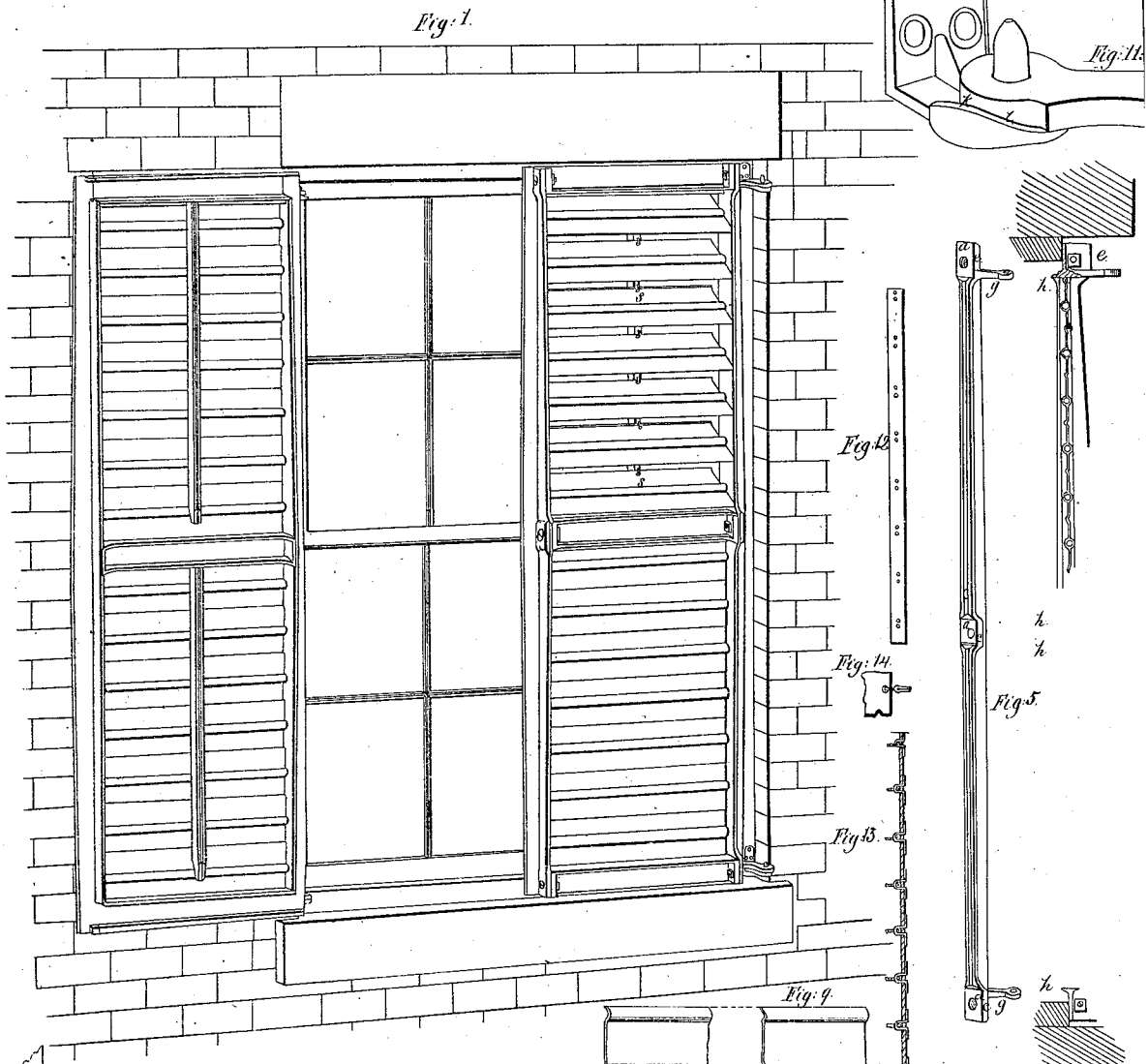
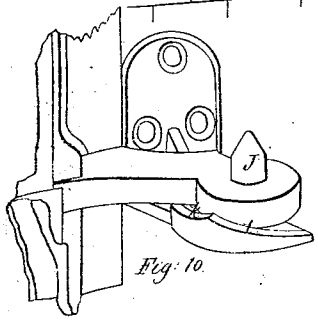
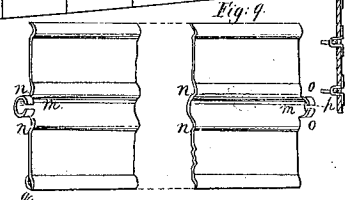
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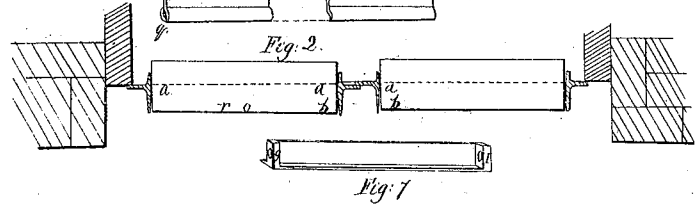
Window Shutter

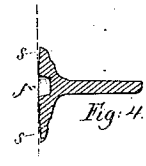
No. 20,576. Patented Jun. 15, 1858.

