

No. 636,466.

Patented Nov. 7, 1899.

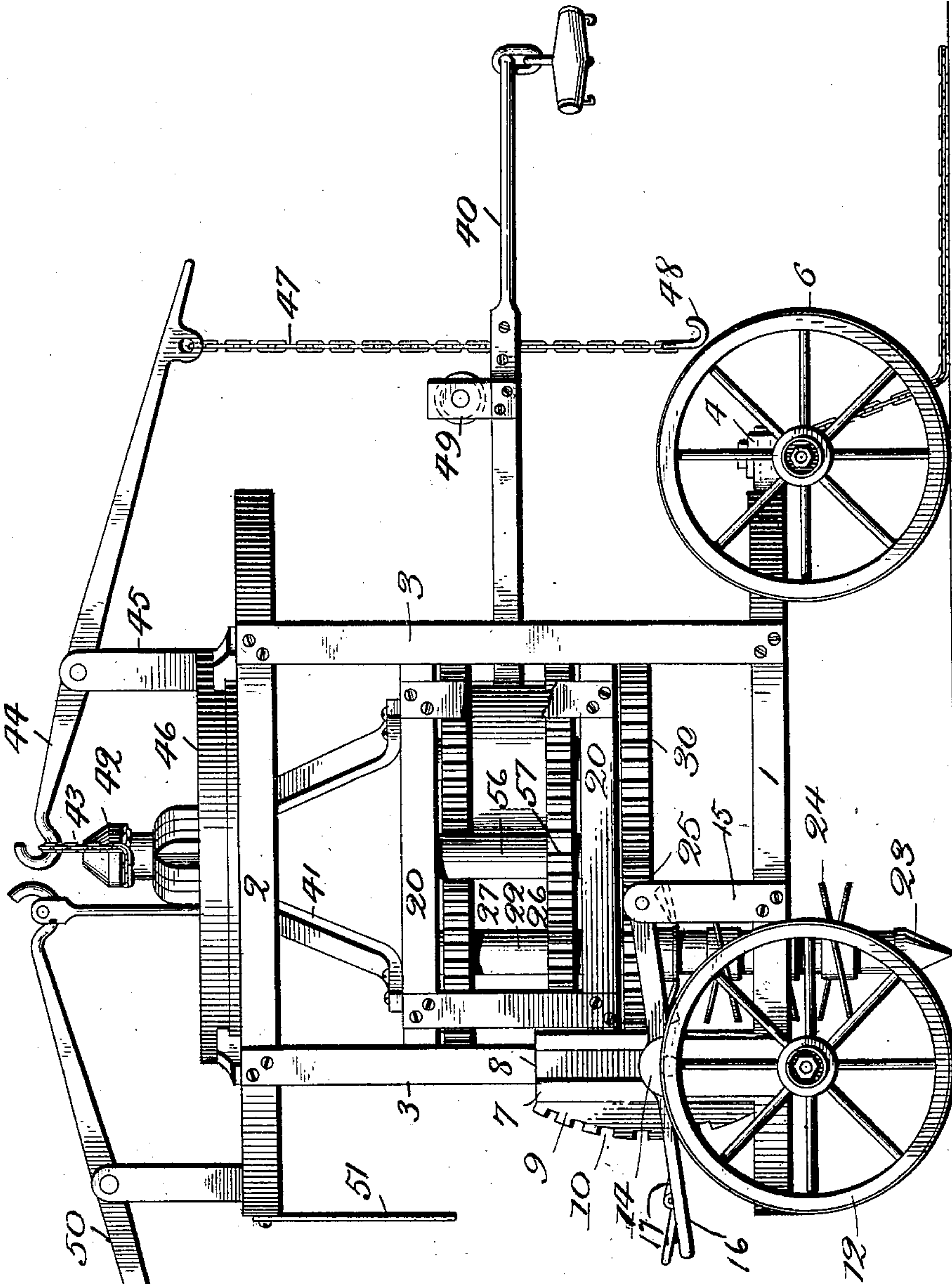
A. B. SPIGELMYER.  
POST HOLE DIGGER.

(Application filed Mar. 16, 1899.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.



