

No. 736,468.

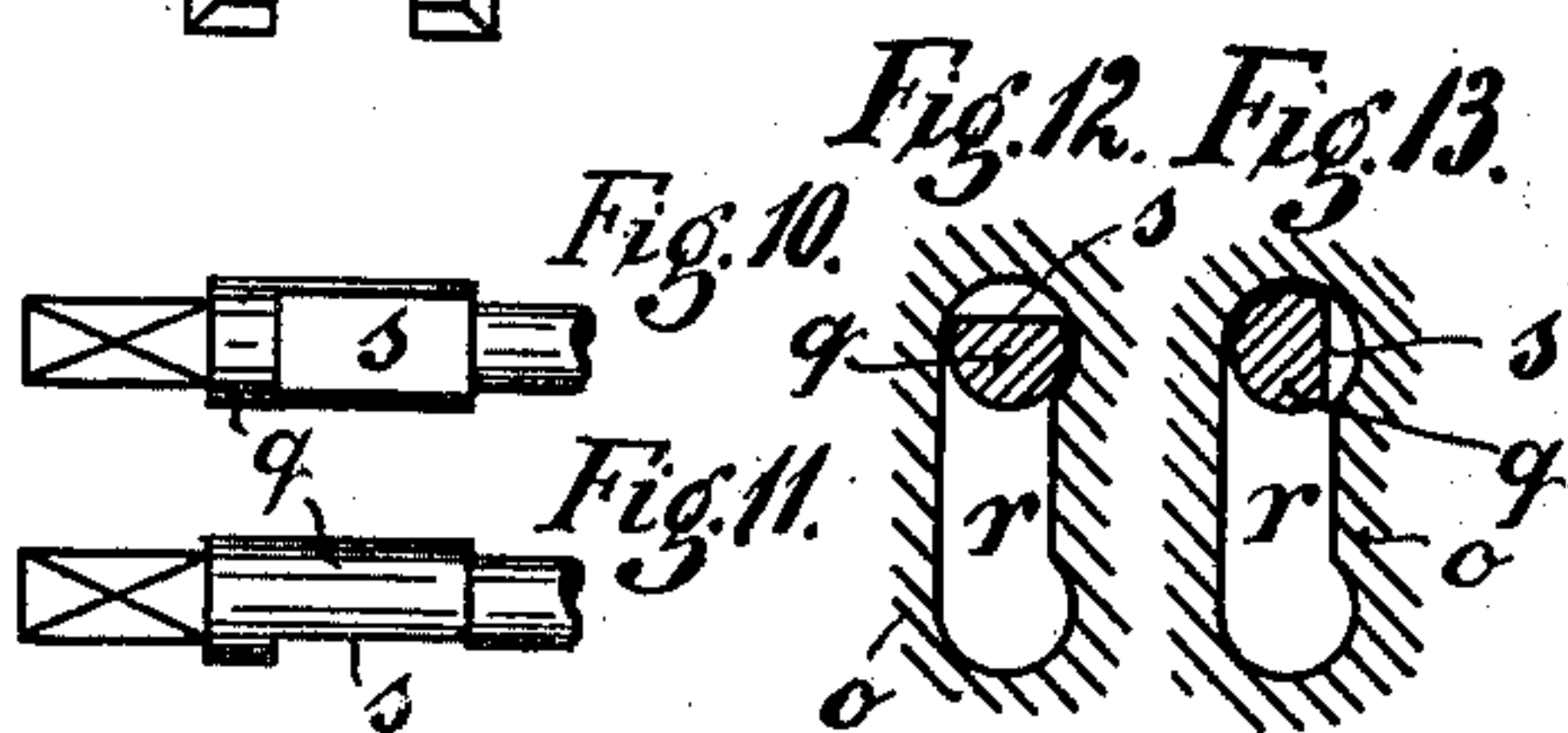
