

J. G. WILSON.
ROLLING-SHUTTER.

No. 173,705.

Patented Feb. 15, 1876.

Fig. 1.

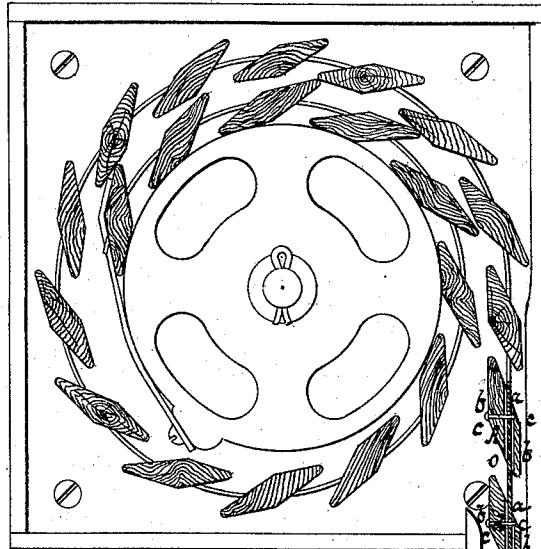


Fig. 4.



Fig. 2.

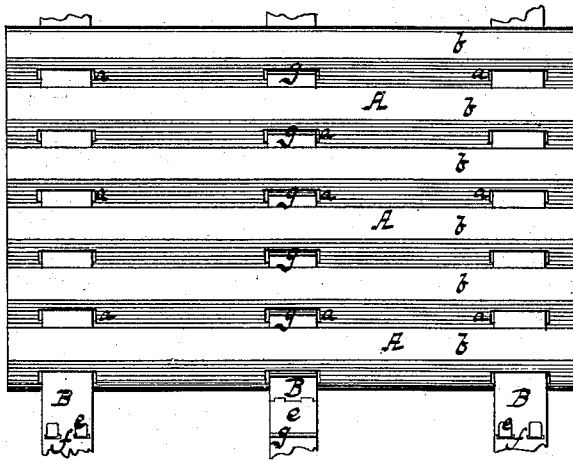
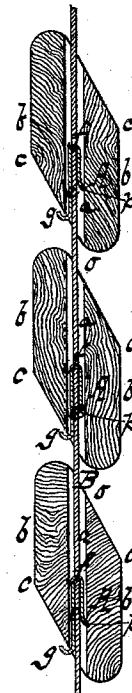


Fig. 3.



Witnesses.

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JAMES G. WILSON, OF NEW YORK, N. Y.

IMPROVEMENT IN ROLLING SHUTTERS.

Specification forming part of Letters Patent No. **173,705**, dated February 15, 1876; application filed December 16, 1875.

To all whom it may concern:

Be it known that I, JAMES GODFREY WILSON, of the city, county, and State of New York, have invented a new and useful Improvement in Rolling Shutters, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a transverse section of my shutter when the same is partly closed. Fig. 2 is a front view of the same. Fig. 3 is a transverse section of the same on a larger scale than the previous figures.

Similar letters indicate corresponding parts.

This invention consists in a rolling shutter, the slats of which are diamond-shaped, and provided with mortises running parallel to two sides of said slats, so that the same, when strung on their supporting-bands, are retained easily and securely in the required position, and that when the shutter is open, downwardly-inclined spaces are left between the slats, through which persons stationed on the inside can look out, and through which the air can freely circulate, while the rays of the sun are effectually excluded. The slats are retained in position by hooks, which catch in the supporting-bands and over the edges of the mortises in the slats through which the supporting-bands pass, said hooks being inserted from one side into the middle supporting-band, and from the opposite sides into the outer supporting-bands, so that each slat is securely confined in its position.

In the drawing, the letters A A designate the slats of my rolling shutter, which are made diamond-shaped, as shown in Figs. 1 and 3 of the drawing, and which are provided with mortises *a*, through which pass the supporting-bands B. The mortises *a* run parallel to the sides *b b* of the slats A, so that when said slats are strung on their supporting-bands, and the shutter is closed, the sides *b b* of the slats are brought in vertical planes, and that the shutter when it is closed presents flat surfaces on the inside and also on the outside. At the same time, when my shutter is closed, downwardly-inclined open passages *c* are left between the slats, which permit a free circulation of air, and which permit persons

stationed on the inside to look out, while the rays of the sun are effectually excluded.

Another advantage of my diamond-shaped slats is that the mortises *a* are of sufficient length to steady the slats on their supporting-bands. It must be remarked that the effect of my slats will not be changed if their corners *c c*, or either of them, are rounded off, so as to make the cross-section of each slat oval or egg-shaped. Such form I consider an equivalent of the diamond shape shown in the drawing.

Instead of passing the supporting-bands through mortises in the slats, I can secure the same to the slats by means of metallic clasps *a'*, (see Fig. 4,) which are fastened to the outside of the slats. In this case the spaces between said clasps and the sides of the slats form the substitute for the mortises. This method of fastening is preferable when the supporting-bands are made of a textile fabric or of leather. When the supporting-bands are of metal, I pass the same through mortises in the slats, as above described. On these metallic supporting-bands the slats can be secured in different ways.

In Fig. 1 I have shown simple pins *d*, which pass transversely through the slats and through the supporting-bands. But I prefer to fasten the slats on their bands by hooks *e*, Figs. 2 and 3, said hooks being made to catch at one end into holes *f* in the bands, while their other ends form lips *g*, which catch under or over the edges of the mortises *a*.

In order to confine each slat in its position, I use three supporting-bands, one in the middle and two near the ends of the slats, and I apply the hooks *e* to the middle supporting-band, so that their lips *g* catch under the lower edges of the respective mortises, while the hooks on the outside bands are so placed that their lips catch over the upper edges of the respective mortises. By these means the slats can be secured in position in a simple and durable manner, and the full strength of said slats is preserved.

The ends of the hooks *e* may be provided with spurs *p*, which bite into the slats and prevent the same from sliding on the supporting-bands. If desired, the lips *g* may be left

off, and the hooks may be provided with two spurs, one on each side of the supporting-band, so as to retain the slats firmly in position, but I prefer to use the lips *g*, because, by their action, the distance between the slats is automatically regulated.

What I claim as new, and desire to secure by Letters Patent, is—

1. A rolling shutter, composed of diamond-shaped slats strung on supporting-bands, which pass through mortises running parallel to the sides *b b* of said slats, whereby, when the shutter is closed, downwardly-inclined open

spaces *o* are left between the slats, substantially as and for the purpose shown and described.

2. The combination of the hooks *e*, having lips *g*, with the mortised slats *A* and the metallic supporting-bands *B* of a rolling shutter, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 11th day of December, 1875.

JAS. G. WILSON. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.