

No. 704,893.

Patented July 15, 1902.

R. E. MARTIN;  
SAW.

(Application filed Mar. 13, 1902.)

(No Model.)

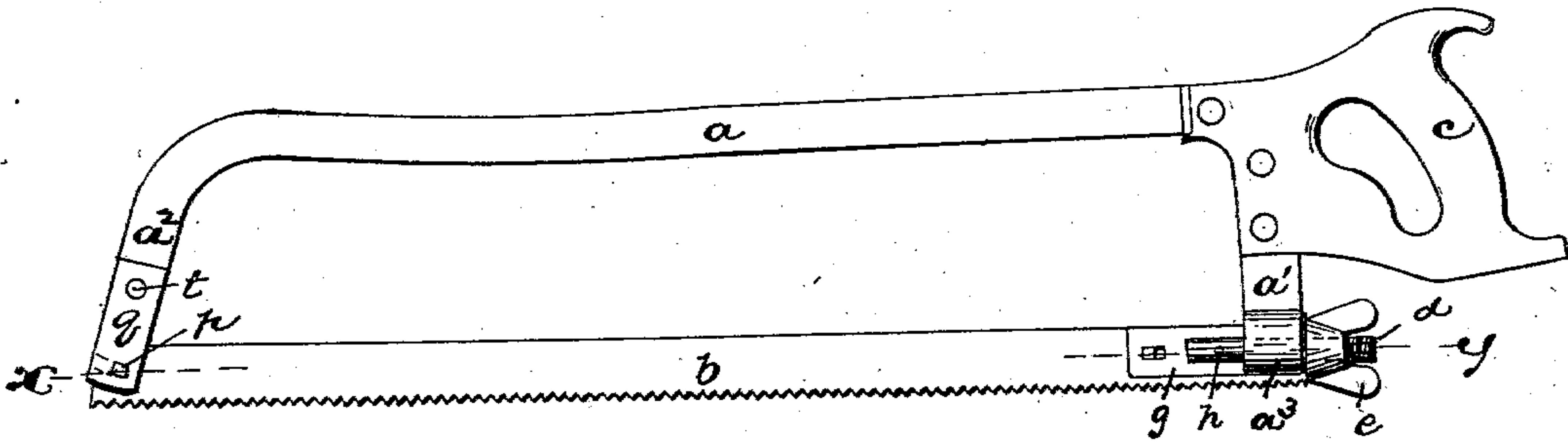


Fig. 1.