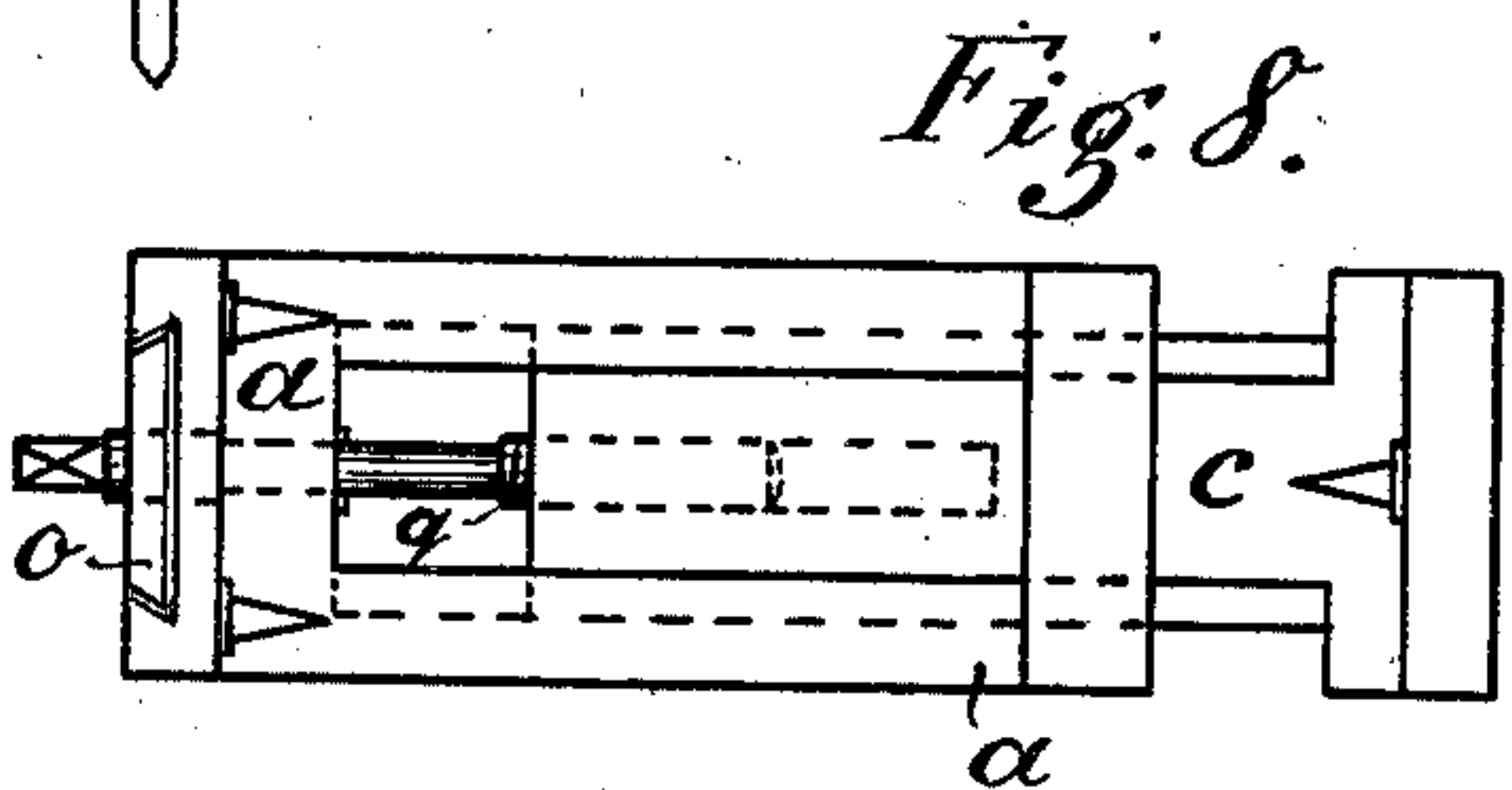
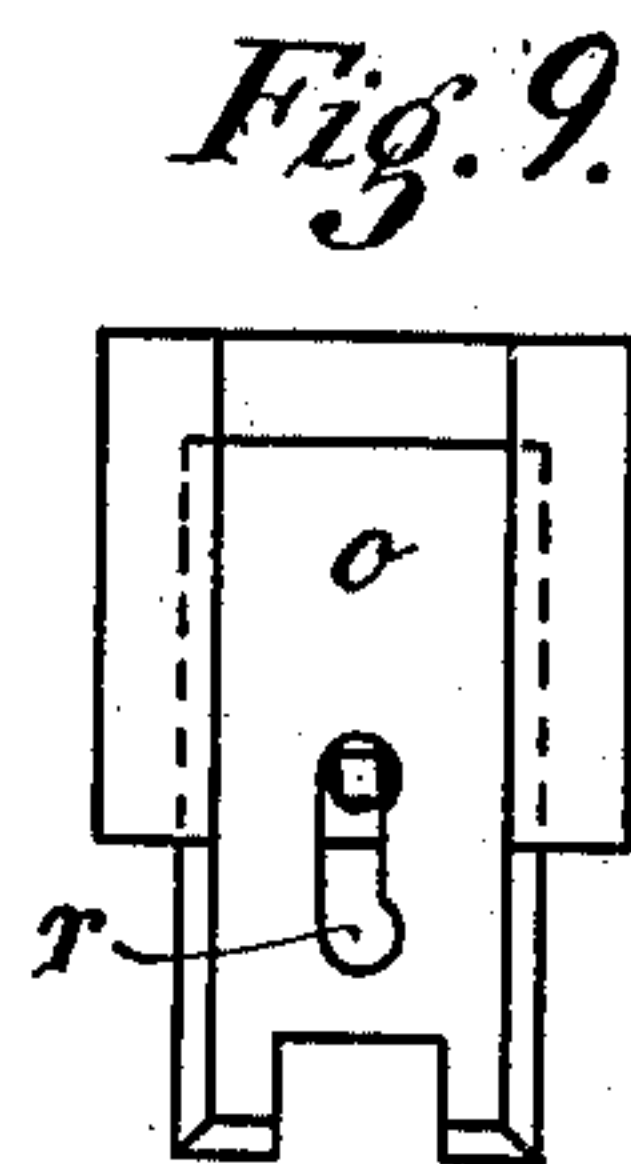
