

Aug. 20, 1935.

D. OKROS

2,012,201

HAND SAW

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Fig. 1.

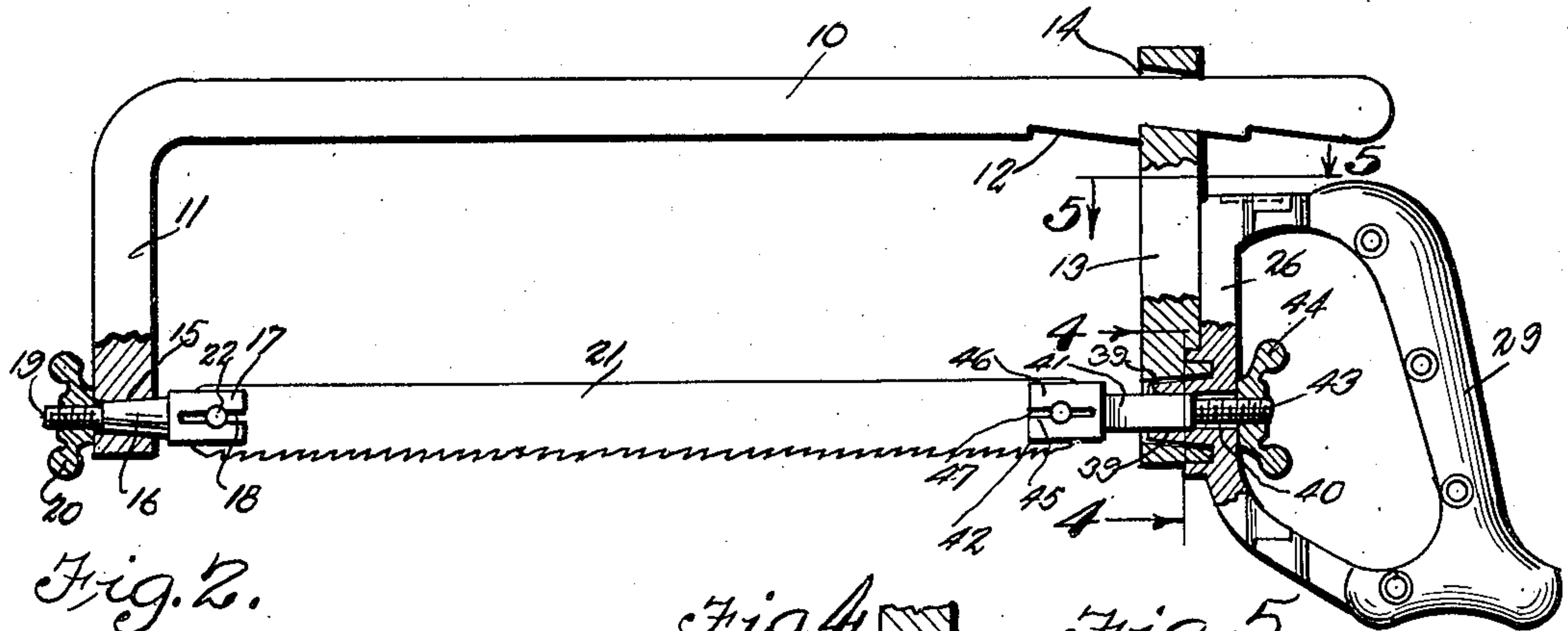


Fig. 2.

