

No. 740,747.

PATENTED OCT. 6, 1903.

J. F. FINNEGAN.
SWAGE FOR INSERTIBLE SAW TEETH.

APPLICATION FILED JULY 21, 1902.

NO MODEL.

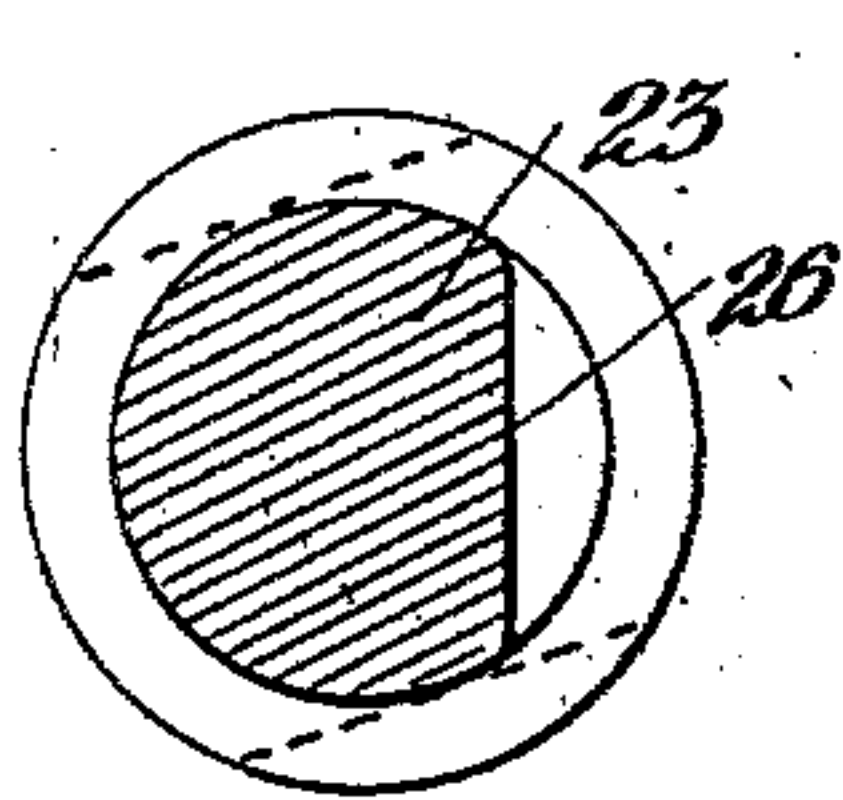


FIG. 3

