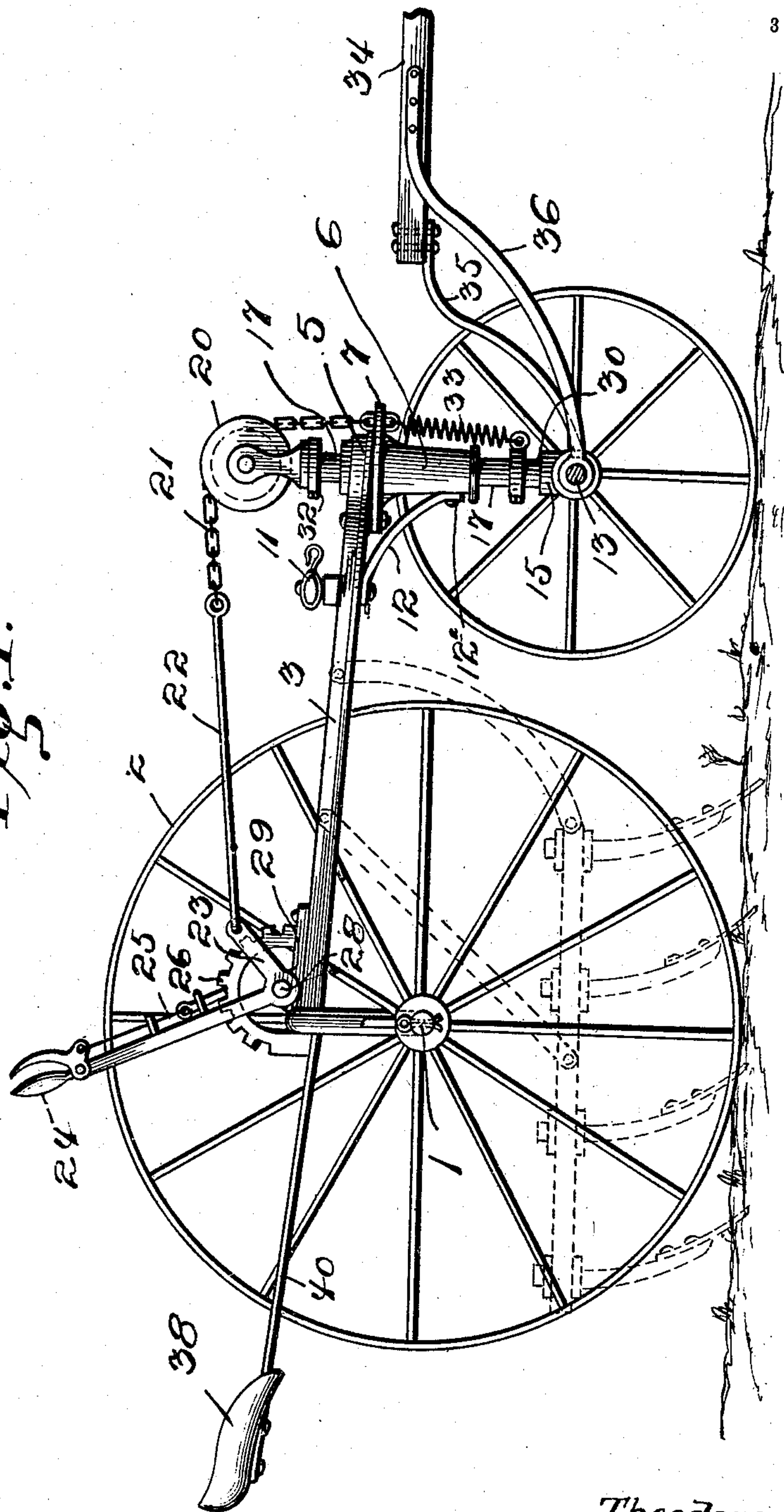


928,604.

T. D. HEATH.
WHEELED CULTIVATOR OR PLOW.
APPLICATION FILED JAN. 20, 1909.

Patented July 20, 1909.
3 SHEETS—SHEET 1.