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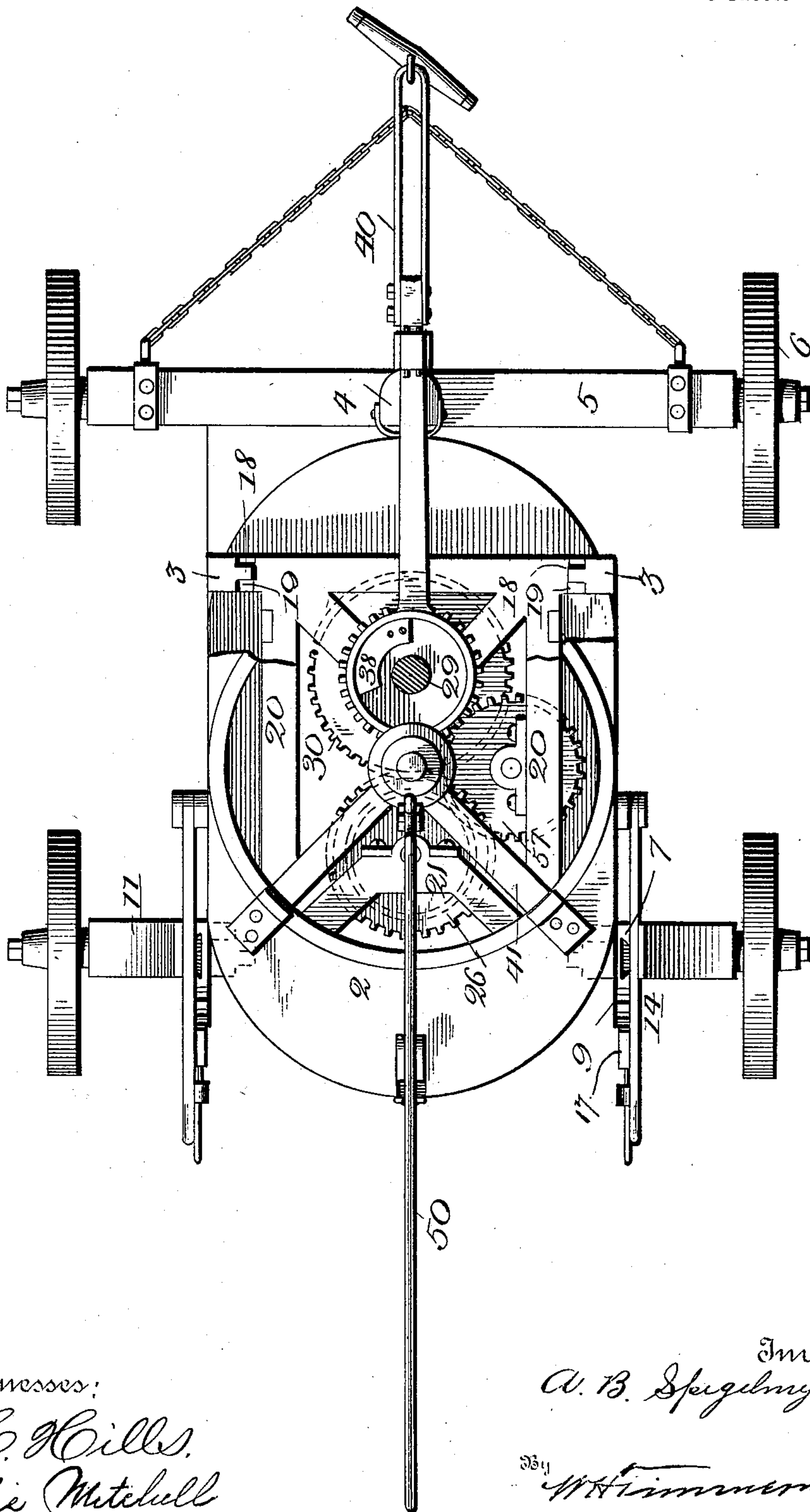
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3 Sheets—Sheet 2.

Fig. 2.



