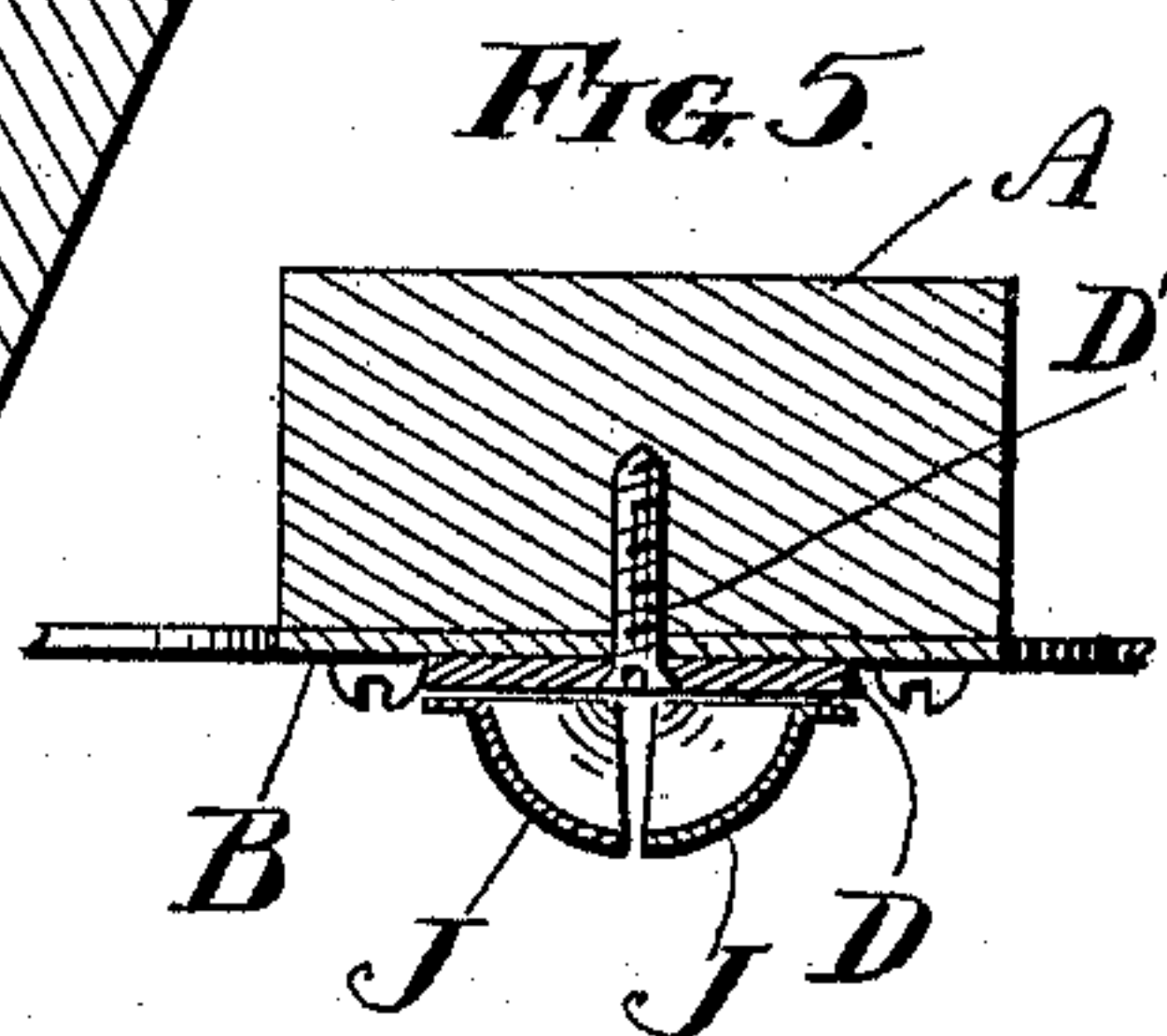
