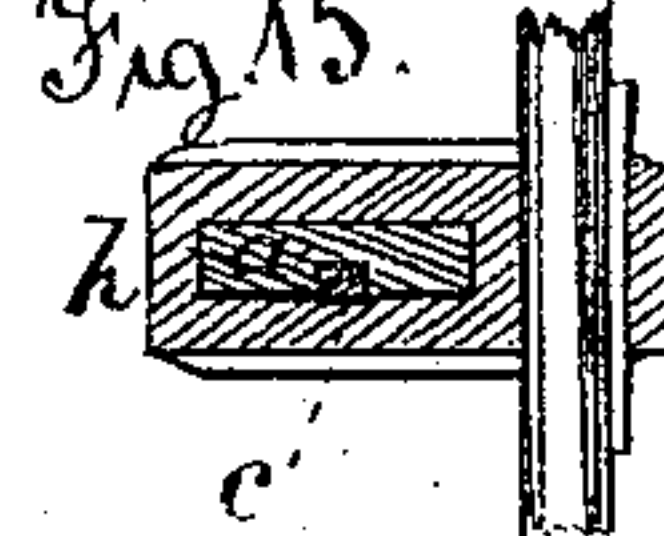
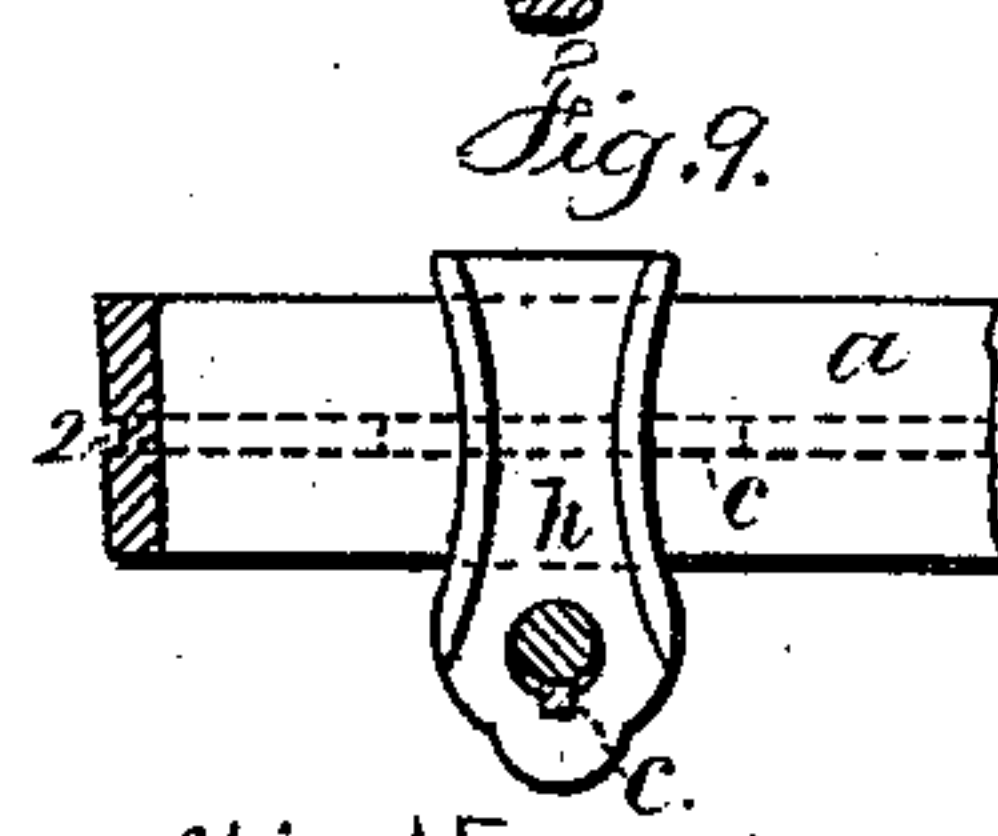