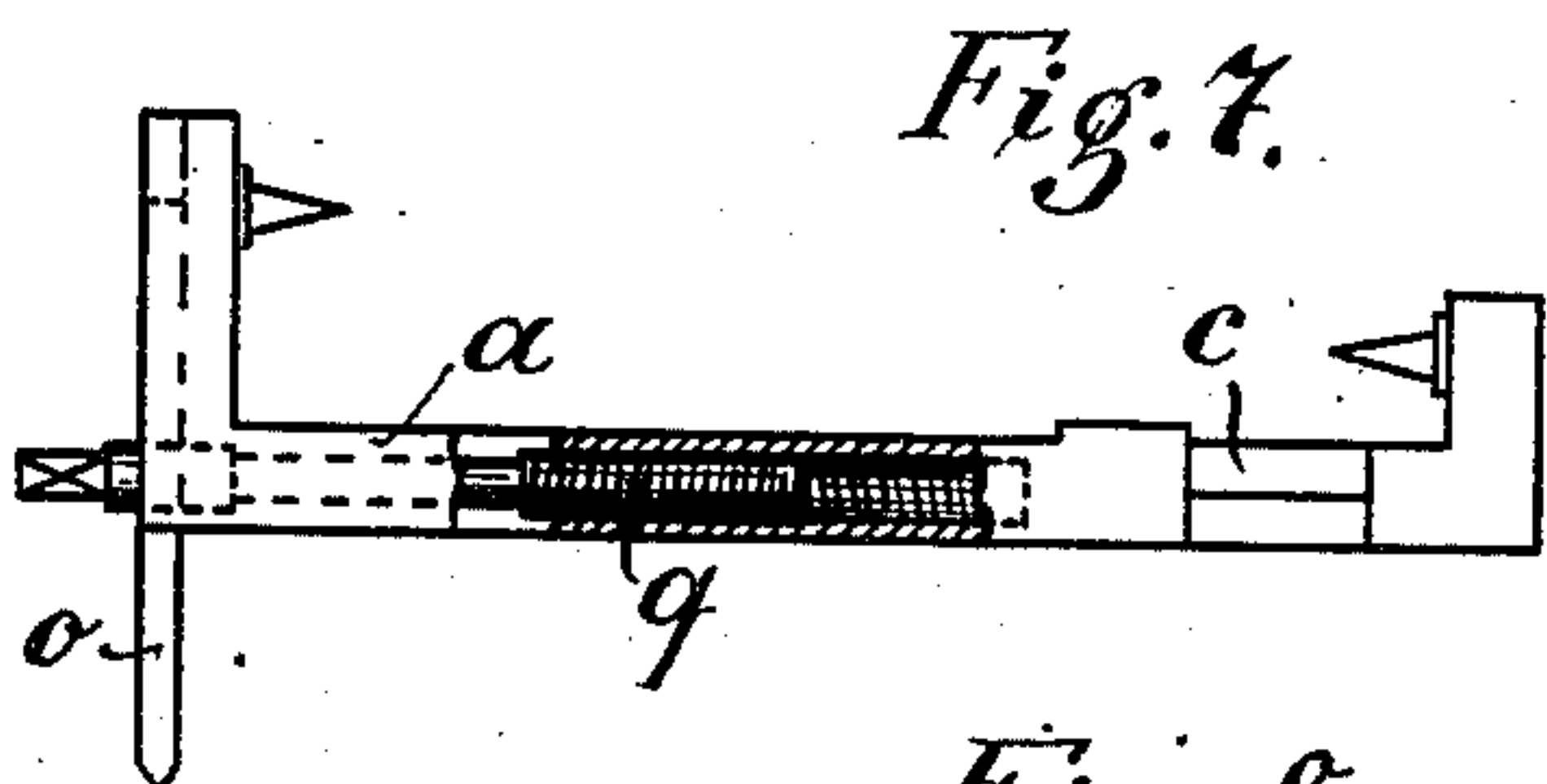
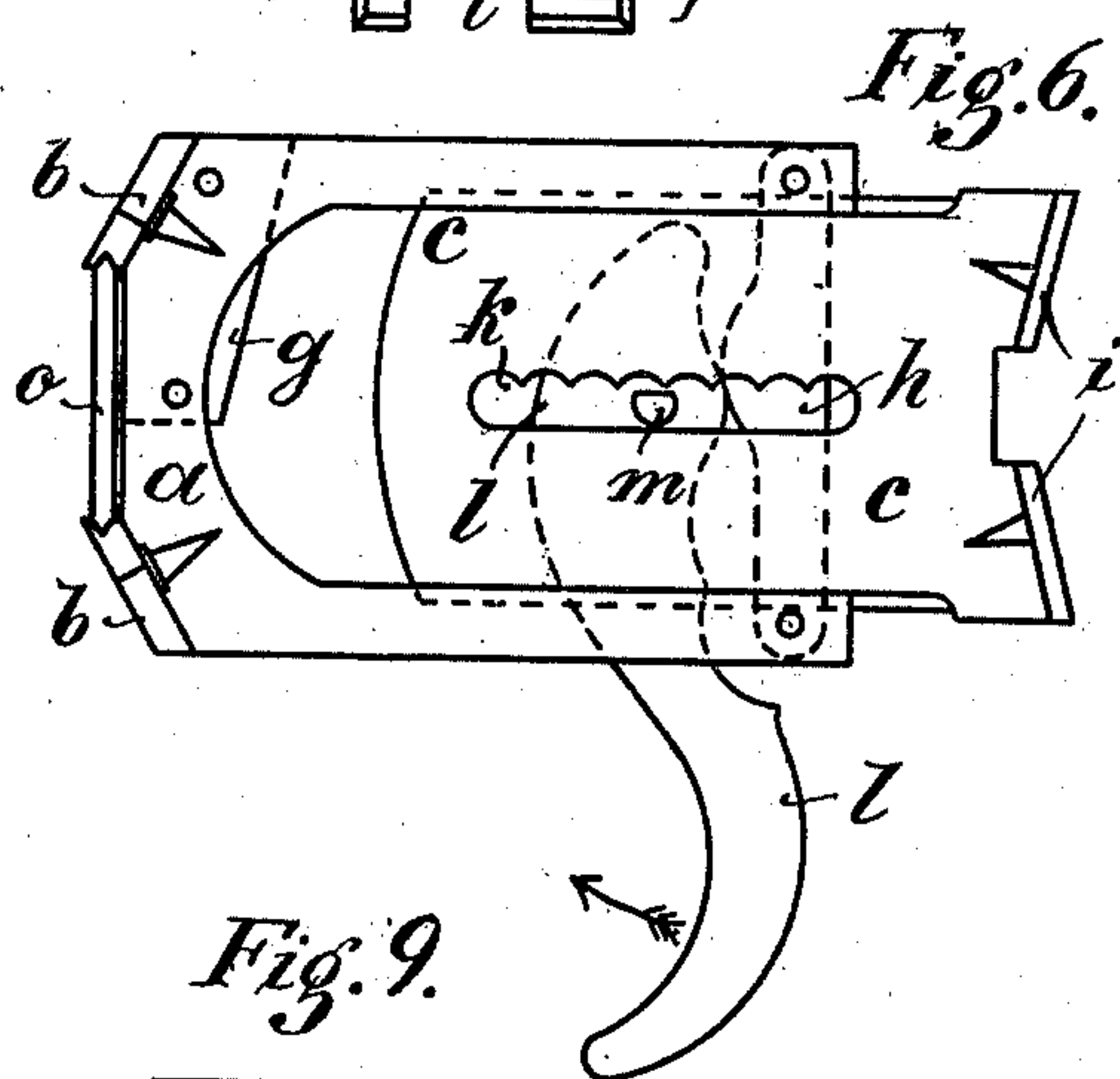