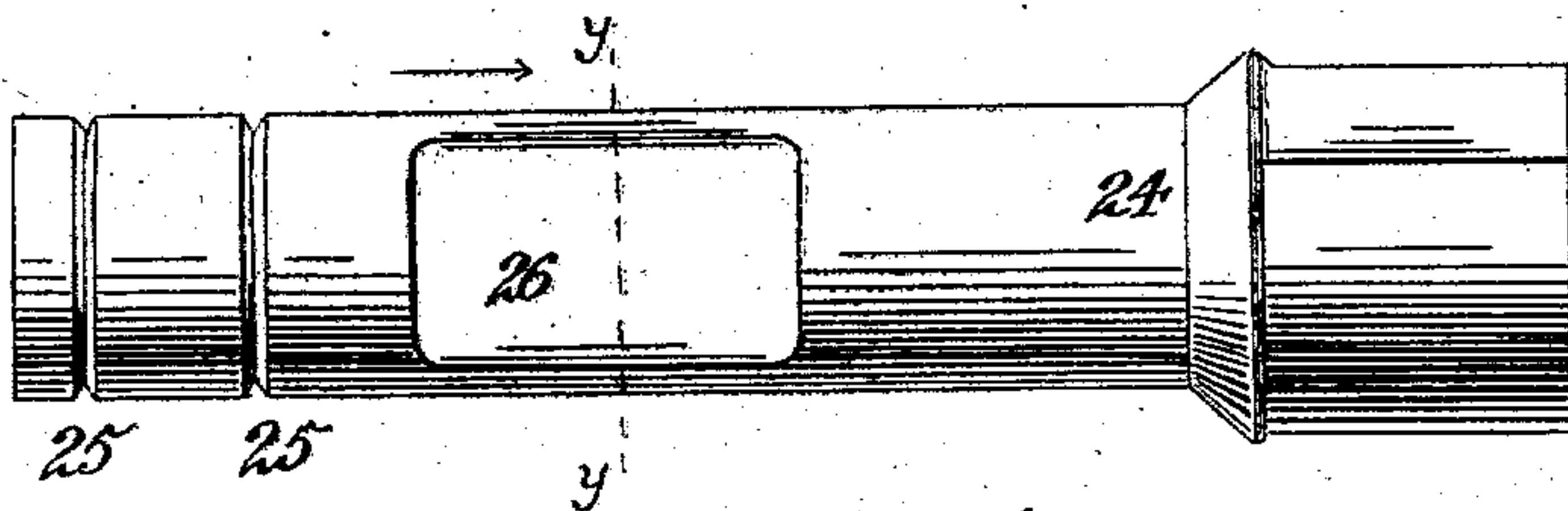


FIG. 4

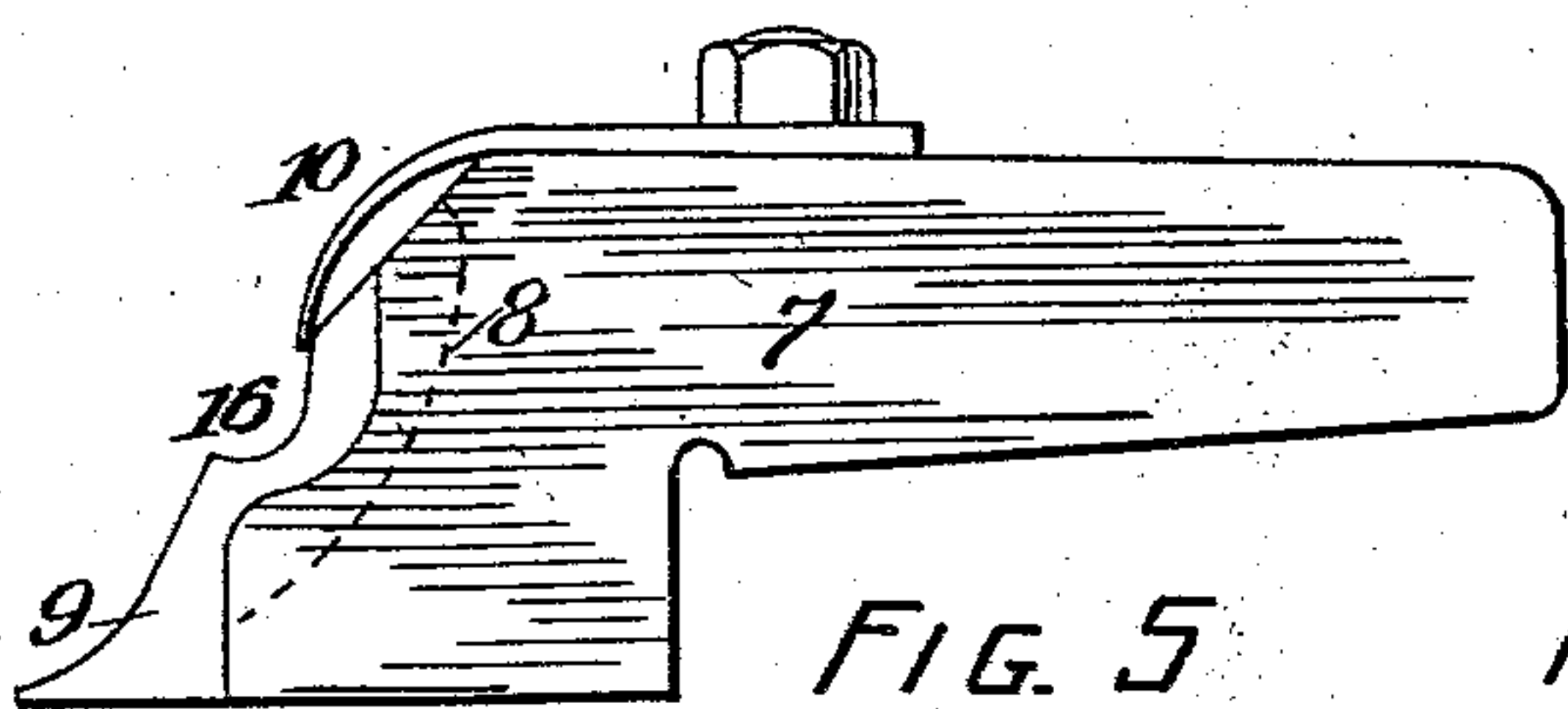


FIG. 5