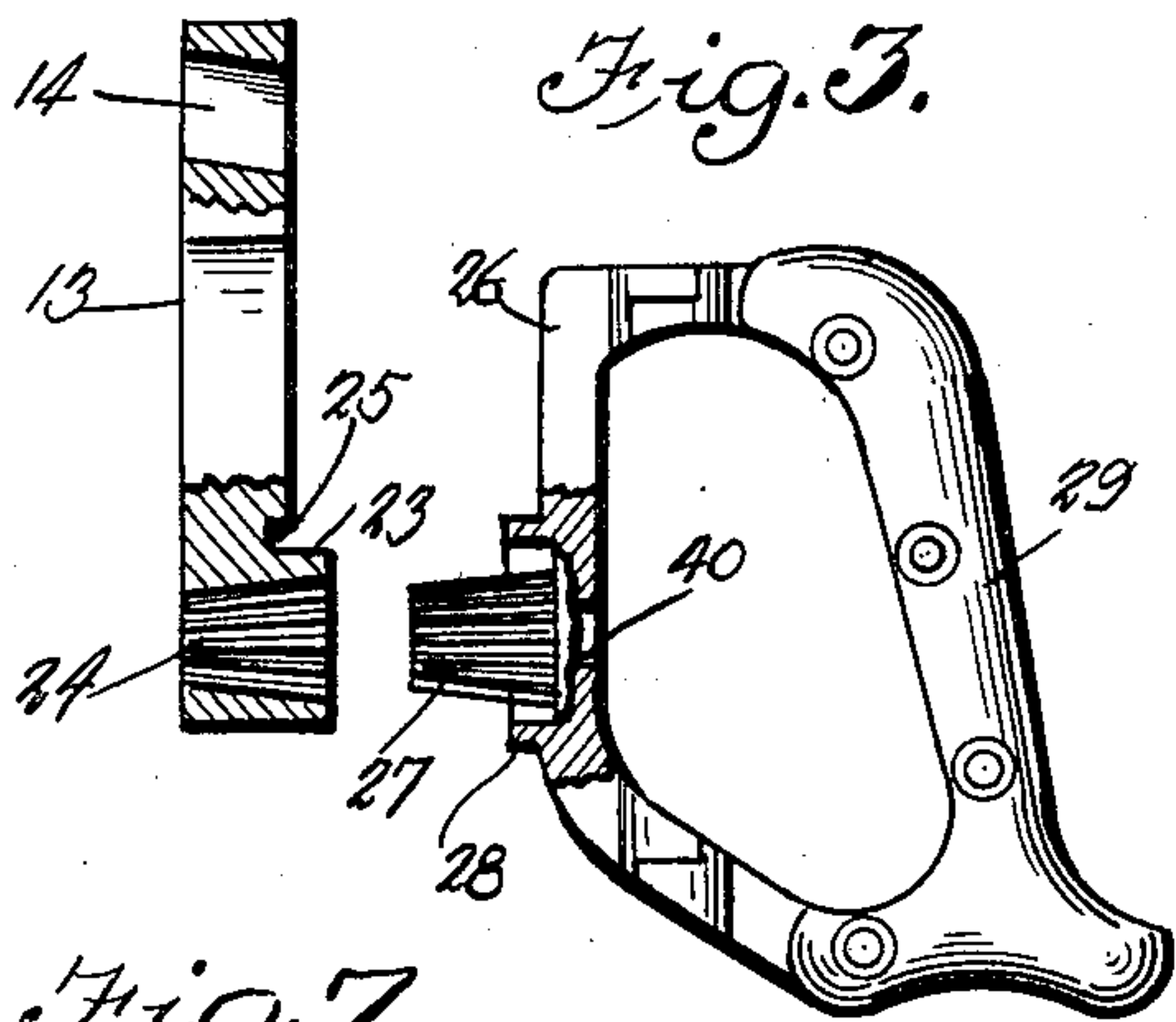


Fig. 3.

Fig. 4.