Fig. 1.



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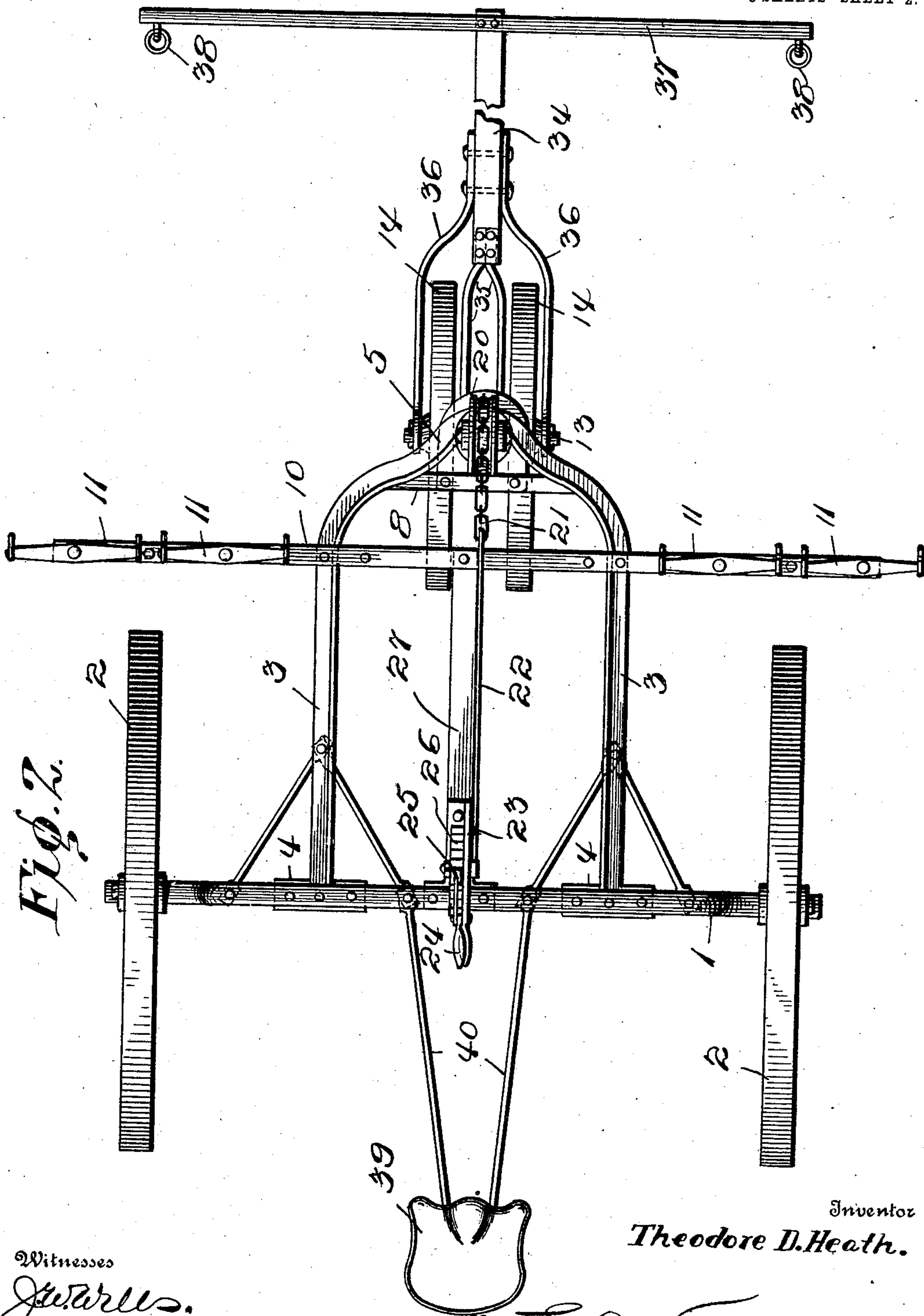


Fig. 2.