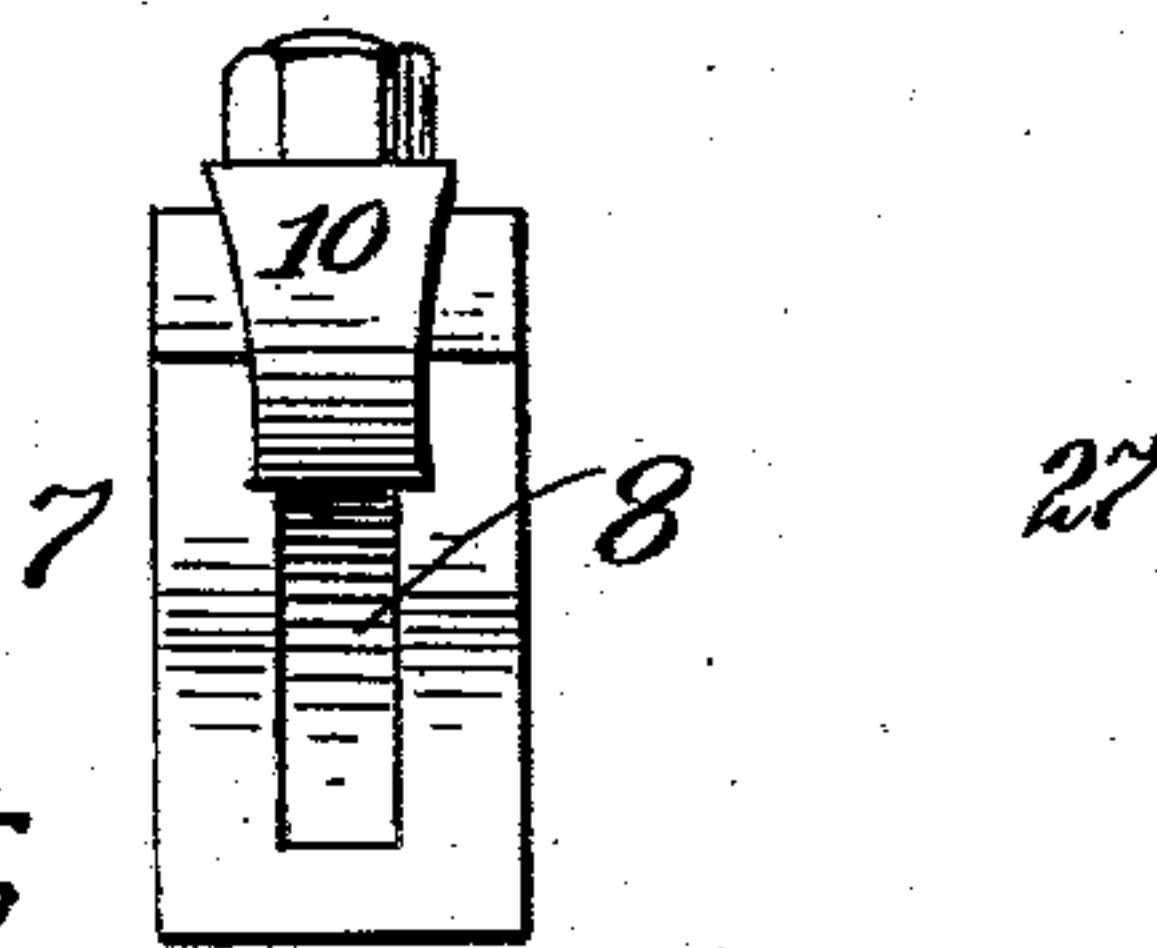


FIG. 6

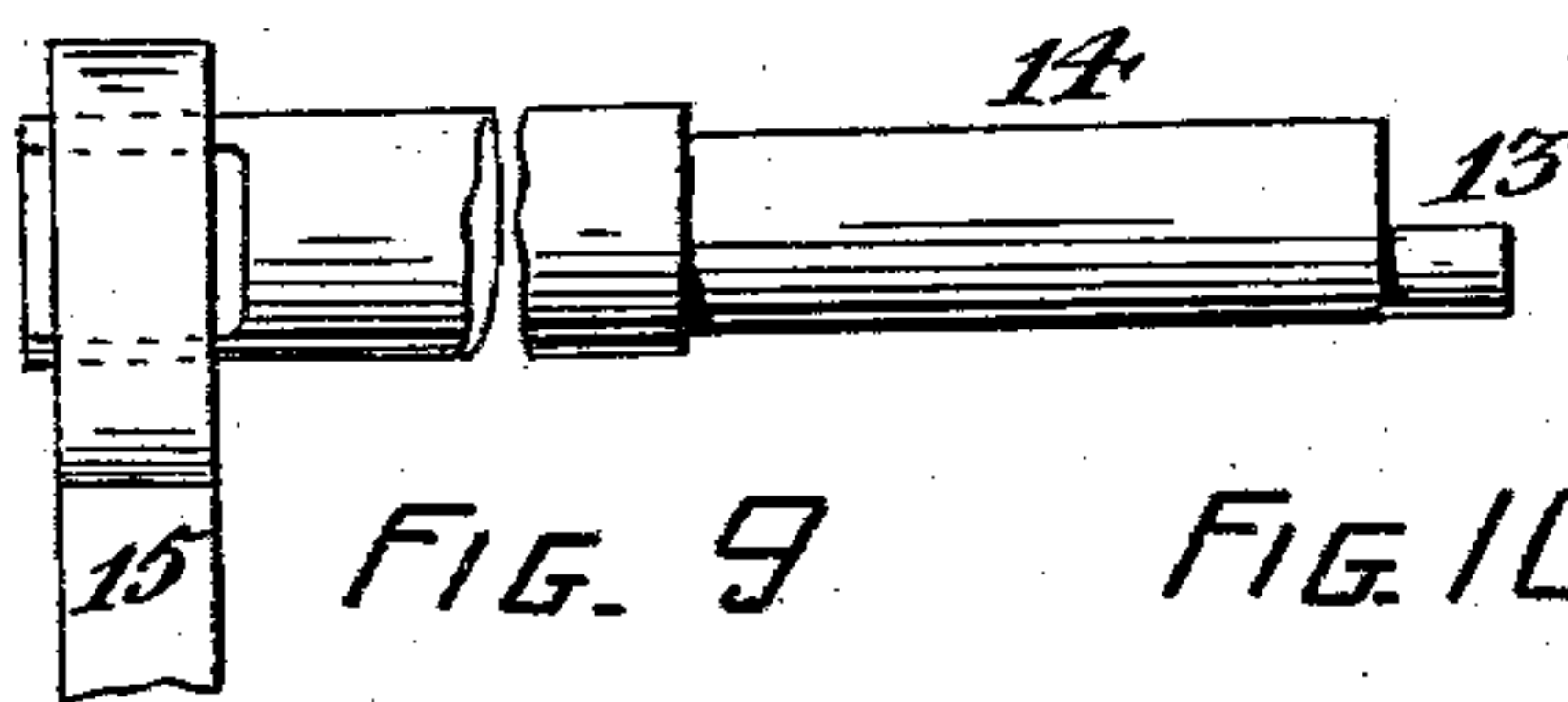


FIG. 9

