

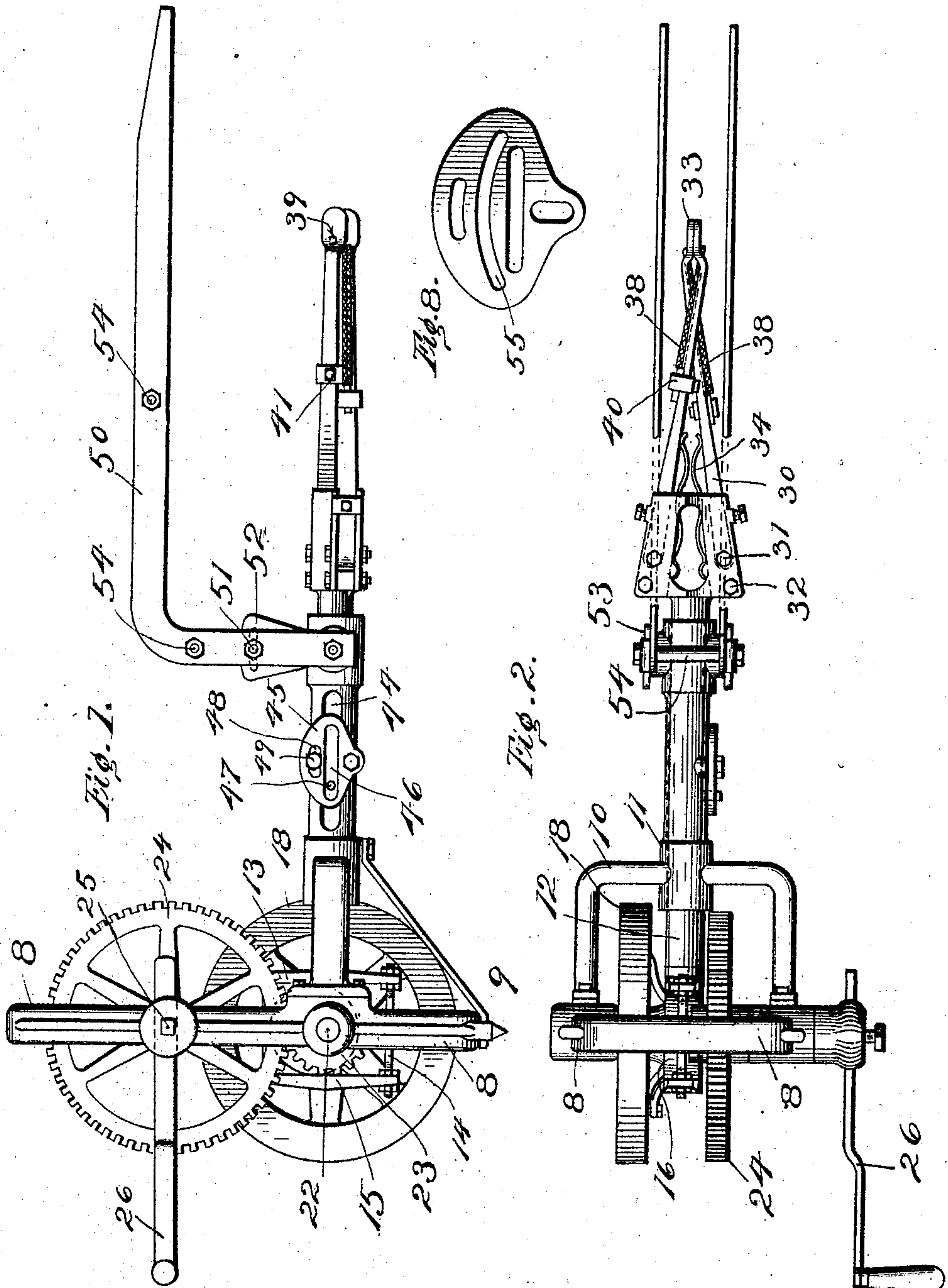
No. 815,175.

