(No Model.) 2 Sheets—Sheet 1.

J. J. BROUGHALL.

STAMP GUIDE.

No. 379,931. Patented Mar. 27, 1888.

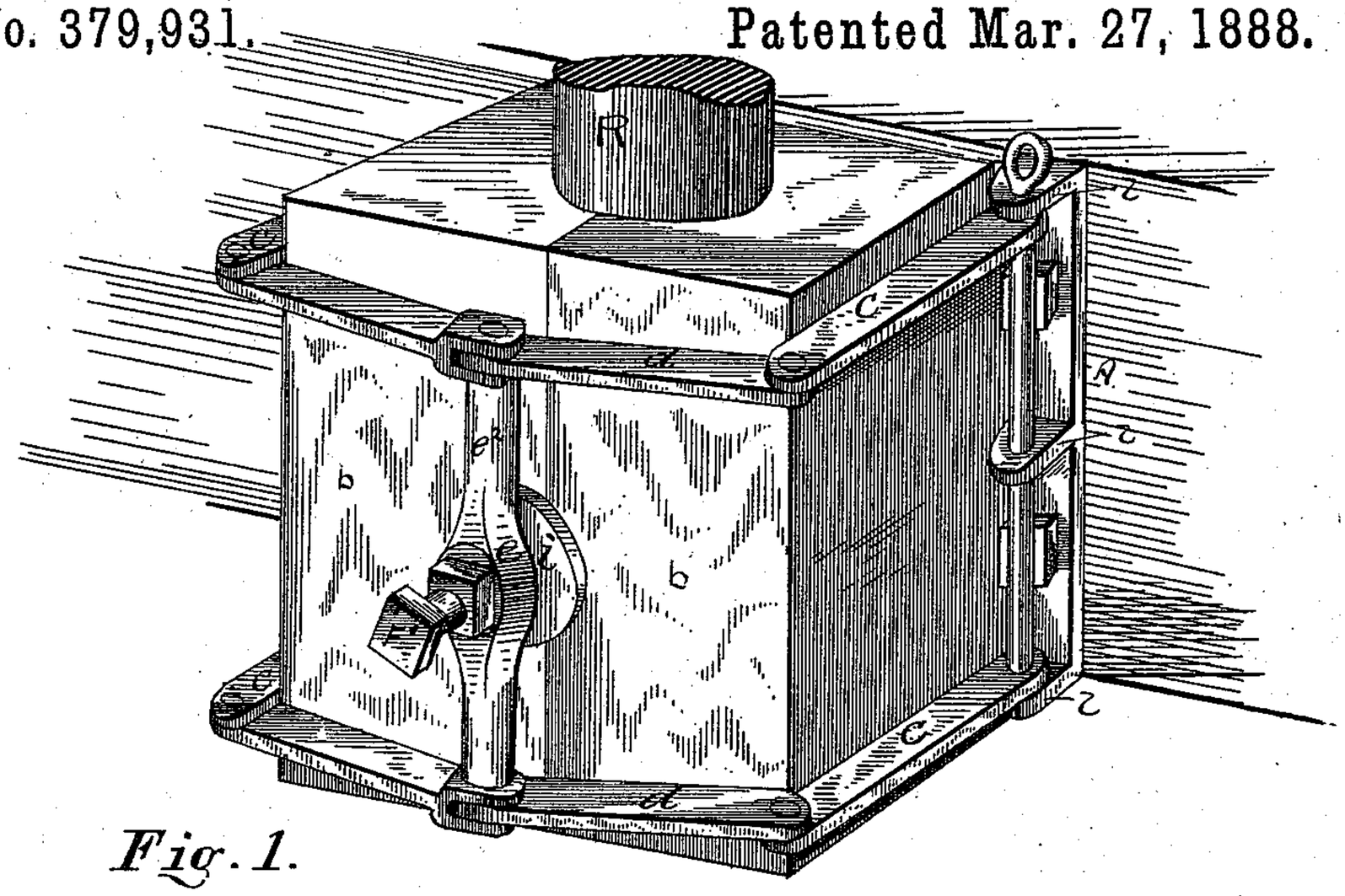


Fig. 1.