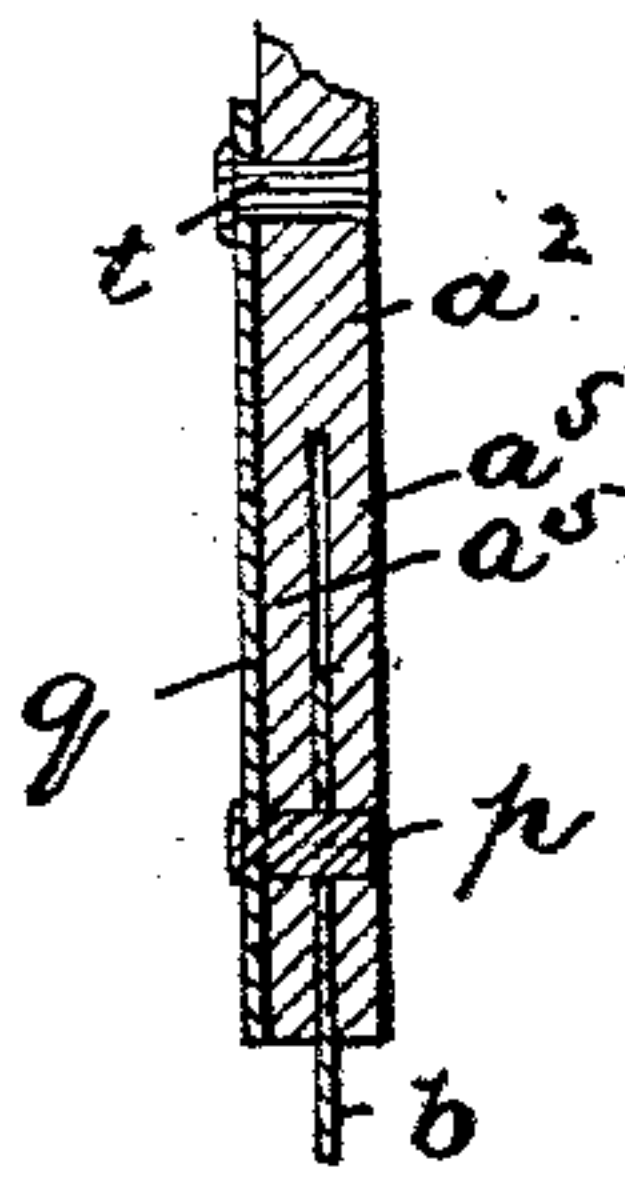
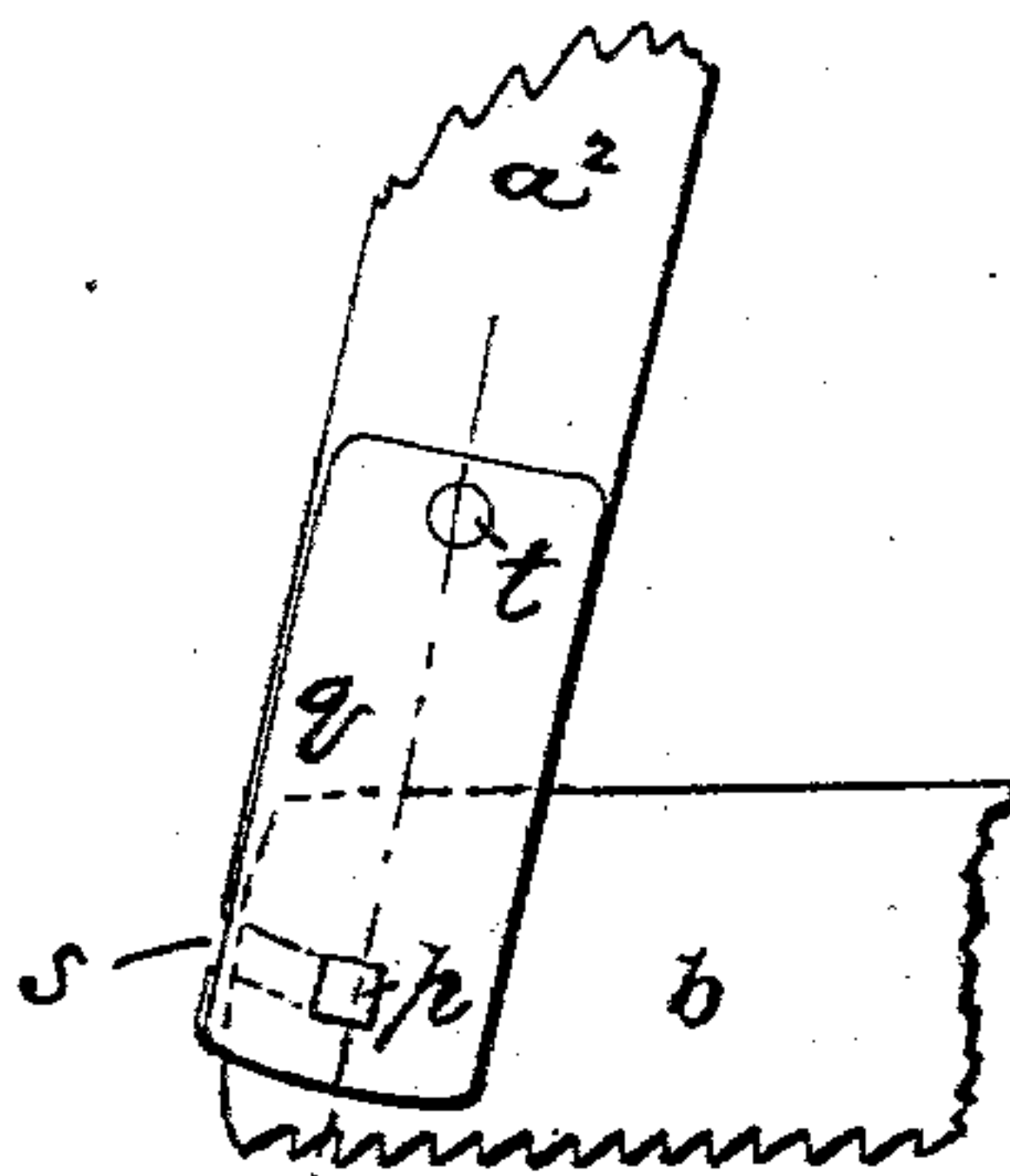
