

A. CLARK.

Corrugated Metallic Rolling Shutters.

No. 137,595.

Patented April 8, 1873.

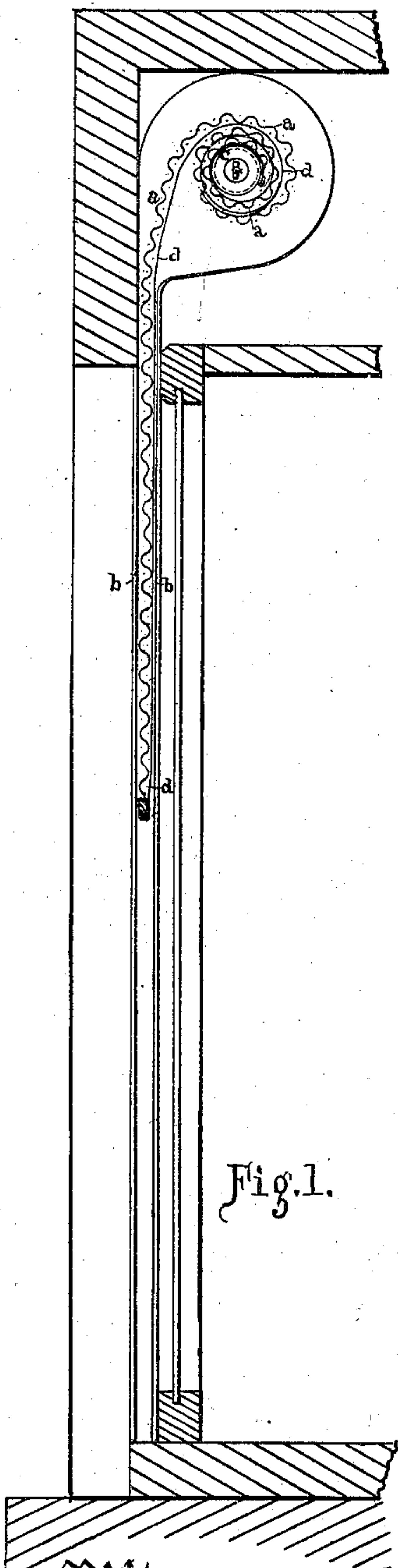


Fig. 1.