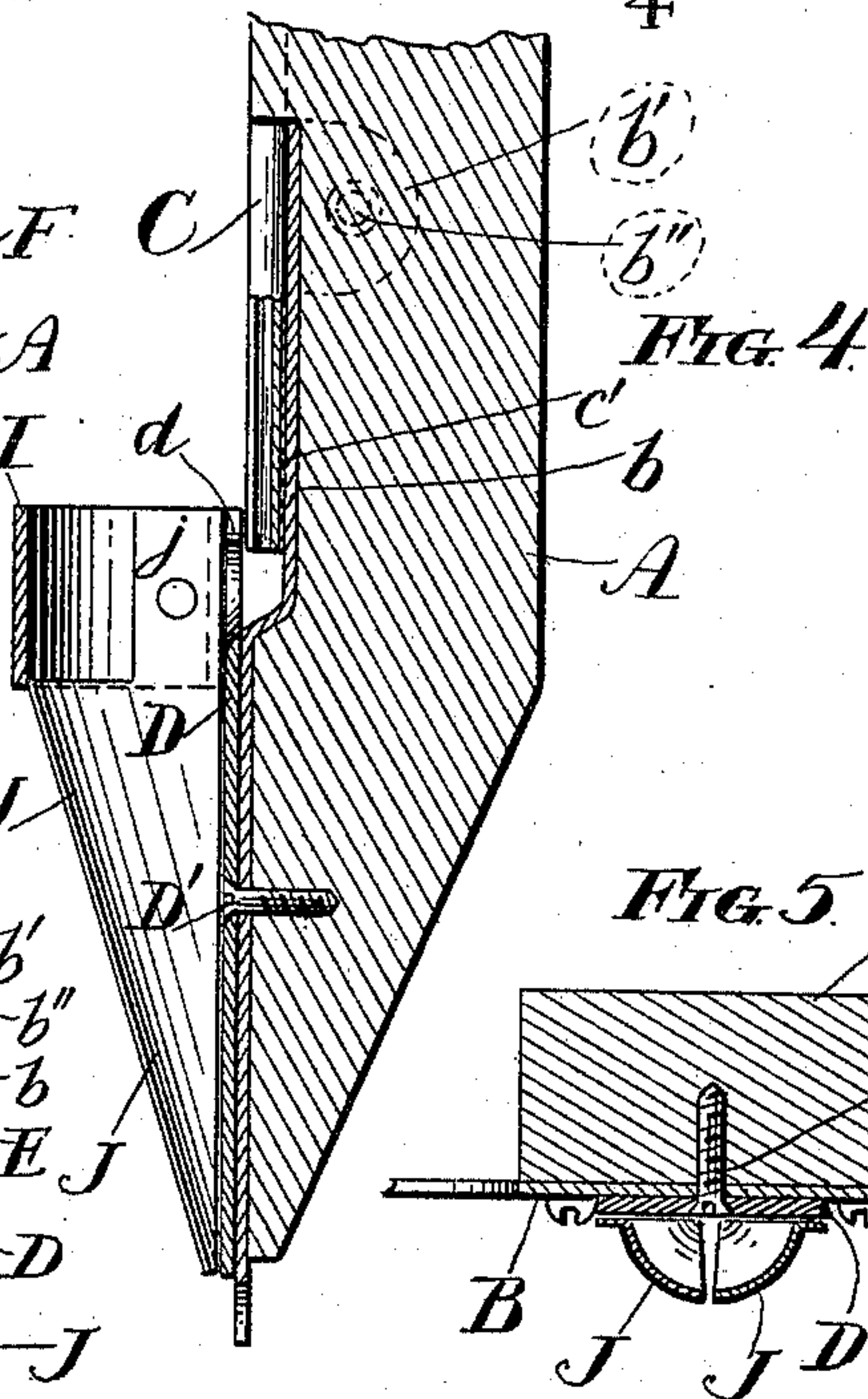
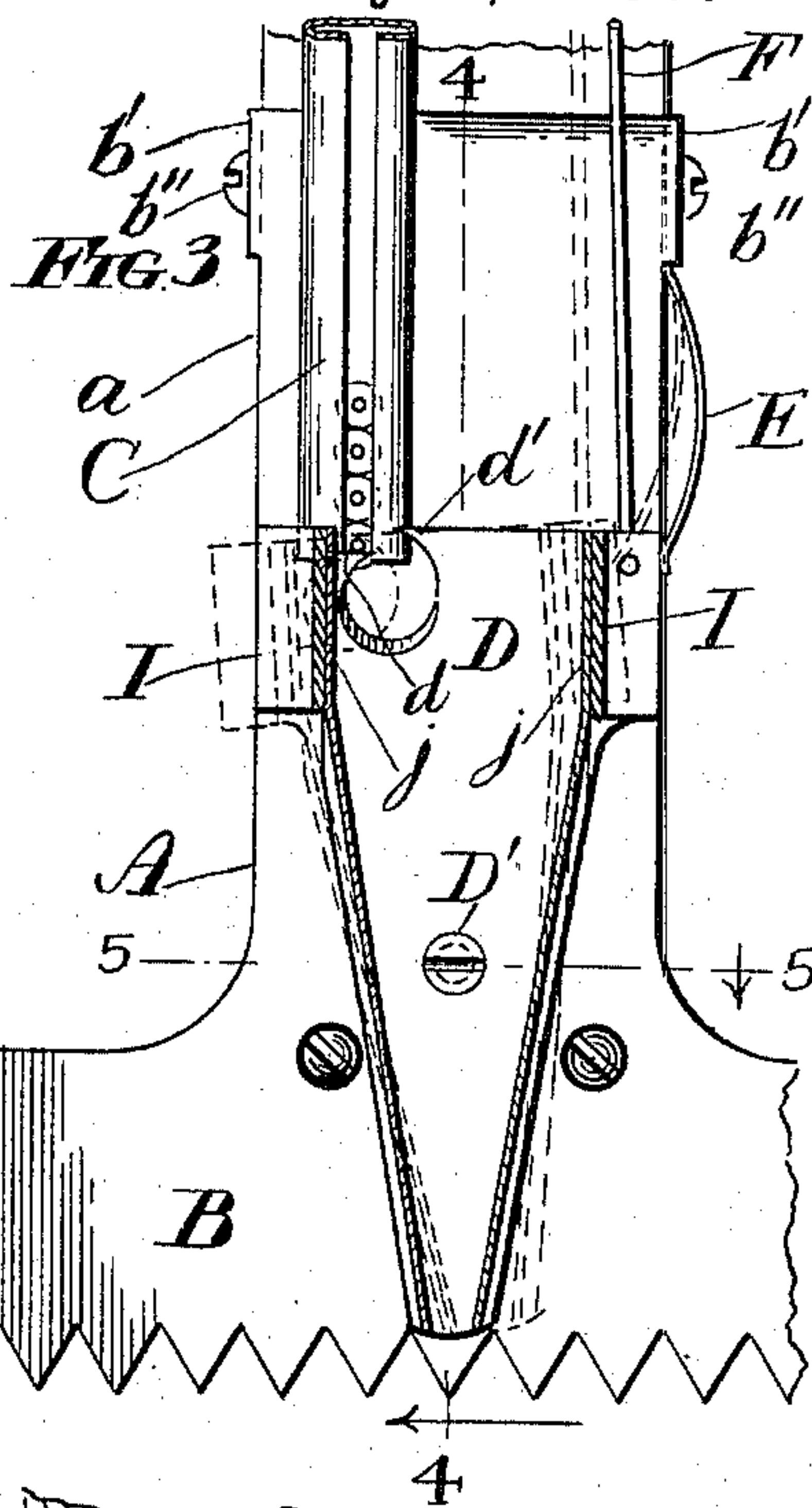