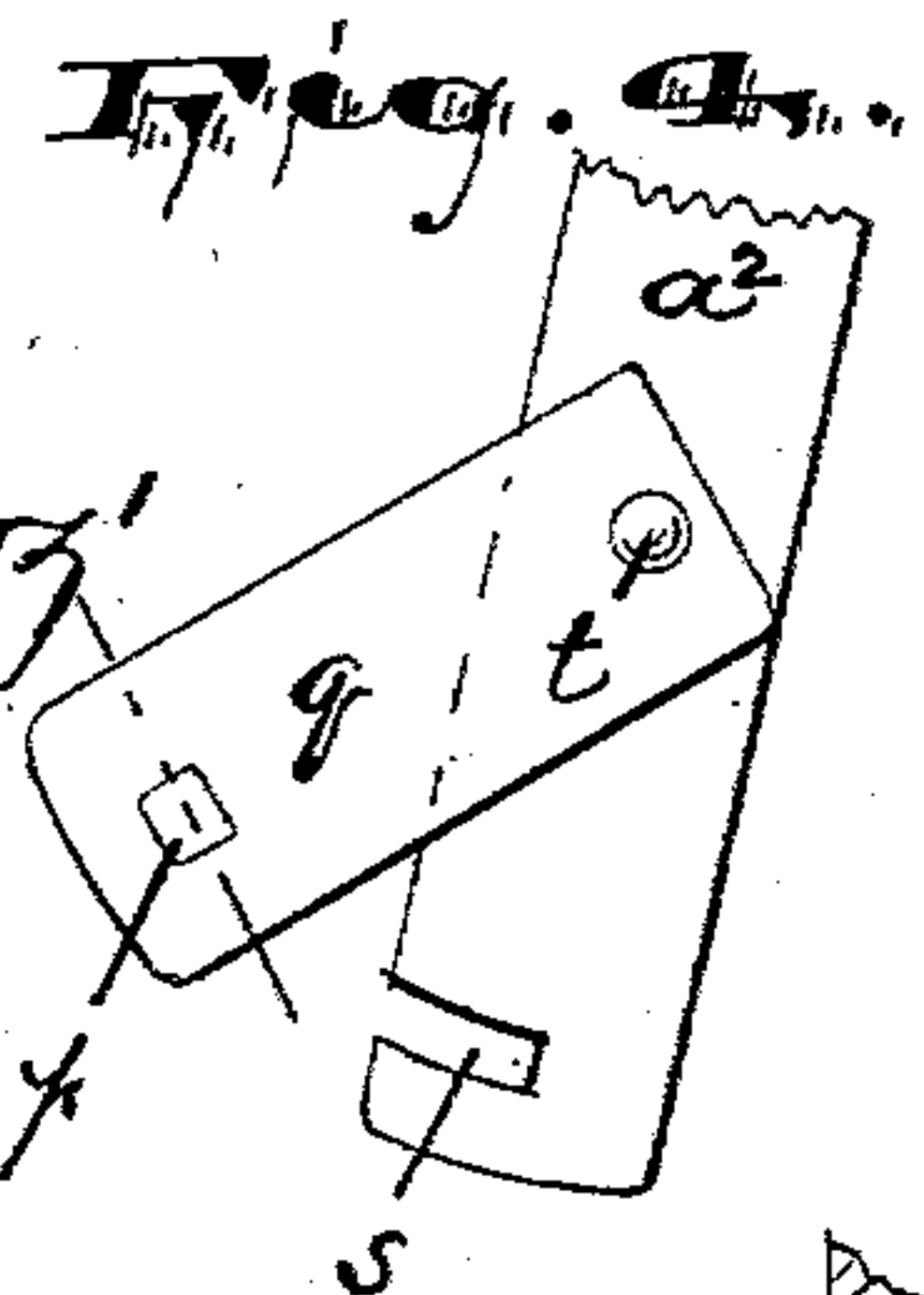
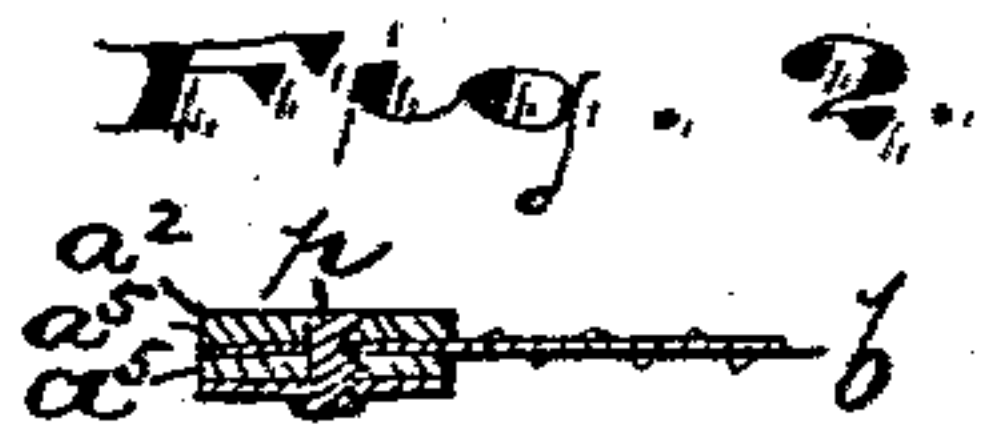