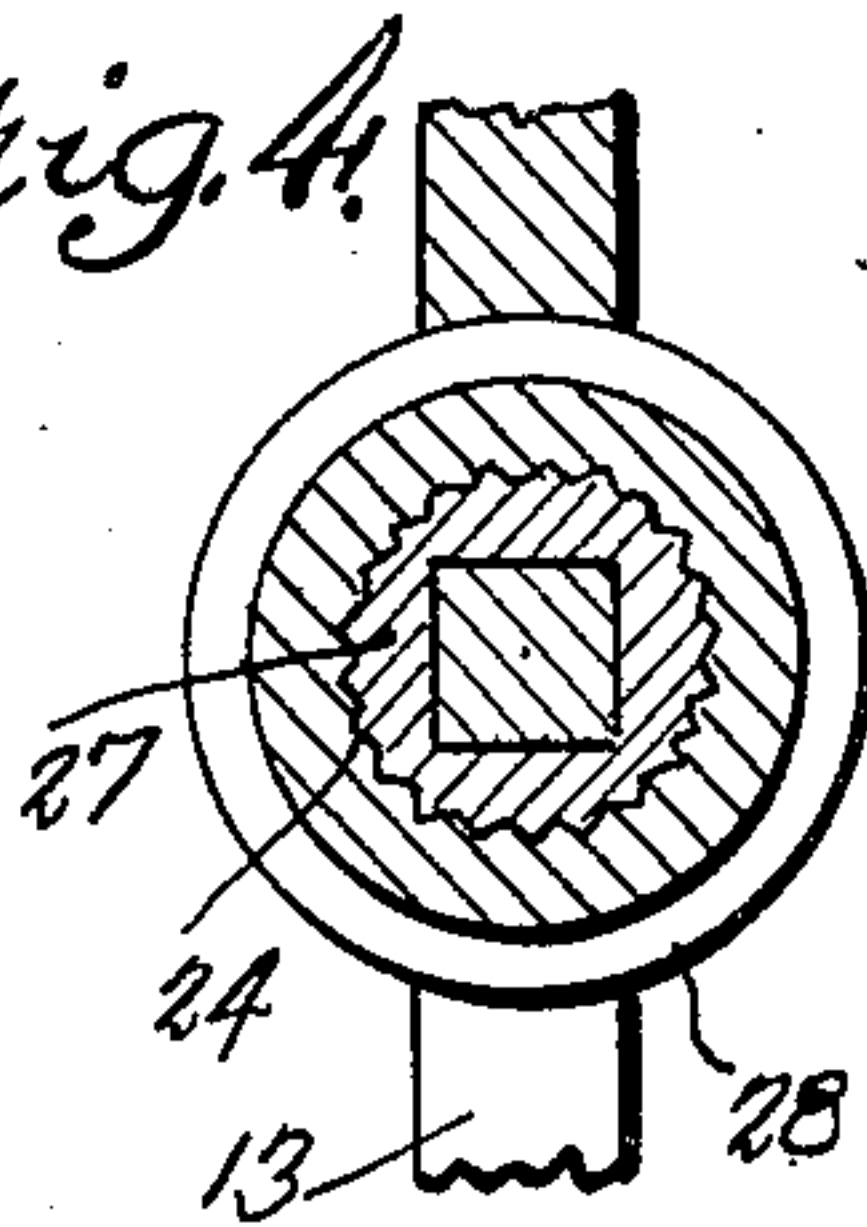


Fig. 5.

