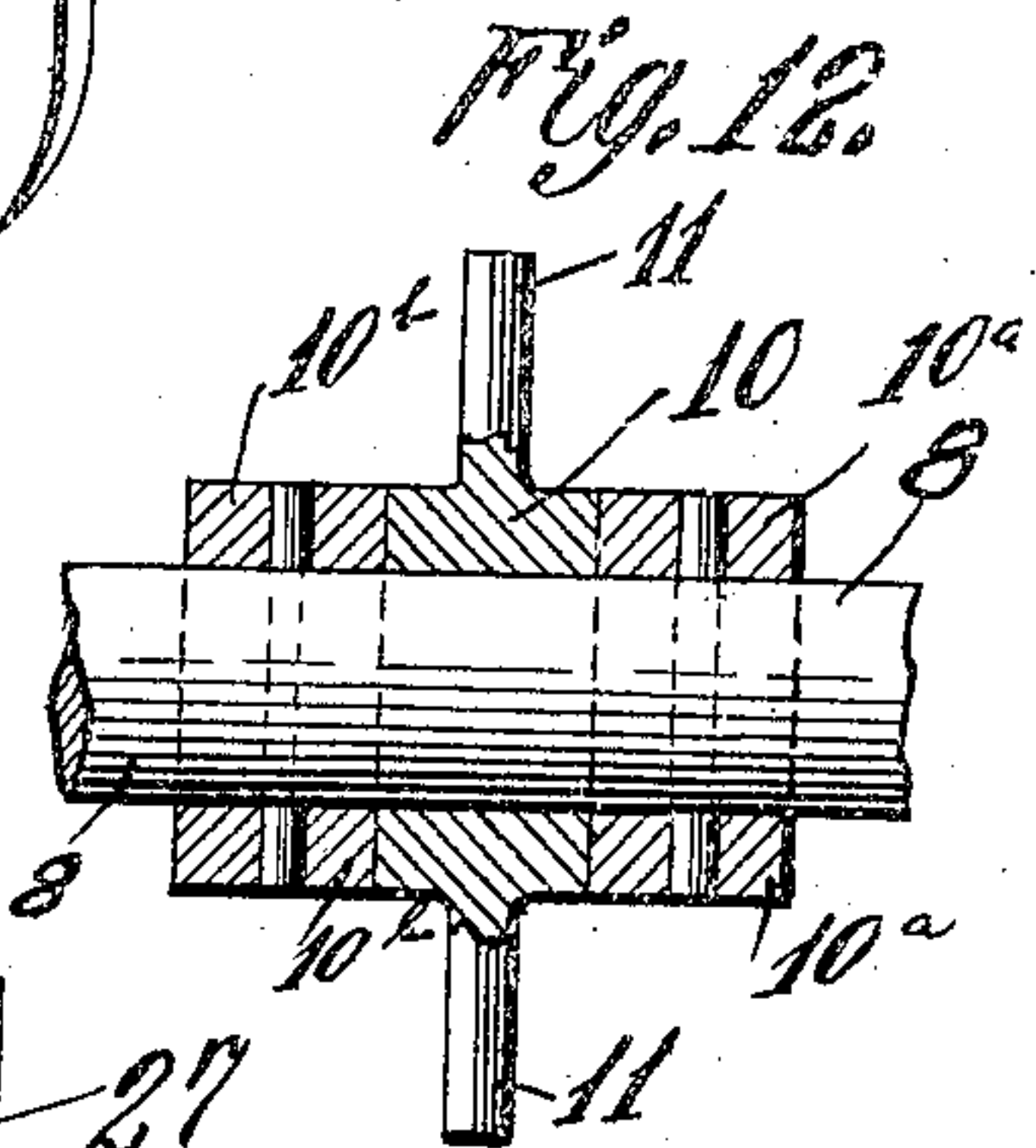
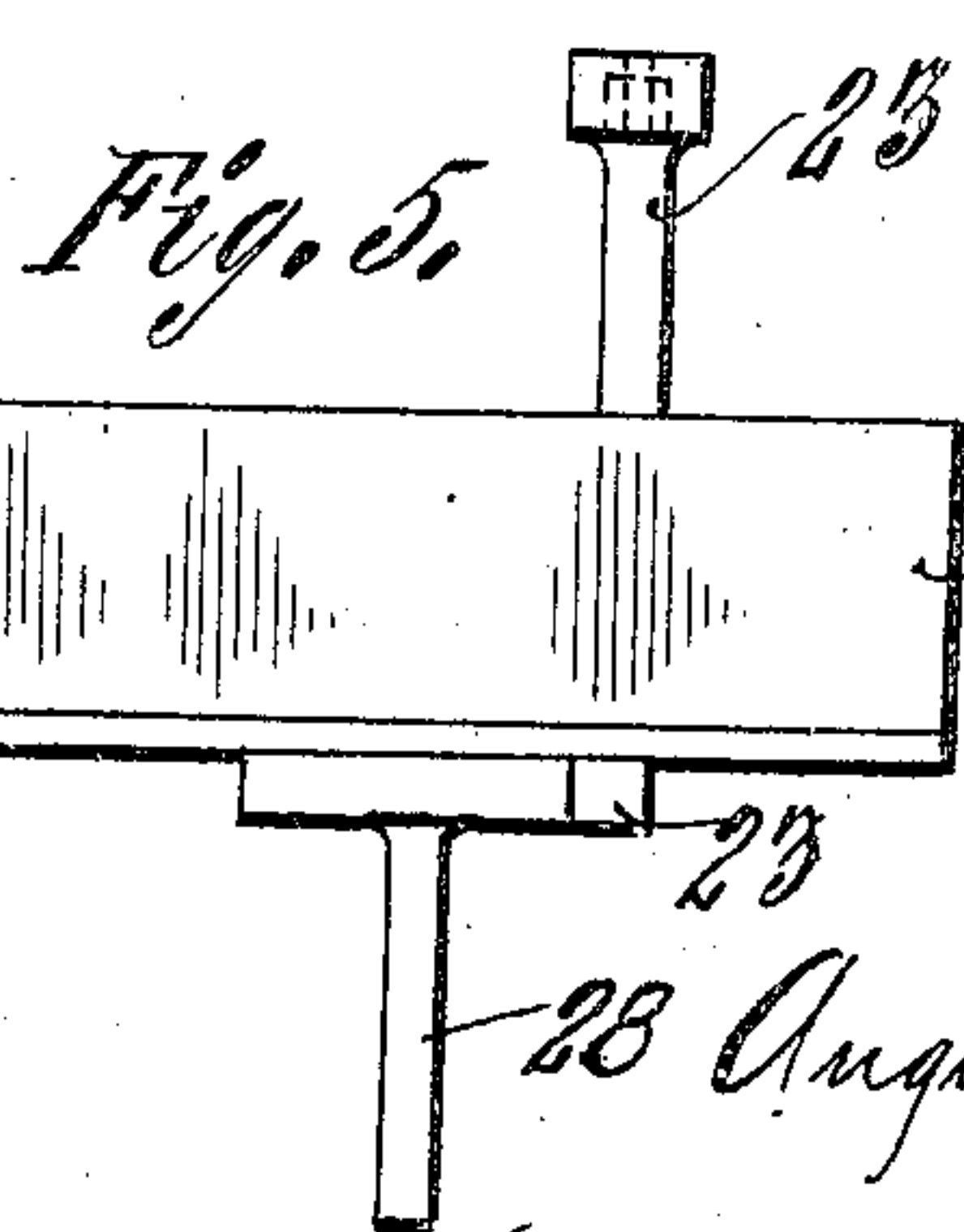