Fig. 7.



Fig. 8.

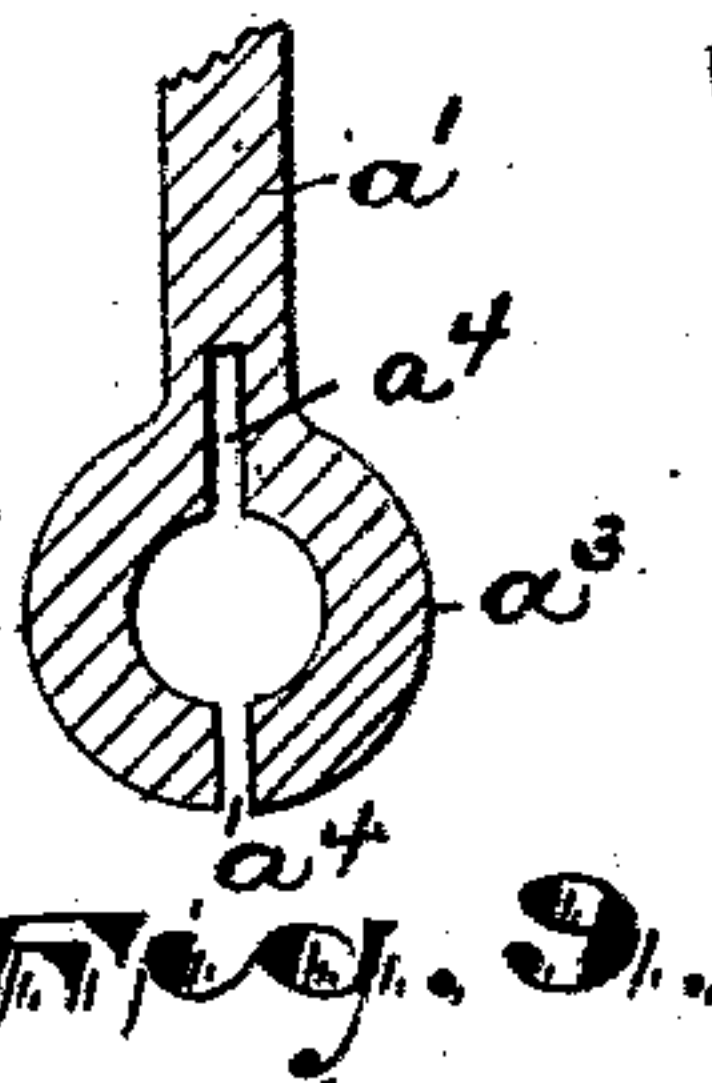


Fig. 9.

