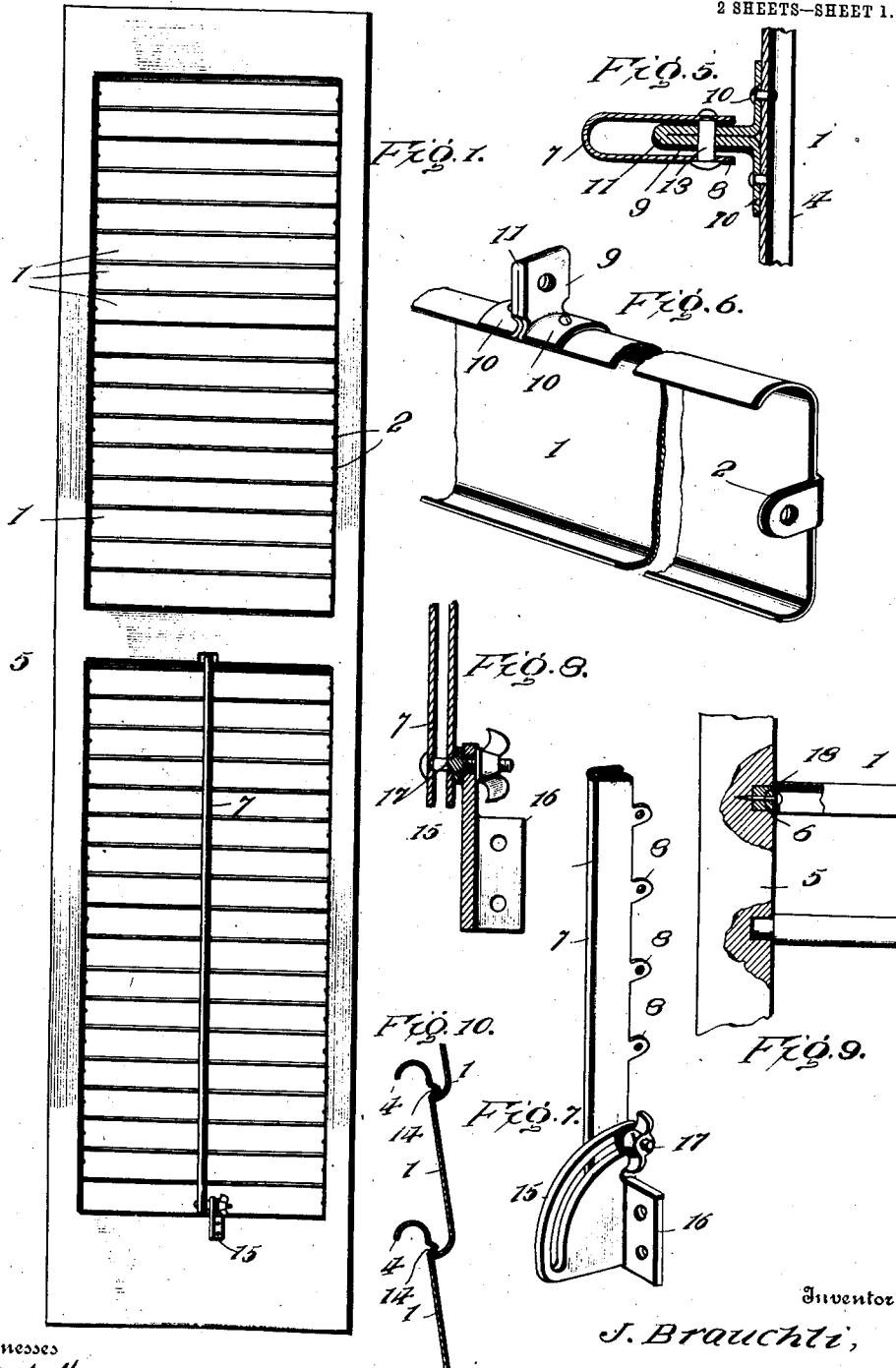


No. 840,820.

PATENTED JAN. 8, 1907.

J. BRAUCHLI.
SHUTTER CONSTRUCTION.
APPLICATION FILED OCT. 23, 1905.

2 SHEETS—SHEET 1.



Witnesses
W. V. Woodson
L. H. Schmidt.