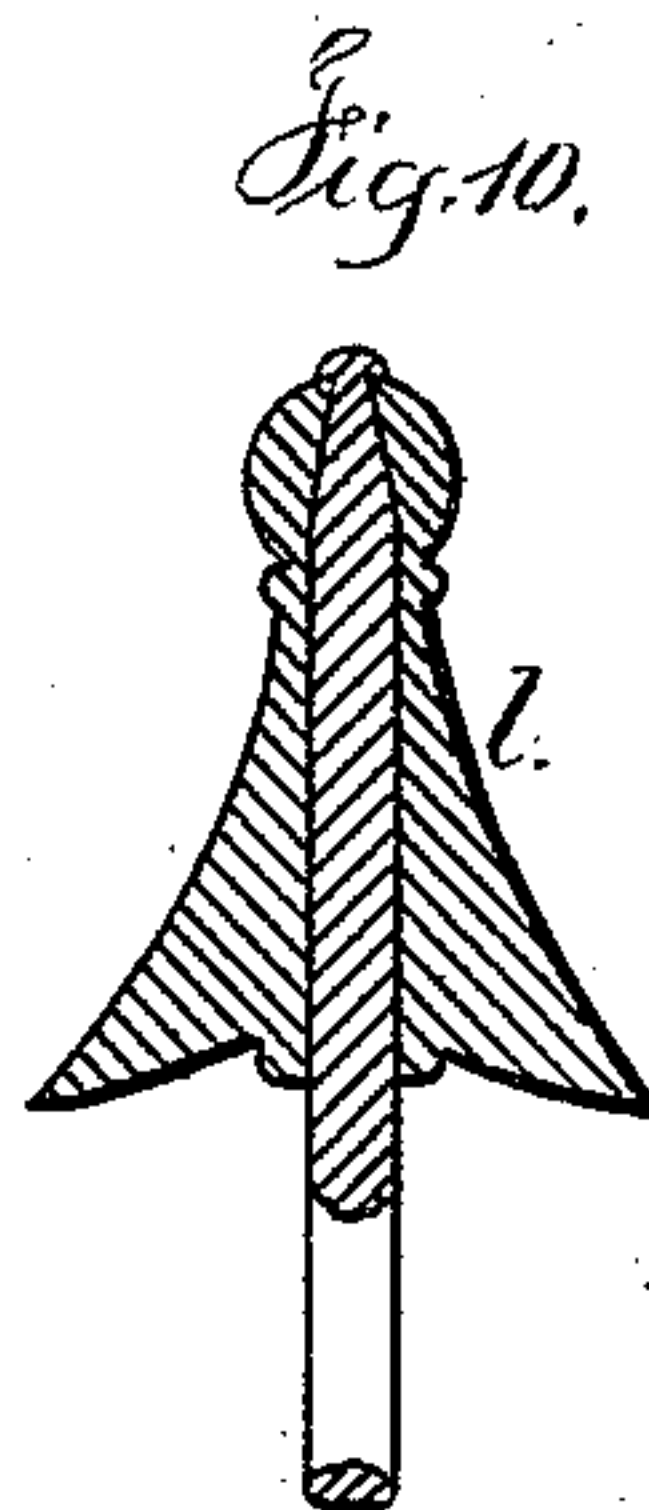
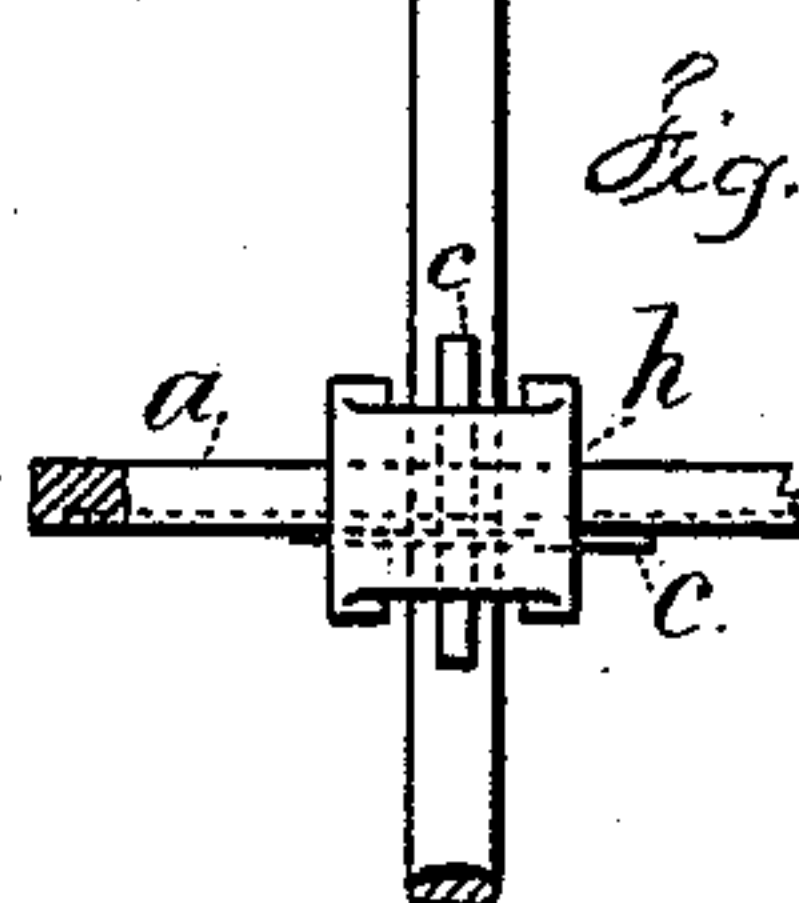