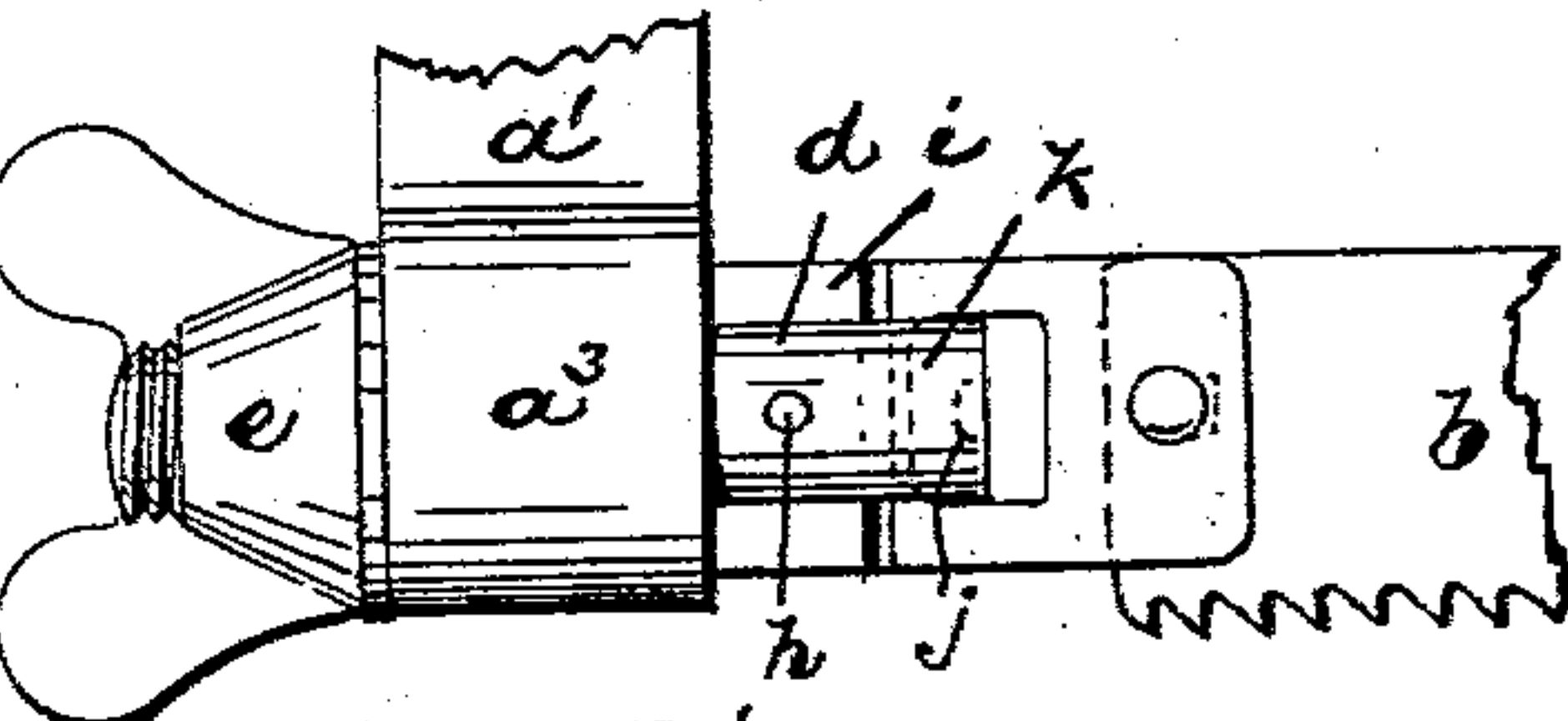
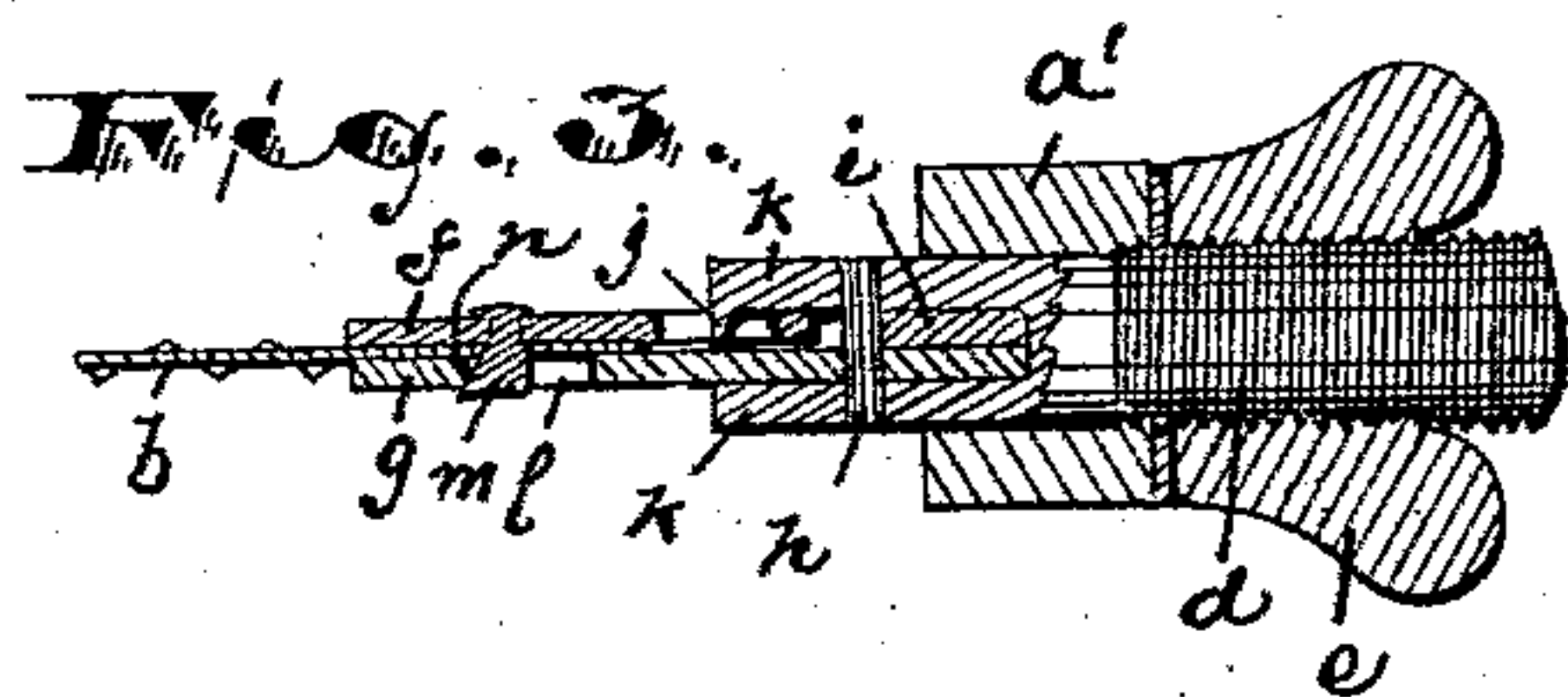