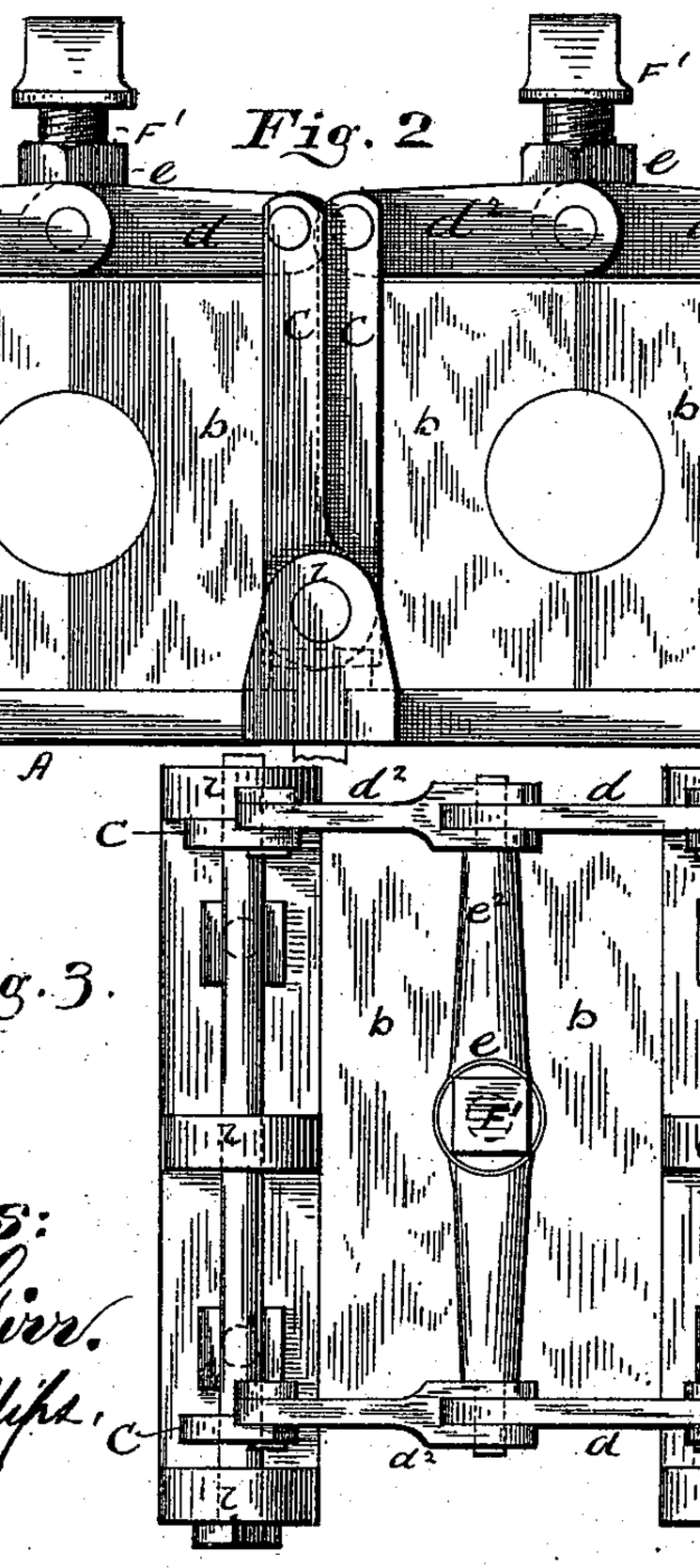
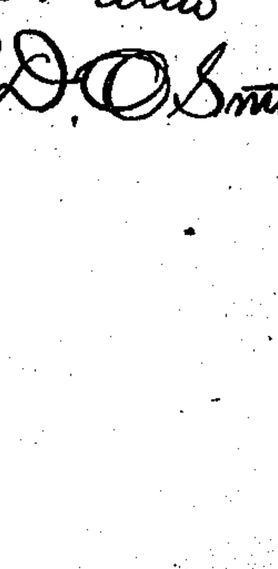


Fig. 2

Fig. 3.

Fig. 4



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(No Model.) 2 Sheets—Sheet 2.