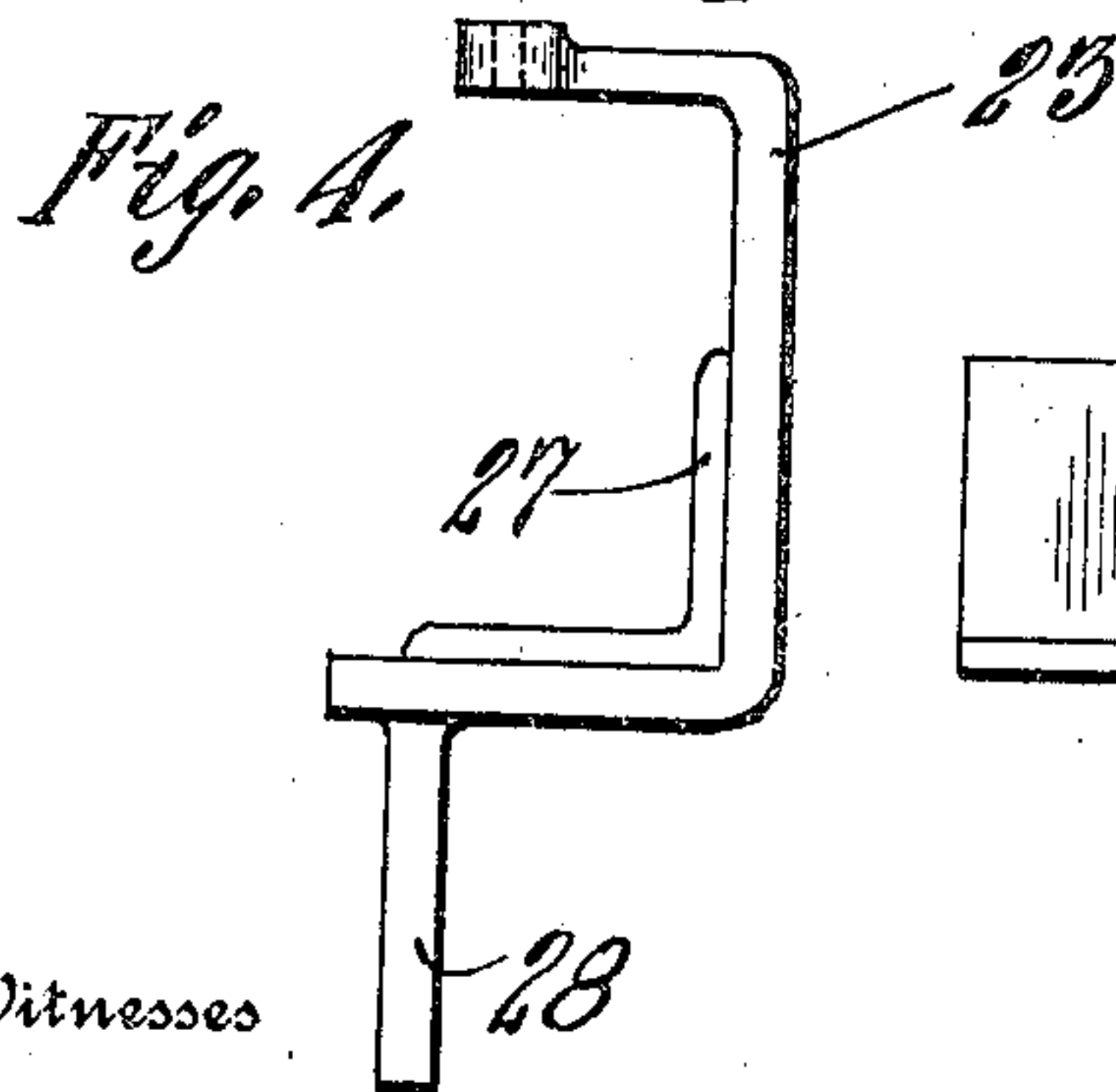
