge concerning diamonds.

The manufacture of them they seem to know very little of, as appears by the wrought stones that come from thence, none of them being fit for use, and therefore are always new wrought when brought to Europe, which I shall describe as follows: they are called lasks; they are in general ill-shaped, or irregular in their form at the girdle; their substance or depth is ill-proportioned; some have more of the stone's substance at top than at the bottom; their tables are seldom in the middle or centre of the stone, and the collets the same; and sometimes the tables are of an extravagant breadth, and sometimes too small; in the same manner are their collets, and seldom horizontal; and their girdles are often very thick and not level; the small work very irregularly performed, and none are properly polished; and the chief thing regarded, is that of saving the size and weight of stones: and this is not much to be wondered at in them, as



they are unacquainted with the beauties of well-wrought diamonds. From hence it will appear, that they must be unqualified to judge of the true worth of individual rough diamonds. For instance: they cannot know what a diamond will lose in working, to be well made; nor can they know, if a stone be coloured, what degree of colour it will retain, or what life and spirit a stone will carry well wrought; all which they are very conscious of; and this makes it very difficult to trade with them for single stones.

But it is not so difficult to trade with them for parcels, because in them there are stones of all shapes; and as some will lose more, some less, they guess at that as well as they can; and so in respect to their other properties, in which they are not quite so much at a loss; and then they value them by the lump, as they weigh one with another, by the rule.

From whence we may see, how necessary it is for Europeans to be furnished with knowledge, as by that means they must have some advantageous opportunities in

buying large stones, through the ignorance of these people. Although it has been shown how much regard they have to the saving of weight in working of diamonds, their attachment thereto will further appear, by the following custom having prevailed time out of mind, the reality of which seems not be doubted.

The great people there employ a vast number of slaves in search of diamonds ; the small and middle size diamonds they sell, and some of the large ones ; but when they are fortunate in meeting with a very large one, they lay it up as a treasure, to aggrandize their family ; and the head of the family has a small shallow hole drilled on the surface of the stone, and when he dies, the next chief does the same, and so from one to another : and the more of these holes a stone has, the higher it is in esteem, although such holes may prejudice it, if it were to be manufactured ; but as that is never intended, they do not regard such prejudice ; and these stones are never parted with, let what will happen ; and if they foresee any ruin to the family (as that sometimes happens in their

further pursuit of diamonds, which is very expensive by the vast number of hands they employ in that undertaking), in such cases they bury those stones, so that they never appear again. For they cannot bear the thought of any others having the possession of that which they have obtained at so great an expense; and it is said, that, in consequence of that custom, there are many very large diamonds irrecoverably lost, and likewise many that will never be parted with.

This custom is imagined to arise from their being fearful of a diamond's losing its value, by losing weight and magnitude in being wrought; which is very true, as they work them, because they are void of lustre; and therefore it is not an unreasonable conduct in them, on that account alone; but there is another reason assigned for it, which is, the hazard their diamonds are exposed to by their manner of working: this is much greater than what attends the working of diamonds in Europe, for they perform it in a rougher manner than is done by the Europeans, more especially in respect to polishing them; in doing of which they lay an ex-

cessive weight on their diamonds through unskilfulness (and for want of such curious machinery or mills, as are in Europe), which makes it not practicable for them to give diamonds a true polish.

N. B. Although this is the case in respect to the India manner of working, there come now and then stones tolerably well wrought and polished ; but these have been supposed to have been done by Europeans, and upon their mills and skeves, and to have been the property of such.

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*Some Account of Authors, who have heretofore treated of Diamonds and Pearls, and the Improvements which have been made since their Times.*

THOUGH what I have advanced is really the produce of many years' critical observation, in the course of dealing in rough and polished diamonds, and has been a work of much time, labour, and great expense ; I am not a little pleased to see it

agree with what I have since found to be mentioned by some celebrated writers, who have exhibited the principle upon which diamonds are to be valued. The first which fell into my hands was Monsieur Tavernier, who mentions it in his voyages through Turkey, Persia, and the East Indies; which he published in the year 1670, and which were translated into English in the year 1678. The next was the memorable Mr. Lewis Roberts, who published it in his Map of Commerce, in the year 1638. Sometime after, I communicated the principle of valuation I have exhibited in this treatise to an acquaintance of mine, who was a dealer and a diamond-cutter, and who had lived many years at Fort St. George in that capacity; by whom I was informed, that the India traders (meaning the natives of India) had some established rule of estimating diamonds, &c., which he believed to be the same with what I then proposed. At length, several years after the perusal of the above writers, a still more ancient one was shown me by means of a gentleman of great learning, and of great figure in the literary world.