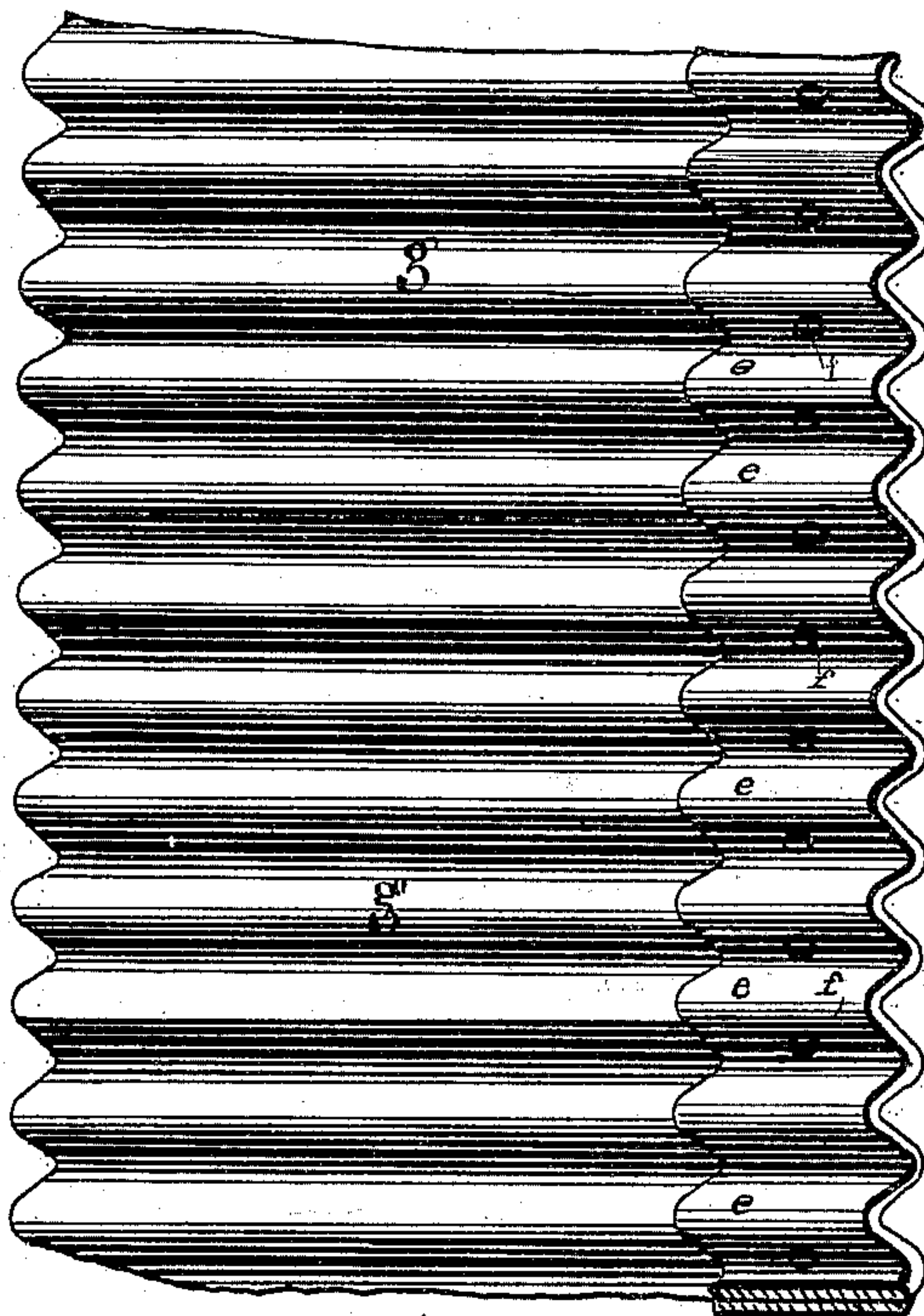


Fig. 2.

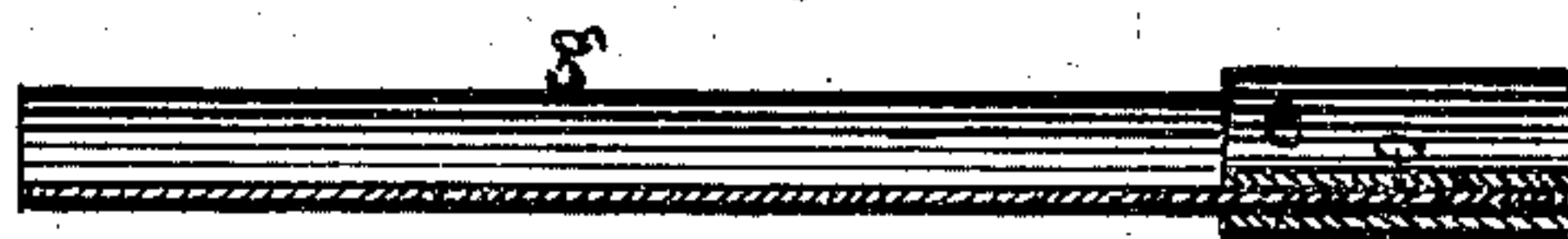


Fig. 3.

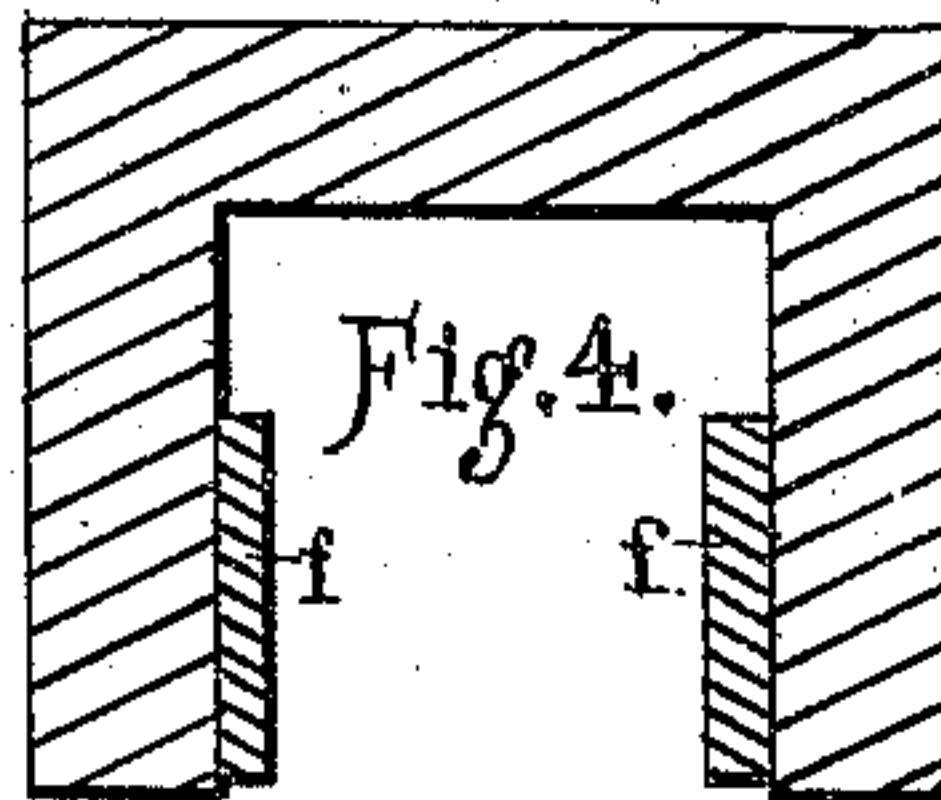


Fig. 4.