PATENTED MAR. 13, 1906.

M. W. JONES & J. A. DENNIS.
FILING MACHINE.

APPLICATION FILED APR. 17, 1905.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

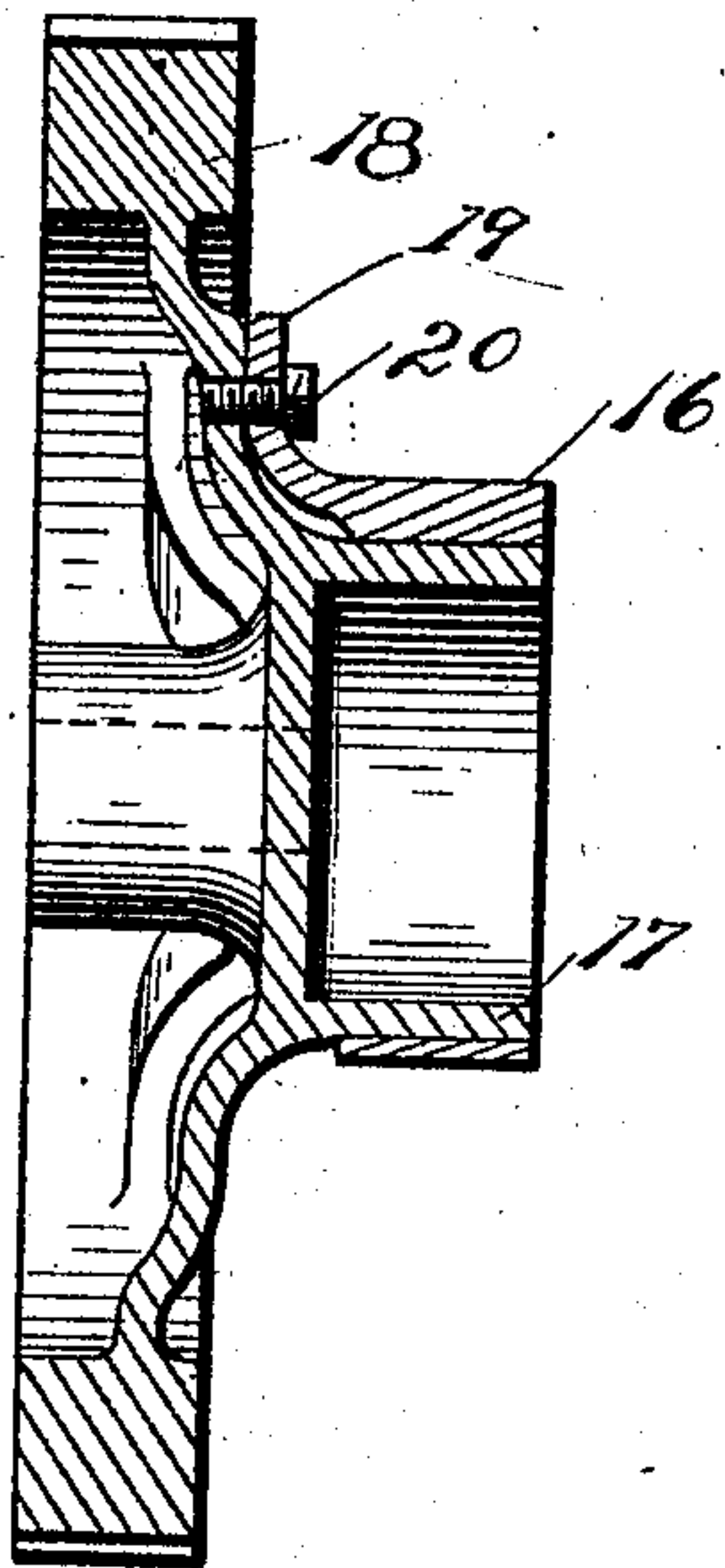


Fig. 4.