This author was John Arphe de Villa Fane, who speaks of the principle of valuation in his treatise, entitled "The Standard of Gold, Silver, and Precious Stones," published in Spanish in the year 1572, by the King of Spain's especial licence. These writers have mentioned some attempts to settle rules for the manufacture of diamonds ; but, it is to be observed, that not only what they have delivered is very imperfect, but that when they wrote, the art of making brilliants was not discovered ; which manufacture is essential to the saving of the weight formerly lost, by cutting all rough diamonds into tables and roses ; to prevent which loss of weight, as much as possible, a heavy load of substance has been left on both these kinds of manufacture. Moreover, to save weight, rough diamonds have been frequently sawed, especially such as had no corners, in order to make them into roses ; but this practice was attended with a much greater expense of workmanship, and withal, a much greater loss of weight, than they have been subject to, since the making of brilliants has been introduced ; this latter ma-

nufacture being more suitable to stones of most shapes.

These observations show, that if the truth of the manufacture of table and rose diamonds had been known in times past, which appears not to have been the case, although it might have been of use in preventing the past defective manner of making them, it could not procure the advantages which flow from the addition of the brilliant manufacture, since that renders the whole a complete system; and not only contributes to the greatest saving of weight, but likewise ascertains the general loss of weight, as has been already observed, which could not be known till the manufacture was reduced to settled rules. The want of this, probably, occasioned a disregard of what has been taken notice of by these authors, concerning the manufacture and valuation of diamonds.

The next thing to be considered is pearls.

*Of Pearls, their Perfections and Imperfections.*

THESE jewels are next in importance to diamonds, as they constitute the next greatest share of wealth of any other kind. The first thing to be observed concerning them, is, that what beauty they possess, is the mere produce of nature; and that they are not susceptible of any advantages or helps by art; a circumstance which recommends them to the esteem of the world. Those of the finest shape are perfectly round, which fits them for necklaces, bracelets, jewels for the hair, and other such like uses. But if a pearl, of any considerable size, be of the shape of a pear, it is not reckoned an imperfection; because it may be suitable for drops to ear-rings, solitaires, and many other jewels. Their complexion must be milk-white, not of a dead and lifeless, but of a clear and lively hue, free from stains, foulds, spots, specks, or roughness; such are of the highest esteem and value.

Pearls are defective when rough, spotted, or dull; whether that be owing to any mis-



carriage of nature, or to age, to wear, or any other accident; when irregular in their shapes, be they flat or hollow, craggy or gibbous; when they are stained with any colour, as yellow, blue, green, red, brown, or that of a dusky iron. It is also an imperfection when they have large drilled holes, or are rubbed flat about the edges of the holes by long use. These defects cause a very considerable difference in the value of pearls, of the same weight and size.



*Of the Rule of valuing Pearls.*

THE only rule of valuing them, is by the square of their weight, as in the case of diamonds; nature producing them after the same manner, viz. a vast number of small ones, and progressively a less number of larger, as they increase in size and weight. Upon this principle two tables are formed, of the prices of pearls. The first eight contain those of a carat weight downwards, of eight different values, which will be found in

plates XVII, XVIII, XIX, XX, XXI, XXII, XXIII, XXIV. The first being explained, it serves for the other seven. The first column contains the number of pearls in an ounce troy, from those of a carat weight to such as weigh but the 32nd part of a carat. The second column contains the progressive decrease of their weight, from those of one carat, to those of the 32nd part of a carat. The third contains their several prices, from one carat at 2*s.* to those of the  $\frac{1}{32}$  part of a penny. The fourth contains the price of an ounce, at the rate of 2*s.* per carat, which makes 15*l.*, to that of the smallest size, which is 9*s.* 4½*d.*