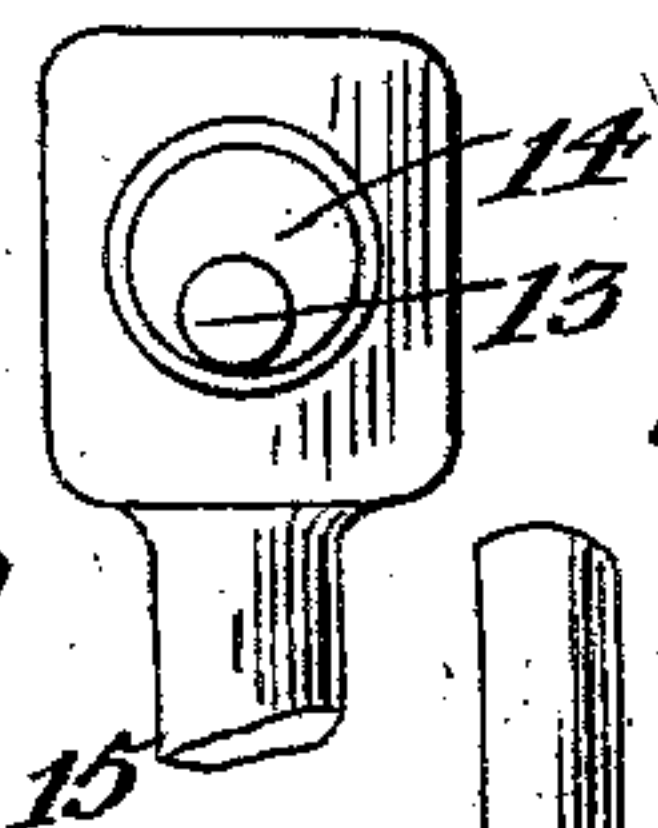


FIG. 10

FIG. 7

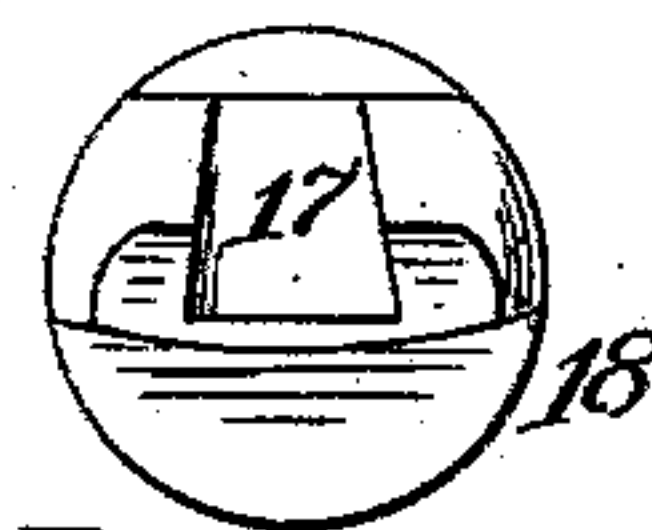