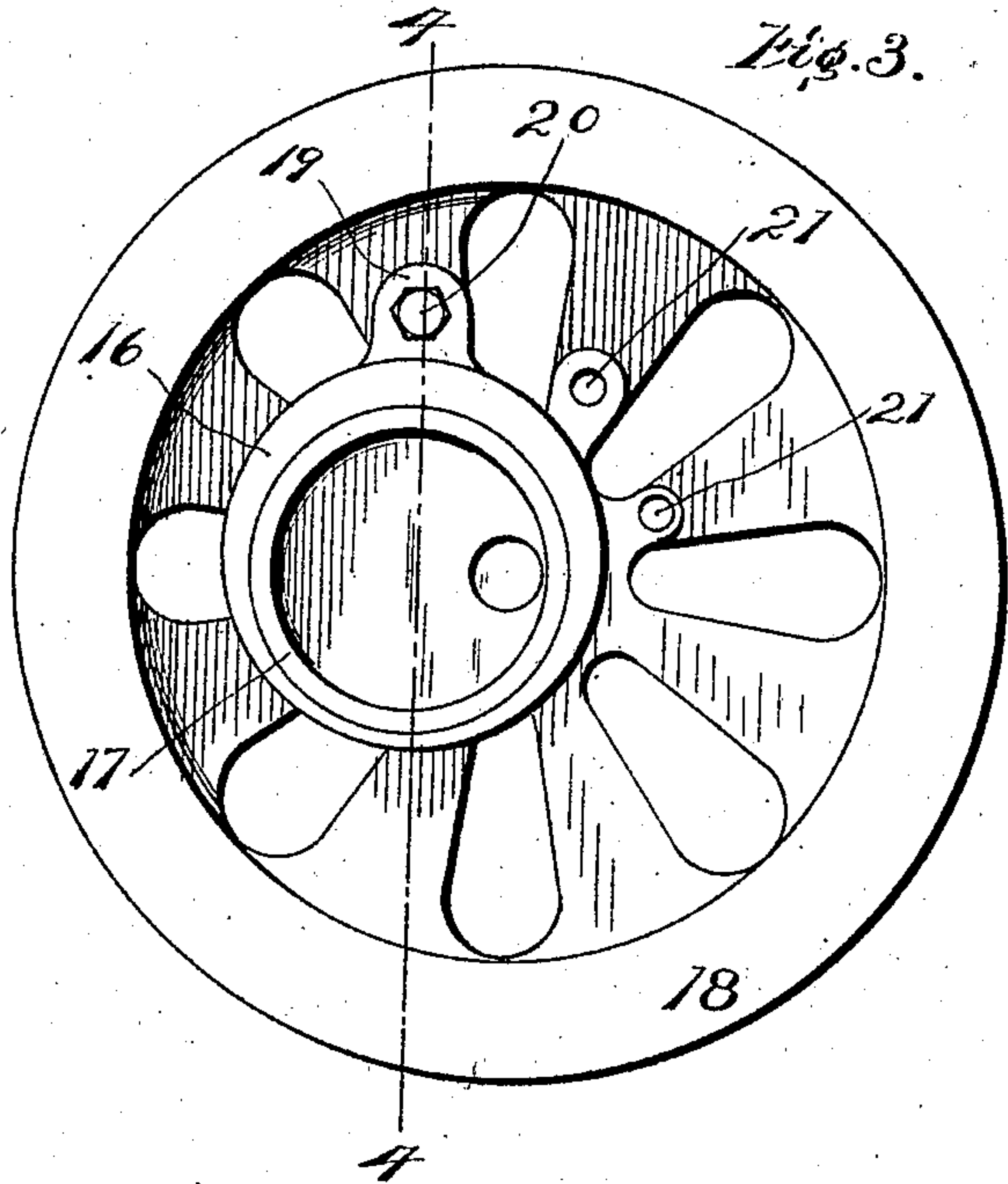


Fig. 3.

