

No. 795,441.

PATENTED JULY 25, 1905.

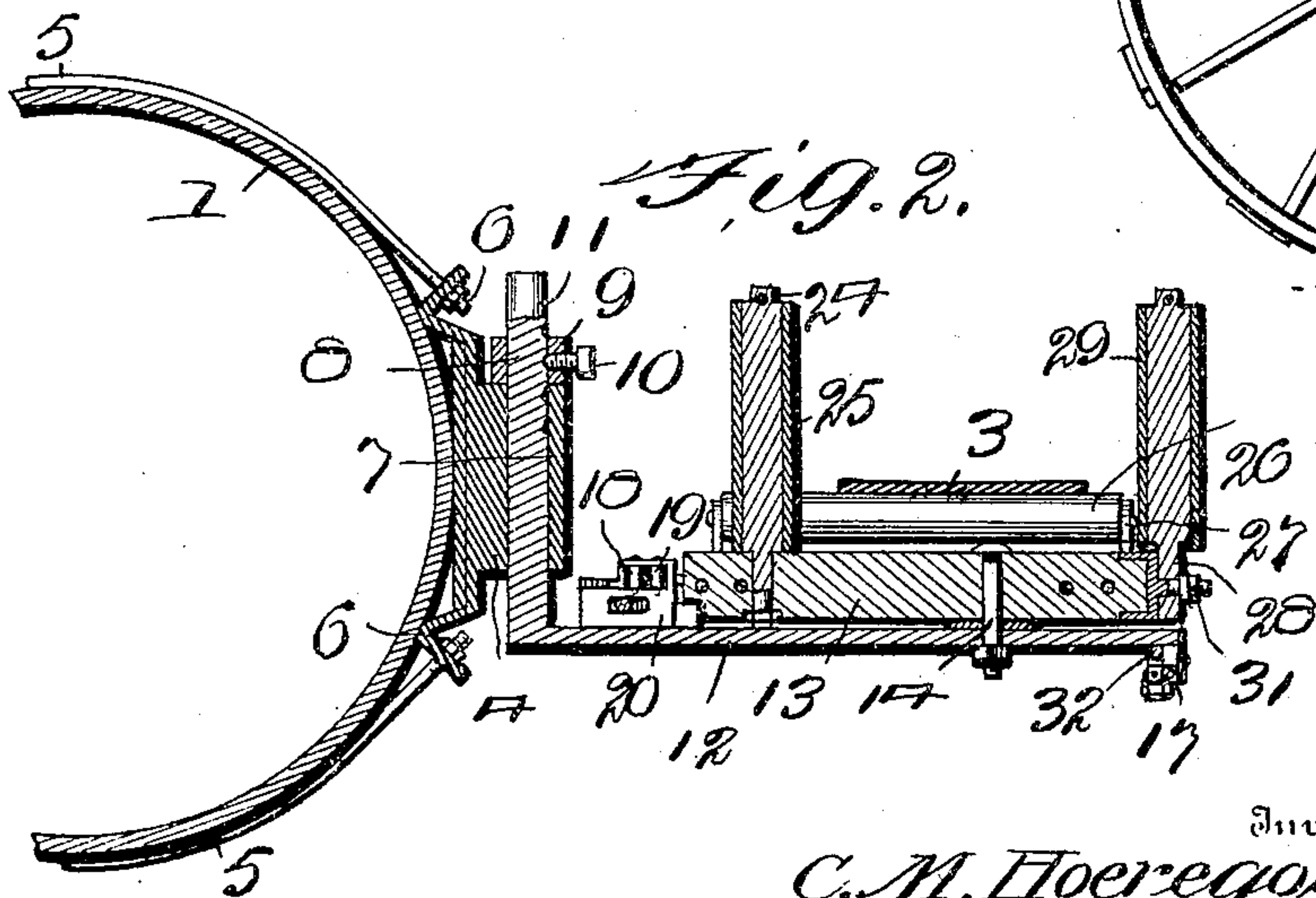