Fig. 6.

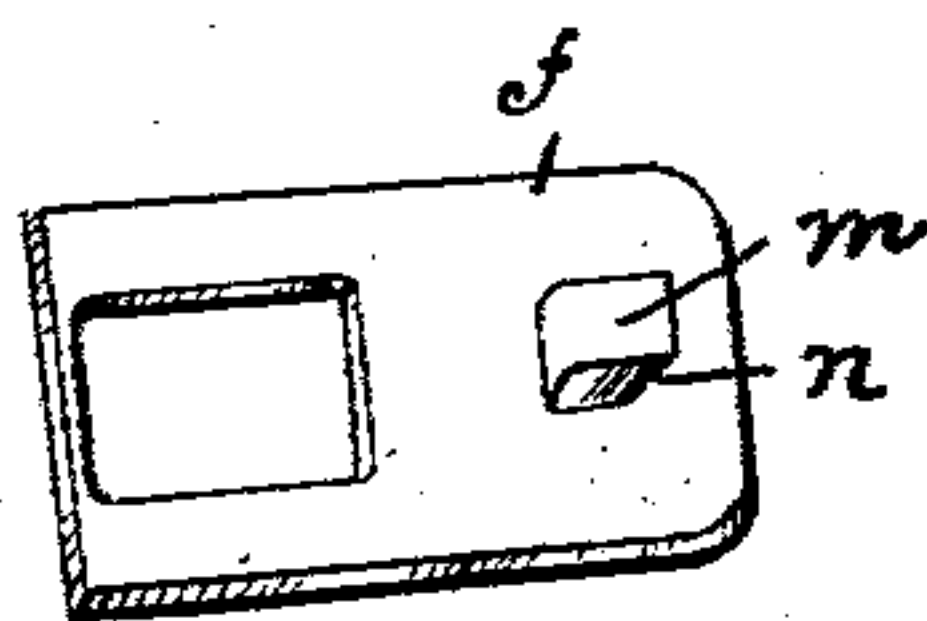


Fig. 10.

WITNESSES:

Harry Krug  
Russell M. Everett,

INVENTOR:

Robert E. Martin,

BY

Drake & Co.  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

ROBERT E. MARTIN, OF NEWARK, NEW JERSEY.