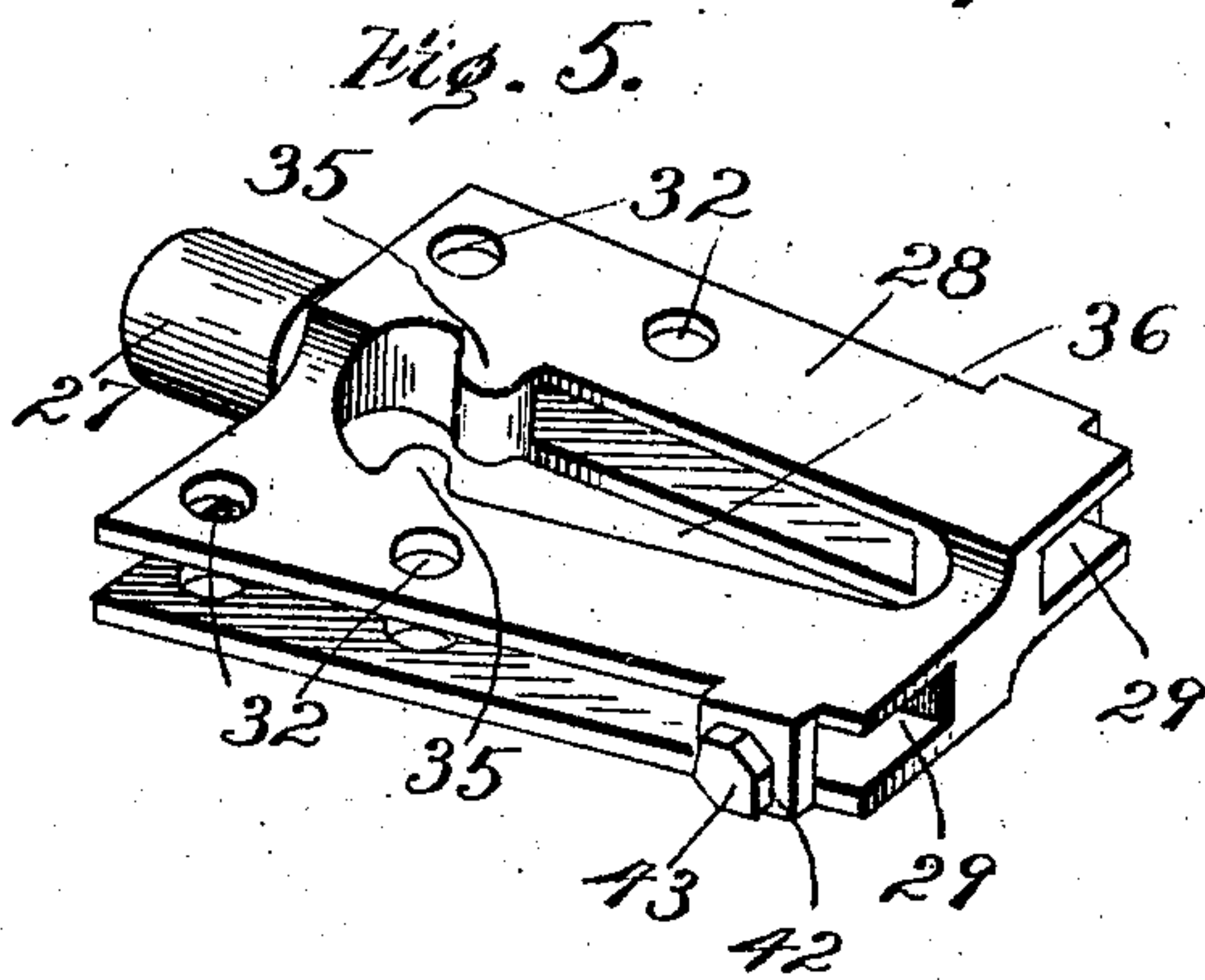


Fig. 5.