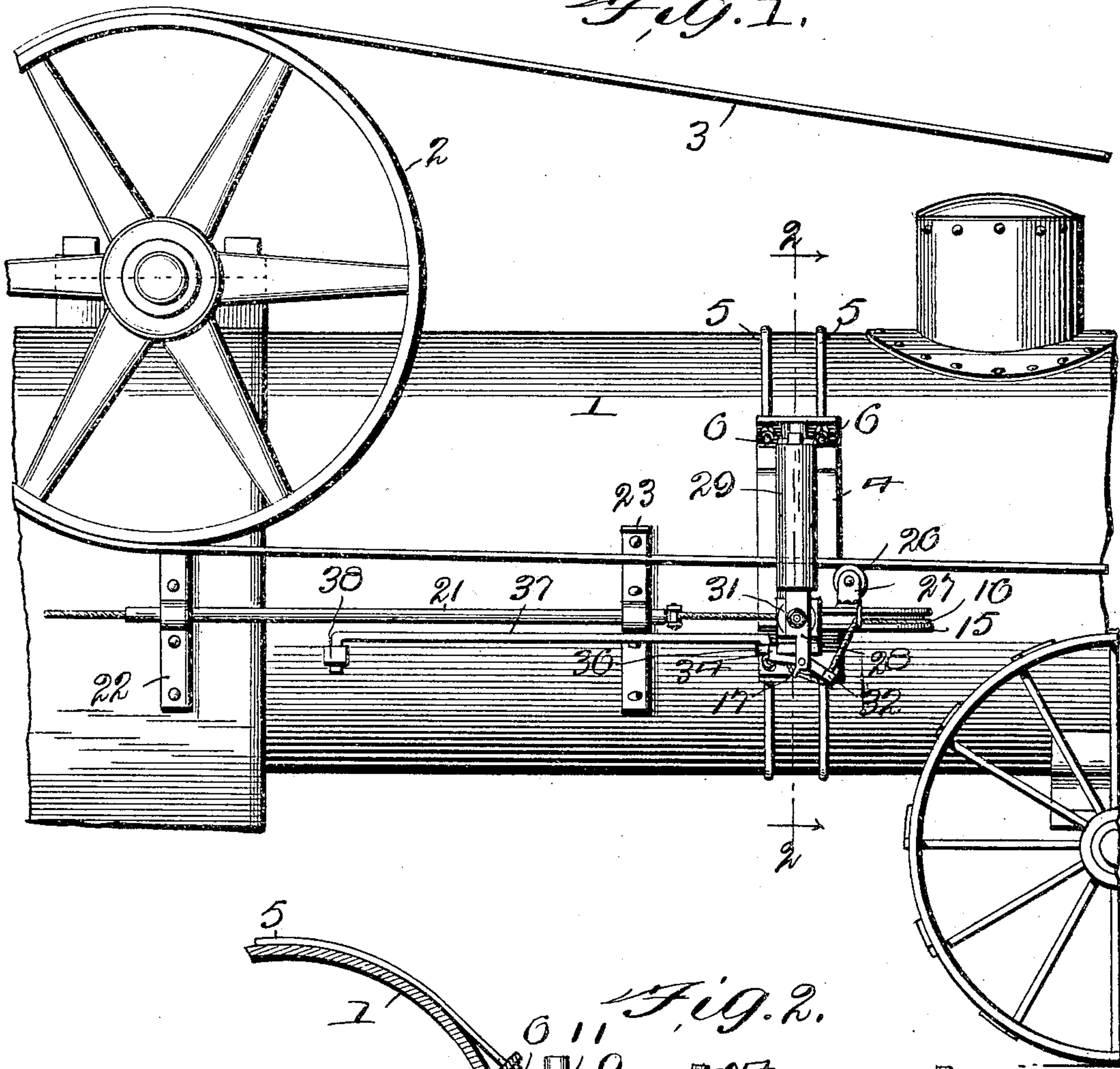
C. M. HOEREGOTT & H. C. EBY.