The next thing to be taken notice of, is a table that relates to pearls, of a carat weight and upwards, to a hundred carats, which will be found in plates XXV, XXVI, XXVII, XXVIII, XXIX, XXX. The prices of pearls in this table are founded upon the supposition, that the general price of pearls, good and bad blended together, is 8*s.* per carat; which will be found to be the first article in it. This table, therefore, will be of the same use with regard to pearls, as the

diamond table is in regard to diamonds. For, if any pearl exceeds in quality, or falls short of, those of the middle sort, the rise or fall, upon the price of a pearl of any weight, must be so much per cent. as judgment shall direct; which prevents all trouble of finding it out by the rule. To show the convenience of this table, the following example may be given. If the value of a pearl of 4 carats  $\frac{7}{8}$  is required, which may be supposed to be 10 per cent. better than one of the mean or middle price, its price will be found, by the table, to be 9*l.* 10*s.* 1½*d.* Then 19*s.* is to be added, which is the produce of the 10 per cent. and makes its value to be 10*l.* 9*s.* 1½*d.*

To find out the first price by the rule, reduce the 4 carats  $\frac{7}{8}$  into eighths, which makes 39; then multiply 39 by 39, that makes 1521, the square of the weight in sixteenths; therefore divide 1521 by 16, that brings it again into grains, and makes 95; then divide the 95 by 4, that brings it to carats, and makes 23 carats, 3 grains, and  $\frac{1}{16}$  of a grain; which, at 8*s.* per carat, produces 9*l.* 10*s.* 1½*d.*

And as another method is introduced for finding out the value of diamonds, which is as applicable to pearls, the foregoing weight is made use of as an example.

For instance : see what a pearl of 4 carats comes to at 8s. per carat, which will be found to be 39s. ; so multiply 39 by 4, that makes 156s., or 7*l.* 16s. ; then add the value of  $\frac{7}{8}$  of 39s., which is 1*l.* 14s. 1½*d.* ; cast up the two sums, and that will produce 9*l.* 10s. 1½*d.* : so these two totals are alike, and agree in price with one of that weight in the table ; and that being the price of one of the middle sort, the value of the 10 per cent. must be added, which is 19s. ; so the value of such a pearl is 10*l.* 9s. 1½*d.*

These instances are supposed sufficient to show, how much readier the value of any single pearl is to be found, by making use of the table ; the usefulness of which will appear in a stronger light, when it is considered what number of occasions pearls furnish by their multiplicity, and likewise the small value they are of individually, although not so regarding their quantity.

N. B. Their value, compared with diamonds, is but as 8s. to 8*l*.

As an application to the table appears to be by far the readiest way of coming at the value of any single pearl, its farther usefulness will be shown in valuing any parcels of pearls.

For instance : suppose a parcel of pearls (be their number and weight what they may) and various in respect to their qualities or goodness ; first, weigh the parcel altogether ; when the weight is known, count their number ; when that is known, see what the weight would be per piece, if they were all of one weight, and then endeavour to form a judgment what they may be rated at per carat, as a mixed parcel : having settled that, see what a pearl is worth, of the weight you found they would be of if they were all of equal weight or size, and then value the weight of the whole parcel by the price of that pearl, and that will give the value of the whole parcel. To illustrate this, suppose 9 pearls of 9 several weights, which may be of different qualities or goodness, but being blended together they may be reckoned worth

8s. per carat. As this supposed price agrees with the table, the example will be drawn from thence, and will begin with the first article therein, as underneath :—

	Carats.	£	s.	d.
1st - - of	1 0 0 0 - -	0	8	0
2nd - - -	1 0 0 $\frac{1}{8}$ - -	0	10	$1\frac{1}{2}$
3rd - - -	1 0 $\frac{1}{4}$ 0 - -	0	12	6
4th - - -	1 0 $\frac{1}{4}$ $\frac{1}{8}$ - -	0	15	$1\frac{1}{2}$
5th - - -	1 $\frac{1}{2}$ 0 0 - -	0	18	0
6th - - -	1 $\frac{1}{2}$ 0 $\frac{1}{8}$ - -	1	1	$1\frac{1}{2}$
7th - - -	1 $\frac{1}{2}$ $\frac{1}{4}$ 0 - -	1	4	6
8th - - -	1 $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{8}$ - -	1	8	$1\frac{1}{2}$
9th - - -	2 0 0 0 - -	1	12	0

The 9 weigh -  $13\frac{1}{2}$  and come to £8 9 6

The above 9 pearls weighing 13 carats  $\frac{1}{2}$ , would make the weight of each 1 carat  $\frac{1}{2}$ , the price of which in the table is 18s. therefore multiply 18s. by 9, the number of the pearls, that makes 162s. or 8l. 2s.