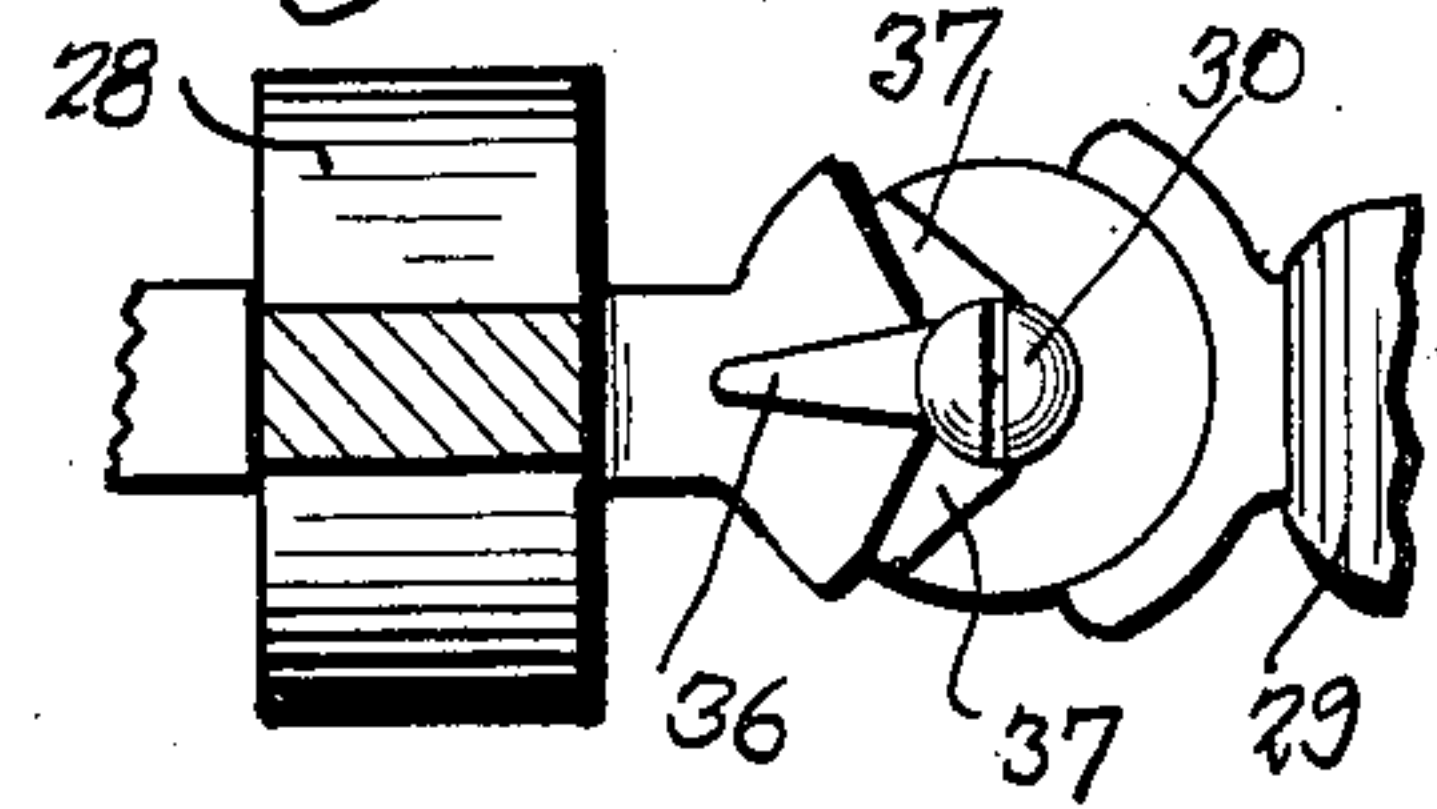


Fig. 6.