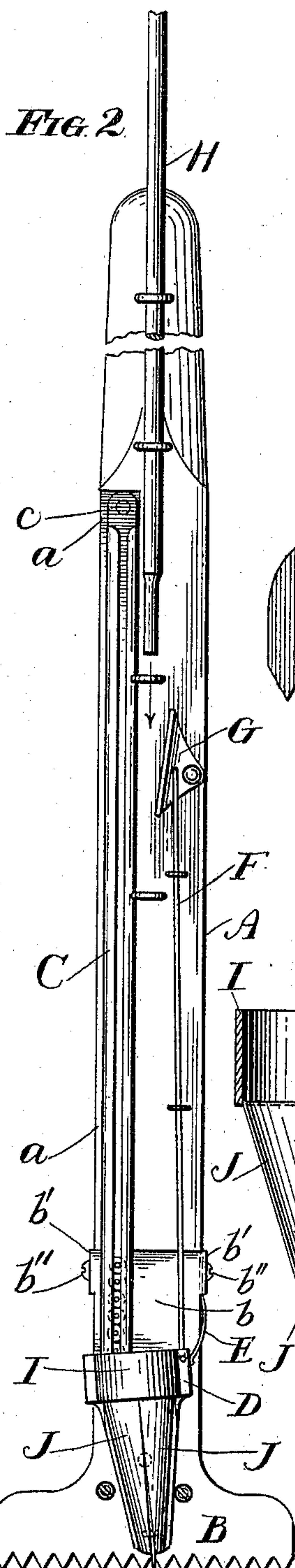