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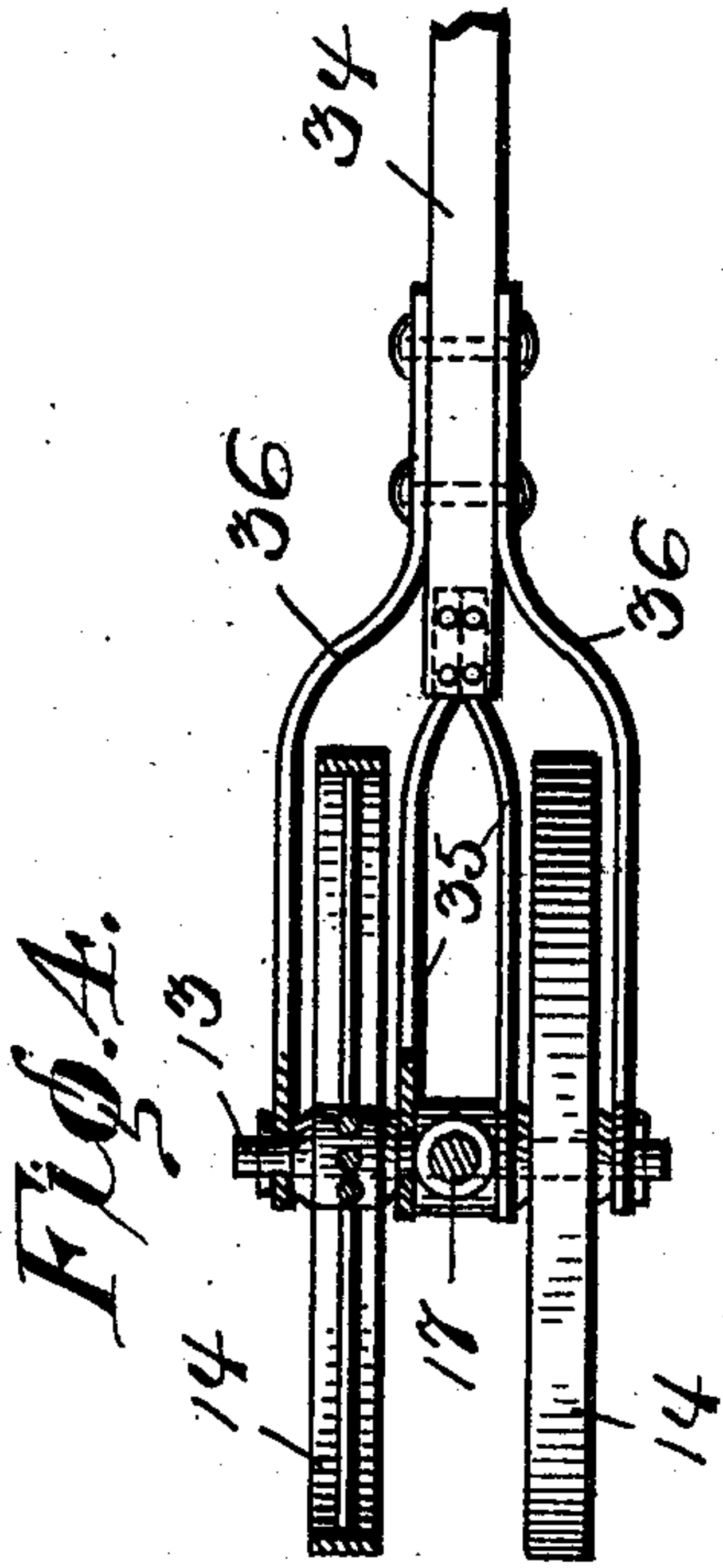


Fig. 6.

