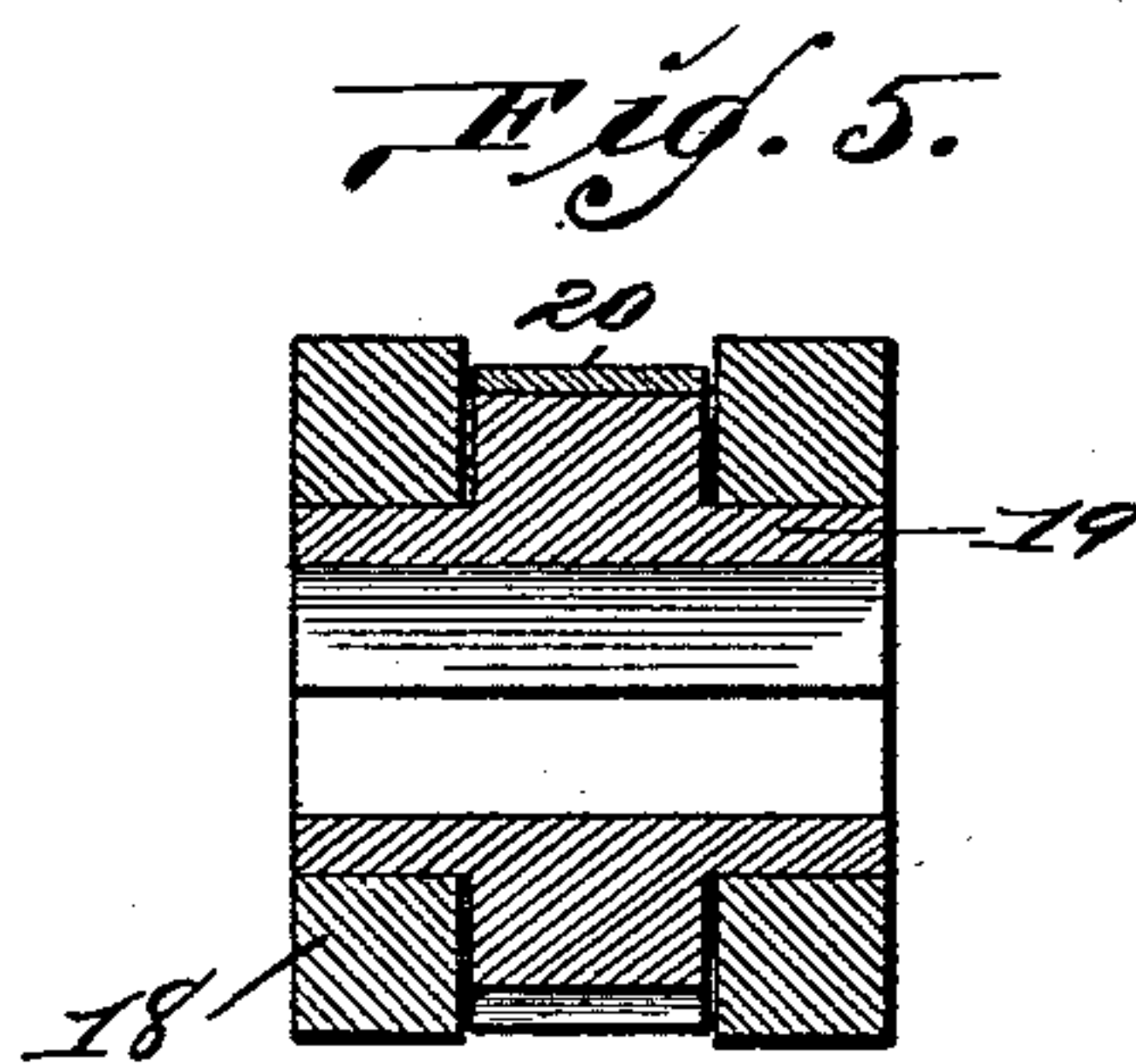