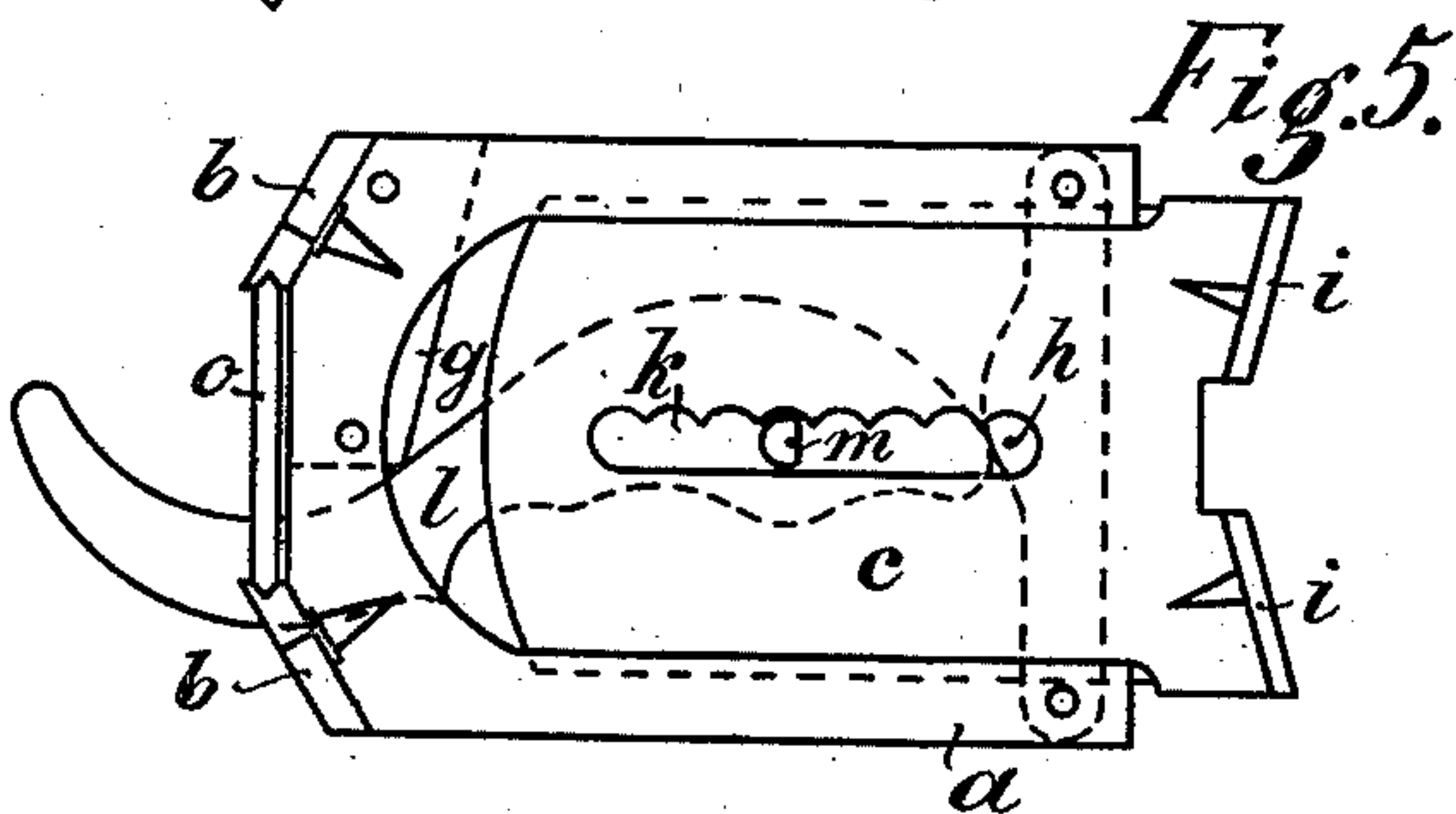
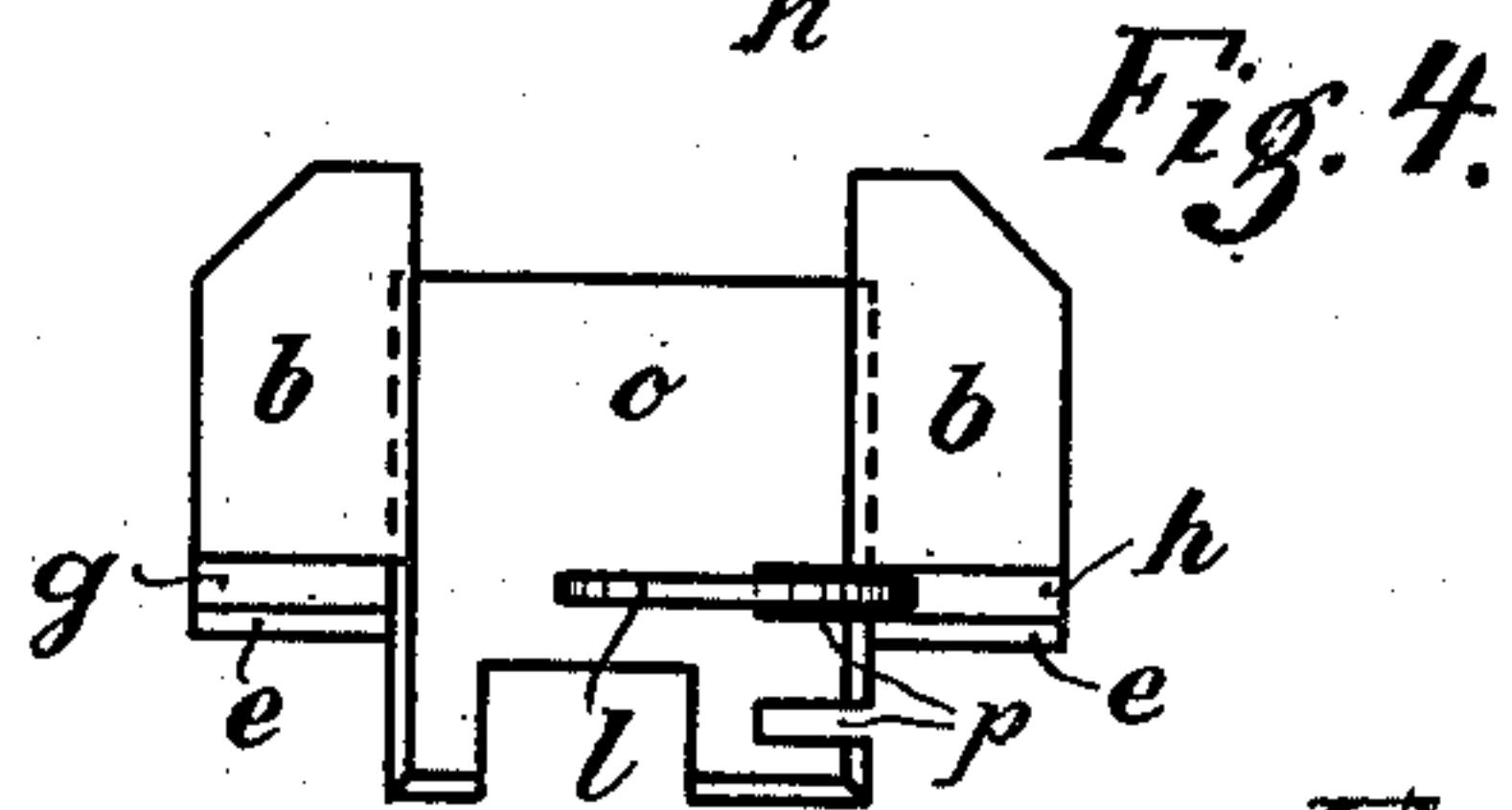