By

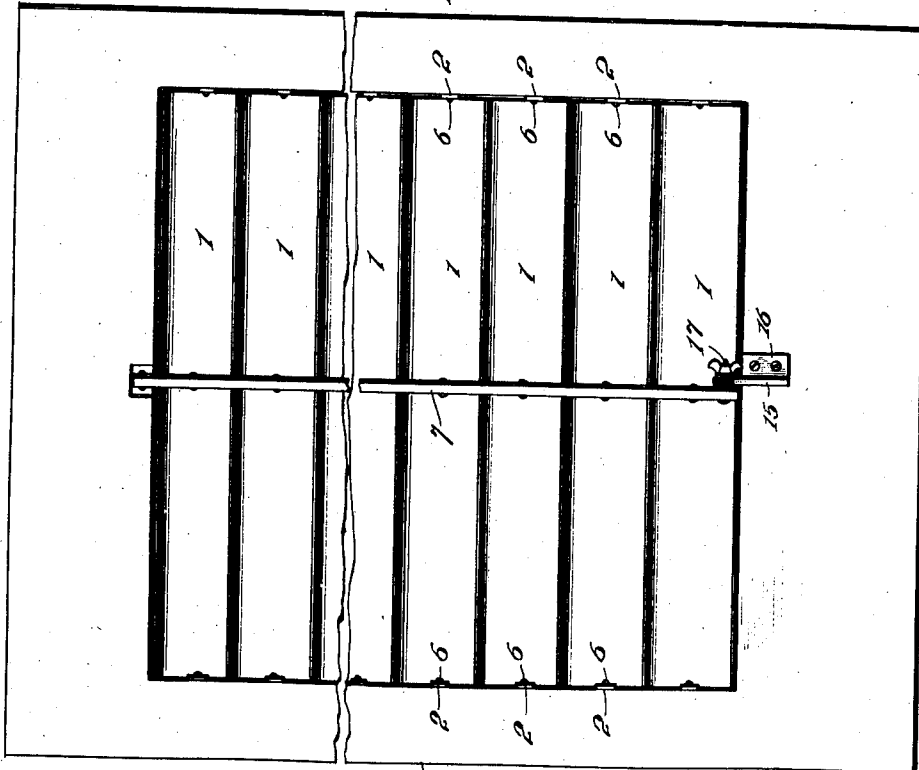
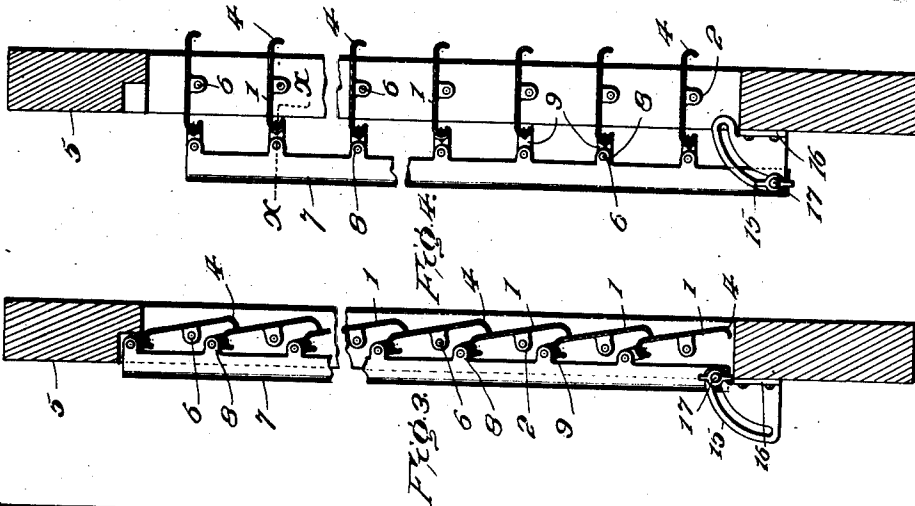
J. Brauchli,
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2 SHEETS—SHEET 2.



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FIG. 2.

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UNITED STATES PATENT OFFICE.

JACOB BRAUCHLI, OF HAMPTON, VIRGINIA.

SHUTTER CONSTRUCTION.

No. 840,820.

Specification of Letters Patent.

Patented Jan. 8, 1907.