FIG. 8

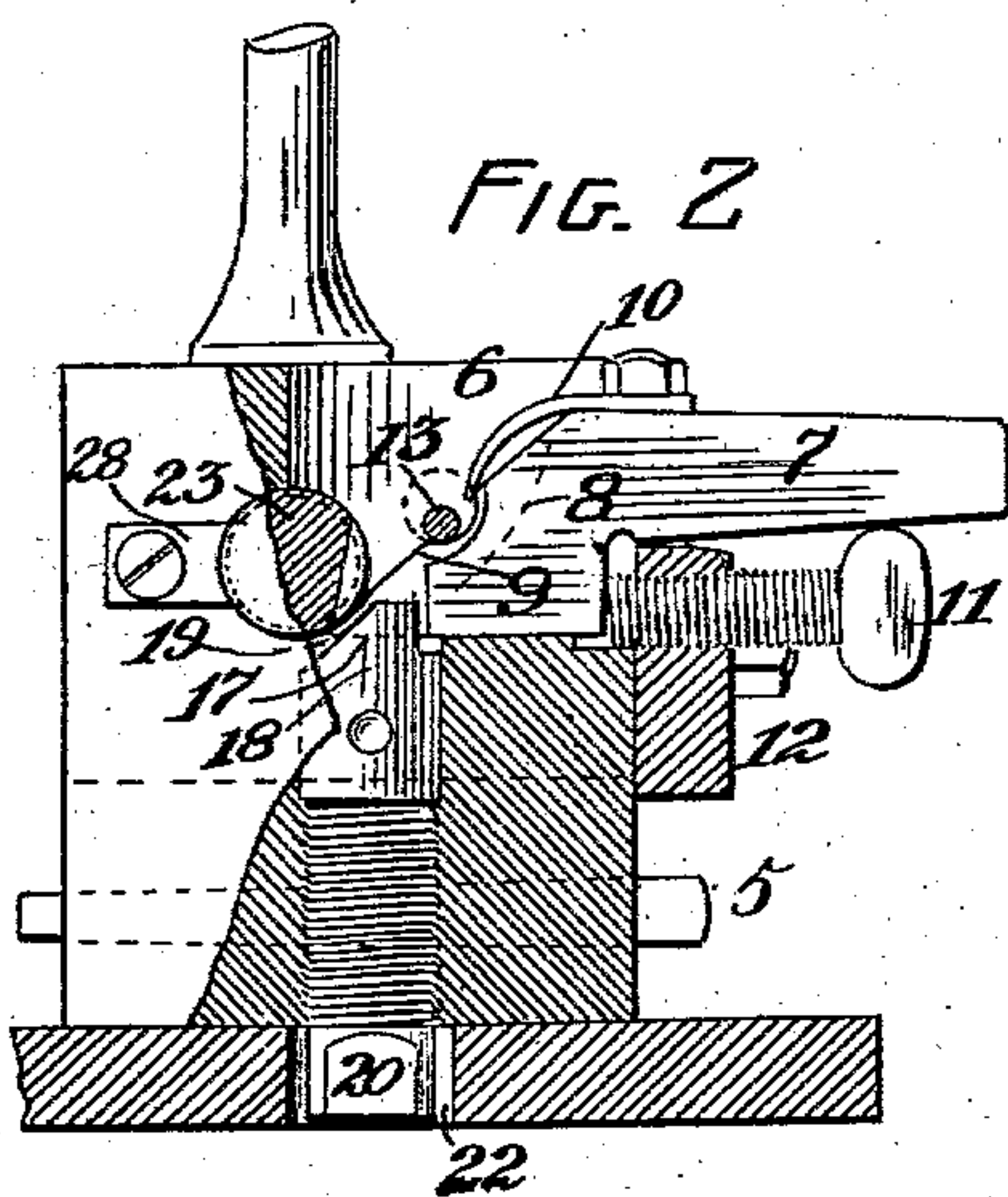
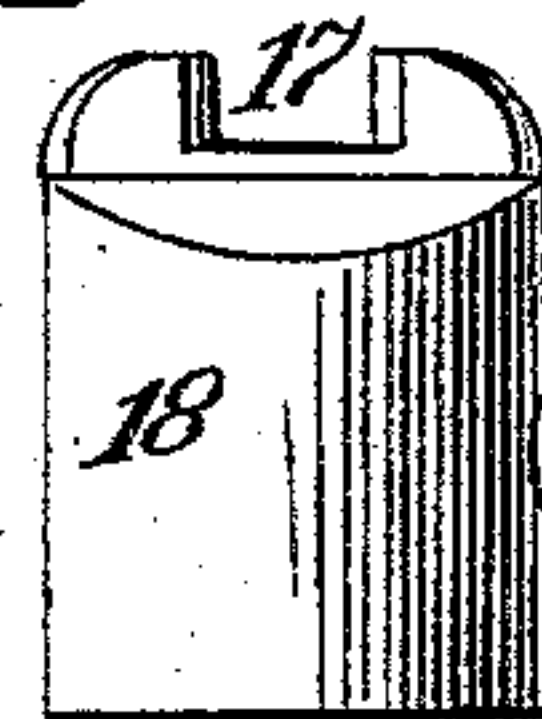