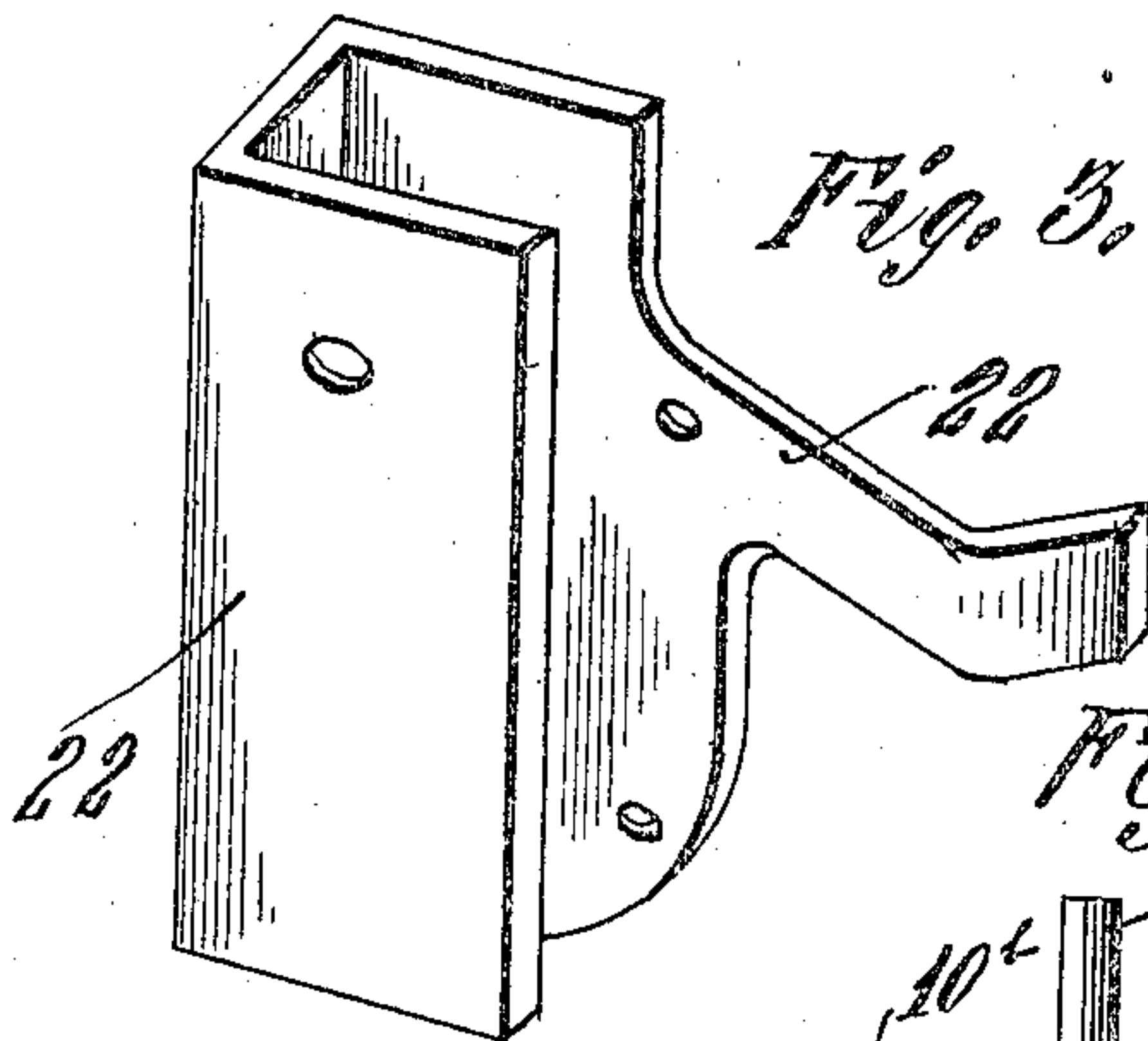
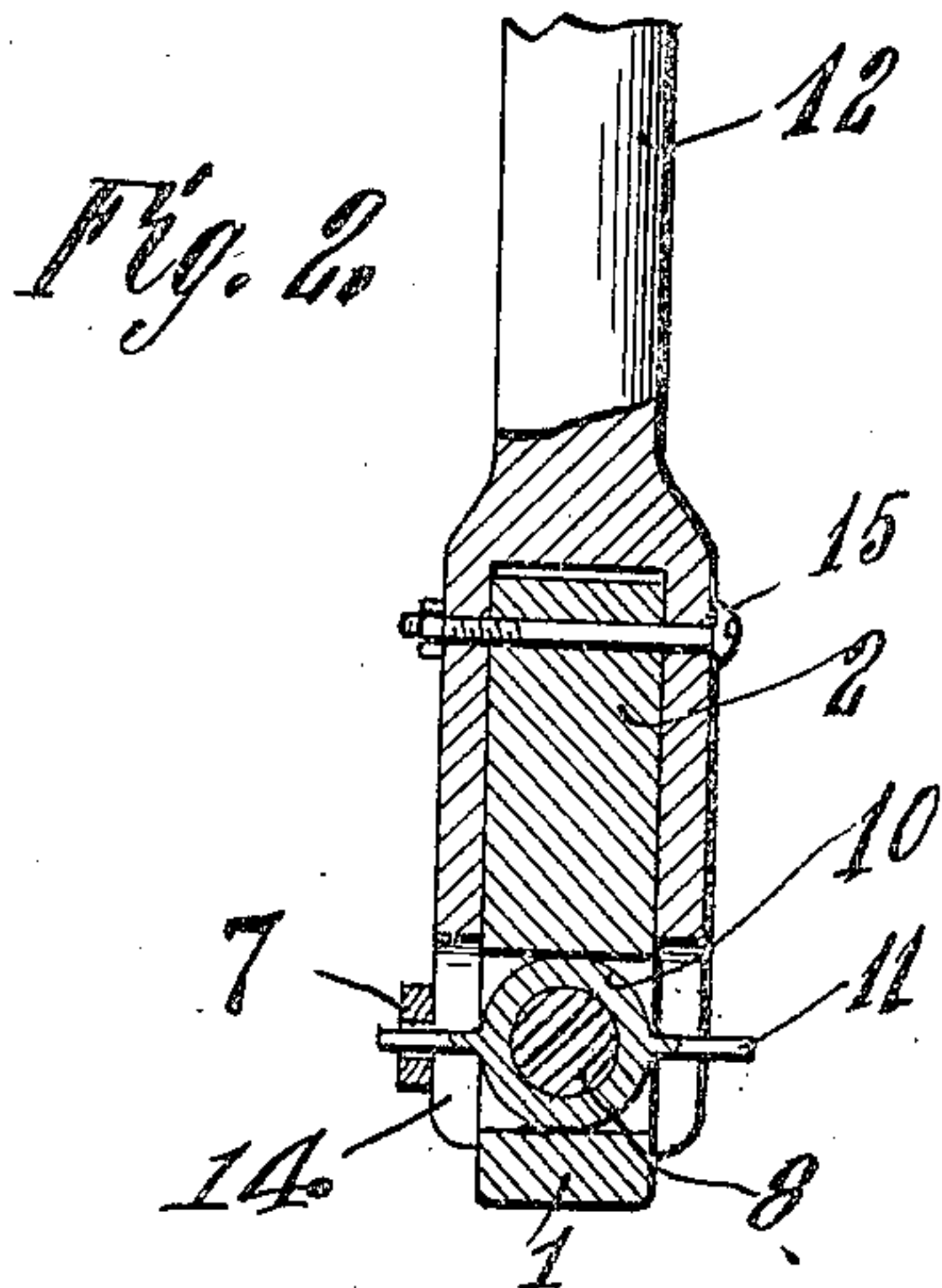