## SAW.

SPECIFICATION forming part of Letters Patent No. 704,893, dated July 15, 1902.

Application filed March 13, 1902. Serial No. 98,043. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT E. MARTIN, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Saws; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-  
10 pertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in that class of saws more particularly for the use of butchers, in which the toothed blades are removable from the frame or body of the saw for the purpose of renewal, sharpening, or the like.

20 The objects of the present improvements are to facilitate the work of inserting and removing the blade from the frame, to secure greater rigidity and firmness of the said blade when seated in its frame, and to secure other advantages and results, some of which may be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved saw and in the arrangements and combinations of  
30 parts of the same, all substantially as will be hereinafter set forth and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several figures, Figure 1 is a side elevation of the saw. Fig. 2 is a detail section of the same, taken at line *x*, Fig. 1. Fig. 3 is a detail section taken at line *y*. Fig. 4 is a detail elevation showing the end of the saw-frame distant from the handle with the saw-blade removed therefrom. Fig. 5 is a similar view showing the saw-blade locked in place therein. Fig. 6 is a detail side view showing the end of the saw-frame and connections near the handle. Fig. 7 is a section taken at line *z* of Fig. 5. Fig. 8 is a section taken at line *z'* of Fig. 4. Fig. 9 is a detail section of one of the extensions of the saw-frame, and Fig. 10 is a detail perspective  
50 view of one of a pair of clamping-plates for

rigidly holding the saw-blade at its end near the handle.

In said drawings, *a* indicates the body or frame of the saw, having at its opposite ends downwardly bent or turned arms or extensions *a'* *a''*, between which the saw-blade *b* is arranged, said extensions *a'* *a''* providing bearings on which the said saw-blade is secured. The frame *a* at one end is also provided with a handle *c* of any suitable construction.

To facilitate the insertion or removal of the saw-blade *b*, I have provided the extensions *a'* *a''* with specific blade-fastening means, which I will now proceed to describe.

The blade-fastening means on the extension *a'* comprises a bolt *d*, finger-nut *e*, and clamping-plates *f* and *g*. The said extension *a'* is provided with a cylindrical head *a'''*, through which the bolt *d* may pass, as indicated in Fig. 3, and said head is split or provided with apertures *a''''* to receive the edges of the clamping-plates. The said clamping-plates are extended into said apertures, so as to prevent them and the bolt *d* from turning within the said head *a'''* of the extension, and thus preventing the saw-blade from turning out from the proper plane of the frame. The bolt *d* at its inner end is split to receive the ends of clamping-plates *f* *g*, and one of said clamping-plates *g* is firmly and rigidly secured in the aperture thus formed in the bolt by means of the rivet *h* and the plate *i*. The other of said clamping-plates *f* is loose in said aperture of the split bolt *d* and free to slide and turn pivotally therein away from the plate *g*, and the said pivotal clamping-plate *f* is prevented from withdrawal from the split or aperture of the bolt by means of a lug or pintle *j*, formed at the extremity of one of the tongues *k* of the split bolt. The rigid plate *g* is provided at a point out from the bolt *d* with an aperture or perforation *l*, and the pivotal plate *f* is provided with a blade-holding tongue *m*, which tongue is enlarged at its projecting end and provided at a point where it engages the plate *g* with an inclined bearing *n*, Fig. 10, the said saw-blade-holding tongue being adapted to be drawn by the saw-blade, so that the incline *n* will bear against the plate *g* and force the two plates *f* and *g* into rigid



and close clamping relation with the saw-blade, as will be understood upon reference to Fig. 3.

To fasten the blade *b* within the fastening means of the bearing *a'*, I insert the tongue *m* in the perforation of the blade *b*, the plate *f* being thrown open and away from the plate *g*. The plate *f* is then closed, so that the tongue passes through the perforation *l* in said plate *g* and bears against the edge wall of the said perforation, as shown in Fig. 3. I then turn the finger-nut *e* against the bearing *a'*, and thus draw the bolt *d*, so that the plates *g f* enter the split *a'* in the bearing *a'*, in which position they are prevented from turning pivotally with the bolt. The increased tension on the plate *f*, due to the screwing up of the nut and the resistance of the saw-blade, causes the inclination *n* of the tongue to act on the plate *g* to force both said plates *f g* into rigid clamping relation to the saw-blade interposed between said plates, as will be understood.