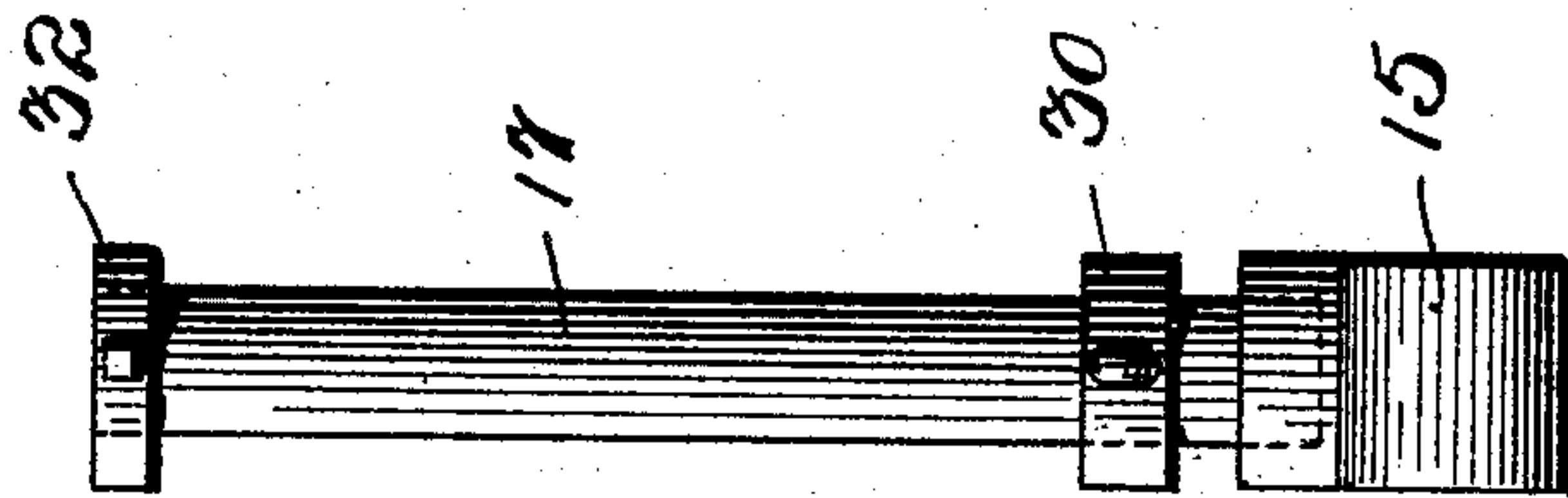