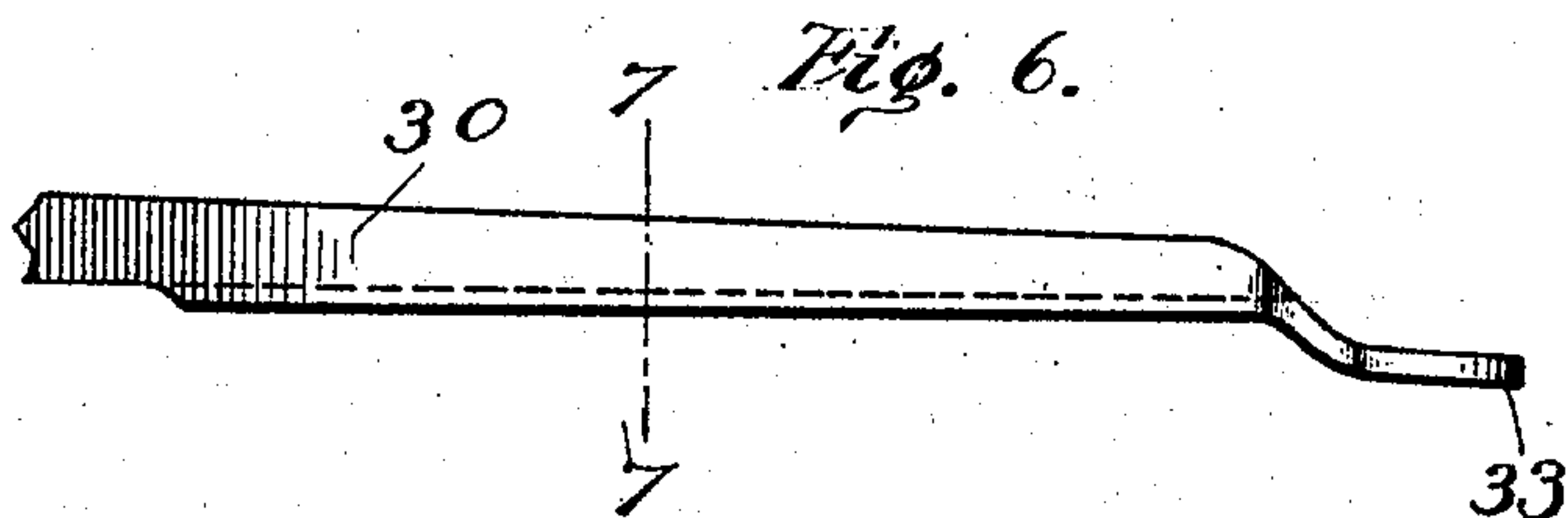


Fig. 6.

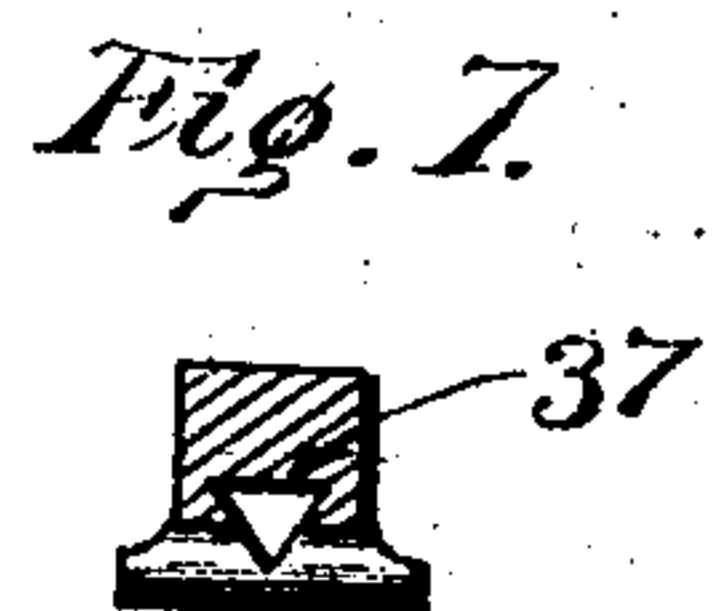


Fig. 7.