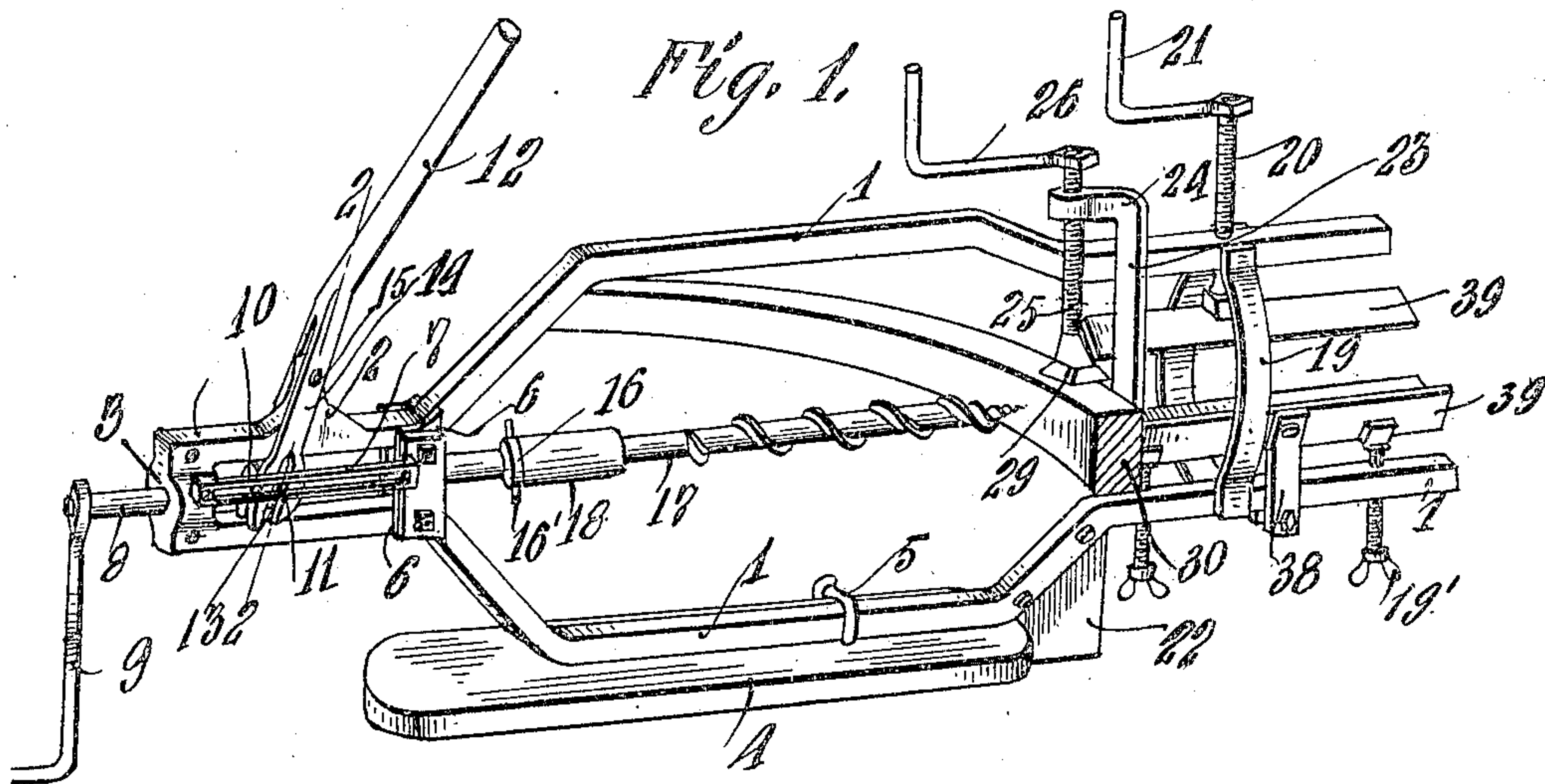