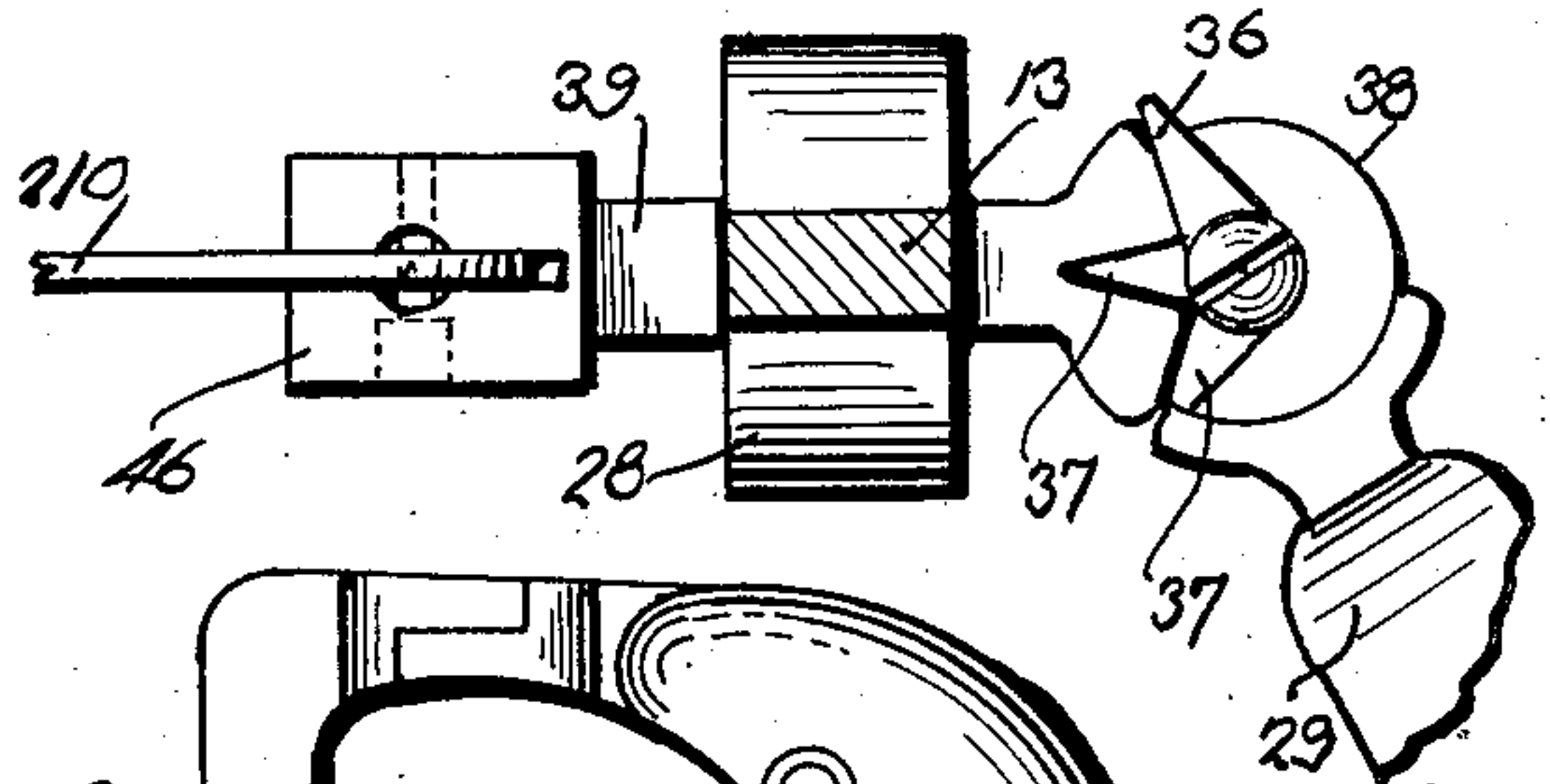


Fig. 7.