A. E. KUHNS.
TACK DRIVER.

Patented May 4, 1897.



Witnesses:
J. Halpenny
S. E. Sharon

Inventor:
Arthur E. Kuhns
By his attorneys
Gusley & Hopkins

UNITED STATES PATENT OFFICE.

ARTHUR E. KUHNS, OF CHICAGO, ILLINOIS.

TACK-DRIVER.

SPECIFICATION forming part of Letters Patent No. 582,142, dated May 4, 1897.

Application filed March 6, 1896. Serial No. 582,063. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR E. KUHNS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Tack-Drivers, of which the following is a specification.

In the drawings I have shown my improved tack-driver as being associated with a carpet-stretcher; but the invention has nothing whatever to do with the carpet-stretching part of the device.

The invention relates to that class of tack-drivers which comprise a magazine for containing a supply of tacks, an escapement by which the tacks are permitted to fall from the magazine one at a time, a hopper into which the tacks fall upon leaving the magazine, and a driving-rod by which the tack in the hopper is struck and driven.

I am aware that a tack-driver having these features broadly stated is not new, and the object of the present invention is simply to provide an improved tack-driver of this description.

To this end the invention consists in the features of novelty that are particularly pointed out in the claims hereinafter, and in order that it may be fully understood I will describe it with reference to the accompanying drawings, which are made a part hereof, and in which—

Figure 1 is a front elevation of a tack-driver embodying the invention and of a carpet-stretcher with which it is associated, the parts being shown in the positions that they occupy when there is a tack in position in the hopper and the driving-rod has partly descended and is about to strike the tack. Fig. 2 is a front elevation thereof with the parts in the positions that they occupy when the driving-rod has been withdrawn far enough to permit the escapement to be operated and a tack thereby dropped from the magazine into the hopper. The scale of Figs. 1 and 2 is one-half full size. Fig. 3 is a sectional elevation of the lower portion thereof with the parts in the positions in which they are shown by Fig. 2, the hopper being shown in vertical section and the other parts in front elevation. Fig. 4 is a vertical section thereof on the line 4 4, Fig. 3, looking in the direction of the arrow.

Fig. 5 is a horizontal section thereof on the line 5 5, Fig. 3, looking downward.

A represents a rod, preferably of wood, which forms a handle for the entire apparatus and a base upon which the other parts are mounted, either fixedly or movably, as hereinafter described.

B is a claw fixedly secured to the lower end of the rod and forming therewith the carpet-stretcher. This claw is made of a plate of sheet metal of T shape approximately, the head of which is toothed and the stem of which extends some distance along the handle, has an offset portion *b*, and is provided with perforated ears *b'*, that are bent backward and are secured to the sides of the handle by screws *b''* or other suitable means. The handle is recessed to receive the offset portion of the plate and is also recessed along one of its edges, as shown at *a*, to receive the magazine C. The magazine consists of a flattened tube, open at both ends and provided along its front side with a centrally-disposed slot extending from end to end of it, its upper end being secured to the handle by a screw *c* and its lower end being secured to the offset portion *b* by solder, as shown at *c'*, or by other means.