J. J. BROUGHALL.

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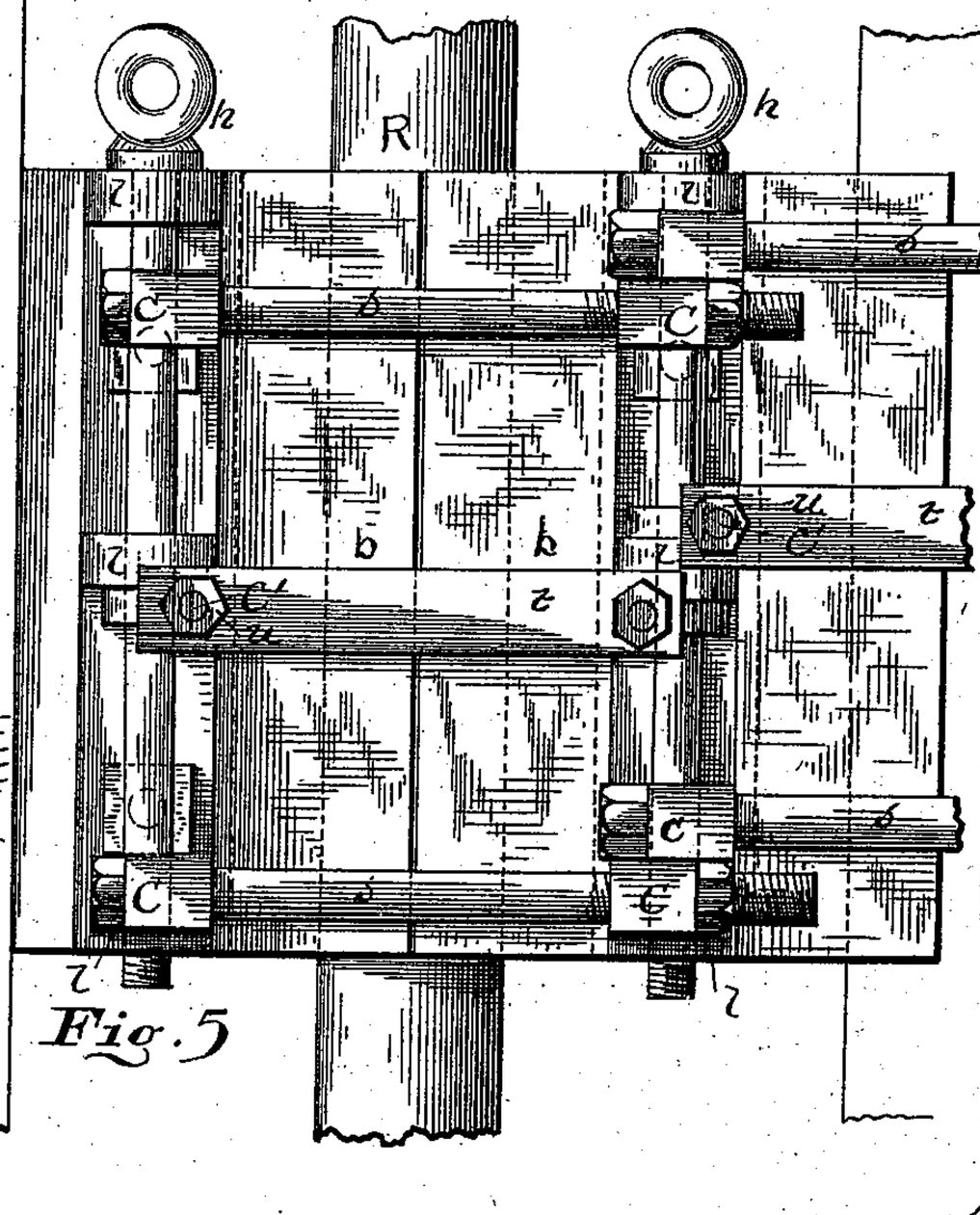