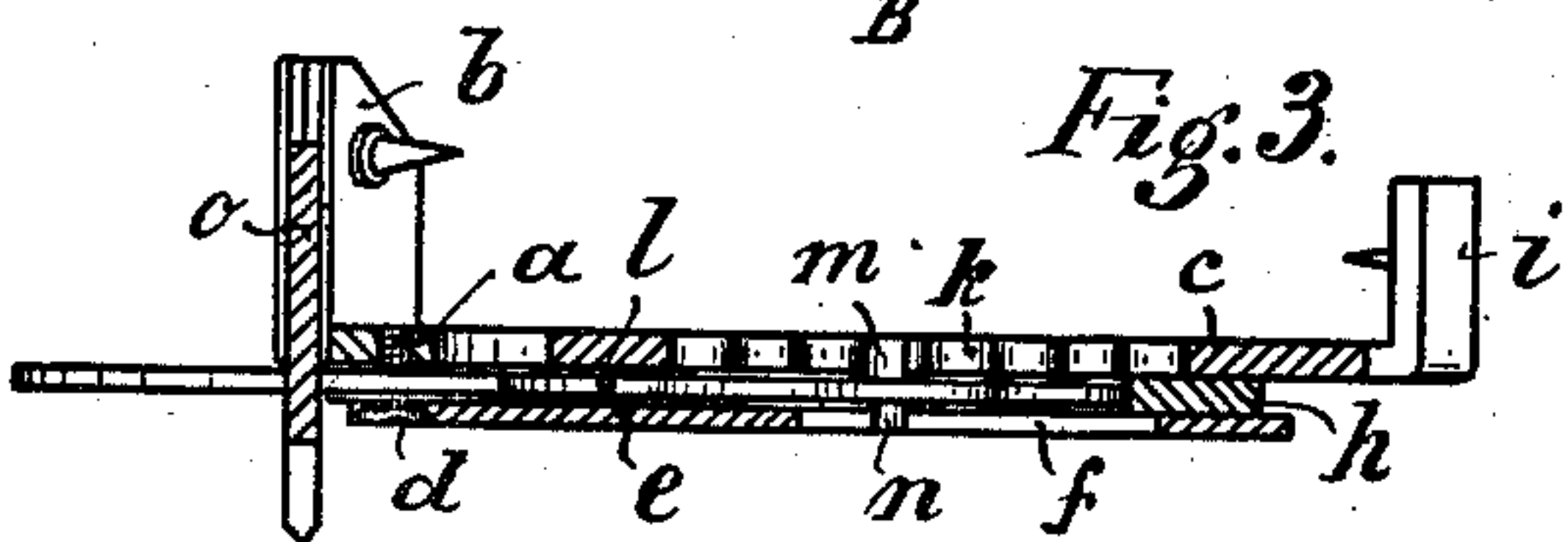
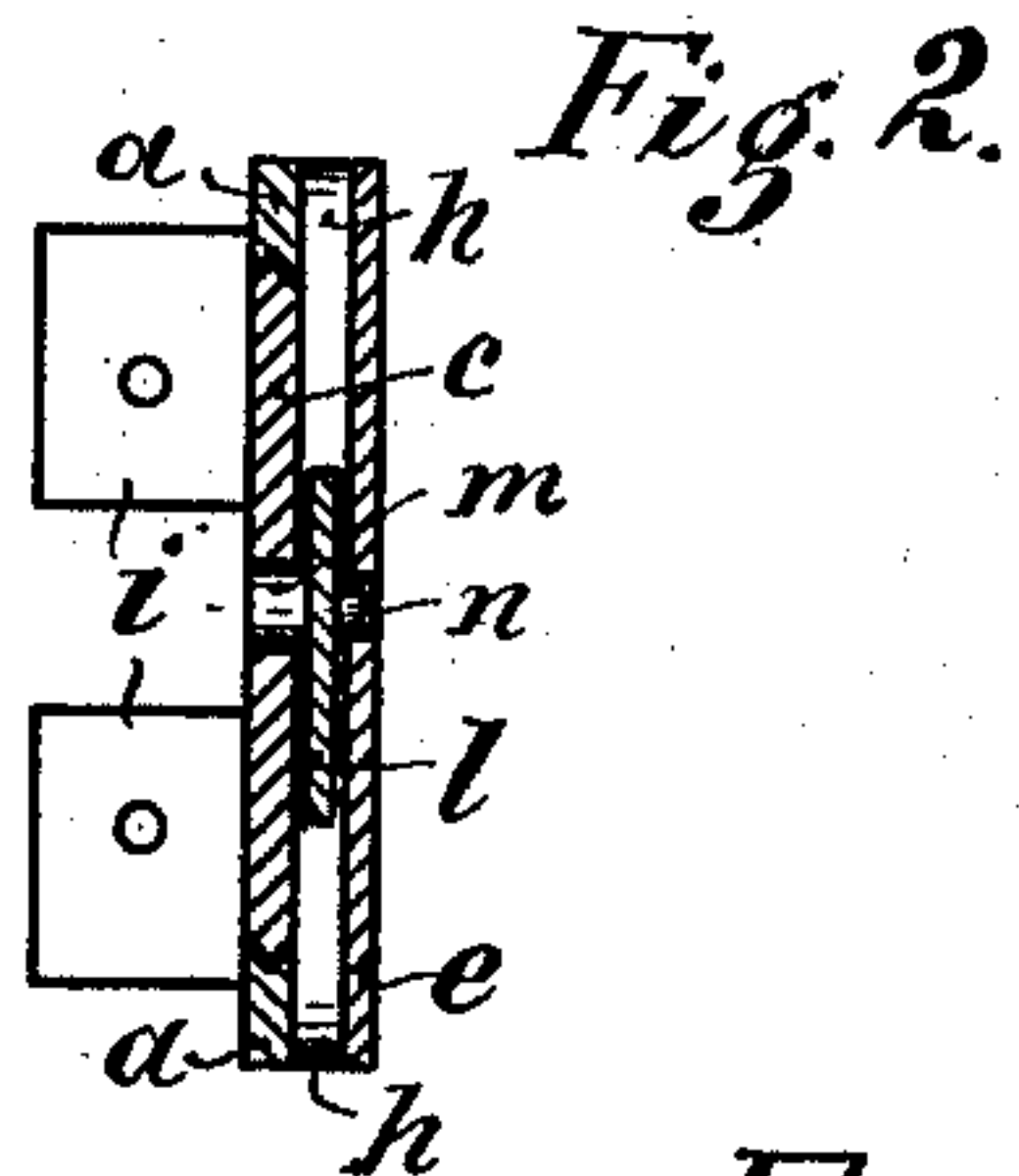