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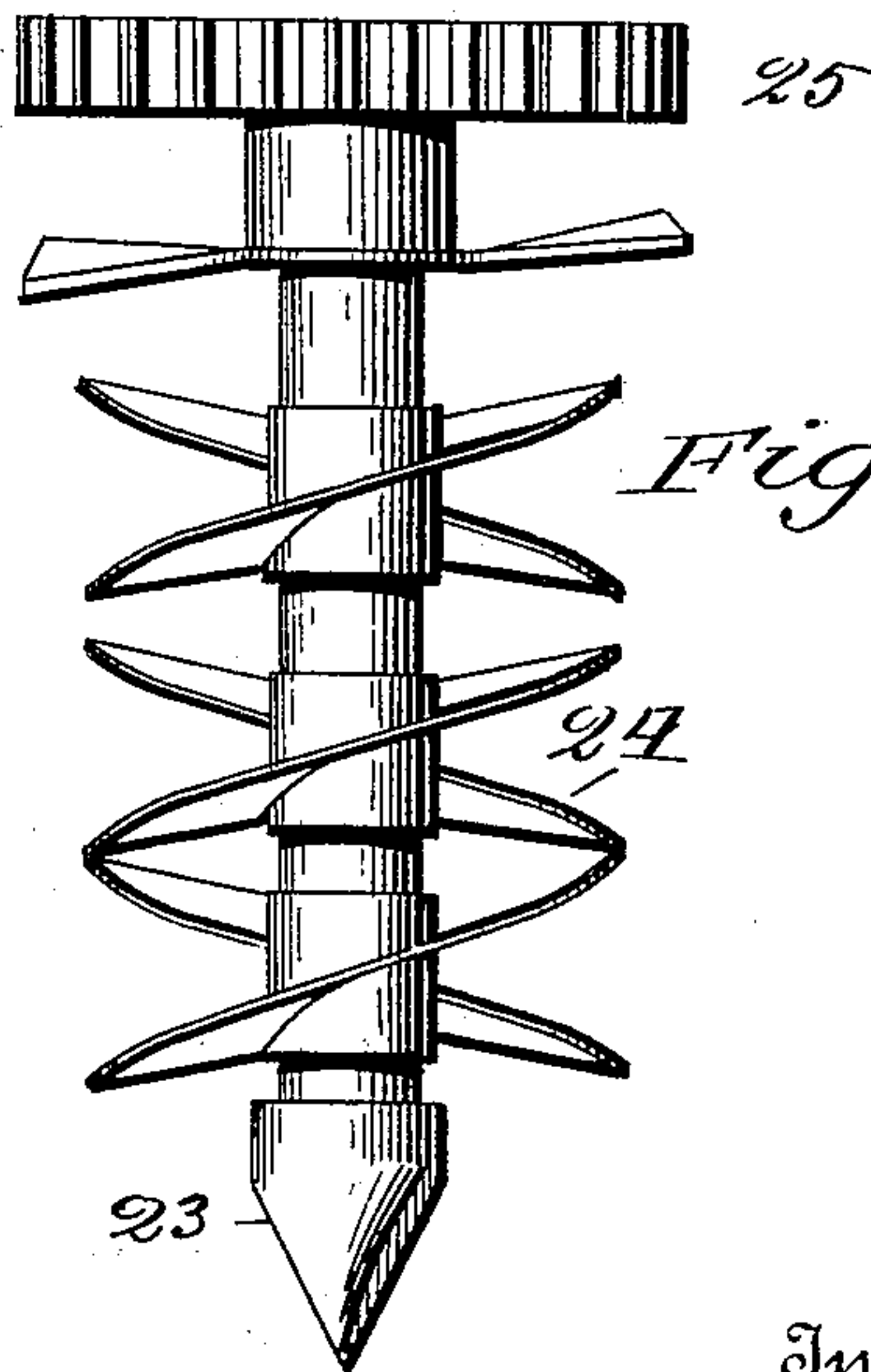