Fig. 5

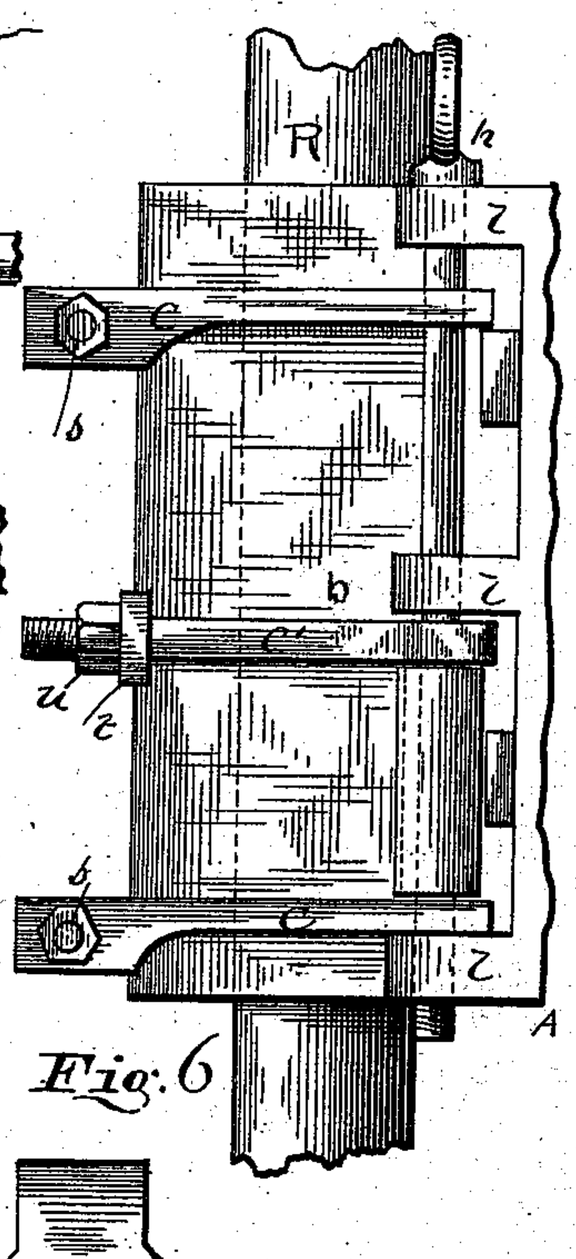

Fig. 6

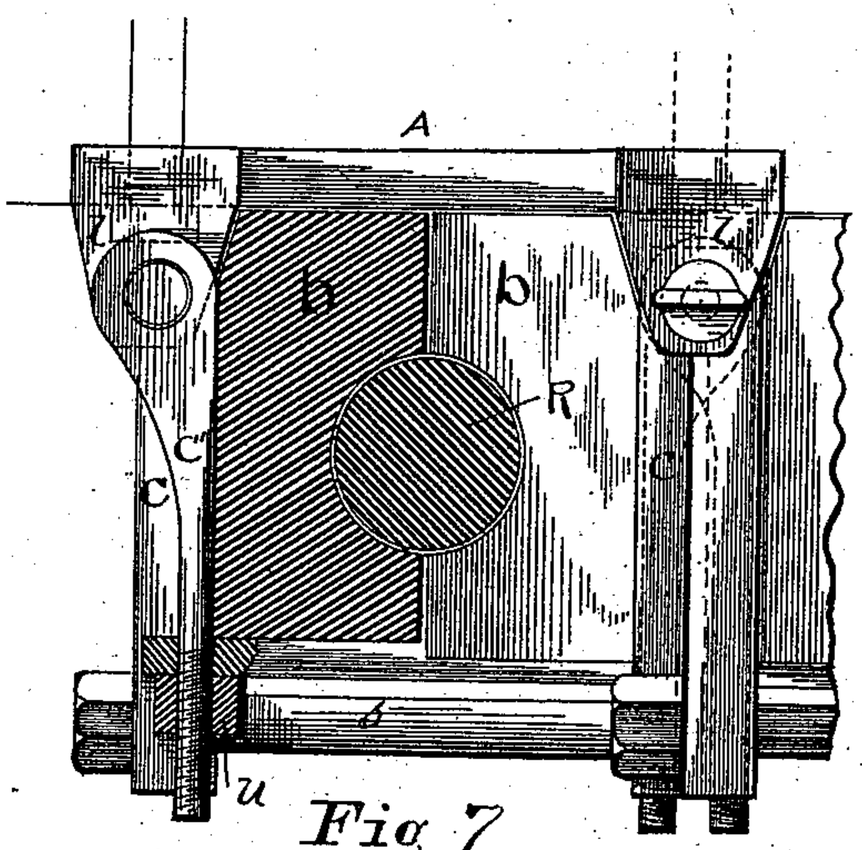

Fig 7

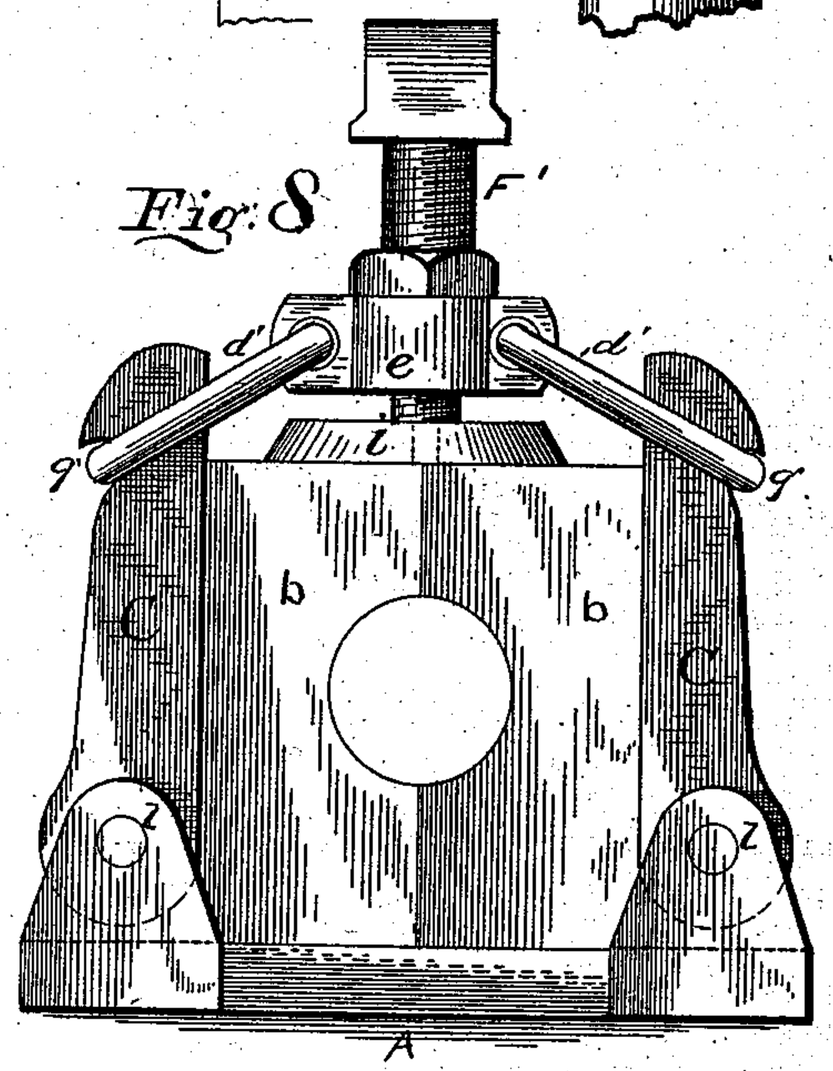

Fig. 8

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UNITED STATES PATENT OFFICE.

JOHN J. BROUGHALL, OF BUTTE CITY, MONTANA TERRITORY.

STAMP-GUIDE.

SPECIFICATION forming part of Letters Patent No. 379,931, dated March 27, 1888.

Application filed September 30, 1887. Serial No. 251,121. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. BROUGHALL, of Butte City, Silver Bow county, in the Territory of Montana, have invented new and useful Improvements in Stamp-Guides; and I do hereby declare that the following is a full and accurate description of the same.

In stamp-mills the reciprocating and rotary movements of the stamp-stem require that the guides shall be true and shall be firmly held. It is customary to make the guides of wood, and various devices have been made to hold the wooden guide-blocks and to permit them to be adjusted to compensate for wear.

A stamp-battery in action is in a condition of continual rhythmical tremor from the regularly-recurring blows of the stamps, and it is well known that movable parts will be shaken out of place and every screw-nut loosened by such jarring. Consequently the bolts and nuts about a stamp-battery require constant attention to preserve the machine from self-destruction.

Stamp-mills are mostly set up and used in the mining regions where skilled mechanical help cannot readily be obtained and where the facilities for repairs are defective. It is therefore a matter of importance that the structure of the machine shall be such that repairs may be easily made and with the least possible skill.

The object of my invention is to secure the wooden guide-blocks with the least possible employment of screw-bolts or other fastenings capable of being loosened by jarring, and to fashion the parts so that they may be replaced with the least possible exercise of skill.

In the accompanying drawings, Figure 1 is a perspective view of my invention. Fig. 2 is a plan embracing two guides. Fig. 3 is a front elevation of one of the same. Fig. 4 is an elevation of a part of the base-plate. Figs. 5 and 6 are respectively front and side elevations of a modification. Fig. 7 is a plan of the same, partly in section. Fig. 8 is a plan of a modification.