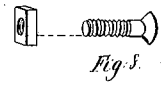


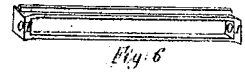












THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

CHARLES NEER, OF TROY, NEW YORK.

METALLIC WINDOW-BLIND.

Specification of Letters Patent No. 20,576, dated June 15, 1858.

To all whom it may concern:

Be it known that I, CHARLES NEER, of the city of Troy, in the county of Rensselaer and State of New York, have invented new and useful Improvements in Metallic Window-Blinds; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The object of my invention is to construct a rolling slat window blind frame, so that its parts may easily be dismembered for transportation or repairs, at the angles of the frame by the use of joint bolts or screws for that purpose, and to so construct blinds as not to require any fitting to the windows and the least possible mechanical skill to trim and hang, and also of rolling slats at small cost susceptible of being easily adjusted or that will remain at any desirable position.

To enable others to make and use my invention I proceed to describe its construction.

The stiles are iron, cast nearly in the form of the letter T, as shown in a cross section Fig. (4). For five feet blinds the iron represented by either part of the letter T should be plump $\frac{1}{8}$ of an inch thick by $1\frac{1}{8}$ of an inch wide at or near either end rail and $1\frac{3}{4}$ inches in the middle. That portion represented by the upright part of the letter T being about $\frac{1}{4}$ of an inch from the center of the horizontal part so that the rolling tenon of a two inch slat being opposite or in line with that part of the stile represented by the upright part of the same letter there shall be sufficient width on the face of the stile represented by the horizontal part of the letter T into which the tenons enter to pass a little beyond the width of the slat when horizontal or in its widest position.

The form of the stile may be seen by a cross section Fig. (4). In Fig. (2) is shown a narrow flat part (*a a a a*) in which are the holes for the slat tenons and two slight angles therefrom (*b b*) which are to prevent the rubbing of the shoulders of the slats that they may be made to run close. On the outside of each stile opposite the end of the rails there is a small raise to give strength through which the joint bolts or screws pass Fig. (5) (*c c c*). On the inside a small recess or boxing (*d d d*) to receive the ends of the rails and at the ends, opposite the top and bottom rails. They are widened out on the outside to form a line with the center of the stiles in order to give a good bearing to the ends of the rails and to prevent injury of the slats or stiles themselves by coming in contact with the side of the building Fig. (3) (*e e e*).

The holes for the tenons of the slats Fig. (4) (*f*) should be about $\frac{5}{16}$ of an inch at the surface and $\frac{1}{16}$ of an inch at the bottom to render it easy entering the spring tenons and to construct them when brought down to the shoulder of the slat for the purpose of easily adjusting the slats, the holes should be about $\frac{3}{16}$ of an inch deep, and are all made by setting chills in the pattern it being drilled for that purpose as also the holes for the joint bolts or screws requiring no fitting for use. On each hanging stile and on the raise Fig. (5) (*g g*) I cast a lug in connection with the raise forming the entire part of hinge usually screwed to the blinds, giving the necessary strength to that part of the stile and saving the expense of screws and the labor of putting them on. The top and bottom rails are in form similar to the stiles but are wider each about $1\frac{1}{8}$ and 2 inches Fig. (7), the middle rail having the form of the letter H Fig. (6), all of them having a small rib or its equivalent for the edges of the slats to shut against to close off light and dust Fig. (3) (*h h h h*). The ends of the rails are filled up on the outside for about $\frac{5}{16}$ of an inch of their length forming a shoulder to connect with the stiles and to receive the joint bolts passing through them in connecting them with the rails Figs. (7 and 8) (*i i i i*).

That part of the hinge which is to be attached to the building has a flat upright part through which the screws pass into the casing of the window frame with a flat horizontal part at right angles with the upright part Figs. (10 and 11) with a small rib or brace in the corner to give strength, on the horizontal part is an upright pivot (*j*) which if to be used on brick buildings should stand about $1\frac{3}{4}$ inches from the backside of the part screwed to the window casing, and if a wood building less. Around one side of this pivot on the plate is a section of a cylinder, on a radius from $1\frac{1}{2}$ to 2 inches and about $\frac{5}{8}$ of an inch high at its summit, that being level about 1 inch (*k*) and descending

each way to about $\frac{1}{8}$ of an inch to the surface of the plate (*l*) leaving room so as never to let the part of the blind hinge which runs over and upon the summit and these inclines run off but rests on one incline when shut, and the opposite one when open to prevent all disturbance by wind and requiring much less to keep them in place than if allowed to move or be at all loose when standing open or shut the incline should be the greatest at the points where the blinds rest when open or shut.