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UNITED STATES PATENT OFFICE.

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FILING-MACHINE.

No. 815,175.

Specification of Letters Patent.

Patented March 13, 1906.

Application filed April 17, 1905. Serial No. 255,993.

To all whom it may concern:

Be it known that we, MONROWE WALTER JONES and JOSEPH A. DENNIS, citizens of the United States, residing at Ardmore, in the county of Chickasaw, Indian Territory, have invented certain new and useful Improvements in Filing-Machines; and we 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 appertains to make and use the same.

Our invention relates to filing-machines especially adapted for sharpening gin-saws; and the object of the invention is to provide a simple and compact device adapted to be supported in any desired relation to the gin-saw and having means whereby a plurality of files may be simultaneously reciprocated by the rotation of an operating member.

The invention consists of a supporting-frame having a forwardly-projecting portion in which is mounted a slidable element adapted to be actuated by mechanism mounted within the frame. A head is connected to the sliding element and has oppositely-disposed file-holders connected to it. Means are provided whereby these file-holders can be reciprocated along different lines to produce different kinds of cutting edges upon the teeth of the saw.

The invention also consists of novel means for regulating the stroke of the file-holders.

The invention also consists of the further novel constructions and combinations of parts hereinafter more fully described, and pointed out in the claim.

In the accompanying drawings we have shown the preferred form of our invention.

In said drawings, Figure 1 is a side elevation of the device. Fig. 2 is a top plan view thereof, a portion of the supporting-arms being removed. Fig. 3 is an elevation of the fly-wheel and actuating-eccentric. Fig. 4 is a section on line 4 4, Fig. 3. Fig. 5 is a detail view of the head of the sliding element. Fig. 6 is a plan view of a portion of one of the file-holders, and Fig. 7 is a section on the line 7 7 of Fig. 6. Fig. 8 is a detail view of a modified form of slide-adjusting segment.

Referring to the figures by numerals of reference, 8 is a main frame having studs 9 at its lower end for engaging a board or other object on which the frame is supported, and se-

cured to one face of this frame is a yoke 10, to the center of which is secured a tubular support 11, which extends, preferably, at right angles to the frame 8. The ends of the extension 11 are preferably lined with Babbitt metal (not shown) to form a smooth bearing for a slide 12, which is provided at its inner end with oppositely-extending arms 13, connected by rods 14 with a strip 15. These arms and the strip contact with opposite sides of a ring 16, which surrounds a tubular extension 17, formed with a fly-wheel 18, but disposed eccentrically thereto. The ring 16 is of varying thickness and has an ear 19 projecting laterally from it and adapted to be secured in desired relation to the wheel 18 by means of a bolt 20, which can be placed in any one of a series of apertures 21 formed within the wheel 18. It will be obvious that when the wheel 18 rotates the eccentric 17 will impart a reciprocating movement to the slide 12, and by adjusting ring 16 upon the eccentric this movement can be increased or diminished, according to the relative position of the thickest portion of the ring to the center of the wheel.

Wheel 18 is secured to a shaft 22, journaled in the sides of frame 8, and a small gear 23 is also secured to this shaft and meshes with a large drive-gear 24, secured to a shaft 25, also journaled in the sides of frame 8. A crank 26 is secured to the shaft 25, and by means thereof gear 24 may be rotated manually, so as to transmit rotary motion through the gear 23 to the shaft 22 and its fly-wheel and eccentric.