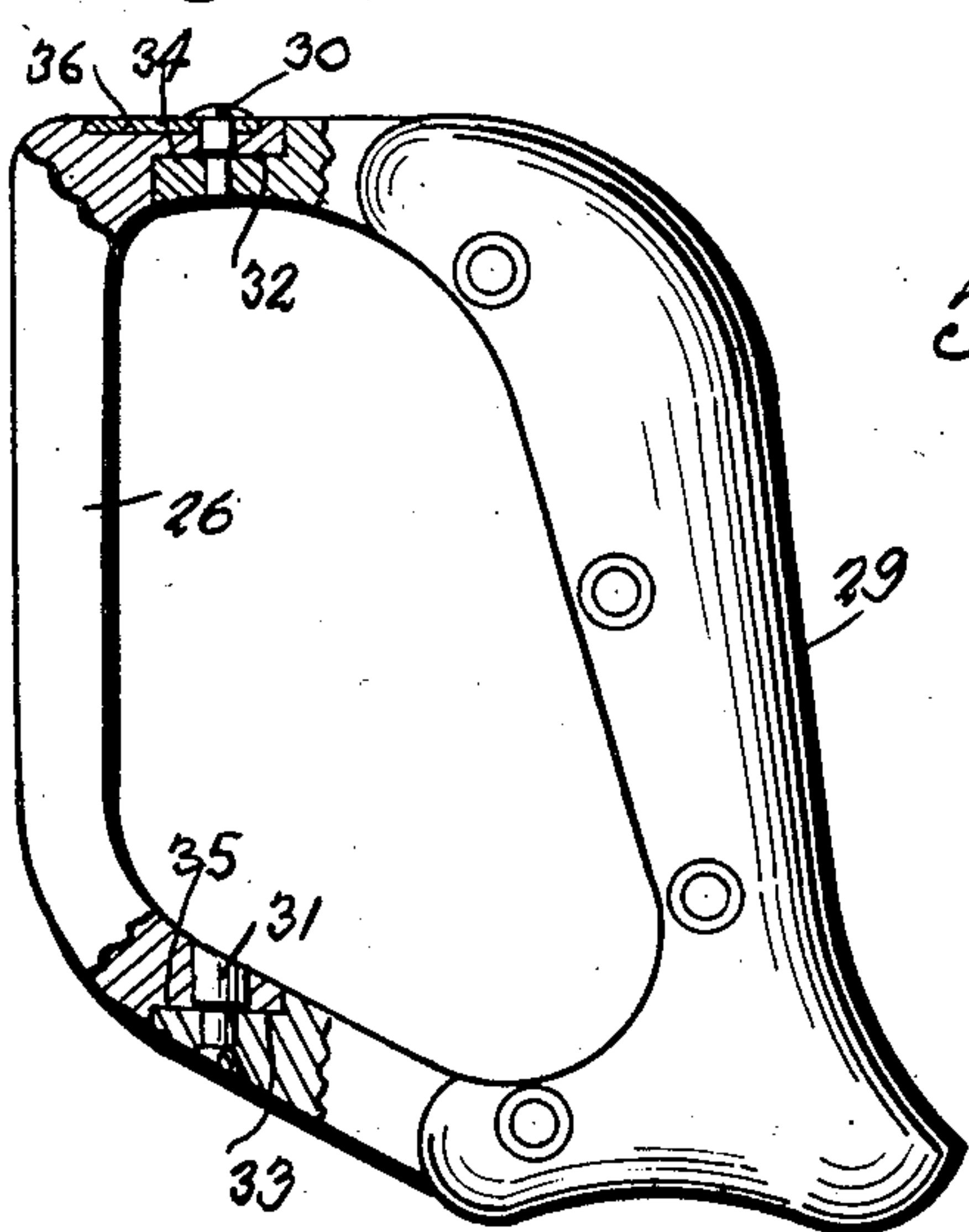
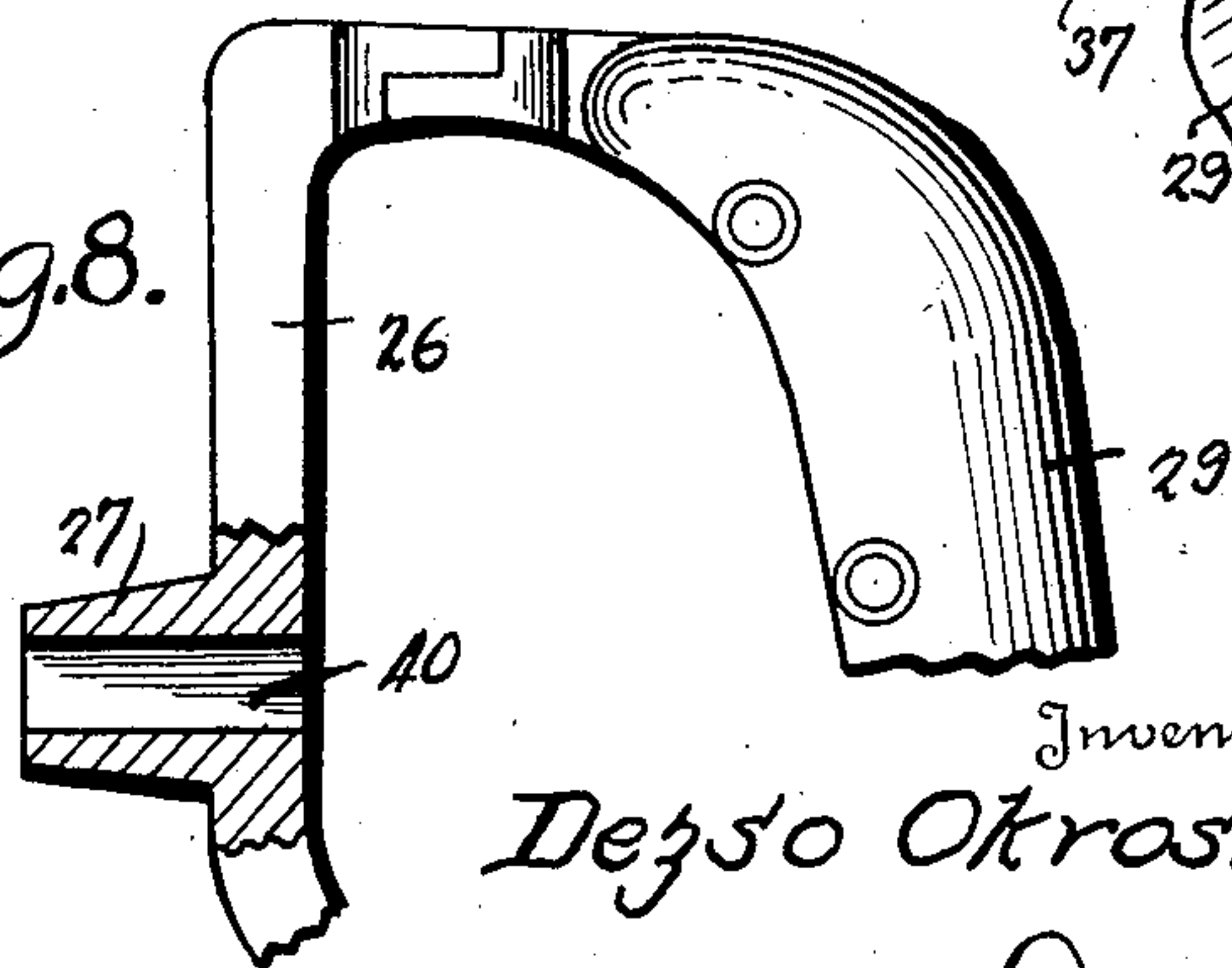