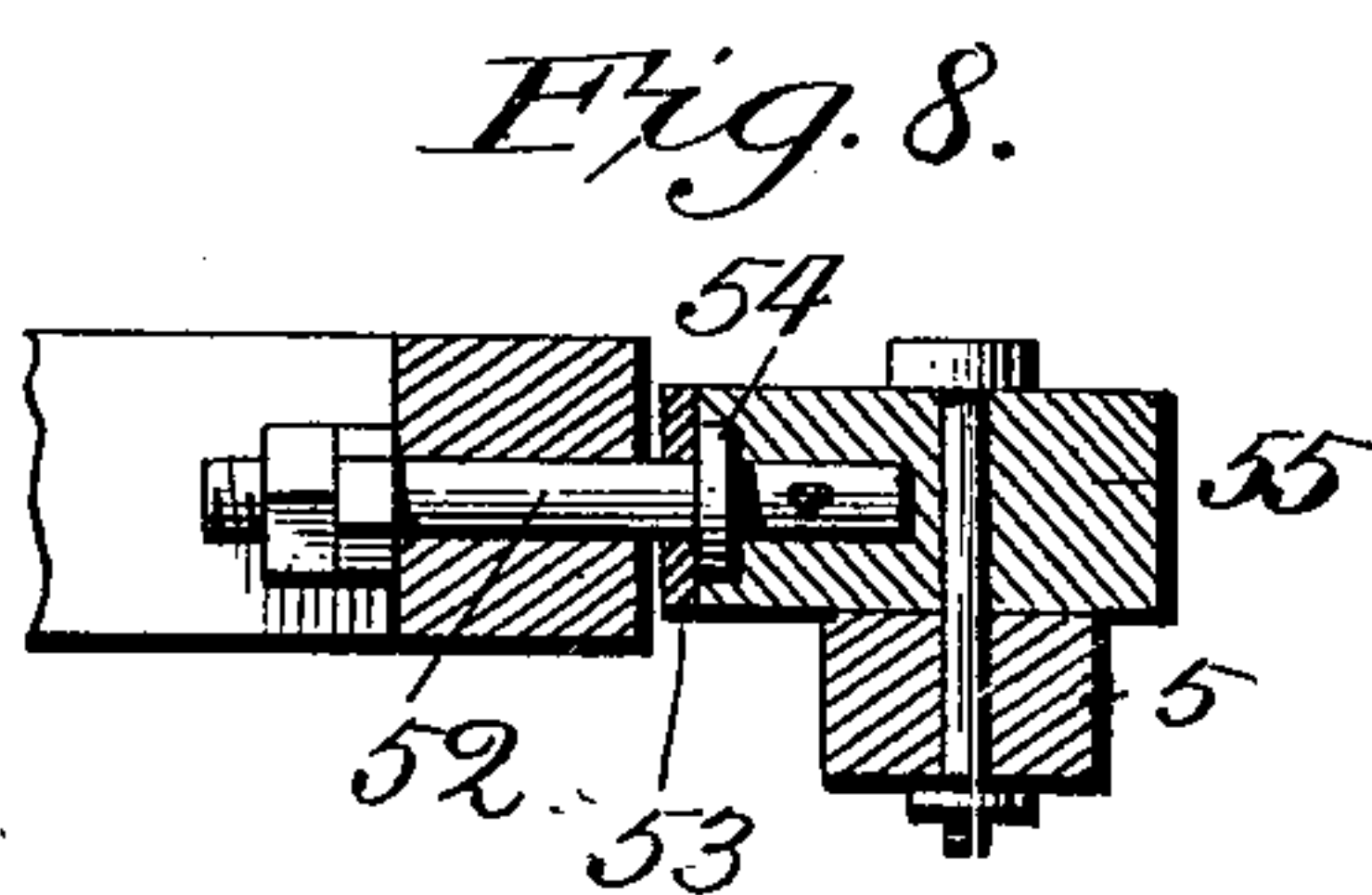
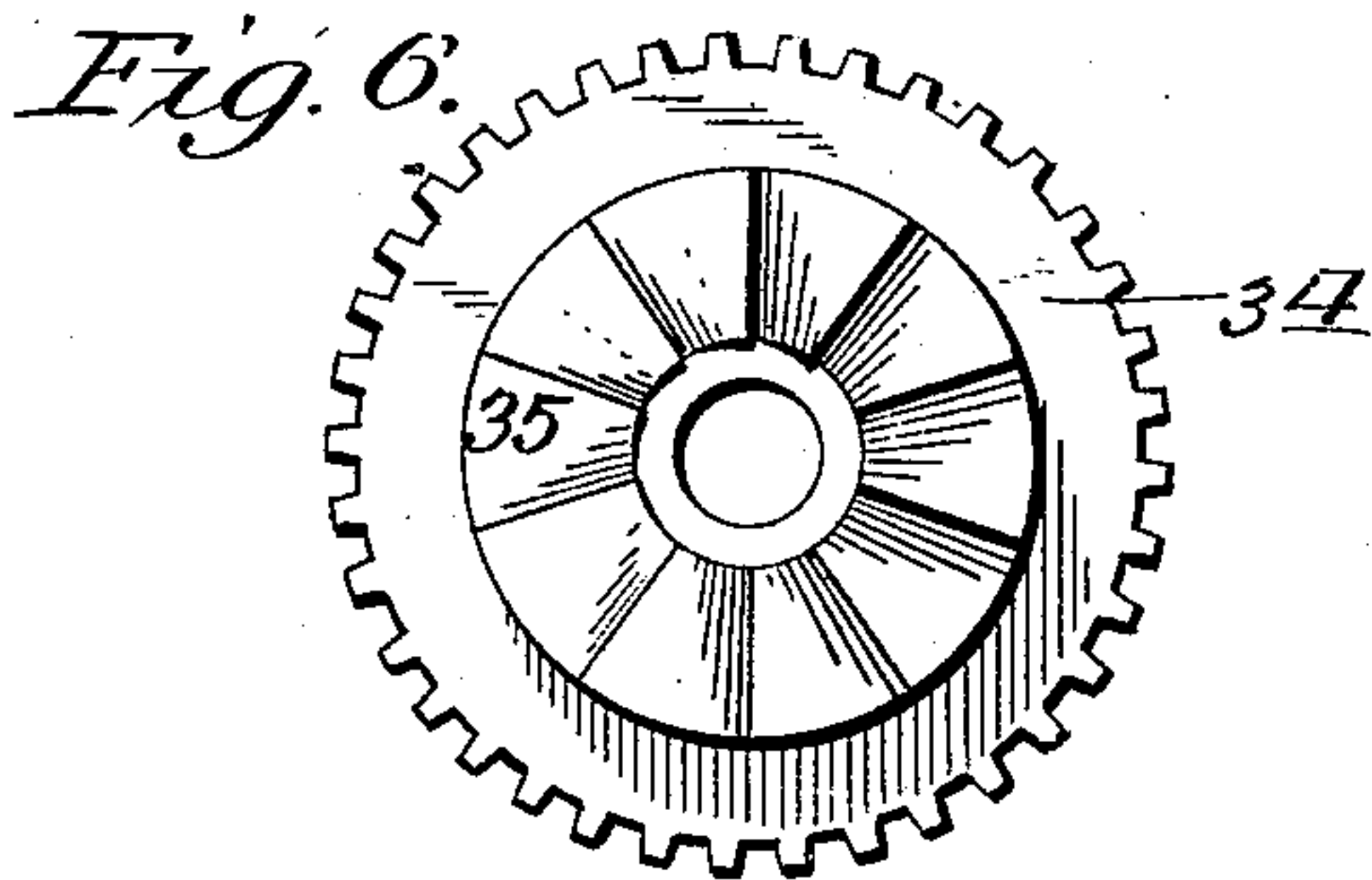