A. A. MERRILL.  
WHEELWRIGHT MACHINE.  
APPLICATION FILED FEB. 20, 1909.

952,623.

Patented Mar. 22, 1910.

2 SHEETS—SHEET 1.



Witnesses

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2 SHEETS—SHEET 2.

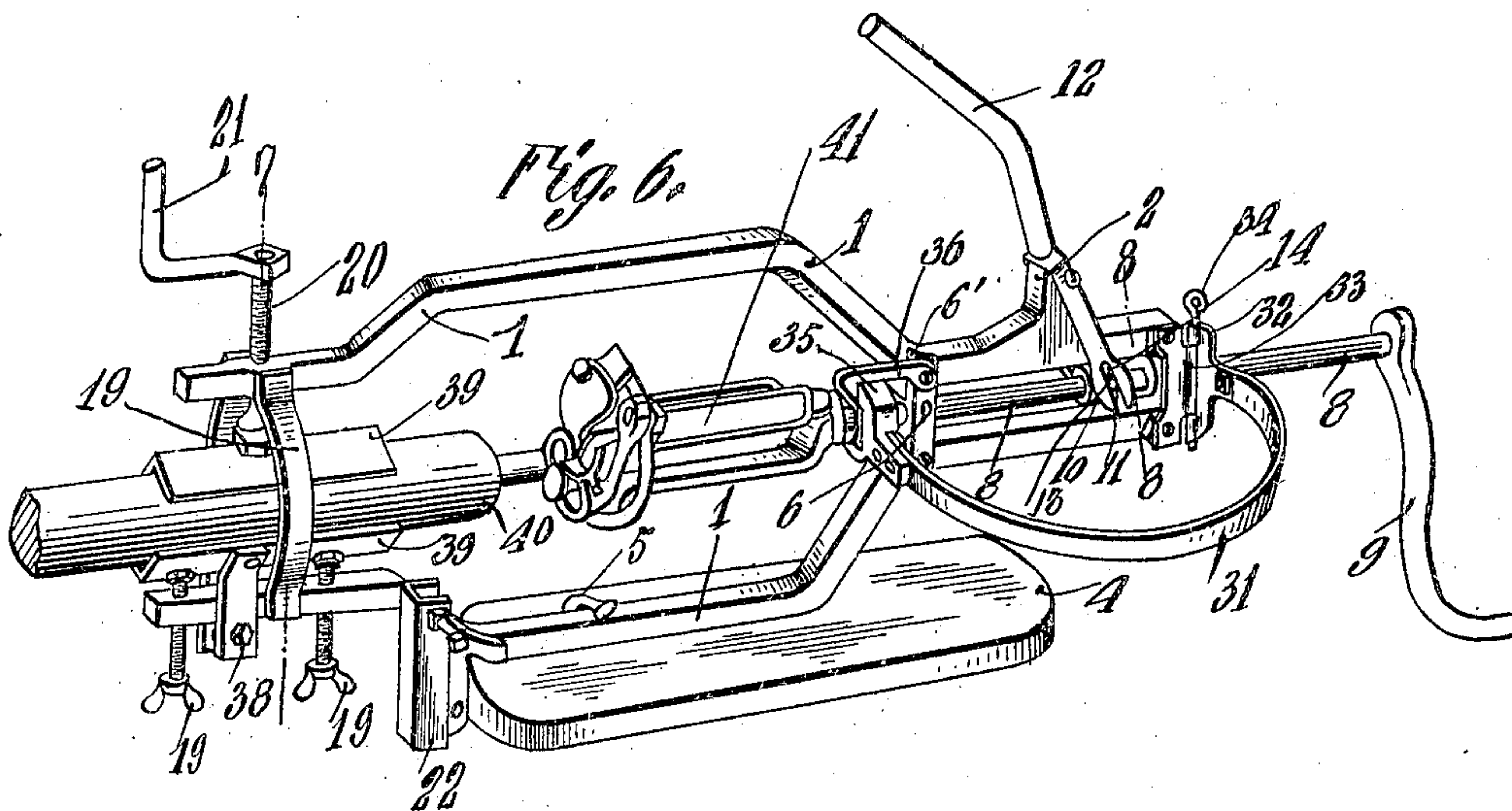


Fig. 7.

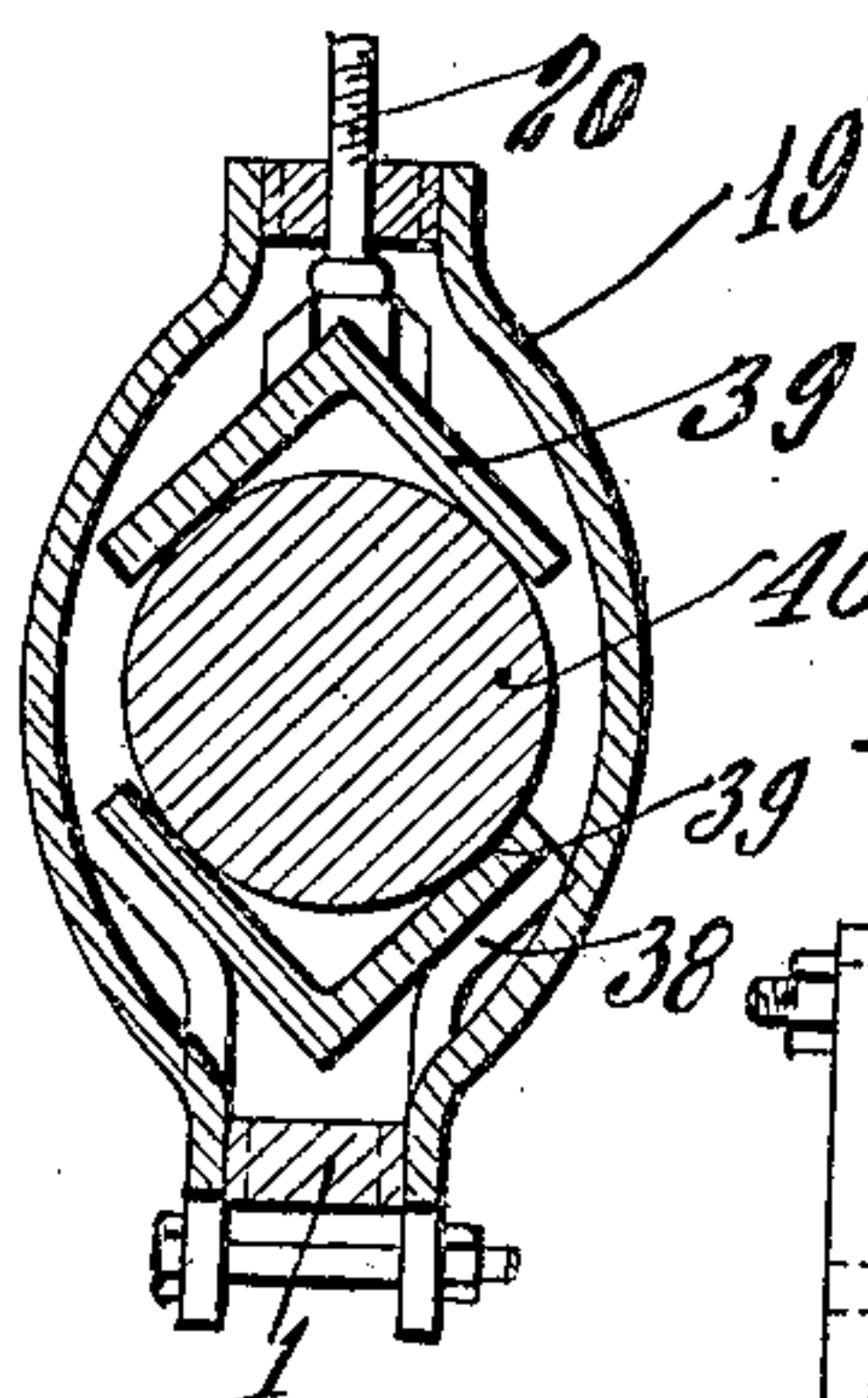


Fig. 8.