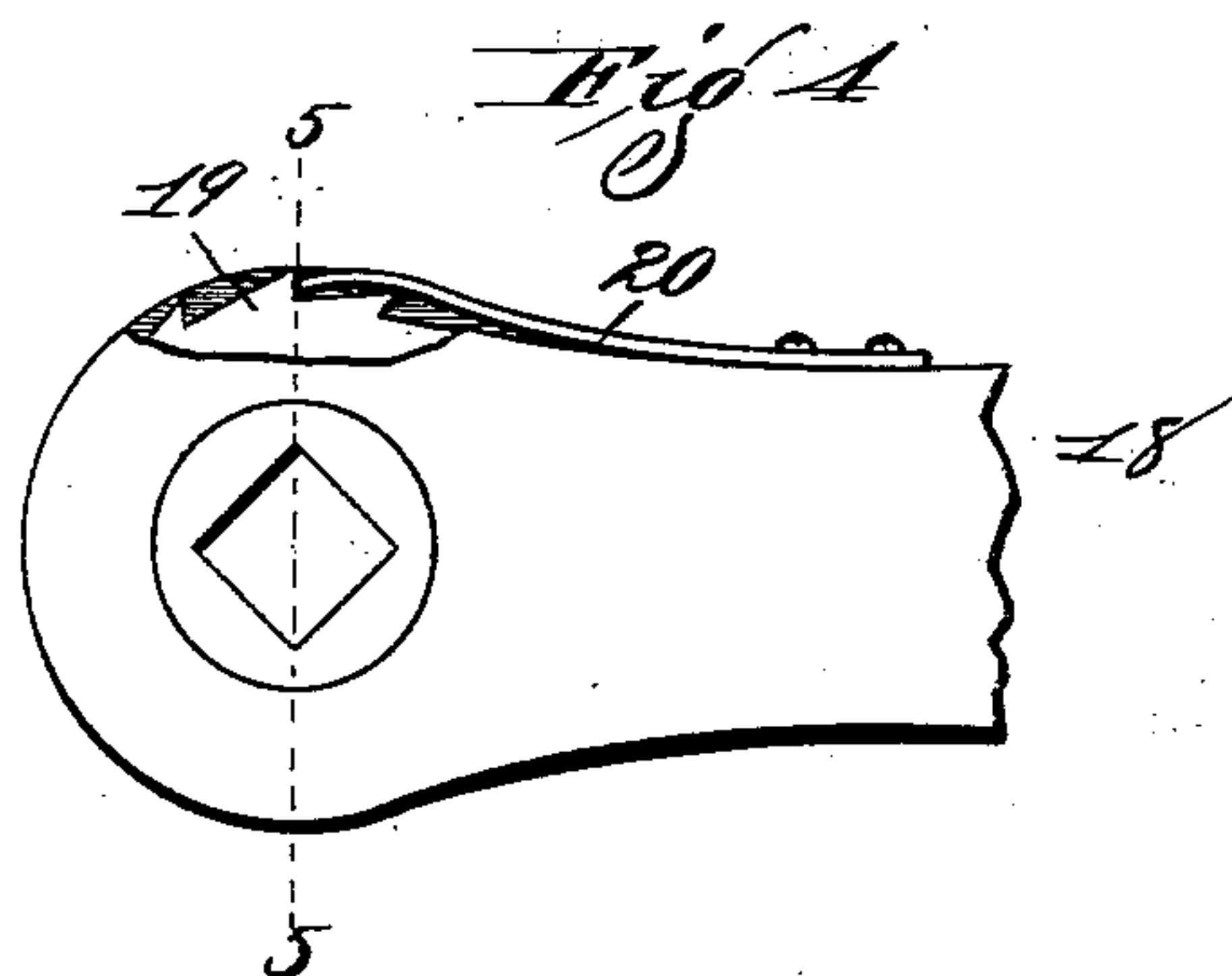