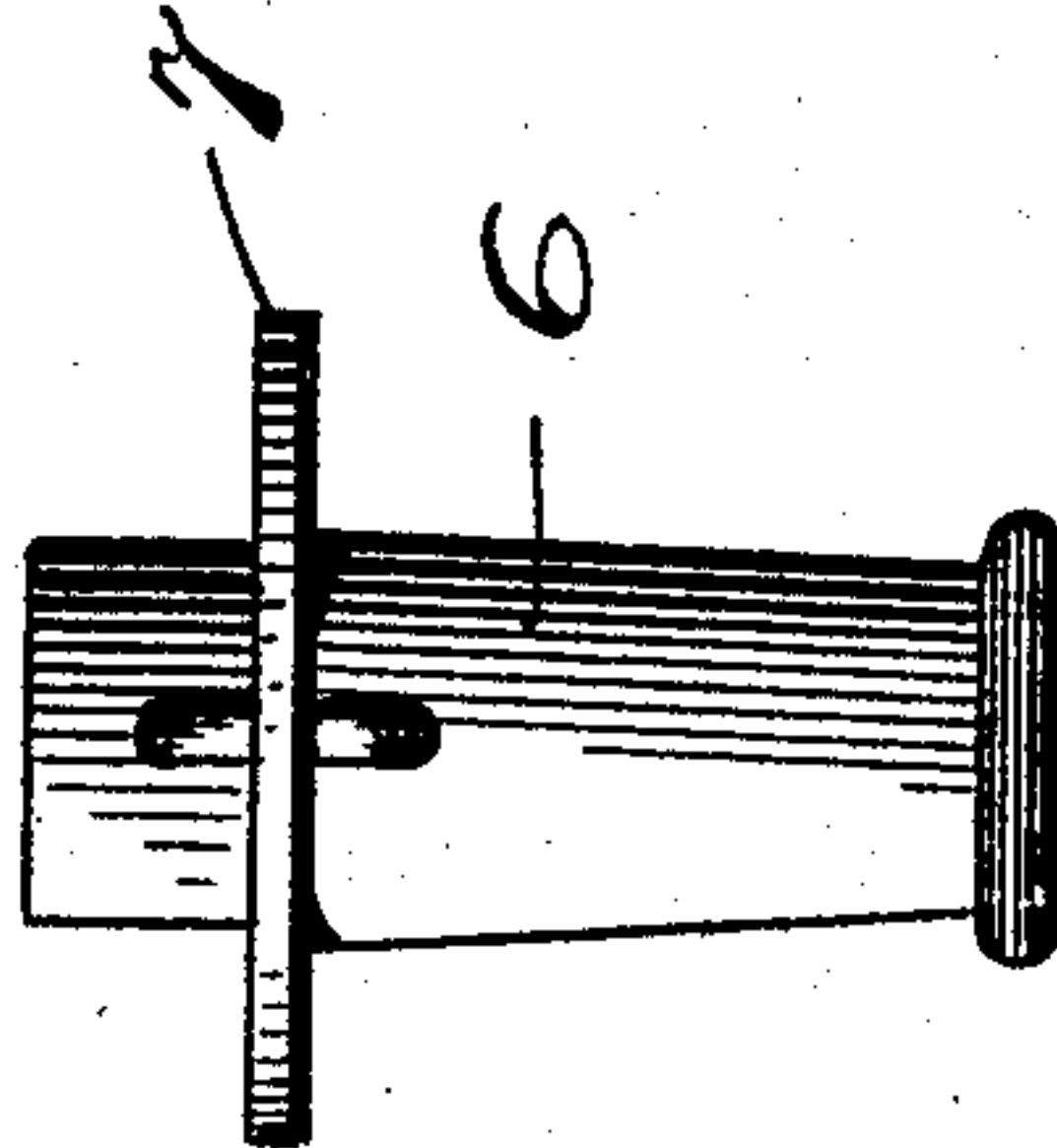