The value, rating them by their several weights, as above, makes the total 8l. 9s. 6d. which is 7s. 6d. more than by the other method of valuing them; and this arises from

the loss of fractions in that case; and although that be something in this sum, it is not worth regard in a larger sum, which will be the same when pearls are rated at 8s. per carat; and for farther satisfaction the following case is inserted.

	Carats.	£	s.	d.
1st - - - of	6 0 0 0 - -	14	8	0
2nd - - -	6 0 0 $\frac{1}{8}$ - -	15	0	$1\frac{1}{2}$
3rd - - -	6 0 $\frac{1}{4}$ 0 - -	15	12	6
4th - - -	6 0 $\frac{1}{4}$ $\frac{1}{8}$ - -	16	5	$1\frac{1}{2}$
5th - - -	6 $\frac{1}{2}$ 0 0 - -	16	18	0
6th - - -	6 $\frac{1}{2}$ 0 $\frac{1}{8}$ - -	17	11	$1\frac{1}{2}$
7th - - -	6 $\frac{1}{2}$ $\frac{1}{4}$ 0 - -	18	4	6
8th - - -	6 $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{8}$ - -	18	18	$1\frac{1}{2}$
9th - - -	7 0 0 0 - -	19	9	6
<hr/>				
The 9 weigh -	58 $\frac{1}{2}$	£152	9	6

The above 9 pearls weighing 58 carats  $\frac{1}{2}$ , would make the weight of each 6 carat  $\frac{1}{2}$ , the price of which in the table is 16*l.* 18*s.* First, multiply 9 by 16*l.* that makes 144*l.*; next, multiply 9 by 18*s.* that makes 8*l.* 2*s.*, add these two sums together, the total will be 152*l.* 2*s.* which is 7*s.* 6*d.* short of the

above sum of 152*l.* 9*s.* 6*d.* But if the number of articles had been more, and the price of any parcel of pearl should be higher, it can but little increase the difference; and therefore it is not worth regarding, more especially when it is considered, that none can judge the value of any one pearl, or parcel, to any such-like nicety. As to what has been said of the convenience of this table, the same might have been said of the diamond table; but as there seemed not to be the like necessity for it, in regard to diamonds, it has hitherto been omitted, and the rather, to avoid repetition.

As the convenience of this table is evidently shown, it may be proper to observe, that in making use of that, or either of the other methods for finding the value of pearl, the highest price of any pearl of a carat weight cannot be valued at more than 16*s.*, when the price of the middle sort, of that weight, is valued at 8*s.*, nor those of the lower sort, of a carat, at less than 2*s.*; because all of a baser sort deserve not to be considered as jewels. And this, probably, will be thought scope enough to employ



speculation and judgment; notwithstanding which, it is to be supposed, that all who are skilful will agree in sentiments concerning the value of any pearl of a carat weight, however circumstanced, as nearly as in the case of diamonds, as the value of pearls of any weight is to be determined by the price of one of a carat weight, similar in all circumstances. Or, as was said of diamonds, the same may be said of pearls, that every pearl is to be valued as it is worth per carat, by the rule of estimating.

N. B. It is to be observed, that what is supposed of judicious jewellers agreeing in their sentiments to five or ten per cent. concerning the value of any diamond or pearl of one carat weight, by which the value of a diamond or pearl of any weight is to be determined, is to be understood to relate to the natural and just value of them only; and when there is a compliance with any other price, that must be considered as the occasional price; and if persons who buy for their use could be assured what is the just price of any jewel, it would be the means of influencing them to give the value of them.

And this must necessarily facilitate the transactions of this business; and, I am humbly of opinion, if this had been the case in times past, many capital jewels, which have lain many years in the hands of persons who bought them in order to make profit of the money laid out, would have found purchasers of them long ago, to the advantage of their present owners.