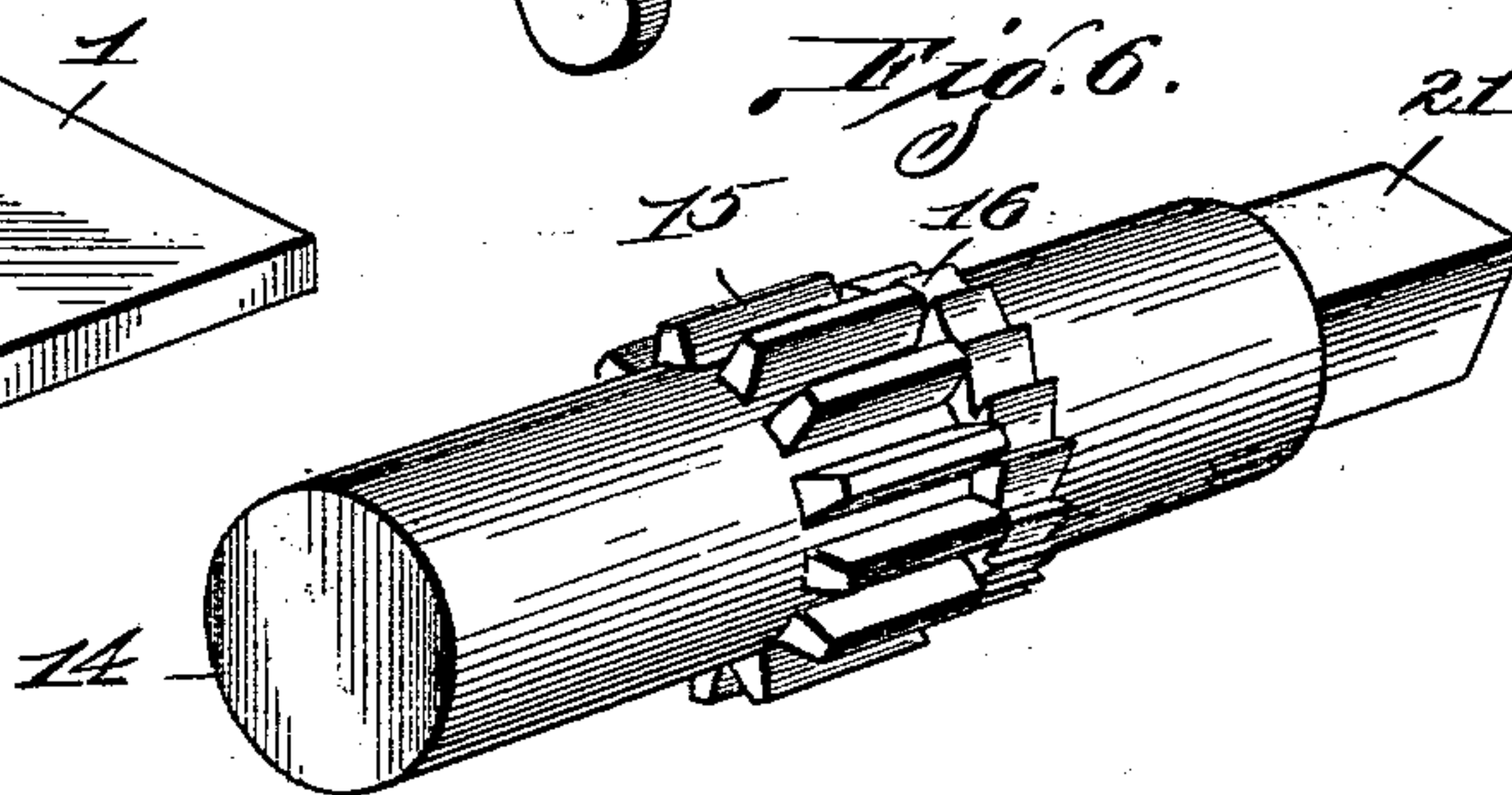