Application filed October 23, 1905. Serial No. 284,069.

To all whom it may concern:

Be it known that I, JACOB BRAUCHLI, a citizen of the United States, residing at Hampton, in the county of Elizabeth City and State of Virginia, have invented certain new and useful Improvements in Shutter Constructions, of which the following is a specification.

One of the principal objects of my invention is to provide an improved construction of shutter-slat and worker therefor, which will do away with the expensive operation of boring and mortising the wooden frames of shutters to accommodate wooden slats, as is now necessary, and to provide an improved means of mounting and securing the slats in place in the wooden frame. The omission of the boring and mortising operation in the construction of the shutter is a great advantage, as it simplifies the manufacture and reduces the cost of the shutter. By my invention the slats can be readily mounted and secured in place after the frames have been completely assembled, which is a feature not possessed by the ordinary wooden shutters now commonly employed, and by my invention also it is possible to use the various parts of my improved slat construction for repairing old shutters that are now in use, thus increasing the value of my invention considerably.

A further object of the invention is to provide a device of this character in which the various parts are so arranged, combined, and constructed that repairs can be made whenever necessary with ease and without the assistance of skilled labor, in which the parts may be inexpensively manufactured and economically assembled, so as to reduce the cost of the shutters or blinds as much as possible consistent with the results accomplished by my invention, and a further object is to provide simple and efficient improvements in the means for connecting the actuating-rod of my invention with my improved construction of slats, in lieu of the objectionable staple connection now commonly employed, with a view of preventing any or all of the slats from becoming loose or disconnected from the actuating-rod.

The great ease with which the rods and slats break apart with the present method of construction is one of the most objectionable as well as annoying features of the shutters now in use, as it is impossible in the present construction to keep them in proper working

order for any length of time, and to overcome this objectionable feature in a simple, efficient, and durable manner is one of the principal aims in developing my invention and the results accomplished thereby, and a further object of the invention is to provide improved means whereby the metallic slats employed in carrying out my invention will when turned to a closed position practically form air and water tight joints with each other, a result not obtainable with wooden slats, and at the same time present practically the same appearance as the old wooden slats now in use.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a front elevation of a shutter embodying my invention. Fig. 2 is a similar view, on a larger scale, showing the rolling slat portion of the shutter. Fig. 3 is a vertical section thereof with the slats in closed position. Fig. 4 is a similar view with the slats open. Fig. 5 is an enlarged horizontal section of a portion of the device, the section being taken approximately on the line X X of Fig. 4. Fig. 6 is a detail perspective view of a portion of one of the slats. Fig. 7 is a detail perspective view illustrating the shifting rod and the plate to which it is adjustably attached. Fig. 8 is a detail sectional view of the parts shown in Fig. 7. Fig. 9 is a detail fragmentary view illustrating the application of my invention to a shutter-frame of the present mortised construction. Fig. 10 is a detail view illustrating the rib on the slats.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the reference-numeral 1 designates my improved slats, each one of which is formed of suitably light and stiff sheet metal, which may be punched out flat by a punching-machine, with an apertured ear 2 at each end thereof, and then subsequently shaped so that the ears 2 will extend at right angles to the main portion of the slat. The slat also is so shaped at its edges that it will be curved transversely, as shown in the drawings, and by this means the slat will not only be stiffened, so that very

light material may be employed, but when the slats are assembled the said rounded edges, which are designated 4, when one overlaps the other will present from the outside of the shutter an appearance very similar to the old wooden slat construction now commonly employed. These slats 1 may be assembled in the shutter-frame 5 after the latter has been entirely constructed by means of pins or screws 6, which are inserted through the apertured ears 2 in the wooden sides of the frame. For the lower or rolling set of the slats the pins or screws are driven into the frame in such a manner as to permit slats to turn freely about their longitudinal axes on the pins, and for the upper or stationary slats it is only necessary to drive the pins or screws farther into the wood until they bind against the ears in order to hold the stationary slats in the proper adjusted positions. The actuating-rod 7 for the slats is also constructed, preferably, of sheet metal and may be conveniently stamped out and shaped, and it comprises a structure U-shaped in cross-section with a pair of apertured ears 8 for each one of the rolling slats 1. As a means for pivotally connecting the said slats with the actuating-rod 7 I have provided a sheet-metal ear 9, which is composed of a piece of sheet metal bent or buckled intermediate its ends and with the buckled portion pressed closely together and provided with an aperture and with ends bent outwardly and in opposite directions and extending at angles to the intermediate buckled portion. By this means two oppositely-extending plates 10 are provided that are riveted to one of the bent edges 4 of a slat, preferably at the middle thereof, and there is also provided an apertured projection or lug 11, which is embraced by the ears 8 of the actuating-rod 7. As will be seen by special reference to Fig. 6, the sheet-metal ears 9 are provided at opposite edges at the juncture with their outwardly-extending plates 10 with recesses, which facilitate the curving of the plates 10, as shown in said figure, to conform to the rounded edges of the slats to which they are secured.