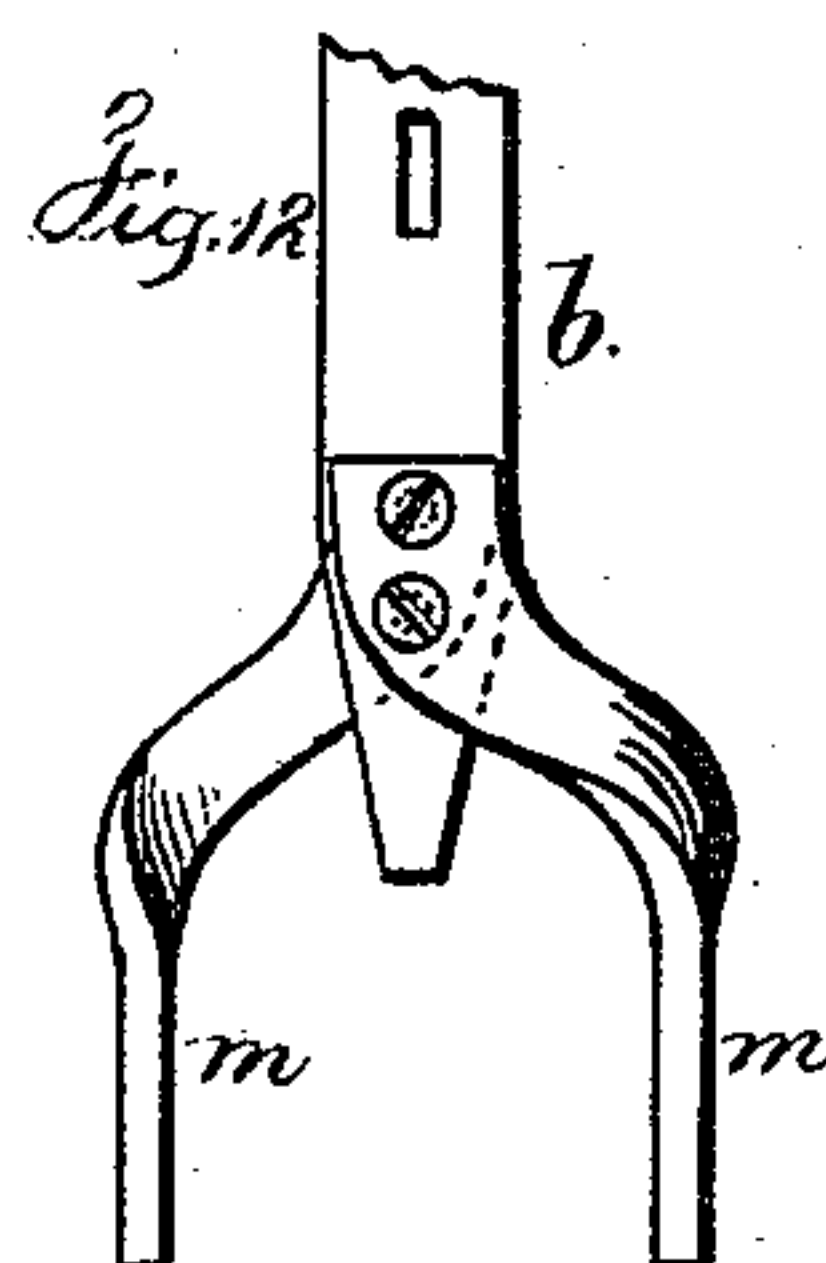
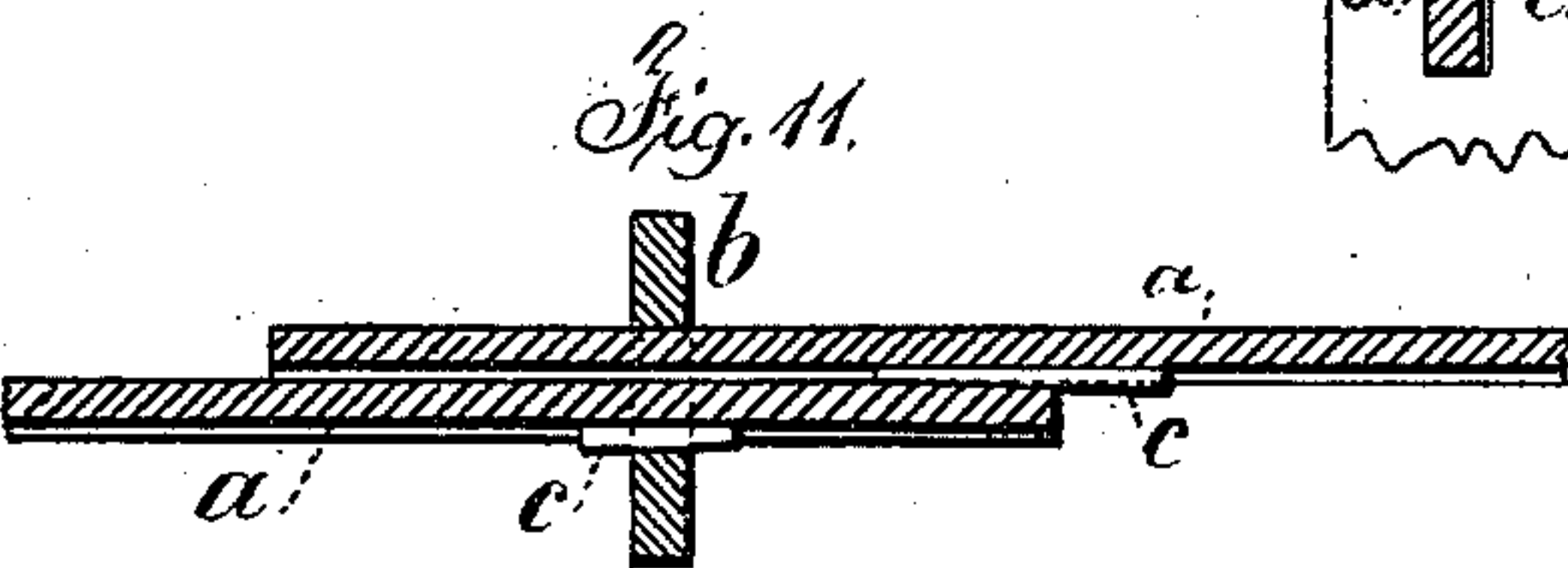