A is the guide-rail of the stamp-mill, and *b b* are the sections of the guide-block, made from pieces of squared studding or scantling of proper size—say four by eight inches—with a semi-cylindrical channel cut in each for the stamp-stem R. This does not require much skill in fitting, because the lumber comes squared from the mill, and the workman is only required to cut it off to proper length and bore or hollow out the guide.

The guide-clamp consists of two or more arms, C, pivoted to the lugs *l l*, secured to the guide-rail, and at their free ends each is connected by a link, *d*, with an outwardly-movable part provided with a locking or pressure device, the function of which is to force said movable part outward and there firmly hold it. Such part and locking or pressure device may be, and is preferably, a screw-nut, *e*, having a clamp-screw, F′, through it. It is manifest that when the parts are in position, as represented, the action of the screw F′ will be, first, to draw the arms C C together and move the sections *b b* toward the stamp-stem, and, second, to force the sections back against the guide-rail. These two effects in my invention are secured uniformly by the action of a single pressure device, preferably a screw, which does not pass into either the guide or the rail. This embraces the principle of my invention, and it is manifest that it may be embodied in a variety of forms. Therefore I do not desire to limit myself to the exact details herein shown.

As practical ways or modifications, the links may be made, like chain-links *d′* in Fig. 8, permanently attached to the screw-nut *e*. The arm C will then be provided on one side with the notch *g*, so that, when desired, by slacking up the screw F the link and arm may be detached and the clamp opened to admit the removal or replacement of the guide-blocks *b*. To thus open the clamp it is only necessary to have ready means for detachment on one side.

Instead of chain-link connections, flat arm-links d^2, connected to arm C and nut *e* by pivot-pins, may be employed, and either one of said pivot-connections may be made with a slip-pin, *h*, easily removed.

Sometimes it may be desirable to increase the number of arms C, and it may be done in the way shown in Figs. 1, 2, 3, the screw F′ being then inserted through a bar, e^2, which forms a coupling-bar common to the several sets of arms C and their connecting-links.

A plate, *i*, protects the guide-blocks *b b* from injury by the point of the clamp-screw F′.

As the blocks *b b* wear out in the guide, so

that the stamp-stem is too loose, the blocks are taken out and cut away a little on their meeting sides and filled out on their outer edges when replaced in the clamp. In this way the blocks may be entirely worn out before being thrown away.

If a cam on the driving-shaft is set a little out of its place toward one side or the other, which not infrequently happens, it is easy to move the box slightly toward one side to bring the stamp-stem to the cam by cutting away one side of one block *b* and filling out the corresponding side of the other, so as to move the axis of the guide laterally toward one side or the other, as may be desired.

In Figs. 5, 6, 7 the side arms, C, are shown tied together by bolts *s s* for lateral pressure. The pressure against the guide-rail is obtained by straps *t* and nuts *u* on the middle side arms, C'.

Having described my invention, I claim—

1. A sectional stamp-guide composed of guide-blocks *b b*, combined with side arms hinged to the guide-rail at each side of said guide-blocks and adapted to abut against the sides of the latter, a screw-nut and clamp-screw opposite the front of said guide, and links pivotally connected with said screw-nut and side arms, substantially as and for the purpose set forth.

2. The combination of the side arms, each hinged at one end to a permanent support, with the screw-nut and its screw, and the links pivotally connected with the side arms and the nut and detachable at one end, substantially as set forth.

3. The combination of the hinged side arms, C, provided with notches *g*, with the screw-nut and clamp-screw, and the links pivoted at their outer ends to the side arms and having at their inner ends openings adapted to engage in said notches.

4. The combination of the side arms, C, adapted to be pivoted to a fixed support and provided with notches *g*, a coupling-bar, e^2, links pivoted to the coupling-bar and adapted to engage said notches, and a pressure device, substantially as described, for forcing the coupling-bar outward and drawing inward said side arms, substantially as set forth.

5. The combination, with the side arms adapted to be pivoted at their rear ends to a fixed support, links pivoted to the forward ends of said arms, an outwardly-movable part connected with the other ends of said links, and a pressure device, substantially as described, for forcing the latter outward and drawing inward the said side arms, substantially as set forth.

JNO. J. BROUGHALL.

Witnesses:
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