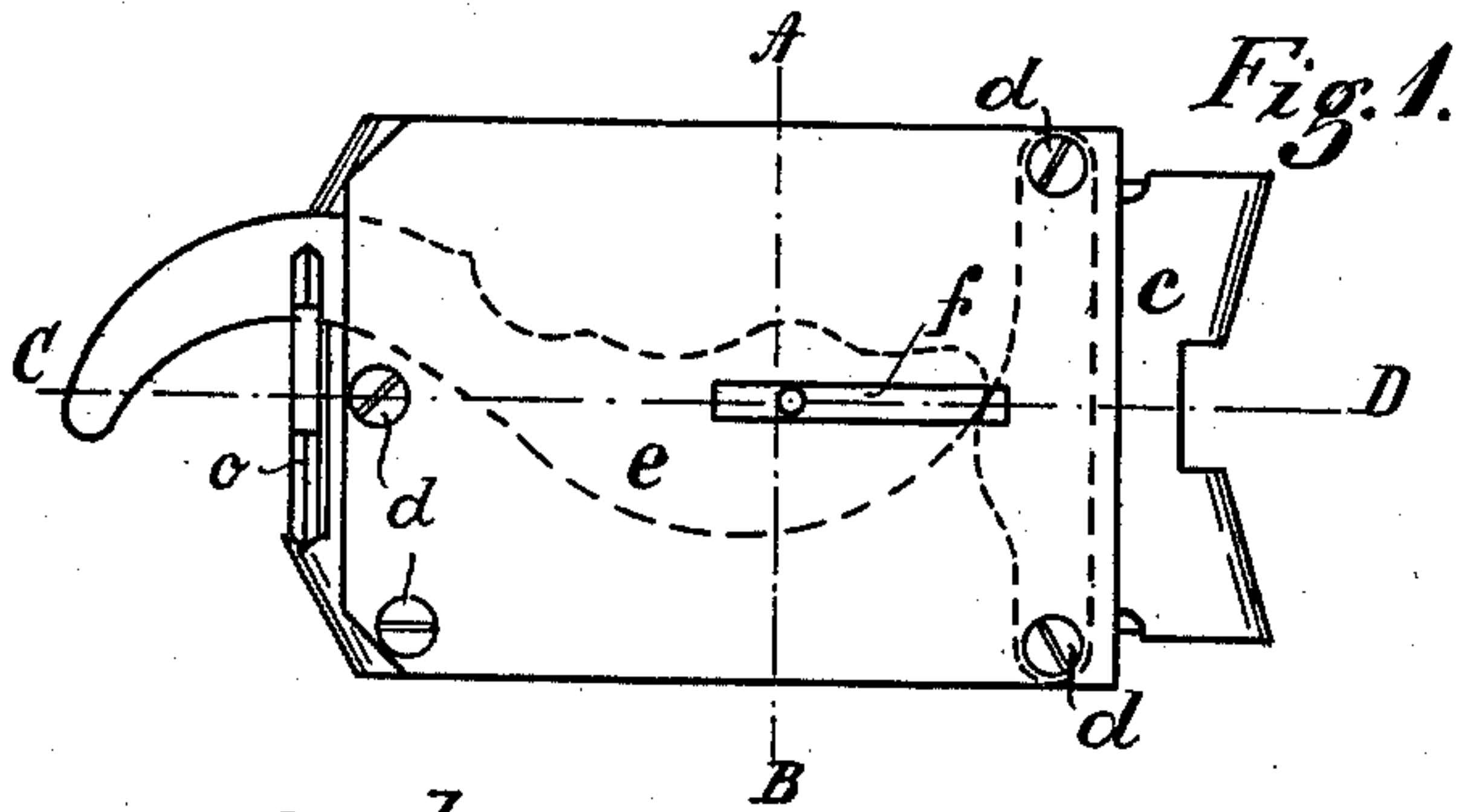
PATENTED AUG. 18, 1903.