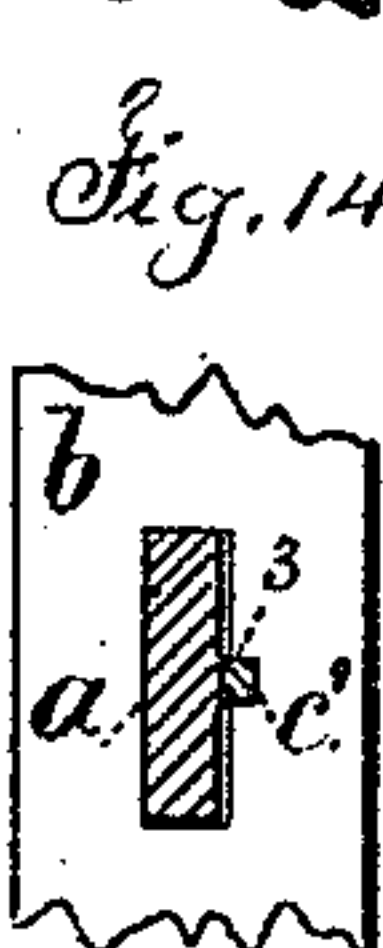
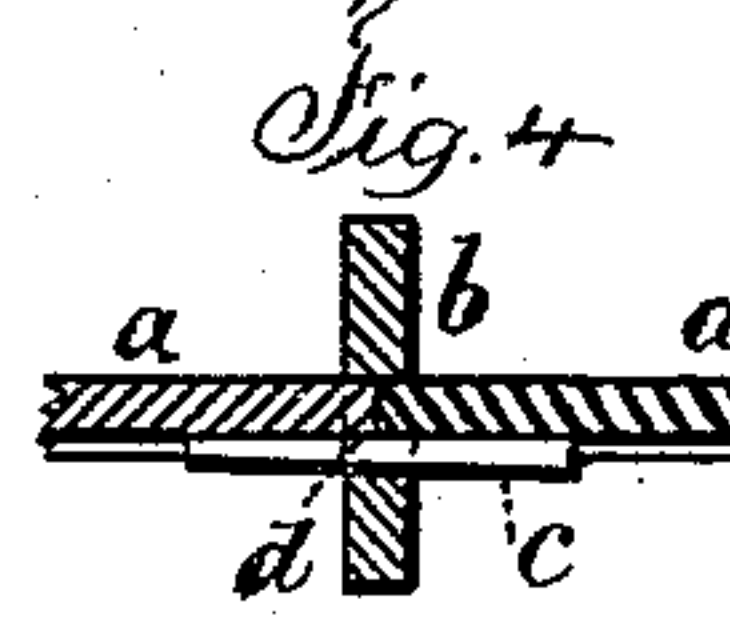
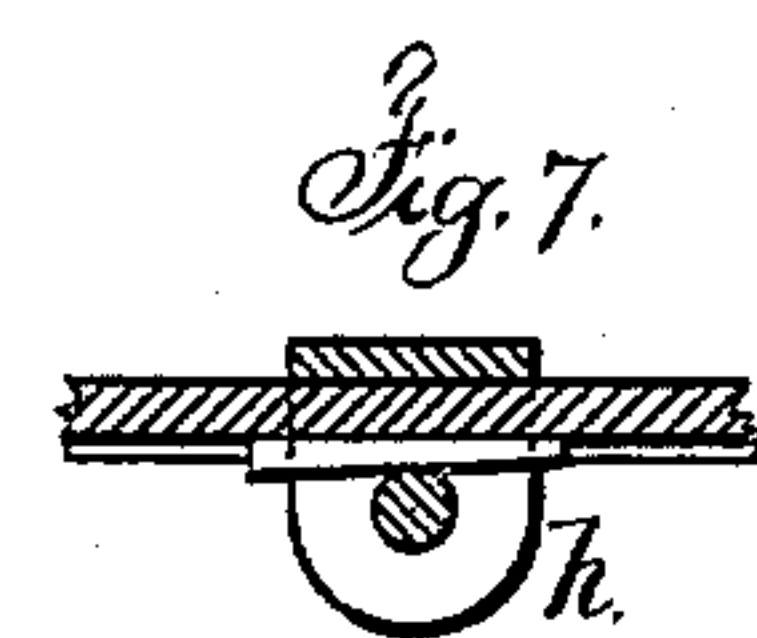