FIG. 2

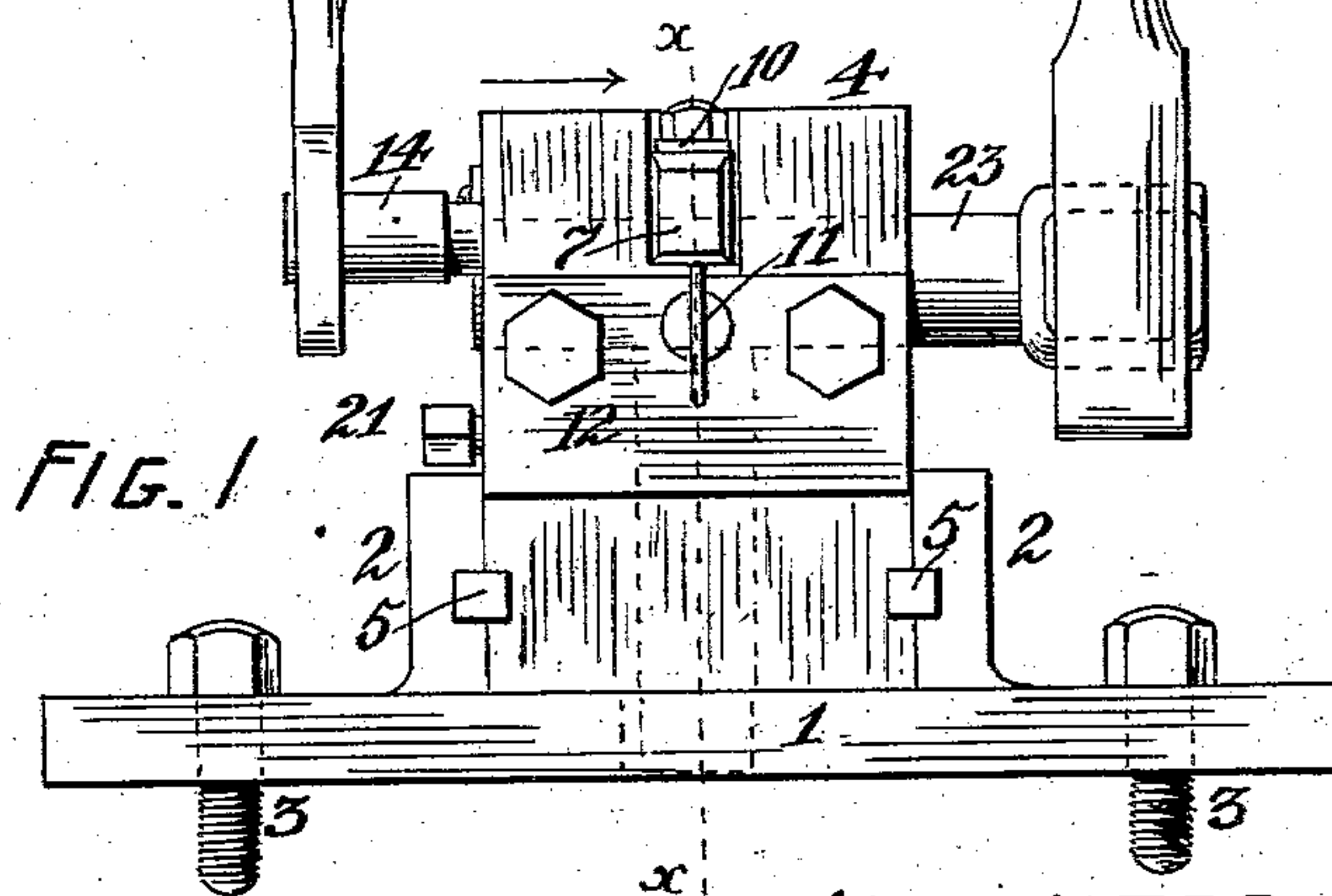


FIG. 1

WITNESSES:
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UNITED STATES PATENT OFFICE.

JOHN F. FINNEGAN, OF IGERNA, CALIFORNIA.

SWAGE FOR INSERTIBLE SAW-TEETH.

SPECIFICATION forming part of Letters Patent No. 740,747, dated October 6, 1903.

Application filed July 21, 1902. Serial No. 116,446. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. FINNEGAN, a citizen of the United States, residing at Igerna, in the county of Siskiyou and State of California, have invented certain new and useful Improvements in Swages for Insertible Saw-Teeth, of which the following is a specification.

The invention relates to an implement for renewing the cutting edges of insertible saw-bits by swaging. In present practice such edges when dull are sometimes repaired by hand-swaging and sometimes by filing; but neither method has been found satisfactory, although requiring expensive skilled labor to produce even moderately successful results. My implement is not only completely successful in quickly swaging new cutting edges, but also produces a better-lasting edge even than the original, and its operation requires no high degree of skill, the adjustments being easily made and the actual swaging operation being so far automatic as to dispense with skill in carrying it out.

The invention is designed only for swaging insertible saw-bits when removed from the saw, and the embodiment of the invention shown in the accompanying drawings is designed for swaging a standard shape of bit well known in the art and trade; but the bit-holding devices can be modified in shape to receive other bits without departing from the essential principles of construction and operation which characterize the implement.

In the accompanying drawings, Figure 1 is a front elevation of the machine. Fig. 2 is a vertical section on *x x* of Fig. 1. Fig. 3 is a cross-section of the swaging roll or shaft on *y y* of Fig. 4. Fig. 4 is an elevation of said shaft. Fig. 5 is a side elevation of an adjustable bit-holder. Fig. 6 is a front elevation of the same. Fig. 7 is a top plan of the anvil. Fig. 8 is an elevation of the same. Fig. 9 is an elevation of the shaft and eccentric for locking the bit to its holder. Fig. 10 is an end view of the same.