As a preferred means for pivotally securing the lug 11 between the ears 8 I provide a rivet, which is formed with a smooth shaft 13, inserted through the apertured lug 11, so that the latter may turn thereon with a minimum of friction, and said rivet is provided with heads, one of which is preferably formed therewith initially, while the other is formed after the rod has been inserted through the ears 8 by mashing the outer end of the rivet over the outer surface of the adjacent ear. By this means a comparatively frictionless and secure connection is effected between the actuating-rod and each one of the pivoted slats 1, so that by manipulation of the rod the slats may be shifted to different open po-

sitions and also closed down, so that the edge of one will overlap the adjoining surface of the slat next below it. In order to secure a water, snow, or practically air tight joint between the slats when closed, each one of the slats may be provided with a longitudinally-extending rib 14, over which the round edge 4 of the slat next above fits. If desired, the ribs 14 may be so located with respect to the coacting edges of the slat next above that the lower rounded edges 4 when the slats are in a closed position will bind somewhat over the ribs to effect a tight joint.

In order to hold the slats in their adjusted position, there is provided a plate 15, which may also be formed of sheet metal and provided with an attaching portion 16, designed to be secured by screws or the like to the lower rail of the shutter-frame, the main portion of the plate 15 extending outwardly from said rail and being provided with a curved slot, within which an adjusting-pin 17 is designed to work, said pin being provided with a thumb-nut to bind it in different adjusted positions. The adjusting-pin 17 is mounted at the lower end of the actuating-rod 7, so that the latter may be held at different elevations to hold the slats adjusted by simply turning the thumb-nut of the actuating-pin after the latter has been adjusted in the slot.

As shown in Fig. 9, my invention, as stated at the outset of the description, is capable of application to shutter-frames employing the ordinary wooden slats, and I have shown in said figure the means whereby such application may be made. By simply driving the wooden plug 18 in the mortises which are provided for the wooden slats it is evident that the ears 2 of my improved construction of slat may be attached at said point and the improved slat substituted for the wooden slat. It is manifest that a shutter-frame may be entirely fitted out with my improved construction of slat and actuating means whether or not the frame of the shutter be already provided with the mortises for the ordinary wooden slats, and that my invention is also applicable to any form of shutter-frame, although it is preferred when constructing the invention outright to provide a shutter-frame without mortising, for by so doing economies in manufacture are realized.

From the foregoing description, in connection with the accompanying drawings, it will be seen that I have provided a simple and durable form of metallic slat construction for shutters which is applicable to any form of shutter-frame, which is durable in construction and efficient in operation and which can be readily assembled without the employment of skilled labor.

Having thus described the invention, what is claimed as new is—

A shutter comprising a frame, metallic

slats the edges of which are rounded, corresponding and the ends of which are formed with integral offset ears designed for pivotal engagement with the sides of the frame, 5 sheet-metal strips doubled intermediate their ends and provided with two outwardly-extending end portions substantially at right angles to the doubled part and riveted to the slats at the rounded edges thereof, conforming to the curvature of said edges, the double 10 portion of said strip being perforated and the side edges of said strip lying flush with the margin of the rounded portion of the slats, a

U-shaped rod provided at intervals with ears extending at right angles from its edges and 15 embracing the apertured double portion of the said metallic strips and pivotally connected thereto, and means for holding said rod in different adjusted positions.

In testimony whereof I affix my signature 20 in presence of two witnesses.

JACOB BRAUCHLI. [L. S.]

Witnesses:

ALB. F. GANZ,

LOUIS J. STURSBURG.