[*The whole of the following is extracted from "The Expositor," Oct. 0, 1853.*]

CLARK'S IMPROVED PATENT REVOLVING SHUTTERS.

The following cuts represent several improvements in the arrangement and construction of Revolving Iron and Wood Safety Shutters, for closing shop and other windows, which have been introduced very extensively and effectually by Messrs. Clark and Co. of Chancery-lane, and Gate-street, Lincoln's-inn-fields, and have, so far as we know, given general satisfaction. One improvement, which is the subject of a patent, consists in strengthening the laths, or strips of metal, wood, or other material, by bending, or curving them in the direction of their length, as shown in Fig. 1, which increases their strength tenfold; also, facilitating their connection together, and effectually preventing the insertion of any sharp instrument, or lever, to force the joints. The nature of the curve is such that they are found to roll in one-third less room than those hitherto used, and are well calculated to render openings in buildings thoroughly secure, and impervious to robbery or fire.

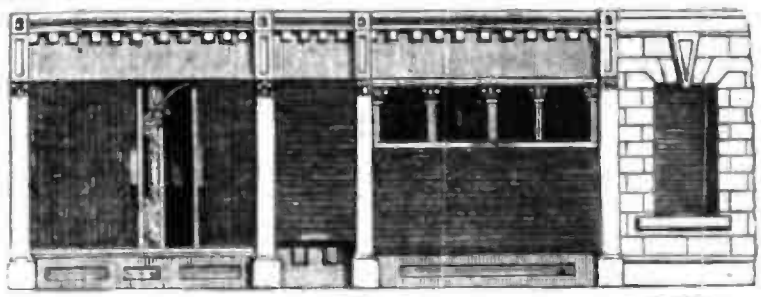
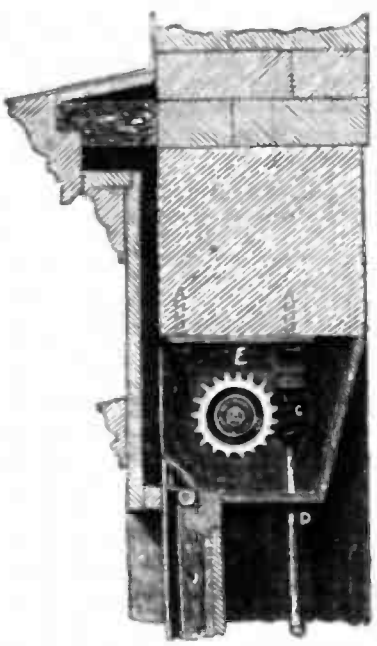
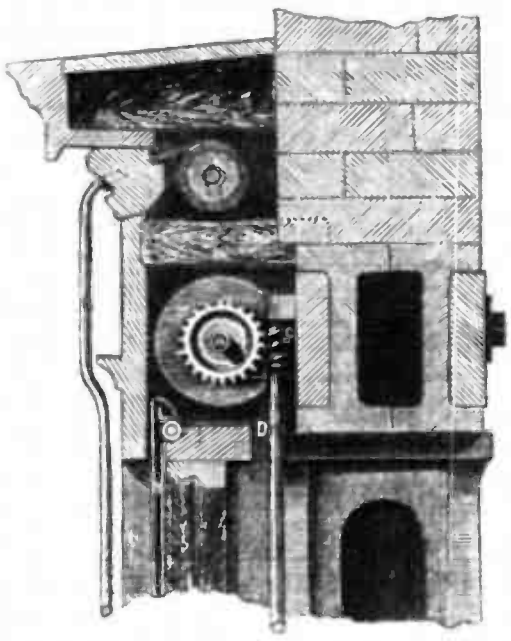


Fig. 1.