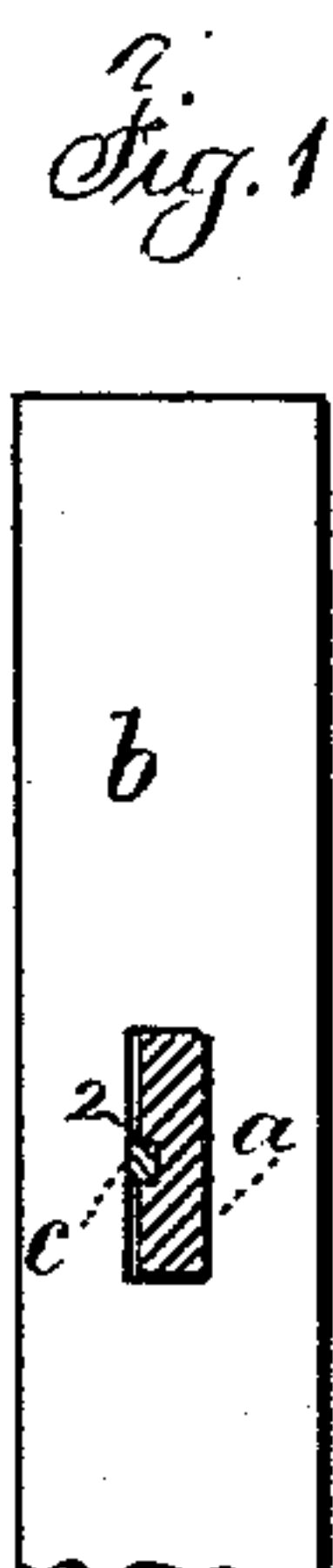
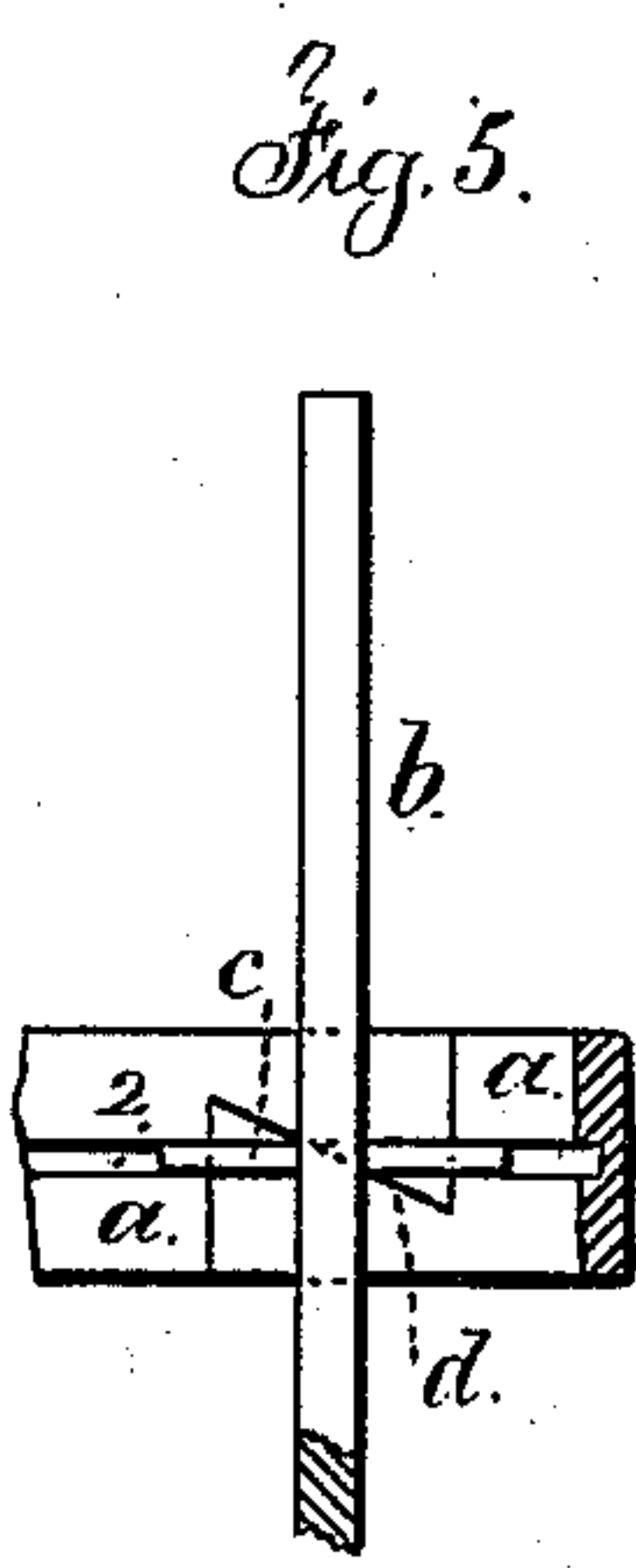