L. WINTERHALDER.

ICE SPUR.

APPLICATION FILED APR. 8, 1902.

NO MODEL.



WITNESSES:

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Adelaide Claire Gleason

INVENTOR.

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# UNITED STATES PATENT OFFICE.

LUDWIG WINTERHALDER, OF NEUSTADT, GERMANY.

## ICE-SPUR.

SPECIFICATION forming part of Letters Patent No. 736,468, dated August 18, 1903.

Application filed April 8, 1902. Serial No. 101,908. (No model.)

*To all whom it may concern:*

Be it known that I, LUDWIG WINTERHALDER, manufacturer, a subject of the German Emperor, residing at Neustadt, (Schwarzwald,) in the German Empire, have invented certain new and useful Improvements in Ice-Spurs; and I do hereby declare that the following is a full, clear, and exact description.

The present invention relates to ice spurs or cramps which can be conveniently and easily fixed to the boot-heel.

They consist, essentially, of two clamps adjustable toward or in one another, each of which grasps the heel on one side, and of the spur itself, which is made in the form of a plate sharpened to an edge below and adjustable vertically. This plate is pushed down for use.

In the new ice-spur the arrangement is such that the same part serves for fixing the device to the boot-heel and also for keeping the spur itself in its operative position.

The invention is illustrated in the accompanying drawings, Figures 1 to 6 showing one constructional form, and Figs. 7 to 13 another form of construction, of the new ice-spur. Fig. 1 shows the first pattern of ice-spur seen from below. Figs. 2 and 3 are respectively sections on the lines A B and C D of Fig. 1. Fig. 4 is an end view of the spur. Figs. 5 and 6 illustrate the spur from above in the open and closed positions, respectively. Fig. 7 is a partially-sectional view of the spur of the second pattern seen from above. Fig. 8 is a plan view, and Fig. 9 is an end view, of the same. Figs. 10 and 11 are respectively front and side views, on an enlarged scale, of a detail. Figs. 12 and 13 illustrate the fixing and releasing of the actual spur.