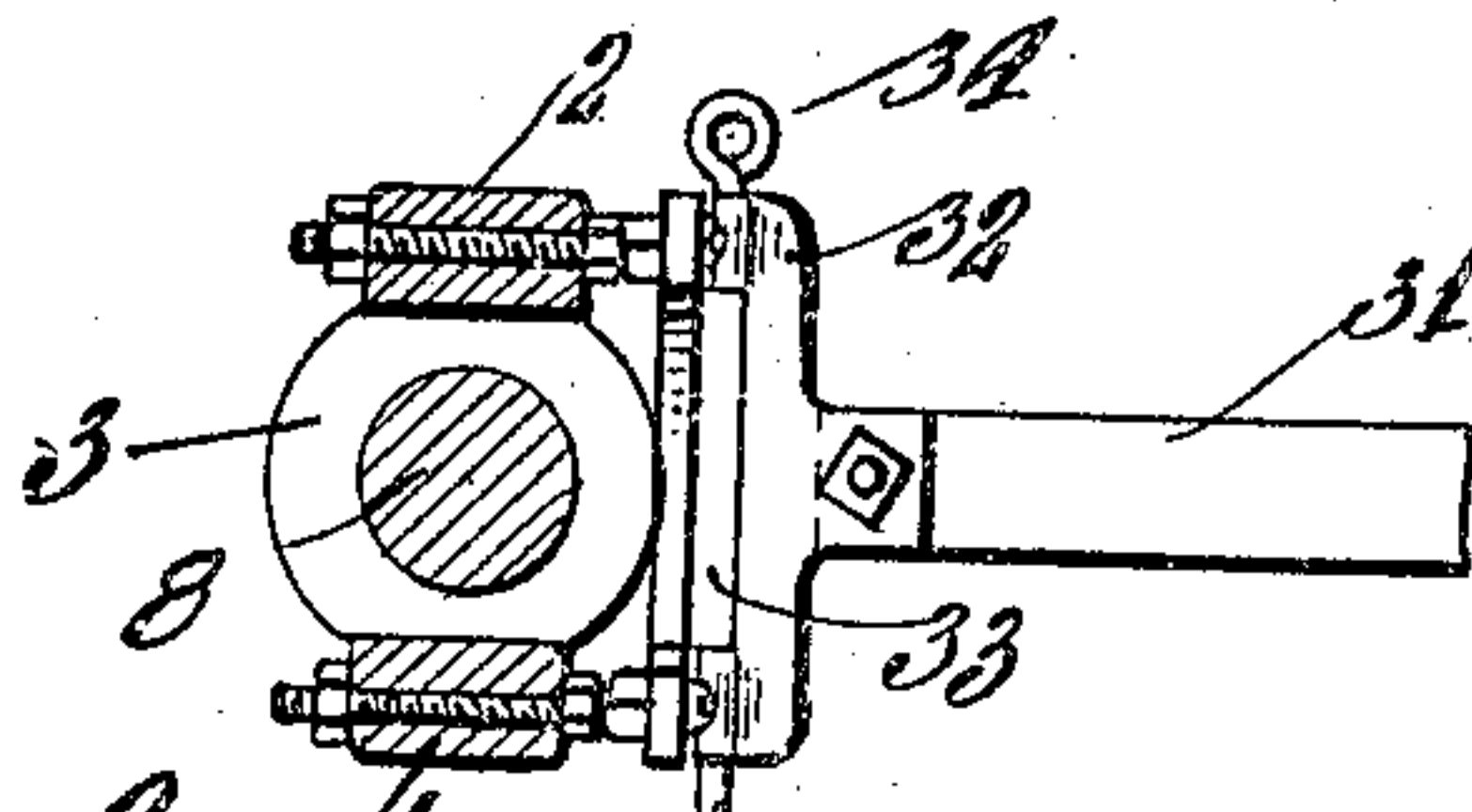


Fig. 9.

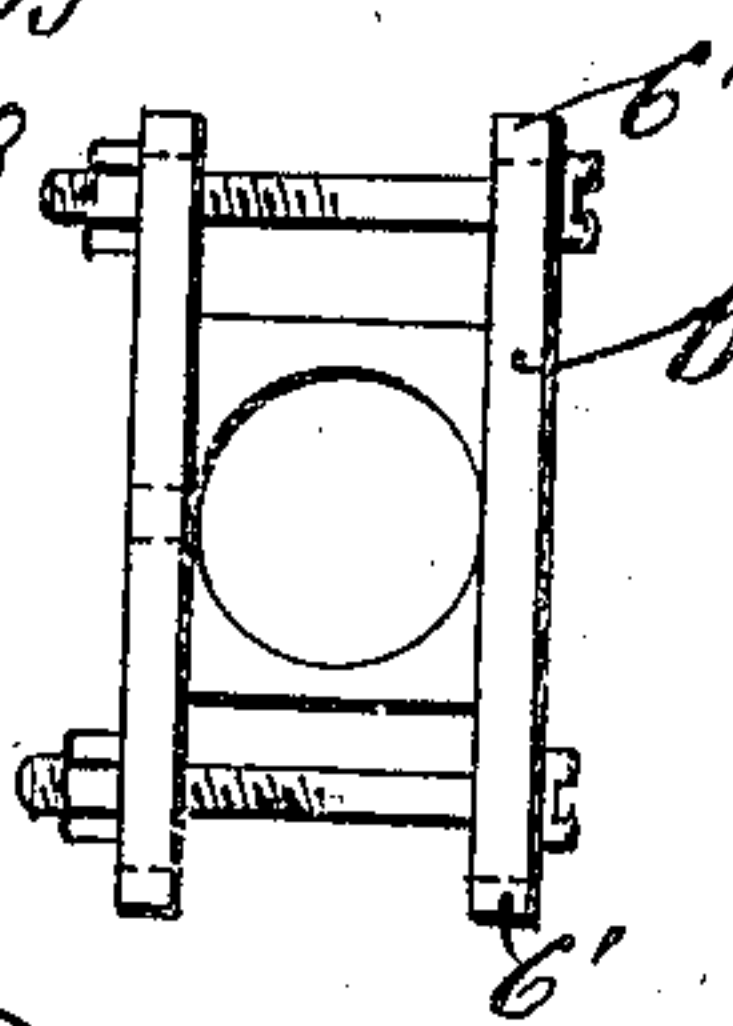


Fig. 10.