Fig. 8.



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UNITED STATES PATENT OFFICE

2,012,201

HAND SAW

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Application August 8, 1934, Serial No. 739,029

1 Claim. (Cl. 145—34)

This invention relates to certain new and useful improvements in hand saws of the removable blade type employing a U-shaped frame.

The primary object of this invention is to provide a hand saw of the above mentioned character having a handle capable of being angularly adjusted in a vertical and horizontal plane.

A further object of this invention is to provide a saw of the above mentioned character comprising a handle having means for locking the handle with respect to the saw in adjusted position.

A further object of this invention is to provide a hand saw including a U-shaped frame having one of the legs thereof adjustable whereby different sizes of blades may be employed and the blade may be stretched to different desired tension.

A still further object of this invention is to provide a saw of the above mentioned character having one of the blade holding blocks forming a securing means for the handle whereby the handle may be adjusted for the simultaneous tensioning of the saw blade.

A still further object of this invention is to provide a U-shaped hand saw having novelly constructed blade holding blocks to prevent accidental rotation of the blade.

Other objects and advantages of the invention will become apparent during the course of the following description, forming a part of this specification and taken with the drawing, wherein,

Figure 1 is a side elevational view of the hand saw embodying this invention and illustrating portions thereof in cross-section, to more clearly illustrate the details of construction;

Figure 2 is an exploded view of one of the U-shaped frames illustrating portions of sections showing the ribbed conical opening for receiving the locking boss formed on the handle;

Figure 3 is a side elevational view of the handle illustrating the same detached from the saw frame;

Figure 4 is a vertical cross-sectional view taken on line 4—4 of Figure 1, looking in the direction of the arrows illustrating the joint or connection between adjustable handle and leg of the saw, greatly enlarged for the purpose of disclosing details of construction;

Figure 5 is a transverse cross-sectional view taken on line 5—5 of Figure 1, looking in the direction of the arrows, illustrating the locking connection for the adjustable handle and showing the locking tongue in position for normal use;

Figure 6 is a similar view illustrating the han-

dle adjusted at substantially 135° with respect to the U-shaped saw frame;

Figure 7 is an enlarged vertical side elevational view of the handle, showing the same removed from the U-shaped saw frame and illustrated in cross section to more clearly illustrate the joint or connection between the two-parts forming the handle; and

Figure 8 is an enlarged fragmentary view of the handle illustrating a portion thereof in cross-section to more clearly disclose the form of connection between the handle and U-shaped saw frame.

In the drawing, wherein for the purpose of illustrating the invention and wherein like reference characters will be employed to designate like parts throughout the same, the reference character 10 will generally be employed to designate a frame bar of a hand saw having one end provided with an angular extension 11 and the opposite end toothed as at 12. Slidably secured upon the free end of the frame bar 10 is a leg 13 having an opening 14 in the form of a slot extending angularly through the leg 13 so a clamping action will occur when the leg 13 is drawn toward the angular extension 11.