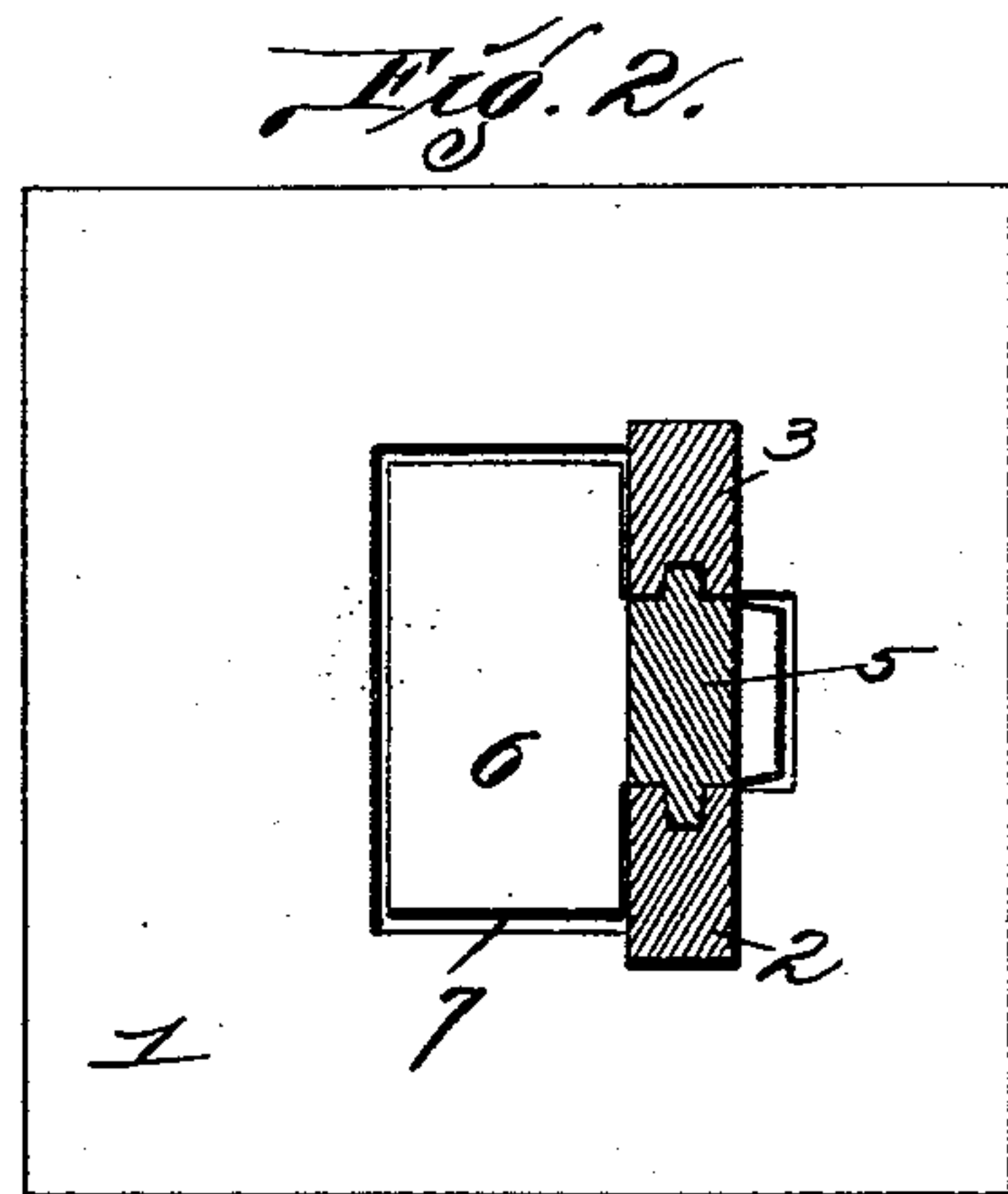