As so much depends on traders being masters of the most complete knowledge of this business, it must be supposed they will not be wanting in improving themselves therein by all means that may be procured, as it will render them a beneficial body to the rest of mankind, and of course raise their characters, which have heretofore lain under disagreeable imputations.

Here it may be proper to observe, that whatever knowledge persons may have of the just value of jewels, it will not exempt those who buy them for their own use from sustaining a loss in purchasing them; but it will lessen the losses that might otherwise happen, which the world has heretofore been subject to for want of such knowledge.

That losses must be sustained is unquestionable, and that these must vary as circumstances differ, the following cases will evince.

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*Observations on the Losses supposed to be sustained  
by the Purchase of Jewels.*

THE expence of making some pieces of jewelling work comes to a considerable part of the purchase money; and generally where there is the least value of diamonds, the expence is the greatest, as when a large number of small diamonds are employed: when such a jewel is resold, that expence must be deducted, if it be injured by wear or by accident, or it becomes unfashionable.

Again, jewellers must be supposed to have a considerable sum of money employed in trade, the returns of which are not very frequent; and, therefore, a loss must unavoidably attend the purchasing jewels, and the greatest in buying large diamonds, although the expence of setting them be less,

on account of their lying much longer in the possession of jewellers than those of the smaller sort ; and therefore all jewellers supposing the probability of this, never give so near the value of them as for smaller stones, they being always more marketable.

As this is the case, persons of rank and fortune, that need not regard any reasonable loss, or the interest of money, are the proper purchasers of jewels ; and the money laid out by such persons, can no more be deemed luxury in them, than that which is expended in equipping and furnishing sideboards and cabinets, and on all other costly personal equipments in gold and silver. But it may be said, that the latter are more useful and necessary than the former. To which it may be answered, that their uses may be supplied at a much cheaper rate ; so the appearance and credit must be the remaining motive for laying out money that way, which is the same in respect to jewels ; and if the losses attending the purchasing these be an objection, it will be found to lie as strong against the other, in respect to fashionable elegant things ; the workmanship of which,

upon an average, comes to at least  $\frac{1}{4}$ , if not  $\frac{2}{3}$ , of the purchase money.

The loss by jewels, it is humbly apprehended, will not, in future times, exceed that, although it has been otherwise in times past, as appears by instances that have been given; which show that not above  $\frac{1}{3}$  or  $\frac{1}{4}$  of the purchase money could be obtained for jewels, either by way of pledge or sale; which has chiefly arose from jewellers not being well acquainted with the natural and just value of them, which cannot be the case in future time; it being evident that traders have it in their power to come at their true value, by estimating them as they are worth per carat, by the rule exhibited. This being the case, any one else may attain the knowledge of the value of any diamond or pearl, or parcels thereof, by applying to a skilful jeweller, to know what they may be worth per carat.

And this will be the means of preventing any persons selling their jewels on such disadvantageous terms, as have been before taken notice of; since they will rather pledge them, and wait for a more favourable offer;

and a better knowledge of their value will procure more money lent on them, if occasion requires it, than in times past. And as the skill of traders appears so useful, they must be supposed to be intitled to a suitable reward, for giving their opinions in all such cases. These measures will tend to support the worth of jewels, and render all property of this kind permanent wealth, exclusive of the deductions a little before mentioned, and make them the proper possession of persons of rank and fortune here, as well as in other countries; especially if the wealth of the nation increases; because all purchases of income must advance as that augments, and of course brings down the value of money.

For example: if any one should be forced to give three hundred pounds for an income that in time past could be purchased for two hundred pounds, it is evident that then three hundred pounds is reduced to the value of two hundred. If this be an evil, the laying out the exuberance of our money in jewels seems to be the properest redress of it, as they are a durable, though not a profitable,

treasure; inasmuch as they may be found of convenience in any time of distress, whether private or public. The latter, indeed, we have the happiness to have no reason to fear.