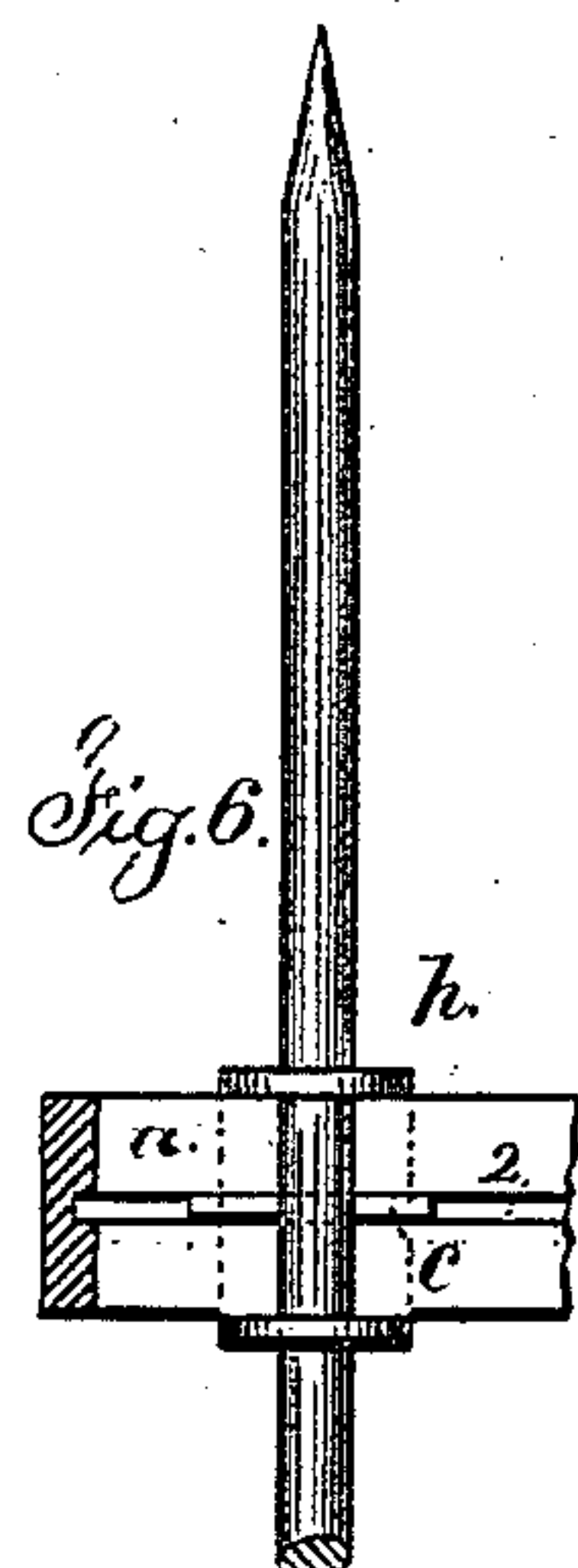
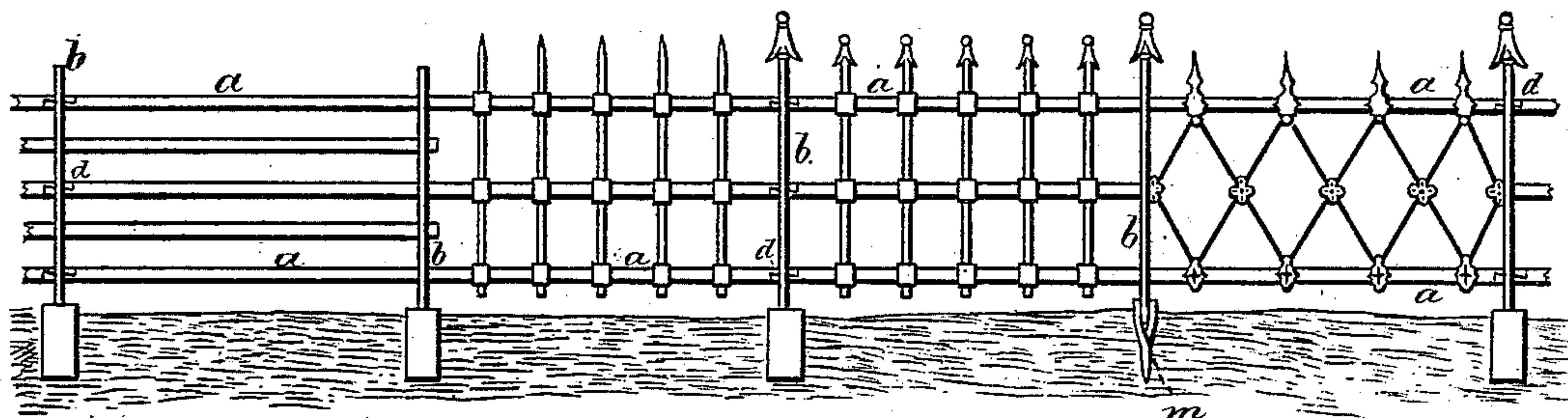