At the opposite end of the saw-blade from that fastened to the bearing *a'* the same is perforated, and thus adapted to receive a second holding-tongue *p*. This holding-tongue *p* is fastened upon a pivoted plate *q*, attached to the arm or bearing *a''* of the frame, as shown in Fig. 4. The bearing *a''* is centrally split in the plane of the blade *b*, as shown in Fig. 7, and between the arms *a'' a''* the blade *b* is inserted. Said blade-holding tongue *p* is provided at the side toward the body of the blade with a  $\Lambda$ -shaped recess *r*, adapted to engage the arms *a'' a''* when the saw is under tension, and because of the opposite inclines walling the recess the said arms are forced toward one another, so as to rigidly clamp the saw-blade. The arm or bearing *a''* is provided with an open slot *s*, Figs. 4 and 5, into which the holding-tongue enters when the plate *q* turns on its pivot *t*, drawn by the saw-blade.

In adjusting the parts last described and arranging the blade *b* on its bearings I first place the perforated blade against the plate *q*, the tongue *p* entering the perforation in said blade. The blade is then inserted between the arms *a'' a''* and drawn by the hand, so that the plate *q* is turned and the tongue enters the open slot *s*, thus locking the blade upon said tongue *p*. The opposite end of the blade is then fastened to the bearing *a'* in manner already described, the tension of the blade being effected by the threaded bolt and nut *d e*. Under such tension the opposite inclines of the recess *r* bear hard against the arms *a'' a''*, lying at opposite sides of the saw-blade, thus forcing said arms hard against the sides of the saw-blade, so that the latter is held rigid and free from lateral looseness.

Having thus described the invention, what I claim as new is—

1. The improved saw comprising a frame having at one end arms between which the end of the saw-blade may enter and having

an open slot and a plate pivoted to said frame, said plate having a tongue with inclined surface adapted to engage the said arms to draw the same against the saw-blade, a saw-blade having a hole to receive the said tongue, and means for holding said saw-blade in said frame under tension, substantially as set forth.

2. The improved saw, comprising a frame having at one end arms between which the end of the saw-blade may enter and having on the outer side of said frame an open slot, a pivotal plate at one side of said frame and having a tongue adapted to enter said open slot, said tongue being provided with an incline to engage one of said arms and clamp the saw-blade against the other to prevent lateral looseness of the said blade, and a screw in connection with said frame and the opposite end of said saw-blade to hold said saw-blade under tension, substantially as set forth.

3. In a saw, the combination with the frame having the arms *a'' a''*, and pivotal plate having a tongue with opposite inclines, adapted to engage said arms and draw the same against the saw-blade when said blade is fastened under tension in said frame, of said saw-blade arranged on said tongue between said arms, substantially as set forth.

4. In a saw, the combination with a frame having arms of a plate pivoted on said frame adjacent to said arms and provided with a saw-blade-holding tongue having opposite inclines engaging said arms, and a blade and means for maintaining the blade in a state of tension and the arms in a clamped relation to the said blade, substantially as set forth.

5. In a saw the combination with the frame having extensions to support the opposite ends of a saw-blade, the extension *a'*, of which is provided with a cylindrical, slotted head, of a bolt and nut, and clamping-plates carried by said bolt, one of said plates being pivotal and slidably related to the other of said plates and carrying a blade-holding tongue which is inclined to engage the other of said plates and clamp the saw-blade between the two when the saw is held under tension between the extensions of the frame, and a saw-blade perforated to receive the holding-tongue, substantially as set forth.

6. In a saw, the combination with the frame and a saw-blade, of a bolt carrying two saw-blade-clamping plates, one of said plates being slidably and laterally movable in relation to the other and having an inclined tongue adapted to hold the saw-blade and engage the other plate to effect a clamping of said plates against the blade when tension is brought to bear on said tongue, substantially as set forth.

7. In a saw, the combination with the frame and bolt and two clamping-plates slidably arranged on said bolt one in relation to the other, and one of said plates being provided with a



tongue inclined where it engages the other of  
said plates, of a saw-blade arranged on said  
tongue between said plates and adapted to  
be clamped therebetween when the tension of  
the saw is brought to bear on said tongue,  
substantially as set forth.

In testimony that I claim the foregoing I

have hereunto set my hand this 28th day of  
February, 1902.

ROBERT E. MARTIN.

Witnesses:

CHARLES H. PELL,  
C. B. PITNEY.