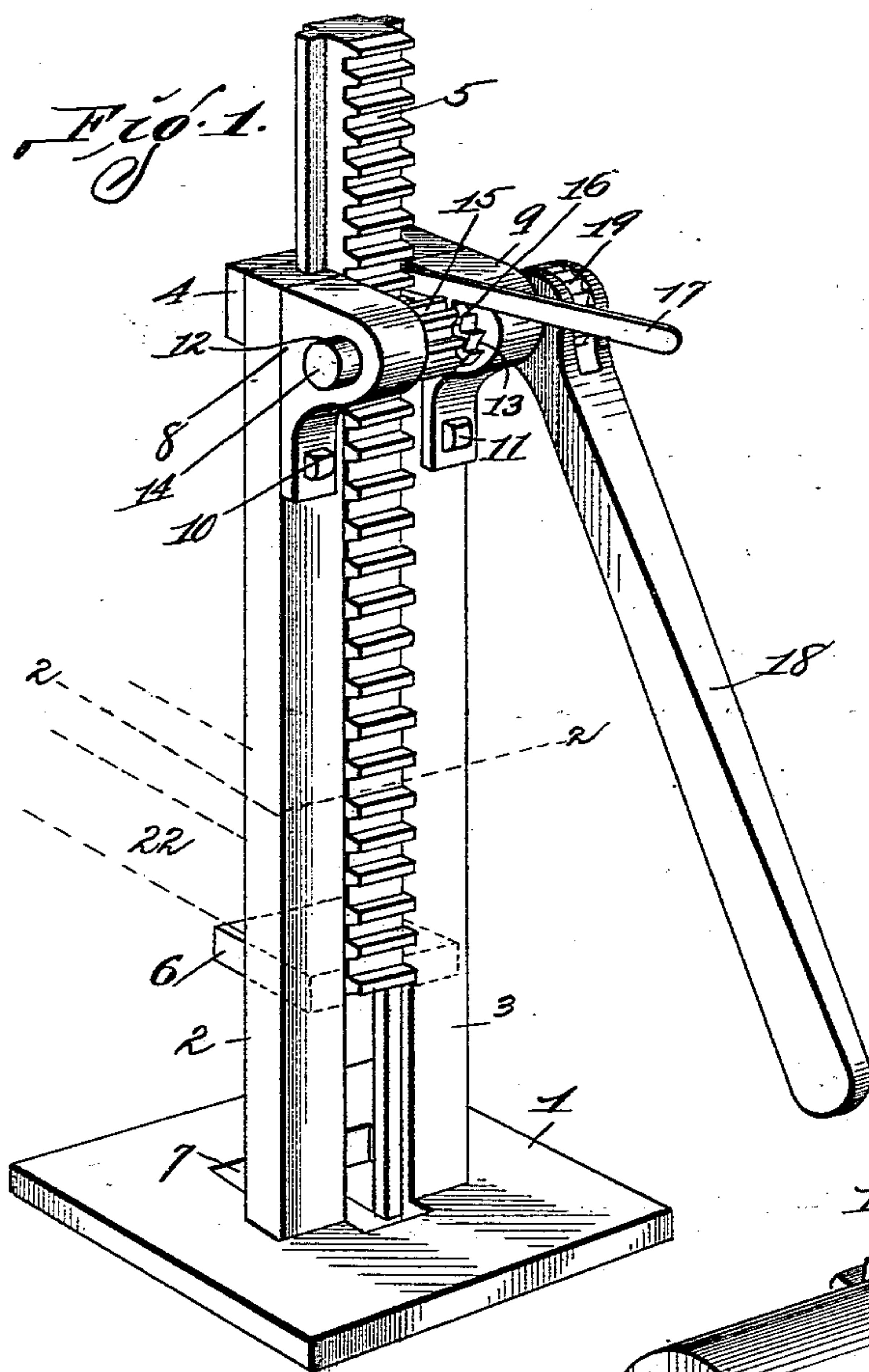