My slats are each formed of one entire piece of sheet iron or other metal with a hollow swaging from end to end at or near its center the reverse side of the hollow being a semi-circle and forming one side of each tenon Fig. (9) (*m*). On each side of said hollow is a reverse hollow of about half the size (*n*.) The metal should be cut scant $\frac{3}{8}$ of an inch longer than the slat is to be from shoulder to shoulder it then being cut at each shoulder from the edges to each side of that part forming the tenons (*o*) then the small parts being cut off far enough from the center to bend round and form a round tenon. Or one part may be left long enough to lap around the outside of the other and not being bent quite to touch the part within forming a yielding part or spring. But for the purpose of adjustment of the slats in the blind more easily I cut the parts a little short, and do not bring them to meet by about $\frac{1}{16}$ of an inch leaving them at their points a little out of a true circle with room for them to yield, making a round rolling elastic hollow spring tenon which will yield sufficiently to roll yet always retaining its position (*p*.) The edges of the slats are bent to close tight and give strength (*q*). Each slat has a small hole in one edge for the staples to the rod Fig. (2) (*r*).

The rod is made of a piece of sheet iron or other sheet metal about one inch in width with the holes for the staples being made on a line in the center. It is then bent on a line with the holes bringing edges to about one eighth of an inch of each other it then being ready for use or shipment in attaching them to the slats a small wire staple is passed through the hole in each slat and through the holes in the rod and bent down and the edges of the metal forming the rod press together and if preferred one edge of the metal may be wide enough to turn over the other forming a lock or small rivets may be used but I do not consider either important.

I think it will be seen that by this form of stile that I get perhaps the greatest strength of the iron and at the same time the necessary and most desirable form to receive and protect the slats and stile itself from injury by coming in contact with the wall of the building and of making the slats to run close at the shoulders yet easily by means of the stiles being the fullest on a line with the tenons of the slats and from that point slightly beveled off to each edge as seen by cross section Figs. (4) (*s*) or in any form to drop a little below the line of the shoulders of the slats from near its center and by Fig. (3). It will be seen I get a good width to receive the slats and also a thin margin around the entire blind, adapting it to hang upon the surface of the window casing by lapping more or less as the size of the windows may vary dispensing with any fitting, as shown by Fig. (4) to all the imperfections in the size of window frames. They may lap one upon the other at the center of the windows Fig. (2) the small openings at the top and bottom of one blind caused by the lap of one on the other is provided for by a small rib on the inside of top and bottom rail of the blind that laps upon the other.

By the form of the rails as seen by Figs. (6 and 7) it will be noticed that the greatest care has been taken to get a strong and yet light frame easily put together or dismembered. By the use of a hinge with double or reversing inclines over and upon which the weight of the blinds pass they may be held open as well as shut and avoid the use of the small delicate trimmings so liable to disorder and repairs. For very large blinds I would recommend setting the lower hinge down upon the window stool and have it sufficiently large to let the lower end of the blind itself run over and upon the inclines, rendering them more secure, and the inclines being a little more steep at each standing point, namely when the blinds are entirely open or entirely shut will render them sufficiently secure for any size.

By the above arrangements the consumer will get fire proof blinds hung on the building probably at as little cost as the common wood blind, at least if the wood blinds are made as ornamental. All the expense of fitting to the window and the principal part of trimming being dispensed with requiring only screwing on of that part of the hinge which is always attached to the building requiring very little skill, and as work is always done at less cost at the manufacturers and these blinds being so constructed as to be easily and safely shipped to dealers, the public will derive the advantages.

What I claim as my invention and desire to secure by Letters Patent is—

1. Connecting the slats of metallic blinds by means of staples inserted into a folded metallic strip, when bent up and secured substantially as specified.

2. I claim the circular spring tenon, formed on the ends of sheet metal blind slats substantially in the manner specified,

to be inserted into the hole in the stiles and cause the necessary friction, but prevent the tenon binding as set forth.

3. In combination with said sheet metal blind slats I claim the metallic frames formed of the detachable rails and tapering stiles in the manner and for the purposes specified.

4. I claim beveling the stiles each way from the line of holes receiving the ends of said metallic blinds slats, for the purpose of giving freedom to the slats when opened, but forming a tight joint when closed, as set forth.

CHARLES NEER.

Witnesses:
A. F. PARK,
ED. H. UNIAC.