No. 680,100. Patented Aug. 6, 1901.

P. H. WILSON.

ROLLING SHUTTER.

(Application filed Feb. 28, 1901.)

(No Model.)

Fig. 1.

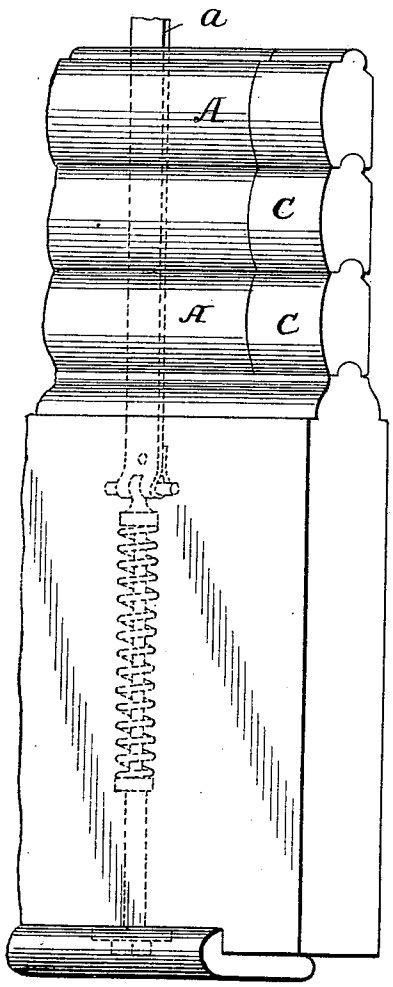


Fig. 2

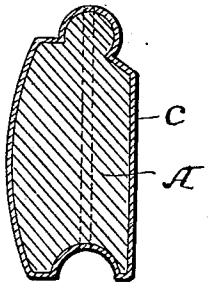


Fig. 3.

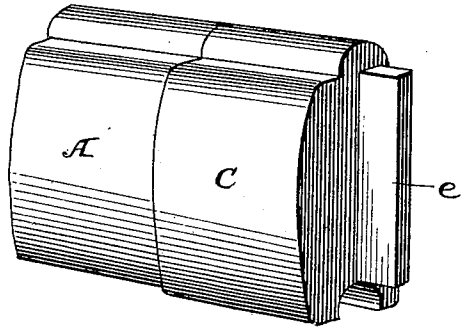


Fig 4.

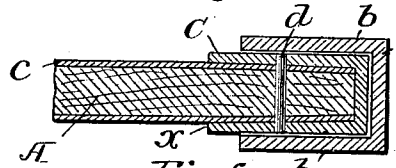


Fig. 5.

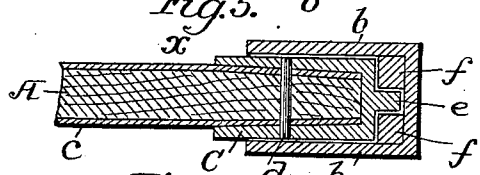


Fig. 6

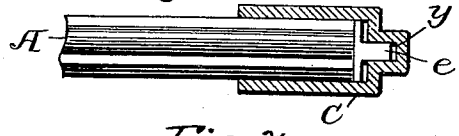


Fig. 7

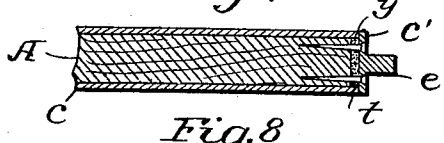
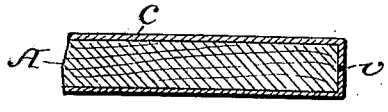


Fig. 8



Witnesses

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PERCY HUNT WILSON, OF OLEAN, NEW YORK.

ROLLING SHUTTER.

SPECIFICATION forming part of Letters Patent No. 680,100, dated August 6, 1901.

Application filed February 28, 1901. Serial No. 49,319. (No model.)

To all whom it may concern:

Be it known that I, PERCY HUNT WILSON, a subject of the King of England, residing at Olean, in the county of Cattaraugus and State of New York, have invented certain new and useful Improvements in Rolling Shutters, of which the following is a specification.

My invention relates to rolling shutters—that is, shutters consisting of slats connected edge to edge, but jointed so as to be rolled into a cylinder or over a cylinder; and my invention consists in means for increasing the durability of the structure and reducing the opportunities for the passage of moisture or currents between the edges of the shutter and its guides, as fully set forth hereinafter, and as illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of one part of a roller-shutter provided with my improvements. Fig. 2 is a cross-section of one of the slats; Fig. 3, a perspective view of one end of one of the slats with its cap-piece; Fig. 4, a longitudinal section, the cap-piece having no rib; Fig. 5, a longitudinal section showing the cap-piece with a rib; Figs. 6, 7, and 8, sectional views illustrating modifications.