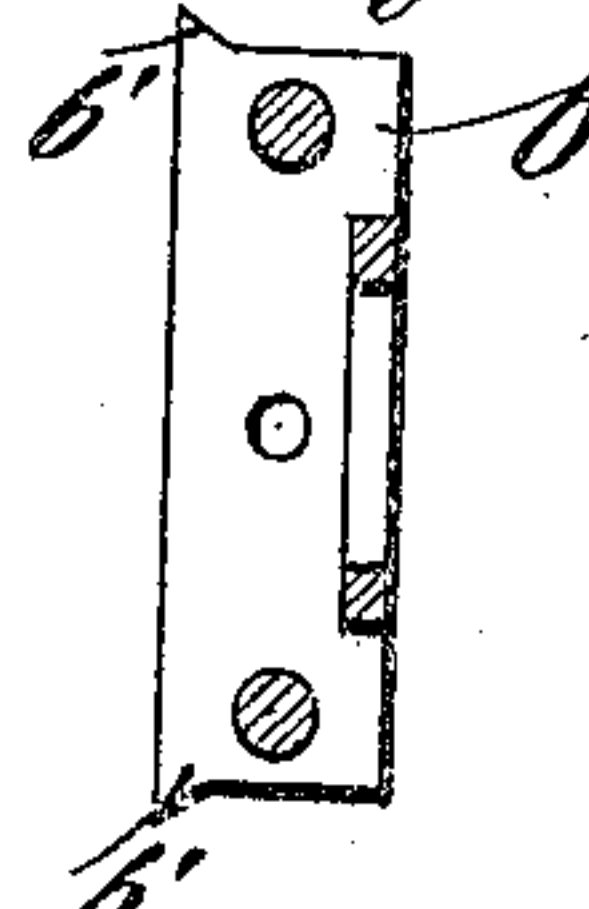
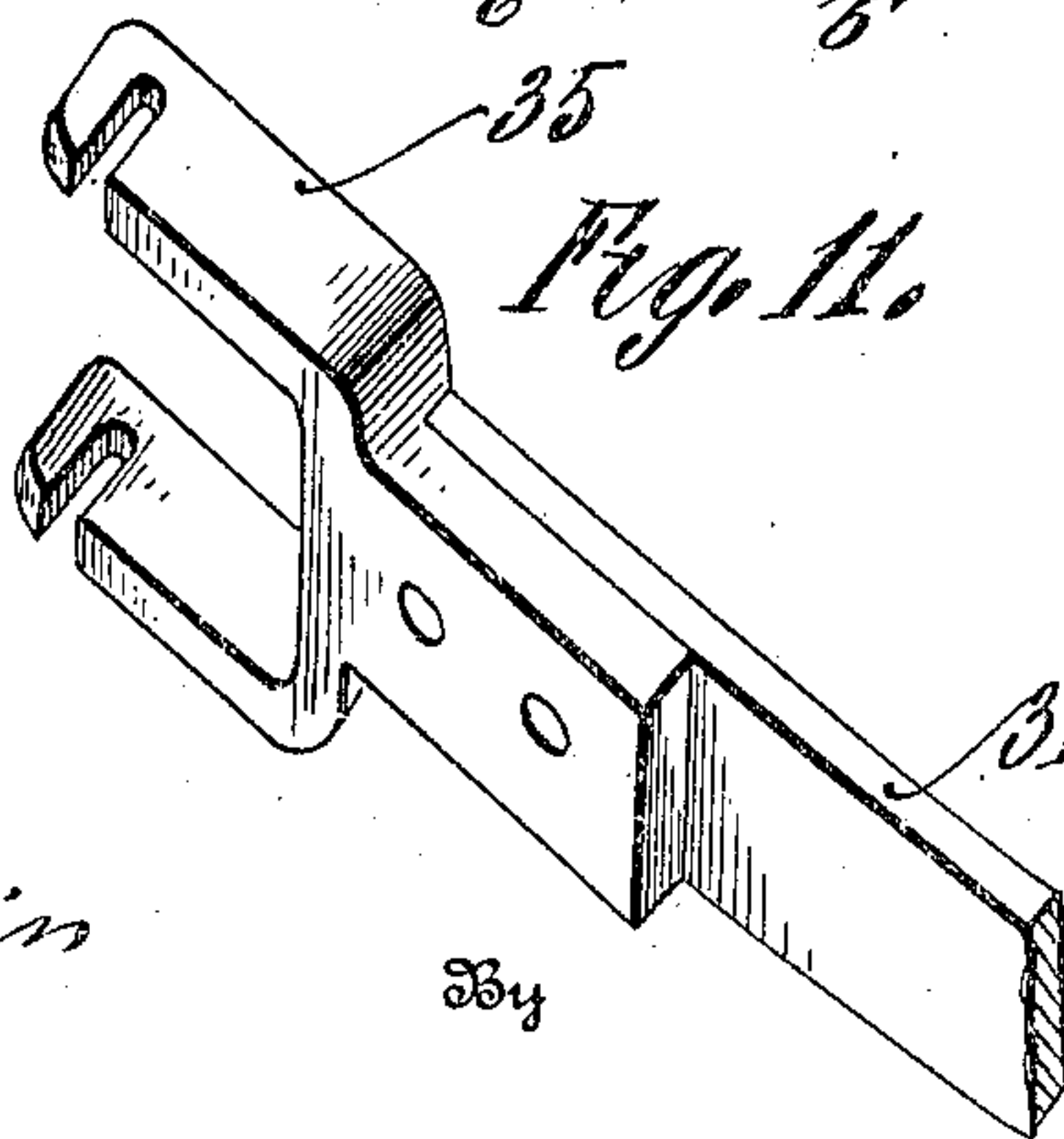


Fig. 11.



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# UNITED STATES PATENT OFFICE.

AUGUSTUS A. MERRILL, OF MALLARD, IOWA.

WHEELWRIGHT-MACHINE.

952,623.

Specification of Letters Patent. Patented Mar. 22, 1910.

Application filed February 20, 1909. Serial No. 479,112.

*To all whom it may concern:*

Be it known that I, AUGUSTUS A. MERRILL, a citizen of the United States, residing at Mallard, in the county of Palo Alto and State of Iowa, have invented certain new and useful Improvements in Wheelwright-Machines, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to improvements in wheelwright machines and embraces the construction of a device adapted for use in fitting or tenoning spoke ends and drilling wheel fellies for the reception of prepared 15 spoke ends.

One of the objects of the invention is the construction of a simple device having clamping means thereon and drilling means which may be employed either for the preparation of fellies for the reception of spoke ends or the finishing of spoke ends to be inserted in prepared fellies.

Another object of the invention is the construction of a simple device having a 25 drilling mechanism supporting frame and a double set of clamps, adapted for alternate use for fitting fellies or for fitting spokes, and so arranged that a felly or a spoke may be alternately brought into position to be 30 acted on by the drilling mechanism.

With the above and other objects in view this invention embraces certain constructions, combinations and arrangements of parts clearly described in the following 35 specification and in the accompanying drawings, in which,

Figure 1 is a perspective view showing the machine arranged for drilling a felly; Fig. 2 is a sectional view taken on line 2—2 40 of Fig. 1; Fig. 3 is a detail view of a clamp holding sleeve; Figs. 4 and 5 are detail views of a clamp; Fig. 6 is a perspective view showing the machine arranged for tenoning a spoke end; Fig. 7 is a sectional view taken 45 on line 7—7 of Fig. 6; Fig. 8 is a sectional view taken on line 8—8 of Fig. 7; Figs. 9 and 10 are detail views of a bearing block. Fig. 11 is a detail perspective view of a spring end, and, Fig. 12 is a detail sectional 50 view of a shaft.