(No Model.)

R. A. ARNOLD.  
LIFTING JACK.

No. 560,056.

Patented May 12, 1896.



Attest  
W. P. Smith  
S. S. Wells

Inventor:-  
R. A. Arnold.  
By Higdon & Higdon Solicitors.  
Atty's.



# UNITED STATES PATENT OFFICE.

RAIFORD A. ARNOLD, OF SAN ANTONIO, TEXAS, ASSIGNOR OF ONE-HALF  
TO PAUL MAUREAUX, OF SAME PLACE.

## LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 560,056, dated May 12, 1896.

Application filed February 26, 1896. Serial No. 580,856. (No model.)

*To all whom it may concern:*

Be it known that I, RAIFORD A. ARNOLD, of the city of San Antonio, Bexar county, State of Texas, have invented certain new and useful Improvements in Lifting-Jacks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention is an improved lifting-jack designed expressly for track-levelers, although the construction may be varied for other purposes, or it may be used for other purposes in the form shown.

My invention consists of the novel construction, combination, and arrangement of parts hereinafter described, shown, and claimed.

In the drawings, Figure 1 is a perspective of my improved lifting-jack in use as a track-leveler's tool. Fig. 2 is a cross-sectional view on the line 2 2 of Fig. 1. Fig. 3 is a perspective of a pawl-headed lever used in my invention. Fig. 4 is a detail view of a ratchet and lever of which I make use. Parts are broken away. Fig. 5 is a sectional detail on the line 5 5 of Fig. 4. Fig. 6 is a detail perspective of the shaft and lifting-pinion used in my invention.

Referring by numerals to the drawings, 1 is the base of my lifting-jack.

2 and 3 are posts, the inner edges of which are grooved, as shown in Fig. 2.

4 is a cross-bar connecting the top ends of the posts 2 and 3.

5 is a toothed rack sliding in the grooves of the posts 2 and 3, as shown in section in Fig. 2.

6 is a plate attached to the lower end of the toothed rack 5 and is designed to be inserted under the end of a railroad-tie or under a rail or other object which is to be lifted. There is a rectangular opening 7 in the base 1, which allows the plate 6 to sink down flush with the base.

8 and 9 are ears bolted to the posts 2 and 3 by the bolts 10 and 11. The ears 8 and 9 have horizontally-alined bearings 12 and 13, in which the shaft 5 rotates. The shaft 14

has the pinion 15 near its center, which engages the teeth of the rack 5.

16 is a ratchet-wheel located upon the shaft 14 and beside the pinion 15. The teeth of this ratchet are engaged by the ratchet-face of the pawl 17. (Shown in perspective in Fig. 3.)

18 is a lever by which the shaft 14 is rotated. One end of this lever is bifurcated and the parts are bored.

19 is a ratchet-wheel having a square hole in its center and hubs on each side. This wheel runs between the bifurcated parts of the lever 18, and the hubs fit in the bores in said parts.

20 is a spring-pawl fastened to the back side of the lever 18, and one end engages the teeth of the ratchet-wheel 19. The shaft 14 has a square portion 21 on one end to fit in the square hole in the ratchet-wheel 19.

22 is the end of a rail resting on the plate 6 in position to be lifted.

The operation of my lifting-jack is as follows: The plate 6 is lowered into the opening 7 in the base 1. The base 1 is inserted under the rail, tie, or other object to be raised. The lever 18 is then operated up and down like a pump-handle. Pressing down raises the toothed rack 5, and the ratchet-face 17, engaging the wheel 16, holds the load while the lever 18 is being raised. To lower the load, the pawl 17 is raised out of engagement with the wheel 19.

My lifting-jack is strong, durable, and easy to operate.

I claim—

A lifting-jack comprising the base 1, the posts 2 and 3 projecting upwardly from said base and parallel to each other, the inner edges of said posts being grooved and the upper ends being tied together, the toothed rack 5 sliding in the grooves between said posts, the plate 6 attached to the lower end of said toothed rack, there being a rectangular opening in said base 1 to receive said plate 6, the shaft 14 positioned in bearings at the upper end of the posts 2 and 3 and trans-

versely thereof, the pinion 15 on the center of said shaft and engaging the teeth of said rack 5, the ratchet-wheel 16 on said shaft 14 and outside said pinion 15, the pawl 17 piv-  
5 oted to the upper end of the post 3 and having the ratchet-face engaging the teeth of the ratchet-wheel 16, the lever 18 upon the end of the shaft 14, the ratchet-wheel 19 between the parts of the bifurcated end of said lever

18, and the spring-pawl 20 fastened to the le- 10  
ver 18 and engaging the teeth of said ratchet-wheel 19.

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

RAIFORD A. ARNOLD.

Witnesses:

M. G. BENARIDES,

JAS. O'CONNOR.