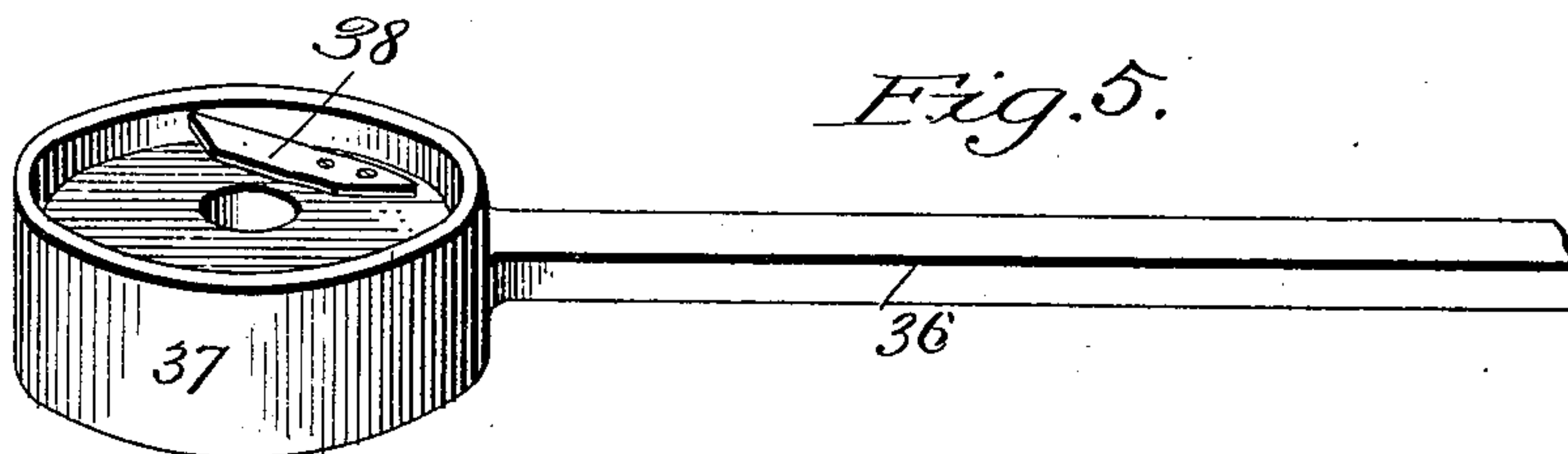
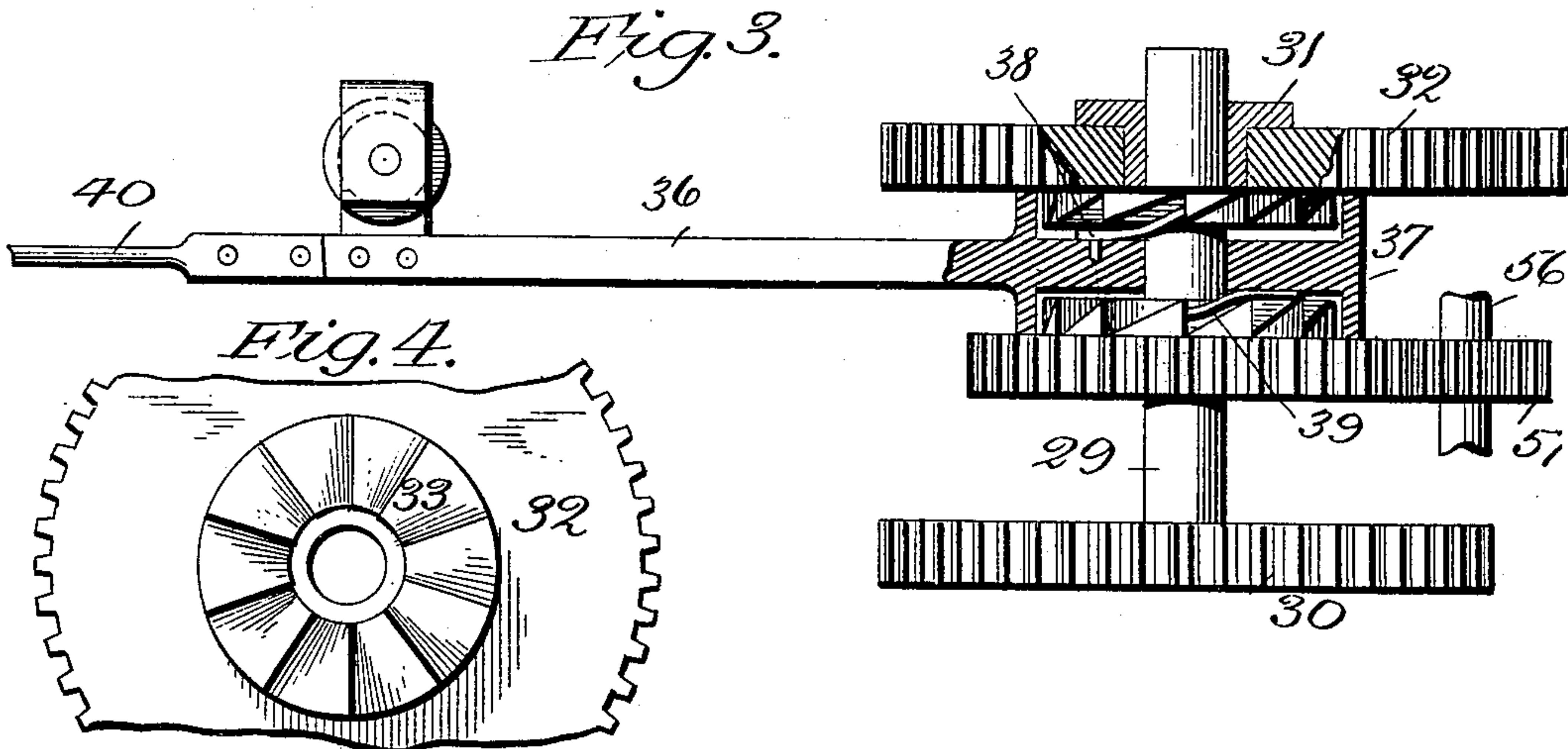
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3 Sheets—Sheet 3.