Formed in the free end of the angular extension 11 is a conical opening 15 adapted to receive a correspondingly shaped plug 16 having one end squared as at 17 and bifurcated as at 18 while the opposite end is screw threaded as at 19 for receiving the wing nut 20. It will be noted that the block 17 is slotted vertically and horizontally for receiving a saw blade 21 adapted to be held in place by a pin 22 extending through the slot 18 and through an aperture formed in the blade 21.

The lower end of the blade 13 is provided with an annular boss 23 having a conical opening therein provided with ribs or flutes 24 and a portion of the leg 13 adjacent the bottom thereof is provided with an annular recess 25.

The handle comprises a frame portion 26 on which is formed integral a fluted conical boss 27 surrounded by an annular projection 28. The fluted conical boss 27 is adapted to be received within the fluted conical opening 24 and the annular projection 28 is adapted to be received within the recess 25 formed in the leg 13 of the saw frame. The handle also includes a hand-grip portion 29 which is hingedly connected to the handle frame portion 26 by hinge pins 30 and 31 and the free ends of the hand-grip 29 are flattened as at 32 and 33 and are provided with

circular recesses for receiving the flattened end
 portions 34 and 35 of the handle frame portion
 26, whereby the complementary faces 32 and 34
 also 33 and 35 will swing in a horizontal plane
 5 with respect to each other about the pivot pins
 30 and 31, the pivot pin 31 is provided with a
 tongue 36 rigidly secured thereto and adapted
 to move with the grip 29 so that the tongue 36
 may be received in similarly shaped depressions
 10 37 formed in a circular portion 38 of the handle
 frame 26. Extending through the fluted boss 27
 is an opening, squared as at 39 for a portion of
 its length terminating in a circular portion 40
 15 whereby the squared end 41 of the saw blade
 holding block 42 may be received within the
 squared portion 39 and the screw threaded end
 43 of the squared portion 41 may extend through
 the bore 40 and receive a wing nut 44. Slots 45
 20 are formed in the blade holding block 46 in a
 fashion similar to the blade holding block 17 and
 the blade 21 may be received therein and held
 by means of a transverse pin 47. It will be read-
 25 ily noted that tightening upon the wing nut 44
 to turn the same down upon the screw threaded
 portion 43 of the blade holding block 45 will si-
 multaneously tighten the handle frame 26 and
 also place the blade 21 under tension.

If it is desired to adjust the handle grip 29 with
 30 respect to the saw frame 10, the screw 30 may
 be loosened from the tongue 36 to move out of
 the central opening 37 and move into one of the
 lateral openings shown in Figure 6. Should it
 be desired to adjust the handle grip 29 axially

with respect to the saw blade 21, the wing nut
 44 may be loosened and the hand grip 29 rotated
 or turned to an adjusted position whereby the
 flutes 27 will be received within the recesses 24
 in the leg 13 of the saw frame. Upon tightening
 5 of the wing nut 44, the handle frame 26 will be
 locked in its adjusted position and upon further
 tightening of the wing nut 44, the blade 21 may
 be tightened to the desired tension.

It is to be understood that the form of the in- 10
 vention herein shown and described is to be taken
 as the preferred embodiment of the invention and
 that various changes in the shape, size and ar-
 rangement of parts may be resorted to without
 departing from the spirit of the invention or the 15
 scope of the sub-joined claim.

I claim:—

A hand saw comprising a U-shaped frame, one
 leg of which is capable of sliding adjustment, a
 blade mounted in the frame, blade holding blocks, 20
 each having a threaded end, a hand grip having
 a fluted conical boss, an annular flange surround-
 ing the boss in spaced relation thereto, the ad-
 justable frame leg having an opening therein
 shaped to interfittingly receive the conical boss 25
 and surrounded by an annular groove to receive
 said annular flange, said boss having an opening
 therein for receiving the threaded end of one of
 the blade holding blocks, a wing nut threaded on
 the end of the adjacent blade holding block and 30
 means for anchoring the other blade holding
 block in the other end of the U-shaped frame.

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