Fig. 5.

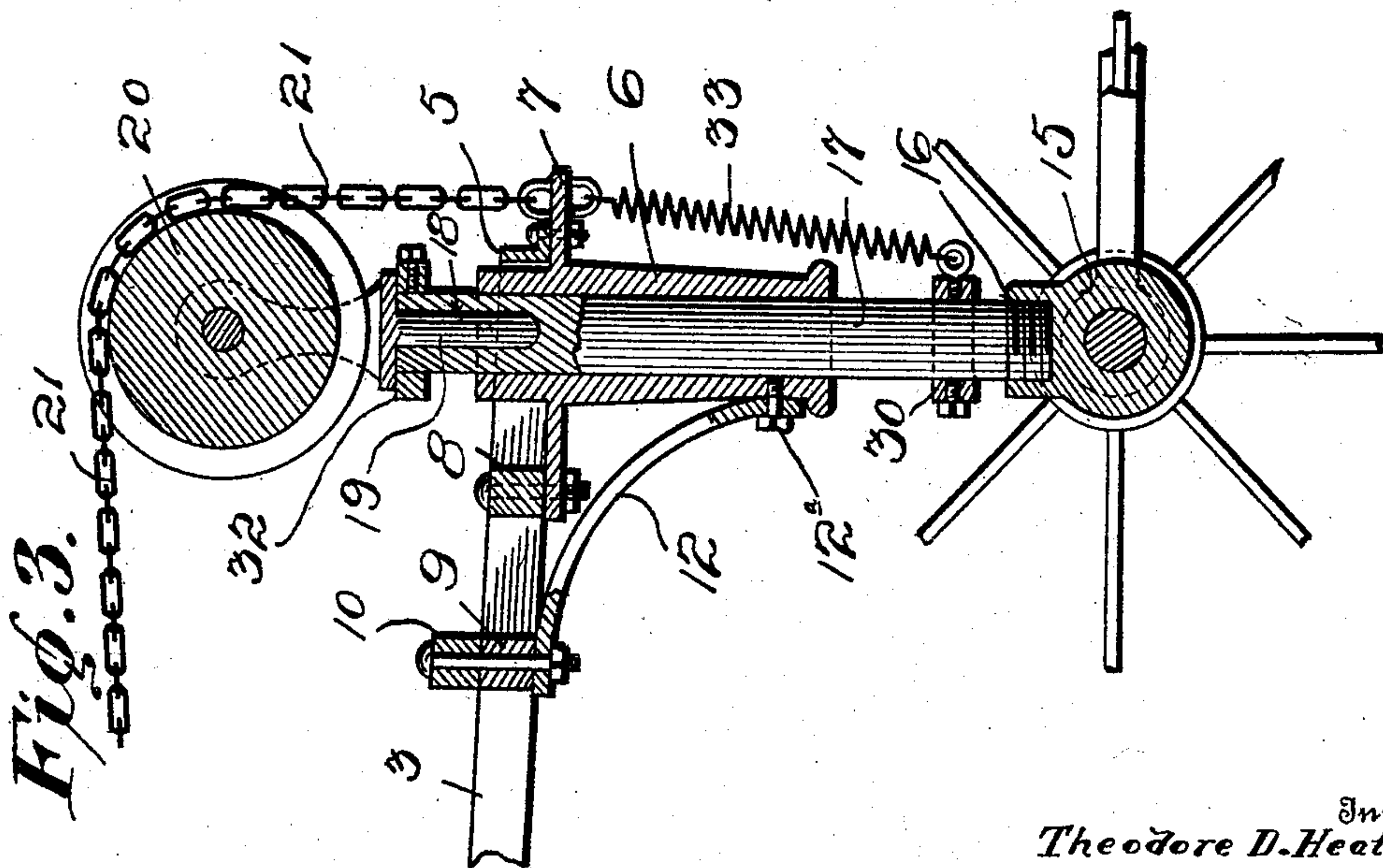


Fig. 3.

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UNITED STATES PATENT OFFICE.

THEODORE D. HEATH, OF PEABODY, KANSAS.

WHEELED CULTIVATOR OR PLOW.

No. 928,604.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed January 20, 1909. Serial No. 473,332.

To all whom it may concern:

Be it known that I, THEODORE D. HEATH, a citizen of the United States, residing at Peabody, in the county of Marion and State of Kansas, have invented certain new and useful Improvements in Wheeled Cultivators or Plows, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to agricultural machines, and has specially in view a machine of the type specified, in which one end of the same may be raised or lowered to compensate for any uneven surface upon which the machine is operating, with which is combined a novel type of draft gear whereby the strain of pulling the same is equally distributed among the horses.

With the above and many other objects in view, the invention contemplates a compact truck adapted for plows, cultivators, and other like farming machines, in which a novel adjusting means is employed for raising or lowering one end of the frame thereof, said frame being of a skeleton metallic structure and provided with means for the direct attachment thereto of the draft gear, the arrangement being such that the entire apparatus, including the animals for moving the same, will require but little room, thereby facilitating the use of the machine on small portions of the farm.

In carrying out the objects of the invention generally stated above, it will, of course, be readily understood that the same is susceptible of wide variations of details and structural arrangements, one preferred and practical example of which is shown in the accompanying drawings, wherein—

Figure 1 is a side elevation of the improved agricultural machine. Fig. 2 is a top plan view of the same. Fig. 3 is a sectional view of the forward portion of the machine, showing the adjusting mechanism therefor. Fig. 4 is a part sectional and part plan view of the forward portion of the machine, showing in detail the connection between the tongue and the front axle. Fig. 5 is a side elevation of the standard carried by the front axle of the machine. Fig. 6 is a similar view of the sleeve which is slidably mounted on the standard shown in Fig. 5.