Referring to Figs. 1 and 2, 1 represents a support for the implement comprising a bed-plate having vertical guides 2 and adapted to be secured to a bench, for which purpose screws 3 are shown. The casing 4, which contains or supports the swaging devices, is

set between the guides 2, held there in any suitable way, as by the keys 5, and extends above such guides. In the upper part of the casing is a chamber 6, which extends through the front and top and is of a width to receive the bit-holder 7. This holder is recessed at its front end to provide a curved and inclined seat 8 for the bit 9, the side elevation of which, Fig. 5, is completed by the dotted line of said seat. The bit is held in the holder by a spring 10. The bottom of the holder rests upon the solid metal of the casing, and the holder is adjusted inwardly to proper position by a screw 11, working through the wall of the casing, which is here formed by the removable plate 12, on which the projecting part of the holder rests, Fig. 2. The holder carrying the bit is locked down solidly to the casing by a cam 13 on the end of the shaft 14, which projects into the casing and is turned by an external handle 15. As shown in Fig. 2, the cam bears upon the bit and so locks it and the holder which carries it. The style of bit illustrated has a recess 16, which is entered by the cam.

The lower part of the bit, as it projects from the holder, rests in and projects slightly beyond a slot 17 in the top of the anvil 18, such slot having diverging sides, Fig. 7, to fit the bit shown, which is broadened to the cutting edge. The top of the anvil is beveled off and bears upon a shoulder 19 of opposing incline, so as to be perfectly rigid. The anvil is supported and adjusted by a screw-bolt 20, which has a long threaded engagement with a bore in the casing communicating with the upper chamber therein and extending through the bottom. It is adjusted to position in this bore and then held by a set-screw 21. The bed-plate should have a hole 22 to make the bolt-head accessible.

The bit held and locked as described and resting in the holder and upon the anvil is swaged between the anvil and a swaging-section on the movable shaft or roll 23. Bearings are formed for this shaft in the walls of the casing. The swaging-section 26 is simply a flattened face of the round shaft by which an edge is formed adjacent to the anvil. The projecting end of the shaft is squared or flattened on two sides to receive the operating-lever 27. The swaging-section 26 is long

enough to allow for longitudinal adjustment of the shaft, so as to bring another part of the swaging edge into use. The shaft has two or more parallel channels 25, and the casing has an external pivoted keeper 28, Fig. 2, which can be caused to engage with either. In Fig. 1 the keeper is in the left-hand channel of Fig. 4, and when desired the shaft can be moved, so as to bring the other channel outside the casing for the keeper to engage with, and the coned shoulder 24, Fig. 4, will bear in a corresponding female cone in the casing.

All parts being rigidly locked and held, as shown in Fig. 2, the operator, by means of the lever, turns the swaging-shaft so as to pinch and compress the foot of the bit between the swaging edge and the anvil. The shaft having a circular motion, the swaging edge produces a circular indentation in the foot of the bit above the edge, as is perceptibly indicated in Fig. 2. The dull edge is removed and a new edge formed, the metal being so compressed and condensed as to have greater resistance to wear than the original edge, and although the bit is shortened its usefulness is in no wise impaired. In practice the custom would be to swage a complete set of bits for a saw, leaving them of uniform length, and the swaging operation can be repeated until the foot of the bit has been substantially removed.

I do not limit myself to the exact construction and arrangement herein described and

shown in the drawings, as I desire to avail myself of such modifications and equivalents as fall properly within the spirit of my invention.

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

1. In combination with a casing, an anvil held in a vertical bore therein and having a groove in its top, and having also a beveled face fitting against a corresponding incline on the casing, a holder for the tooth, a swage cooperating with the anvil, and a screw threaded in said bore for adjusting the anvil vertically, substantially as described.

2. In combination, a casing, an anvil, a swage, a holder having a groove for holding a tooth, means carried by the holder for retaining the tooth therein and means carried by the casing for aiding in retaining the tooth in the holder, substantially as described.

3. In combination, a casing, an anvil therein, a swage, a holder having a groove for the tooth, a screw for retaining the holder in place and a cam for engaging the tooth to hold it within the holder.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 1st day of July, 1902.

JOHN F. FINNEGAN.

Witnesses:

A. C. KAISER,
GEORGE THOMBS.