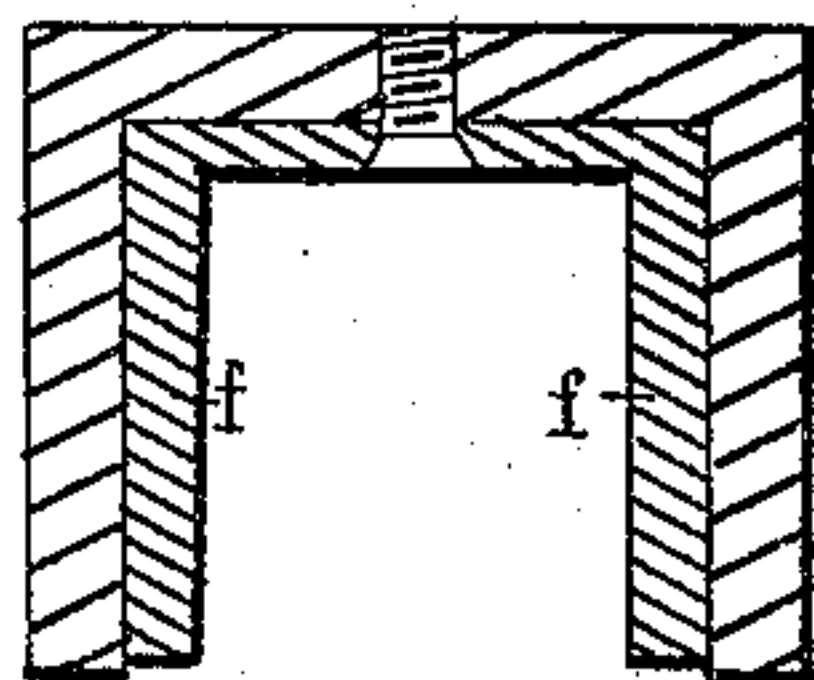


Fig. 5.

Witnesses
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ALEXANDER CLARK, OF LONDON, ENGLAND.

IMPROVEMENT IN CORRUGATED METALLIC ROLLING SHUTTERS.

Specification forming part of Letters Patent No. **137,595**, dated April 8, 1873; application filed February 4, 1873.

To all whom it may concern:

Be it known that I, ALEXANDER CLARK, of Rathbone Place, London, in the county of Middlesex, England, have invented a new and useful Improvement in Corrugated-Metal Revolving Shutters; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification.

The object of my invention is to deaden or prevent noise in raising and lowering corrugated-metal revolving shutters. My invention consists in applying a soft or pliant material—such as leather, webbing, sheet India rubber, or India-rubber tubing—to the shutters and the grooves in which they move.

When applied at one or more intermediate points in the width of the shutter a strip or length of the material is used, fastened at one end to the top and the other end to the bottom of the shutter, and also at any intermediate points, as required, so as to coil up therewith, and form a cushion between the several coils of the metal shutter, and thus prevent the noise produced by the corrugations catching and slipping over one another when the shutter is being coiled and uncoiled.

Instead, however, of fastening the strips to the bottom of the shutter they may be coiled on a spring or other barrel disposed near the barrel on which the shutter is coiled.

In addition to the said strips I bind the edges of the shutter which move in the grooves with India rubber or leather, and I also line the grooves themselves.

Either of these means last mentioned of preventing noise when raising and lowering the shutter may be used separately, or they may be applied in combination.

Figure 1 of the drawing shows, in cross-section, a corrugated sheet-metal shutter, to which lengths of India-rubber tubing are applied at suitable distances apart, according to the width of the shutter. I find this material answers best in this position; but strips of any other soft and pliant material may be employed for the purpose.

a is the shutter, fitted to slide in grooves *b*, and coiled on spring-barrels *c*, as usual. *d* is the strip of India-rubber tubing, fastened at the ends to the top and bottom of the shutter, so as to coil up therewith, as shown.

Fig. 2 shows, in front perspective view, and Fig. 3 in horizontal section, a portion of a shutter, showing the material as applied to the edges. In this case leather is preferably employed. *e* is the leather applied as a binding to the edges of the shutter *g*, and secured by gluing, and lacing through perforations made in the sheet of metal, or by rivets or eyelets, care being taken that the heads of the rivets or eyelets do not come into contact with the metal groove, as in that case noise would be produced.

In the drawing the leather is shown as fastened by eyelets *f*, placed so as not to touch the grooves in holes punched in the metal and leather.

Figs. 4 and 5 show cross-sections of the grooves in which the shutter works. *f* is leather, with which the grooves may either be entirely lined, as shown in Fig. 5, or partially, as in Fig. 4. The leather may be fixed in the grooves by means of screws, or by being glued therein, or otherwise.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The application, to corrugated-metal revolving shutters, of one or more strips or lengths of soft and pliant material, disposed in such manner as to act as a cushion between the coils of the shutter, substantially as and for the purpose described.

2. In combination with the grooves in which the shutter works, a lining formed of strips of leather or its equivalent, applied as shown and described.

The above specification of my invention signed by me this 6th day of December, 1872.

ALEXANDER CLARK.

Witnesses:

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