J. B. WICKERSHAM.
Metal Fence.

No. 212,075.

Patented Feb. 4, 1879.

Fig. 13



Witnesses

Chas. H. Smith
Geo. D. Pinckney

Inventor

John B. Wickersham.
per Lemuel W. Terrell
Att'y

UNITED STATES PATENT OFFICE.

JOHN B. WICKERSHAM, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN METAL FENCES.

Specification forming part of Letters Patent No. **212,075**, dated February 4, 1879; application filed June 15, 1878.

To all whom it may concern:

Be it known that I, JOHN B. WICKERSHAM, of the city of Philadelphia and State of Pennsylvania, have invented an Improvement in Metal Fences, of which the following is a specification:

The object of this invention is to connect the various portions of a metal fence in a very strong and durable manner, and at the same time reduce the weight of the metal without injury to the stiffness and durability of the fence.

In Letters Patent No. 6,685, reissued October 5, 1875, to me, there are cast-iron connecting-blocks having key-seats, into which there are secured keys, wedges, or nails to fasten the parts together.

In my present invention the principal feature is a metal bar having one or more channels or grooves, serving to receive keys, wedges, or nails, that serve to clamp such bars to the parts through which they pass in setting up the work.

By this improvement the channel or groove or grooves lessen the weight of the metal bars without injuring the stiffness of the same, and I am enabled to put the fence and other articles together so that all parts thereof are in proper position, and then the keys are tightened up to firmly hold the parts in place. With plain fencing the iron used is in a strong and cheap form, and requires but little labor in preparing the same for the market.

In the drawings, Figure 1 represents a section of the bar with a single channel. Fig. 2 is a section of the same with three channels. Fig. 3 is a section of the channel-bar in a triangular form. Fig. 4 is a section of the post and rails horizontally representing the manner of keying the hooked ends of the bars. Fig. 5 represents the hook-ended bars within the mortise of the post, keyed together. Figs. 6, 7, 8, and 9 represent the manner in which the pickets are to be keyed to the grooved or channeled bars; and Fig. 10 is a section of one of the picket ornaments.

The rails *a* are grooved or channeled, as at 2, and such grooves or channels preferably extend the entire length of the bars or rails, so as to lessen the weight without injuring the stiffness; but the longitudinal grooves or

channels are to be at the places where the keys are to be introduced, and they may run in other directions than longitudinally if required.

The posts *b* are to be mortised or provided with openings at the places where the rails or bars *a* are to be introduced. These openings are of a size to admit the rails to slide into and through them freely. The key or wedge *c*, inserted in the groove 2, secures the post and the rail together when such key is tightened firmly into place.

The posts and rails may be of any desired size or shape.

Where the lengths of rail are to be united without the joint being noticeable, or to put the bars into line, the ends are made as similar hooks, *d*, and set together before the parts are slipped into the mortise of the post, and these parts cannot separate endwise, in consequence of the hook-shaped ends, and a longitudinal key or wedge, *c*, secures the parts into the post.

If the joint between the bars is not at a post the parts are secured in the same manner by an ornament or sleeve passed over the interhooking ends, after which a key is to be driven in either longitudinally or transversely to secure the parts and prevent motion.

In cases where the ends of the rails lap flatwise, the openings in the posts are wider, so that the rails may lie face to face, and be secured by keys driven into the grooves, as at *c*, Fig. 11.

In cases where pickets are connected with the rails—as in the manufacture of ornamental fencing, window-guards, tree-boxes, and other articles—the clip-piece *h* is placed around the bar *a*, and the picket slipped through the openings provided for the same, and then the insertion of the key or wedge *c* holds the parts by binding or tightening the parts on each other.

The clip may either be cast metal, as shown in Figs. 8 and 9, or wrought metal, as shown in Figs. 6 and 7. Fig. 15 is a cross-section of the clip shown in Figs. 8 and 9.

The ornaments *l*, at the upper ends of the pickets, are made with openings through them. These are smaller at the upper ends, and the ends of the pickets are tapered, so that the or-

nement will slip on, but cannot drop down below the place where the parts of the metal come together, and by riveting up the end of the picket the ornament is secured.

The lower ends of the posts are provided with movable hurdle-feet *m*, (see Fig. 12,) that are firmly connected by bolts or keys, so as to be attached to any post. These feet may be removed when the post is to be used for a stone or other base.

It is obvious that the metal bars made with channels or grooves for key-seats may be put to various uses in a variety of ways besides those described. I have shown in Fig. 13 some of the styles of iron-work to which this improvement may be applied.

In some instances the bars will run at an angle to each other, and the grooves in the rails may require to be at an inclination instead of longitudinally, in order that the keys may properly confine the parts.

When it is required to wedge the flat side of the bar, as indicated in Fig. 14, the mortise in the metal post is provided with a notch, as at 3, for the insertion of a key or nail, *c'*.

I claim as my invention—

1. The rail *a*, having a longitudinal key-seat groove, in combination with the key and post or upright through which the rail passes, substantially as set forth.

2. The combination, with the longitudinally grooved or channeled rail and the key, of the clip *h*, secured to the rail by the key *c*, substantially as set forth.

3. A wrought-iron fence-post having mortises through the same for the metallic rails, and having a notch at one of the vertical sides of the mortise, in combination with the rail and the key introduced into the mortise and notch, respectively, substantially as set forth.

4. The method herein specified of attaching the picket ornaments, consisting in supporting such ornaments upon the tapered ends of the pickets and riveting the top of the picket, substantially as set forth.

Signed by me this 11th day of June, A. D. 1878.

J. B. WICKERSHAM.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.