Referring to the drawings by numerals, 1 designates the rear axle of the machine which is arched in a manner common with

wheel plows, cultivators, and the like, and which has the usual traction wheels 2 keyed to the ends. A frame formed of angle iron and preferably of one piece of material, bent to a substantially U shape, has the ends of its side members 3 provided with flat T-heads 4 which are riveted or bolted to the arched portion of the axle 1. The front portion of the U-shaped frame, is provided with a centrally located forward projecting contracted and rounded portion 5 which surrounds a pendent sleeve 6 provided with an upper exterior annular flange or collar 7 to which the outer portion of the rounded extension of the frame is bolted or otherwise rigidly secured. A cross brace 8 connects the side members of the frame adjacent to the forward extension of the frame, said brace 8 having a bolt or rivet connection with the rear portion of the annular flange or collar 7 of the sleeve 6, which assures of said sleeve being at all times held in a rigid position relative to the frame. A second support and brace 9 extends across the frame adjacent to the brace 8 and carried upon its upper surface is a draft bar 10 the ends of which project beyond opposite sides of the frame and each carries swingle trees 11, said swingle trees 11 being arranged in pairs on each end portion of the draft bar. Curved braces 12 are carried by the supporting and brace bar 9 their pendent lower ends being connected with the lower portion of the guide sleeve 6 by means of a set screw 12^a which passes through the ends of said braces and through said sleeve.

The front of the machine is supported by a short axle 13 carrying closely spaced front wheels 14 between which an upstanding lug 15 is mounted on the axle and provided with a threaded central opening 16 for the reception of a threaded end of a vertical standard 17 which projects through the sleeve 6 and has a central longitudinal opening 18 formed in its upper end for the reception of a pintle or pivot 19 of a vertically arranged pulley 20 over which a lifting chain or cable 21 passes, one end of which is suitably secured to the front portion of the annular flange or collar 7 of the guide sleeve 6, the other end of said chain or cable after passing over the pulley, being connected with a rod 22 connected with one end of a bell-crank lever 23 the handle portion 24 of which carries a hand controlled pawl 25 adapted to engage with a rack or gear segment 26 carried by

a reach bar 27 which extends longitudinally of the frame. The bell crank lever 23 is pivotally mounted on a shaft 28 mounted in bearings 29 also carried by said reach bar 27.

5 An abutment collar 30 is adjustably mounted on the standard 17 and serves to limit the movement of the sleeve 6, said abutment collar being located just above the lug 15 carried by the front axle. Another
10 abutment collar 32 is adjustably mounted on the upper portion of the standard above the frame of the machine. These two abutment collars serve to limit the movement of the sleeve 6 relative to the standard 17. A
15 strong spiral spring 33 connects the annular collar 7 of the sleeve 6 with the abutment collar 30, said spring constantly exerting a pressure to draw the sleeve to the lower portion of the standard.

20 A tongue 34 at its extreme rear end carries two diverging strap members 35 which have their free ends connected with the front axle on each side of the lug 15, and also two diverging strap members 36 which have one
25 of their ends secured to the sides of said tongue forward of the connection of the strap members 35 with the tongue, the other ends of said strap members 36 being secured to the outer ends of the axle outside of the
30 wheels thereon. The forward end of the tongue carries a bar 37 provided with end rings 38 for attachment to a swingle tree which is carried by the collars of the animals.

From the foregoing description it will be
35 seen that when the bell crank lever is rocked in one direction, the chain or cable 21 will exert an upward pull upon the guide sleeve 6 fast on the forward portion of the frame, thereby elevating the forward end of the
40 frame. Upon releasing the bell crank lever from its frame raising position, the tension of the spring 33 added to the weight of the machine, will cause said frame to resume its normal position. To facilitate the lifting
45 of the forward end of the frame, the driver's seat 39 is carried by spaced apart bars 40 which project rearwardly of the rear axle 1. The described mounting of the guide sleeve upon the standard 17 in addition to permit-
50 ting of a sliding movement of said sleeve thereon, also permits of a relative rotary movement of the standard, which owing to the longitudinal end opening therein in which the pulley 20 is mounted, permits of
55 said pulley remaining in its chain supporting and carrying position irrespective of the turning movement of the standard. This turning movement of the standard, in addition to the closeness of the two front wheels
60 allows the machine to be turned in a short space, as will be readily understood.