What has been observed of the utility of jewels, diamonds especially, to persons of dignity, and those of affluent fortunes; and of the conduct of the India people, in not forcing the sale of them, by lowering their price; but, on the contrary, withdrawing them, when there appears a slack demand, which is supposed to arise from the great expence they are at in the search of them; for although the price of labour in India is excessively cheap; yet the hands that are employed in this work, as Monsieur Tavernier and other authors have taken notice of, are so very numerous, that it makes it a costly, and even a precarious undertaking; and considering that, notwithstanding Europe has been supplied with diamonds from thence, and from the Brazils, within twenty years last past, abundantly more than in any preceding number of years; yet the amount of the annual value of them, on an average,

comes a great deal short of two hundred thousand pounds sterling : and farther considering, that many countries are come more into the use of them, of late years, than formerly ; and that some, which in times past, were almost strangers to their existence, are now buyers of them, but principally the most indifferent sort ; which is a beneficial circumstance, as the taste of other countries, which I need not name, is so much refined : all these circumstances taken into the account, and supposing the Brazil mines prove abortive, cannot but abate a suspicion, that has been entertained, concerning this part of the world being glutted with diamonds ; which, it is thought by such persons, will in time sink the price of them.

Judging those considerations are sufficient to quell such fears, I shall proceed to show it is not the case at present, their price of late being advanced (I mean in Europe only), and the cause of it is this : that most of the capital jewels are returned into the possession of their proper owners, which have some years past been in the hands of usurers, owing to the great expence that some princes



have been at in the late war; which the peace has not only enabled them to redeem, but likewise qualified them to become farther purchasers. And this proves the fitness of pledging jewels rather than selling them below what they ought to fetch, supposing that necessity does not force any thereto; which is not to be imagined of persons of high rank, or of good estates, as time gives them an opportunity of redeeming any pledges.

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### CONCLUSION.

THIS concludes the important subjects I have been treating of; and the enlargements that have been made to this edition, I flatter myself, will be found not only explanatory of my first publication, but that they will likewise give force to what is therein contained, and which would have been added thereto, had I then seen it to be necessary; but which I have not been convinced of till lately, and now think the omis-

sion of it would be an impediment to my design, which is that of communicating truth and knowledge, beneficial to the public, and to all ingenious traders, and which is calculated to raise their reputations and usefulness, and likewise to promote art in the embellishments of diamonds, and recover, if possible, the almost lost manufacture of them to this kingdom, that has in time past been possessed of the chief share thereof, and which has carried the improvement of it to the greatest height of any part of the world, and is now as capable of doing so as ever, if permitted; which I hope to see brought about.

The loss of this valuable manufacture, and of the trade resulting therefrom, has been wholly owing to a delusive manner of working them abroad, which enables foreigners to sell diamonds cheaper by weight than it is possible to afford well-wrought ones for. By this means they are become possessed of almost the whole of this manufacture and trade.

And this practice has been much countenanced by some traders in London, who have sold for some years past  $\frac{3}{4}$  or more of

these foreign-wrought diamonds, to the great discredit of their wearers ; which conduct seems to come but little short of an affront on the quality and gentry of this kingdom, and shows a manifest disregard of the interests thereof ; which I am sorry to have occasion to take notice of, as well as of some other matters that could not justifiably escape my observation, but which I am satisfied will give no offence to any impartial unprejudiced person ; and the new matter in this edition, I doubt not, will meet with the approbation of the judicious, as it must give an additional enforcement to what is contained in the first, and serve to render these important articles of wealth of more established worth than in times past, since their value appears to be determinable by rules founded on reason and truth, which has hitherto been subject to the capricious estimation of unguided judgment. And I am the more encouraged to hope for the countenance of such persons, as my first has received that honour, as well among people of rank and condition, as among traders in jewels ; and I have the satisfac-

tion of knowing it daily gains ground, and am particularly pleased in finding a considerable increase of business within twelve months past, in the best manner of working diamonds.

And now being no ways conscious of having taken any unwarrantable freedoms in any part of this treatise, but pursued truth, justice, and the fitness of things to the best of my knowledge, I shall not trouble my readers with any farther vindication of my conduct. But in respect to any imperfection of style that may appear in this treatise, I hope the candid part of the world will overlook it, as I make no pretension to any accomplishment in that way ; and all that I have aimed at has been to convey my thoughts in as clear a manner as my abilities would enable me to do : and this, I question not, will be accepted as a sufficient apology for any inaccuracy of expression in the book.



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