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# UNITED STATES PATENT OFFICE.

AMMON B. SPIGELMYER, OF BANNERVILLE, PENNSYLVANIA.

## POST-HOLE DIGGER.

SPECIFICATION forming part of Letters Patent No. 636,466, dated November 7, 1899.

Application filed March 16, 1899. Serial No. 709,293. (No model.)

*To all whom it may concern:*

Be it known that I, AMMON B. SPIGELMYER, a citizen of the United States, residing at Bannerville, in the county of Snyder and State of Pennsylvania, have invented certain new and useful Improvements in Post-Hole Diggers; and I 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.

This invention relates to certain new and useful improvements in post-hole diggers, and has for its object to construct a device in which a continuous rotary motion is imparted to the auger by an oscillatory motion of a lever.

A further object of the invention is to provide a rotary post-hole digger mounted upon wheels and which is so constructed that the frame can be horizontally adjusted regardless of the contour of the surface of the ground.

A still further object of the invention is to construct a rotary post-hole digger which is operated by horse-power and which is mounted on wheels so it can be readily moved.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, wherein like figures of reference indicate similar parts throughout the several views, in which—

Figure 1 is a side elevation of my improved post-hole digger. Fig. 2 is a top plan view of the same with parts broken away. Fig. 3 is an enlarged detailed view of the clutch mechanism with parts shown in section. Fig. 4 is a bottom plan view of one of the ratchet-wheels. Fig. 5 is a detail perspective view of the operating-lever. Fig. 6 is a top plan view of one of the ratchet-wheels. Fig. 7 is a detail view of the auger. Fig. 8 is a detail sectional view of the universal connection between the frame and the front axle.

Referring to the drawings, 1 designates the lower frame, and 2 the upper frame, which are secured together by means of supports 3. Secured to the forward end of frame 1 is a universal connection 4, which is pivotally secured to the axle 5, carrying the wheels 6. Secured to each of the rear supports 3 is a guide 7, which has formed vertically therein guideways 8, said guide 7 being also provided with an extension 9, projecting from the rear

end thereof. Said extension has formed in its edge at predetermined distances slots or cut-away portions 10. The object of said extension and cut-away portions will be hereinafter more fully explained. Operating in said guideway 8 is an axle 11, carrying the wheel 12, and is provided with an upward extension 14. Secured to the frame 1 and between the supports 3 is a standard 15, to which one end of a lever 16 is pivotally secured. The extension 14 is pivotally secured to the lever 16, intermediate the ends of the lever 16. The object of said movable axle is to raise or lower the sides of the apparatus to level the same when a hole is to be made on a hillside. The axle is held in any desired position by the catch 17, engaging the cut-away portions 10 of the extension 9.