The escapement consists of a plate D, pivoted at D' and cut away so as to leave upon opposite sides of the cut-away portion a shoulder *d* and a tooth *d'*, the latter being located slightly above the former.

The construction and arrangement of the parts are such that when the escapement is in the position shown in Fig. 1 the shoulder *d* will cross the slot in the magazine, and the bottom one of the tacks with which the magazine is charged will be resting upon it. As the escapement moves to this position from the position shown in Figs. 2 and 3 the tooth *d'* enters between the bottom tack and the one next above it, so that when the escapement shall have moved in this direction far enough to carry the shoulder *d* out of engagement with the bottom tack the tooth *d'* will have crossed the slot of the magazine and come into full engagement with the second tack. This movement of the shoulder permits the bottom tack to fall into the hopper, while the others are supported by the tooth *d'*. Upon the return of the escapement to the position

shown in Fig. 1 the tooth d' will move out of engagement with the then bottom tack, and the whole row of tacks will fall until arrested by the shoulder d . This feature of the invention is characterized by the oscillating escapement working in combination with the fixed magazine and means whereby the escapement is operated automatically, partly by movement derived from the driving-rod. The advantage of this is that the fixed magazine makes a stronger and more durable apparatus.

The escapement is moved to the position shown in Figs. 2 and 3 by a spring E, which is secured to the handle and bears against the escapement, and it is moved to the position shown in Fig. 1 by a rod F, which is connected at one end to it and at the other end to a trigger G, which is pivoted to the handle and so constructed and arranged that when the driving-rod H is withdrawn to the position shown in Fig. 2 the spring E, acting through the rod F, will cause a part of the trigger to project into or across the path of the rod, as shown in Fig. 2. When the rod is lowered from the position here shown, it strikes the trigger and moves it to the position shown in Fig. 1. This movement of the trigger is transmitted through the rod F to the escapement and moves the latter from the position shown in Figs. 2 and 3 to the position shown in Fig. 1, with the results already described. As the rod continues on downward it strikes the tack which has been dropped into the hopper, the position of which is indicated by dotted lines, and drives it in.

The hopper is associated with the escapement, so that the two move together. In fact, the plate of which the escapement is made forms the rear wall of the hopper, the other parts of the hopper being a yoke I of semicircular shape, having its ends secured to the escapement, and a pair of spring-jaws J. Preferably these jaws are made of spring-steel, and each is provided with a slender tongue j' , which is riveted or otherwise secured to the yoke. By attaching the jaws through the medium of these slender tongues

they are allowed a greater elasticity than they would have if they were continued without reduction to the point of attachment. At top the front edges of the jaws meet, and from this point they gradually diverge to the bottom, where they are a sufficient distance apart to permit the point of the tack to protrude.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a tack-driver, the combination with a handle, of a magazine immovably secured to the handle, a movable escapement mounted upon the handle, a hopper movable with the escapement, a driving-rod slidably mounted upon the handle, and means for transmitting movement from the driving-rod to the escapement, substantially as set forth.

2. In a tack-driver, the combination with a magazine, an escapement and a driving-rod, of a hopper made up of a back plate, and a pair of spring-jaws constructed and arranged substantially as set forth.

3. In a tack-driver, the combination with a magazine, an escapement and a driving-rod, of a hopper made up of a back plate, a semicircular yoke secured thereto, and a pair of jaws made of spring metal and having at top slender tongues secured to the yoke, substantially as set forth.

4. In a tack-driver, the combination of a handle, a magazine having its upper end immovably secured thereto, the handle being recessed to receive the magazine, a plate, having an offset, secured to the handle, the handle being recessed to receive that portion of the plate which is located above the offset, to which portion of the plate the lower end of the magazine is immovably secured, a movable escapement arranged upon the lower portion of the plate, a hopper, a driving-rod, and means for transmitting motion from the driving-rod to the escapement, substantially as set forth.

ARTHUR E. KUHNS.

Witnesses:

L. M. HOPKINS,
J. HALPENNY.