A stem 27 is brazed or otherwise secured in the forward end of the slide 12 and is secured to or formed with a head 28, which is preferably formed of a single casting having slots 29 formed in the sides thereof. In each of these slots is pivoted an arm 30, the pivot-pins 31 being adapted to be placed in any of a series of apertures 32 formed within the head 28. Each arm 30 is provided at its free end with a flattened extension 33, and as the slots 29 are formed in different planes it will be understood that the two arms 30 are permitted to cross, and their extensions 33 can therefore contact to limit the movement of the arms in one direction. These arms are held normally in contact by means of spring-strips 34, which engage lugs 35, formed upon opposite walls of a slot 36 within the head 28.

The springs also project between the arms 30 and the inner walls of the slots 29, as shown particularly in Fig. 2, and are therefore held continuously under tension and exert an outward pressure upon arms 30 at all times.

The outer faces of the arms 30 are provided with longitudinally-extending grooves 37, adapted to receive files 38, and openings 39 are formed in the end portions of the arms for the reception of the ends of the files. Holding-sleeves 40 are adjustably mounted upon the arms and engage the other ends of the files and are provided with set-screws 41, which enable the sleeves to be tightly clamped on the files, so as to hold them against vibration. A cross-piece 42 extends over each slot 29 adjacent the forward end thereof and has a set-screw 43 for limiting the movement of the arms 30 in one direction, if so desired.

The tubular extension 11 is slotted longitudinally at one side, as shown at 44, and pivoted to this extension adjacent the slot is a segment 45, having a slot 46, which is adapted to register with slot 44 and forms a guide for a pin 47, extending from the slide 12. A curved slot 48 is also formed in the segment 45 and is concentric with the pivot of said segment. This slot 48 receives a set-screw 49, by means of which the segment can be locked in any position to which it may be adjusted. L-shaped supporting-arms 50 are pivoted to opposite sides of the forward end of extension 11 and are adapted to be adjusted to any desired angle to said extension. They can be locked in adjusted position by means of set-screws 51, which extend through curved slots 52, formed in segments 53, secured to the extensions 11. Suitable bracing-rods 54 connect the arms so as to hold them in proper relation at all times.

When it is desired to file a gin-saw by means of the device herein described, the arms 50 are placed upon the saw, and said saw is then inserted between the extensions 33, so that the files 38 can contact with teeth thereon. Crank 26 is subsequently rotated and causes the reciprocation of slot 12 in the manner hereinbefore described and the files 38 are therefore moved backward and forward and the teeth are quickly sharpened. If it is desired to cause the files to move upward as they advance, the segment 45 may be swung

and locked with its slot 46 extending upward at an angle to slot 44. The angle of the entire device to the saw can be regulated by means of the segments 53. The stroke of the files can be adjusted by means of the eccentric-ring 16, as hereinbefore stated.

In Fig. 8 we have shown a modified form of guiding-segment for the slide 12. This segment is similar to segment 45, but is provided in addition with a curved slot 55, in which the pin 47 may be placed, so as to impart an upward-and-downward movement to the advancing files.

We attach considerable importance to the grooves 37, as they absolutely prevent the files therein from vibrating or becoming broken and in conjunction with the sleeves 40 hold them securely in position.

It will be seen that this device is very simple and compact in construction, and by means thereof saws may be quickly sharpened all of the cutting edges of the teeth being formed at the same angle.

In the foregoing description we have shown the preferred form of our invention; but we do not limit ourselves thereto, as we are aware that modifications may be made therein without departing from the spirit or sacrificing the advantages thereof, and we therefore reserve the right to make such changes as fairly fall within the scope of our invention.

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

In a device of the character described the combination with a frame having a slidable element and mechanism within the frame for reciprocating the element; of a grooved head at one end of said element, arms pivoted in the grooves and having means for engaging files throughout their lengths, said arms being crossed, and a spring interposed between, and contacting with, the arms to hold them normally in contact.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

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