Formed on the inner face of each of the supports 3 is a tongue 18, terminating at its lower end in a stop 19 to limit the downward movement of the cage 20.

Journaled in brackets 21, formed integral with the cage 20, is a shaft 22, terminating in an auger 23. Secured to said shaft 22 and between the auger-head and the bottom of the frame of the cage 20 are cleaners 24 to remove the dirt from the hole. Secured to the shafts 22 and just above the cleaner 24 is a drive-wheel 25. Said shaft has also secured thereto and between the upper and lower frames of the cage 20 gear-wheels 26 and 27.

Journaled in brackets 28, formed integral with the forward end of the frames of the cage, is a shaft 29, which has secured on the lower end thereof a drive-wheel 30, said drive-wheel 30 meshing with the drive-wheel 25, secured to the shaft 22. Secured to the shaft 29 and near the upper end thereof is a collar 31, on which rotates a loose gear-wheel 32. The lower face of the gear-wheel 32 is provided with teeth 33, said teeth forming a ratchet to engage a spring-pawl. Secured to the shaft 29 and near the lower frame of the cage 20 is a gear-wheel 34, having teeth 35 formed on the upper face thereof, said teeth forming a ratchet to be engaged by a spring-pawl, the ratchet-teeth 35 having their upper faces parallel with the lower faces of the teeth 33.

Pivotally mounted on the shaft 29 and between the idler 32 and gear-wheel 34 is an op-



erating-lever 36, which is provided with an enlarged head 37, said head having its upper and lower face recessed to receive the ratchet-teeth 33 and 35. Secured to the head 37 and  
 5 within the recesses are spring-pawls 38 and 39, which engage the teeth 33 and 35 to operate the wheels 32 and 34.

Secured to the end of the lever 36 is an extension 40, to which the horse is attached.

10 Secured to the upper frame of the cage 20 is a frame provided with arms 41, to the upper ends of which is secured a central piece 42. Swiveled to said central piece 42 is a chain 43, engaging a lever 44, said lever being ful-  
 15 crumed to the support 45, secured to the ring 46. The opposite end of said lever has secured thereto a chain 47 and provided on one end with a hook 48. When it is desired to raise the cage 20 by horse-power, the chain 47  
 20 is passed under the pulley 49 and the horse attached to the hook 48.

A supplemental lever 50 is provided when it is desired to raise the cage 20 by hand, and the cage is held in the raised position by the  
 25 hook 51.

Journalled in the frames of the cage 20 is the shaft 56, on which is secured the intermediate gear-wheel 57, which meshes with the gear-wheel 24 and ratchet-wheel 34.

30 In Fig. 8 I have shown a detail sectional view of the universal connection between frame 1 and the front axle 5, which consists of a bolt 52, secured to the frame 1 and passing through an opening in the band 53. Said  
 35 bolt is held in the band 53 by the head 54.

Said band is secured to a head 55, which is secured to the front axle 5.

Operation: The machine is wheeled into position, and if the ground is uneven the rear wheels are adjusted so that the cage will be  
 40 horizontal. The cage is then lowered, the auger resting on the ground. The lever 40 is then moved back and forth, and through the ratchet-wheels 32 and 34 a continuous rotary motion is imparted to the auger. 45

It will be noted that various changes may be made in the details of construction without departing from the spirit of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Pat-  
 50 ent, is—

In a post-hole digger, a universally-adjustable frame, a cage slidably mounted in said frame, means engaging the cage to raise and lower the same, a shaft terminating at its  
 55 lower end in an auger journaled in said cage, a shaft journaled in the forward end of said cage, a loose gear-wheel provided with ratchet-teeth on its lower face mounted on said shaft, also a ratchet gear-wheel secured to said  
 60 shaft, and a lever carrying spring-pawls engaging said ratchet-wheels whereby a continuous motion is imparted to said auger, substantially as shown and described.

In testimony whereof I affix my signature 65 in presence of two witnesses.

AMMON B. SPIGELMYER.

Witnesses:

W. F. HOWELL,

L. L. HOWELL.