The apparatus, or gearing, used for raising and lowering these shutters, as shown in Figs. 2, 3, and 4, is of the most simple and effective character, it being merely an iron shaft (A) or roller, placed, as shown in Figs. 2 and 3, horizontally above or below the window or other opening in suitable bearings, on one end of which shaft is firmly secured a gun-metal wheel (B), the teeth of which are set at a suitable and proper angle, so as to gear into an endless worm, or screw (C), cut on the upper end of a vertical shaft (D), working in a bearing forming a part of the brackets (E) in which one of the bearings of the horizontal shaft or roller (A) is fixed, thereby rendering it impossible for them to slip asunder or out of gear. Connected with the lower end of the vertical shaft are proper and suitable bevel wheels (F), &c. to apply the power in any direction that may be most convenient. On the lower end of the vertical shaft is cut a long, fine screw (G), on which are placed three brass nuts (HHI), the centre one sliding up and down upon a fixed bar (K) as the shaft revolves, the other two being fixed to the shaft (by means of pinching screws) at a proper distance, so that, when the shutter is wound to the proper height, the centre or travelling nut (I) comes in contact with the top fixed nut (H), thereby preventing them from being over-wound, and vice versa on reaching the bottom. The shutter is attached to the horizontal shaft (A), or roller, and passes over a relieving or friction roller (L), placed along the top of the sash, and down the iron groove (M) fixed to the pilaster on each side of the window. The power is applied by means of a crank, or handle (N), which is made to detach for convenience; a few revolutions of which are sufficient to open or close the largest shop, thereby preventing the possibility of breakage of glass, and wear and tear consequent upon the use of the common lifting shutter and clumsy iron bars.





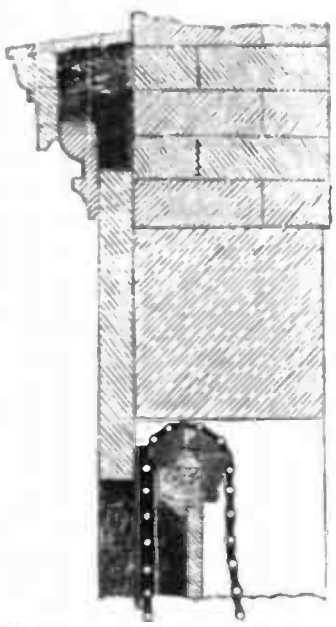


Fig. 3. Fig. 2. Fig. 4.

Fig. 4 represents a shutter fixed below the window, when there is no available space above, and is drawn upward by the pitch chain (O) which passes over the top and bottom wheels (WP) the power being applied to the bottom wheel by means of the endless screw (O) and handle (N), which can be varied according to locality.

These shutters can also be applied at either side of window and drawn out horizontally by suitable chains and apparatus, one of which we had occasion to notice in our last publication being of very large dimensions.

With arrangements so simple and efficient as the foregoing, these shutters, wherever applied, cannot but give the greatest comfort and satisfaction to the shopkeeper. During the last few years, great numbers of them have been fixed, and we have no doubt that, in a short period, they will be as general as plate glass.

Their employment in private dwellings seems to us highly desirable. They may be closed or opened with the same ease as the common folding shutters, and they present greater obstacles to in-breaking, and afford, therefore, greater security than any other shutter against danger of that nature. This remark applies especially to the shutters constructed from thin iron bars, or hoops put in a convex form. Iron in that shape acquires twelve times the resisting power which it possesses in the form of a flat bar, while the joints cannot be so effectually assailed by any instrument from without. This peculiar shutter is therefore applicable with great advantage to rural or suburban houses. It may not be exactly impregnable, but it will occupy more of the time of a clever thief, which is valuable to him, than any other defensive plan of a similar nature, and is worth an additional policeman on the beat. In country districts, where no policemen are expected to interrupt the unwelcome labours of housebreakers, it should be equivalent to the services of one watch dog, and cost nothing for daily food. We believe that one-half of the housebreakings occurring periodically in the country, would be prevented by this apparatus, which is by no means expensive.