In addition to the foregoing, it will be observed that the described draft gear is such that the animals are held closely to the
65 sides of the machine, in fact the forward

portion of the machine is between the two inner animals, which permits of the machine being used in small places or corners.

In Fig. 1 of the accompanying drawings a dotted representation of a plurality of 70 cultivator blades has been shown, but it will of course be understood that the invention is in no wise to be limited to use in connection with cultivators, for it will be obvious that the same may be used in con- 75 nection with plows, ditching, excavating, or other machines.

Claims:—

1. A machine of the character described comprising a frame of substantially-U-shape 80 provided with a reduced and forwardly extended portion, a pendent guide sleeve surrounded by and rigidly connected with said forwardly extending portion of the frame, a standard upon which said sleeve is slid- 85 ably mounted, abutment collars adjustably mounted on said standard for limiting the sliding movement of the sleeve thereon, a pulley mounted in the upper end of the standard, a lever carried by the frame, a 90 cable connection between the sleeve and said lever, said cable passing over said pulley and adapted to raise the forward end of the frame when the lever is rocked in one direc- 95 tion, and a spring having one end connected with said sleeve and its other end connected with the standard for returning the forward end of the frame to its initial position.

2. A machine of the character described, comprising a frame, a pendent guide sleeve 100 fast to the forward end thereof, a standard upon which said sleeve is slidably mounted, abutment collars adjustably mounted on said standard for limiting the sliding movement of said sleeve thereon, the upper end of said 105 standard being provided with a longitudinal opening, a pulley having a pintle mounted in the opening in the end of said standard, a lever carried by said frame, a cable connection passing over said pulley and having one 110 end connected with said lever and its other end connected with said sleeve, and a spring connection between said standard and said sleeve for returning the latter to its initial position. 115

3. A machine of the character described comprising a rear arched axle provided with supporting wheels, a seat projecting rear- 120 wardly from said axle, a substantially U-shaped frame formed of angle iron and provided with a forwardly extending reduced rounded portion, a pendent sleeve surround- 125 ed by the forwardly projecting portion of the frame and rigid therewith, a front axle for the machine carrying closely spaced wheels, a tongue for the machine having a connection with the front axle between the wheels and exterior of said wheels, a stand- 130 ard carried by the front axle and upon which said sleeve is slidably mounted, abut-

ment collars carried by the standard for limiting the sliding movement of the sleeve thereon, a pulley carried by the upper end of the standard, a lever carried by the frame adjacent to the seat, a lifting connection between said lever and said sleeve and passing over said pulley, and a spring connection between said sleeve and said standard.

4. A machine of the character described, comprising a frame, a standard for slidably supporting an end thereof, a pulley carried by the upper end of said standard, a lifting lever carried by said frame, a cable passing over said pulley and having one end connected to said lever, and its other end connected with the slidable end of said frame, and means carried by said standard for limiting the movements of the slidable end of said frame thereon.

5. A machine of the character described, comprising a frame, a guide sleeve surrounded by and rigid with the forward end of said frame, a standard upon which said sleeve is slidably mounted, means for limiting the slidable movement of said sleeve in said standard, a pulley mounted in the upper end of said standard, a lever carried by the

frame, a cable connection between said sleeve and said lever and passing over said pulley for lifting the forward end of said frame, and a spring connection between said sleeve and said standard.

6. A machine of the character described, comprising a frame, a standard upon which one end of said frame is slidably mounted, a pulley mounted on the upper end of said standard, a lifting cable passing over said pulley and connected to the slidable end of said frame, and a lever for operating said cable.

7. A machine of the character described, comprising a frame, a standard upon which one end of said frame is slidably mounted, a pulley swiveled to the upper end of said standard, and frame-lifting means passing over said pulley and connected to the slidable end of said frame.

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

THEODORE D. HEATH.

Witnesses:

CHAS. E. PAYNE,
LAURA HEATH.