The shutter consists of a series of slats A, which, as shown, are ribbed at one edge and recessed at the opposite edge, so that when connected together by a flexible strap *a*, as shown in Fig. 1, or by hinges or in any other suitable manner there will be formed a practically continuous but flexible and jointed shield, and when the structure is erected the ends of the shield are guided between guides *b b*, which may be independent of each other or consist of a U-shaped or channeled bar. The slats as generally constructed are of wood sheathed with a metal sheathing *c*, and in the course of time this sheathing wears away at the point where it slides in frictional contact with the inner faces of the guides, the sheathing being generally of metal of thin gage. Further, rain beating against the outside of the structure follows the surface of the sheathing, works its way between the latter and the guides and into the end of the wooden slats, and soon rots the latter. In the ordinary construction also there is opportunity for the wind to pass readily between the ends of the shutter and the guides, or in case of fire for smoke and flame to follow the same course outward. In order to overcome these objections, I apply to the end of each slat a cap-piece C, preferably of cast metal, but which may be stamped up in some instances of sheet metal, and so sealing or covering the end of the slat in any suitable manner as to prevent the access of moisture and also in some cases to afford a greater mass of metal, which will not wear so rapidly, which strengthens the slat, and which presents shoulders *x*, that prevent the rain from following the surface of the slat and working around the end of the same between the guides.

In the forms shown in Figs. 4 and 5 the cap-piece C is socketed and the socket conforms to the end of the slat, but is tapering toward its closed end, and the end of the slat is driven into the same, thus securing a close fit, which would prevent rattling and the access of moisture and tend to hold the parts together, a screw or rivet *d*, however, being generally employed to hold the cap-piece in place.

In the construction shown in Fig. 7 the cap-piece C′ fits flat against the end of the sheathing *c*, which may extend slightly beyond the wooden core to leave a space *y* for the reception of any suitable waterproof material or composition *t*. In other cases the sheathing *c* may be extended and folded in over the end and soldered at the meeting edges, as in Fig. 8.

To prevent the ready passage of currents of air or smoke or flame around the ends of the shutter and between it and the guides and secure other advantages, I prefer to provide the cap-piece with a vertical rib *e* and to provide vertical guides therefor, as by inserting guide-strips *f f* between the guides *b b*, or, as shown in Fig. 6, the guide may be so constructed as to present a narrow channel *y* for receiving the ribs. In either case the presence of the rib extending into the channel greatly reduces the chance of air-currents or smoke or flame finding their way around the edges of the shutter, and it also serves to so center and guide the slat that its faces need not bear on the parts *b b* of the guide, thus preventing the sheathing from being

worn. The channeled guides, however, may be used with rolling shutters of other constructions than that shown.

While I have referred to the slats as being sheathed, it of course will be understood that my improvement can be applied where the slats are otherwise constructed.

Without limiting myself to the precise construction and arrangement of parts shown, I claim as my invention—

1. A rolling shutter consisting of a series of parallel non-metallic slats connected edge to edge, and each provided at the ends with independent inclosing cap-pieces, substantially as set forth.

2. A slat for a rolling shutter provided with cap-pieces sealing the ends and with a cement below the cap-pieces, substantially as set forth.

3. The combination with the side guides of a rolling shutter, of a series of connected non-metallic slats each provided with a separate inclosing cap-piece extending between said guides, substantially as set forth.

4. The combination with the side guides of a rolling shutter, of a series of connected slats each provided with an end bearing consisting of a cap-piece within which the end of the slat is confined, substantially as set forth.

5. The combination with the side guides of a rolling shutter, of a series of connected slats each provided with an end bearing consisting of a cap-piece having a tapering socket within which the end of the slat is confined, substantially as set forth.

6. The combination with the side guides of a rolling shutter, of a series of connected non-metallic slats each provided with a metallic sheath and with an end bearing consisting of a cap-piece within which the end of the slat is confined, substantially as set forth.

7. The combination with a rolling shutter consisting of a series of connected slats, of guides, and a rib or projection at the end of each slat extending between said guides, substantially as set forth.

8. The combination with the slats of a rolling shutter, of separate cap-pieces sealing the ends of the slats and provided with vertical ribs, substantially as and for the purpose set forth.

9. The combination with a rolling shutter having slats with projections at the ends, of a guide receiving the ends of the slats and provided with a channel receiving said projections, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PERCY HUNT WILSON.

Witnesses:
J. H. THOMPSON,
J. M. LARKIN.