Referring to the accompanying drawings which are prepared for illustrative purposes and are accordingly not drawn to scale the frame of my improved machine is designated by the numeral 1 and is preferably formed of two bars having their ends 55 bent inwardly toward each other and disposed on a common or parallel plane. The upper bar 1' is formed on one end with an upstanding bearing lug 2 and the adjacent 60 rear ends of the upper bar and the lower bar are connected together by a shaft bearing block 3. The frame 1 is secured to a suitable base 4 as indicated at 5. Forwardly of the bearing block 3 a second 65 bearing block 6 formed on its opposite ends with outstanding ears 6' and on one of its side portions with a rearwardly projecting slotted guide arm 7, the rear end of which is connected by a screw to the bearing block 3. 70 A shaft 8 having a crank 9 on its rear end is rotatably and slidably held on the frame by the bearing blocks 3 and 6 and is provided with a centrally disposed loose sleeve 10, fixed against longitudinal movement there- 75 on, by collars 10<sup>a</sup> and 10<sup>b</sup> which are fixed to the shaft by pins extended through the collars and shaft, and which is formed with outstanding trunnions or lugs 11 located oppositely thereon. A lever 12 having a slot- 80 ted or bifurcated lower end 13, the legs of which are longitudinally slotted at 14 for the reception of the trunnions or lugs 11, is pivotally secured on the frame, with said legs held astride thereon by a screw 15 passed 85 through the legs of said lever and the bearing lug 2. The forward end of the shaft 8 is adapted to carry a bit 17, and it also has swiveled upon it a member 16 from which projects oppositely disposed pins 16'. The 90 latter are adapted to be engaged by the bifurcated head 35 hereinafter described.

On the forward end of the frame 1 a pair of outwardly bowed connecting straps 19 are secured on the opposite sides of the forward ends thereof. The lower forward 95 frame end is provided with a pair of longitudinally spaced clamping screws 19' and the upper forward end is provided with a clamping screw 20, having a crank 21 and 100



disposed on said upper forward end at a point approximately central of the lower clamping screws 19'. Adjacent to one of the clamping screws 19' a square shaped socket or sleeve 22 is mounted for the reception of a clamping member 23 used when a felly is to be bored or drilled. The clamping member 23 is formed with a right-angular upper end 24 and is provided with a clamping screw 25 carrying a crank 26, and is further provided with a felly holding angular plate 27 having a square leg 28 for insertion in the sleeve or socket 22.

By placing a felly 30 in position between the head block 29 of the clamping screw 25 and the plate 27 and fixing the same in proper position therebetween by applying pressure on the screw 25 and by rotating the shaft 8 by means of the crank 9 and by applying pressure on the lever 12, the drill bit 17 may be forced into the felly 30, so as to bore or drill a hole for the reception of a spoke end therein. The clamping bar or member 23 is disposed on the frame 1 so that it will not obstruct the passage of the drill bit 17 through the felly, and when said bit has performed its work it may be withdrawn therefrom by suitably operating the lever 12, by reason of the trunnions or lugs 11 of the shaft moving on the slotted legs of said lever. In order to automatically hold the drill bit 17 against the felly 30 I provide a flat spring 31 which is formed on one end with hinge knuckles 32 adapted to be pivotally connected to a single hinge knuckle 33, secured to the rear legs of the frame 1, by means of a removable pintle 34. The remaining end of the spring 31 is provided with a head piece or holding block 35 bifurcated for the reception of the chuck 18 and slotted for the reception of the lugs 16' on the swiveled member or ring 16. When a spring feed of the tool carrying shaft 8 is desired the spring 31 has its hinged knuckle 32 pivotally connected to the knuckle 33 by the pivot pin 34, and the bifurcated head 35 at the other end of said spring has its notched arms engaged with the lugs 16' on the chuck 18, as will be readily understood on reference to Fig. 6. When it is desired to employ the device for tenoning spoke ends the spring 31 may be removed by means of the removable pintle 34 or held in fixed position by means of a dog or catch 36 pivoted on the block 6 and adapted to engage with the holding block 35 of said spring.

For holding spokes on the frame an angular clamping plate 37 formed with legs 38, adapted to engage with opposite sides of the forward end of the lower frame bar, is positioned in place thereon so as to be acted on by the screws 19', and a second angular clamping plate 39 is mounted on the head

block of the screw 20; the clamping bar 23 being removed in the meantime from the sleeve 22. A spoke end 40 is then positioned between the two clamping plates 37 and 39 and pressure applied to the screws 19' and 20. A reducing bit 41 formed according to conventional lines is secured on the shaft 8 and the same is operated against the adjacent end of the spoke 40 so as to properly reduce or prepare said end for insertion in a drilled felly. By suitably operating the lever 12 great pressure may be exerted on the cutter or reducing bit 41 or the same may be quickly withdrawn from engagement with the spoke end.

In the manufacture of my device various changes in the character of material used, in the proportions and dimensions thereof, and in the manner of joining the same together may be made without departing from the spirit of my invention.

What I claim and desire to secure by Letters Patent is:

1. In a device of the character described, the combination of a frame, a tool carrying shaft mounted for sliding and rotary movement, a member swiveled to said shaft, a longitudinally bowed spring having one end connected to said frame, and its other end detachably engaged with said swiveled member for actuating the shaft longitudinally, and means for rotating said shaft.

2. In a device of the character described, the combination of a frame, a tool carrying shaft mounted for sliding and rotary movement, a member swiveled to said shaft, a longitudinally bowed spring having one end connected to said frame, and its other end detachably engaged with said swiveled member for actuating the shaft longitudinally, a catch upon the frame to engage the free end of said spring, means for rotating said shaft, and means for moving said shaft longitudinally.

3. In a device of the character described, the combination of a frame, bearings at one end of said frame, work-holding means at the other end of said frame, a tool carrying shaft slidably and rotatably mounted in said bearings, a member having a swiveled connection with said shaft and provided with oppositely projecting lugs, a longitudinally bowed spring having one end connected to the frame, and its other end provided with a bifurcated head having notched arms to engage said lugs, and means for actuating said shaft.

4. In a device of the class described, a frame comprising upper and lower bars, bearing blocks secured on the rear ends of the frame, a shaft having a cutter and movable in the bearing blocks, a sleeve having trunnions thereon mounted on the shaft, a

5 lever having a bifurcated and slotted lower end pivotally secured on the rear end of the frame for engagement with the trunnions of the sleeve, a guide for said lever secured to the frame, a hinge knuckle secured to the frame, a spring having hinge knuckles engaging therewith removably secured thereby to the frame hinge knuckle, a block for connecting the spring to the shaft, and clamp-

ing means arranged on the frame for hold- 10  
ing material in position to be acted on by  
cutter of the shaft.

In testimony whereof I hereunto affix my  
signature in the presence of two witnesses.

AUGUSTUS A. MERRILL.

Witnesses:

J. W. GROFF,  
C. A. DRAPER.