Adjustable in the clamp *a*, which grasps the boot-heel with the spikes on its upwardly-bent flanges *b*, is the second clamp *c*, Fig. 2. A plate *e* is connected by screws *d* with the clamp *a*, in which plate is a longitudinal slot *f*. The plate *e* is held at a certain distance from the clamp *a* by means of intermediate pieces *g* and *h*. The clamp *c*, which is also provided with spikes for engaging in the heel, on its upwardly-bent flanges has a slot *k*, Figs. 5 and 6, which on one longitudinal side is smooth and on the other provided with a kind of toothing.

In the space between the clamp *a* and the

plate *e* is the lever *l*, which is provided on its upper side with a wing *m* and on its lower side with a stud *n*. The stud serves for engaging in the slot *f* and the wing for engaging in the toothing of the slot *k*.

The plate *o*, forming the ice-spur itself, is movable vertically between the flaps *b* of the clamp *a*. It can be fixed by means of the lever *l* in two positions, engaging in one or other of the lateral slots *p* thereof in the closed position. The plate *o* is sharpened below and serves as ice-cramp.

If the ice-spur is to be attached to the boot-heel, it is placed against the heel, the lever *l* being in the position shown in Fig. 6, and the two clamps *a* and *c* are pressed together until their spikes begin to press into the heel. This longitudinal movement is possible without anything further, as the wing *m* of the lever *l* when in the open position is not in engagement with the toothing of the slot *k*. The lever *l* is then moved in the direction of the arrow, whereby the wing *m* first engages in one of the notches of the toothing of the slot *k*. The lever *l* is consequently coupled thereby with the clamp *c*, as owing to the stud *n* moving in the slot *f* the wing *m* cannot be forced out of the toothing. If the lever is turned farther, its inner end comes against the intermediate piece *h*, rigidly connected with the clamp *a*. Consequently the clamp *c* is moved toward the clamp *a*, and therefore against the heel, the clamp *a* and its spikes pressing firmly into the boot-heel. On this movement the lever *l* passes into a slot *p* of the plate *o*, so that when it is completely reversed, Fig. 4, it securely fixes the whole device on the boot-heel and at the same time keeps the ice-spur itself—that is, the plate *o*—in its position. If the ice-spur is to be removed, it is only necessary to turn the lever *l* in the opposite direction to the arrow, whereupon the ice-spur can easily be released from the heel.

It is possible to use the same ice-spur for large and small heels, owing to the arrangement of the slit *k* having several teeth instead of only one.

In the second constructional form, Figs. 7 to 13, a screw *q* serves for the mutual adjustment of the two clamps *a* and *c*, which engages at one end with a matrix provided in-



side the clamp *c*. At the other end it is so arranged in the clamp *a* that it can easily rotate, but neither move toward the inside nor outside, which, for instance, can be effected by means of a band on the outer side of the clamp *a* and a stud on the inner side thereof. The ice-spur itself is again made in the form of a plate *o*, movable in the upwardly-bent part of the clamp *a*. It has an oval slot *r*, through which the end of the screw *q* passes. The slot is widened out laterally at its upper and lower ends. The screw *q* where it engages in the slot *r* is flattened. This is arranged so that the plate *o* can only be moved when the flattened part is in the same direction as the slot *r*, Fig. 13. If the screw is twisted out of this position, which is only possible in the two end positions of the plate *o*, the latter is fixed thereby in its then position. In the new ice-spur, therefore, the attachment to the boot-heel and the fixing of the spur itself are combined in a very simple manner.

Of course many of the details of the new ice-spur can also be carried out in other ways without departing from the principle of the present invention.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an antislipping device, the combination with two adjustably-connected plates having upwardly-extending projections on their opposite ends, said projections on one of said plates having grooves formed in the inner edges thereof, of an ice-spur adapted to slide within said grooves, substantially as described.

2. In an antislipping device, the combination with two adjustably-connected plates forming a clamp, an ice-spur carried thereby and a plate secured beneath said clamp of a lever pivoted between said clamp and said plate, said lever having an adjustable connec-

tion with one plate of the clamp and being adapted to press against a part of the other plate of the clamp, substantially as described.

3. In an antislipping device, the combination with a two-part clamping-plate, a slot formed therein, one edge of said slot having a series of recesses therein, an ice-spur secured to said clamping-plate, and a plate secured beneath the said clamping-plate and having a slot therein, of a lever having a stud on one side thereof adapted to slide in the slot in said lower plate and a projection on the opposite side of said lever adapted to slide in the slot in said clamping-plate and to engage the recesses therein when said lever is moved, substantially as described.

4. In an antislipping device, the combination with the clamp comprising two adjustable plates, a plate secured beneath said clamp, a cross-bar between said clamp and said plate and a lever pivoted between said clamp and said plate and having a cam-shaped portion bearing against said cross-bar and also having a lug *m* engaging one of the adjustable plates, of an adjustable ice-spur secured to said clamp and having recesses therein adapted to be engaged by said lever, substantially as described.

5. In an antislipping device, the combination with the clamp comprising adjustable plates and the adjustable ice-spur carried by one of said plates, slots in the spur of a lever connected adjustably to one plate and adapted to press against the other plate and also arranged to engage the slots in the ice-spur.

In witness whereof I have hereunto set my hand in presence of witnesses.

LUDWIG WINTERHALDER.

Witnesses:

KARL HOFMEIER,  
JOSEPH BARTMANN,  
BENJAMIN F. LEIFELD,  
LEWIS STOCKTON.