BELT SHIFTER.

APPLICATION FILED SEPT. 6, 1904.

3 SHEETS—SHEET 1.

*Fig. 1.*



Witnesses

*J. E. Barry,*  
*S. A. Fitzgerald*

Inventors  
*C. M. Hoeregott*  
*and H. C. Eby*  
By *W. J. Fernald & Co.*  
Attorneys

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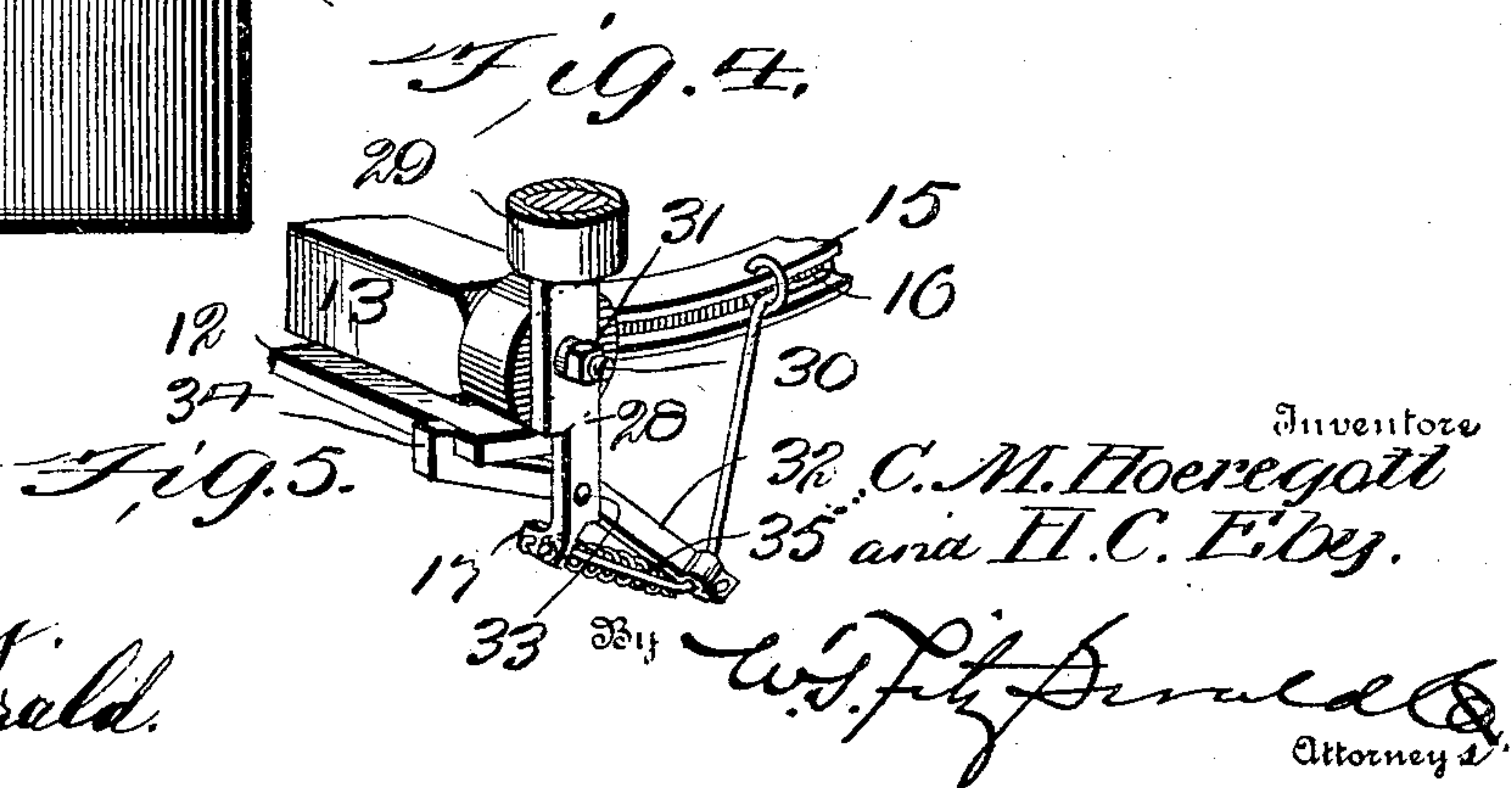
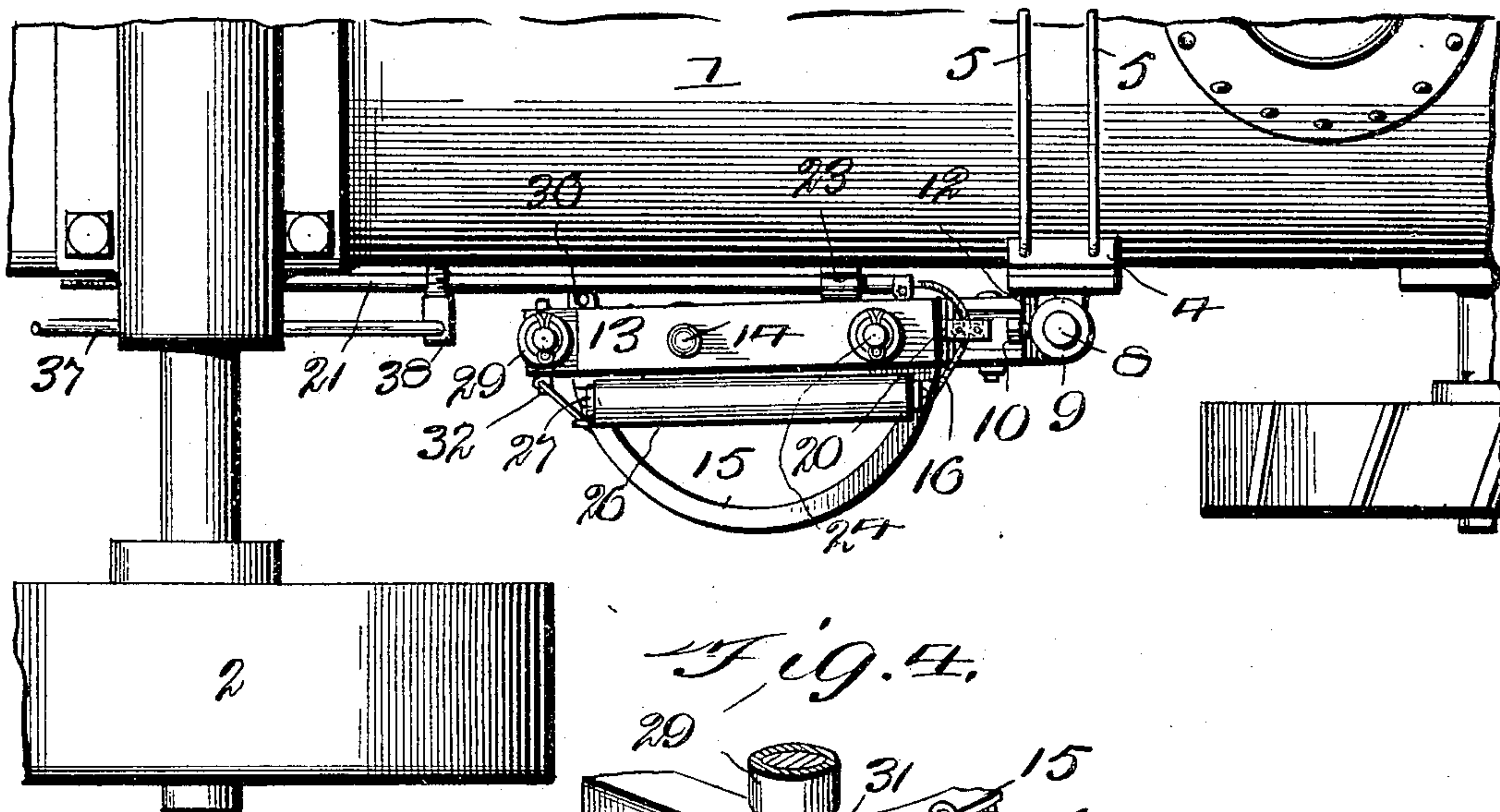
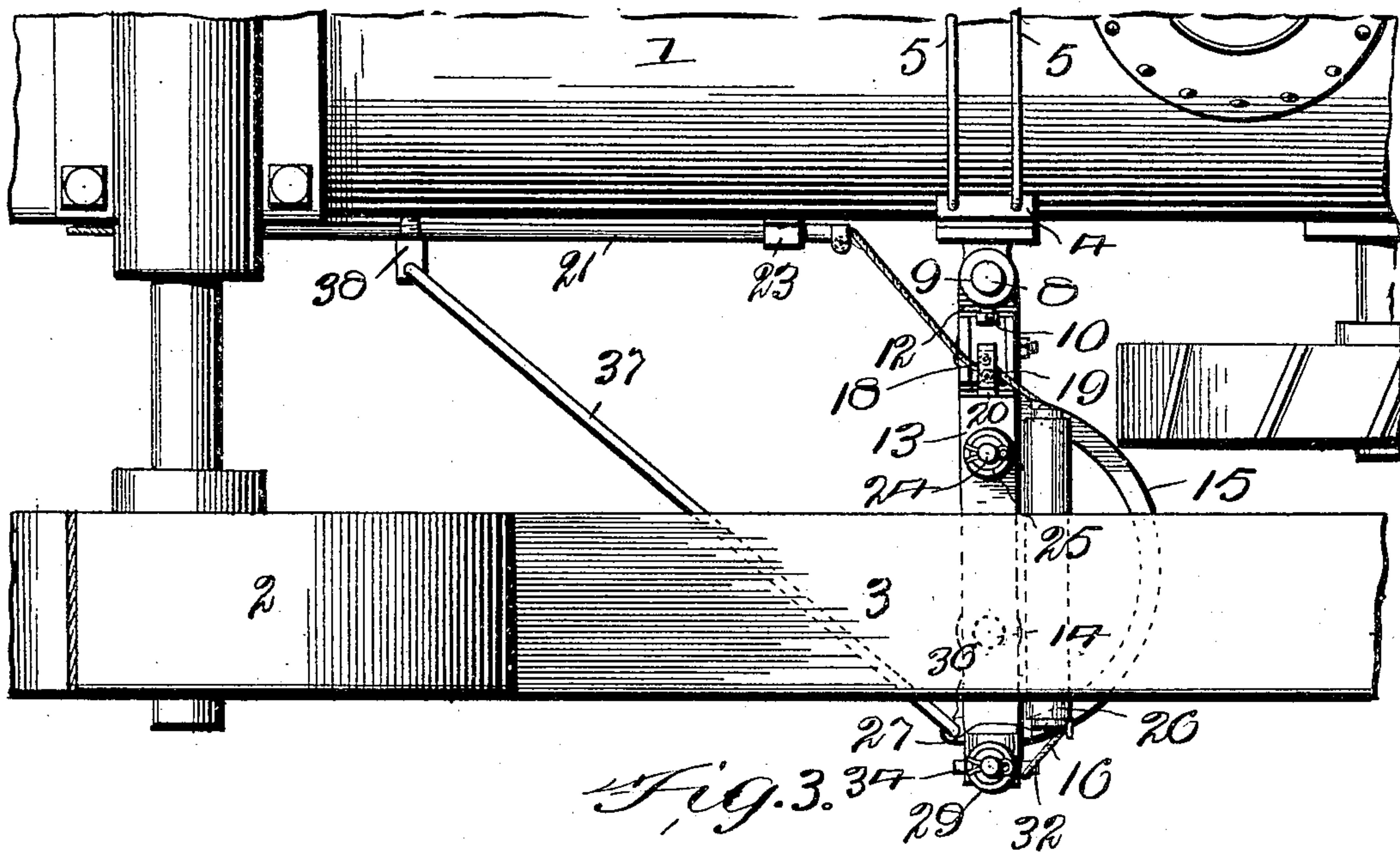
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3 SHEETS—SHEET 2.



Witnesses

J. C. Barry.  
S. W. Fitzgerald.

Inventors

C. M. Hoeregott  
and H. C. Eby.

Attorney



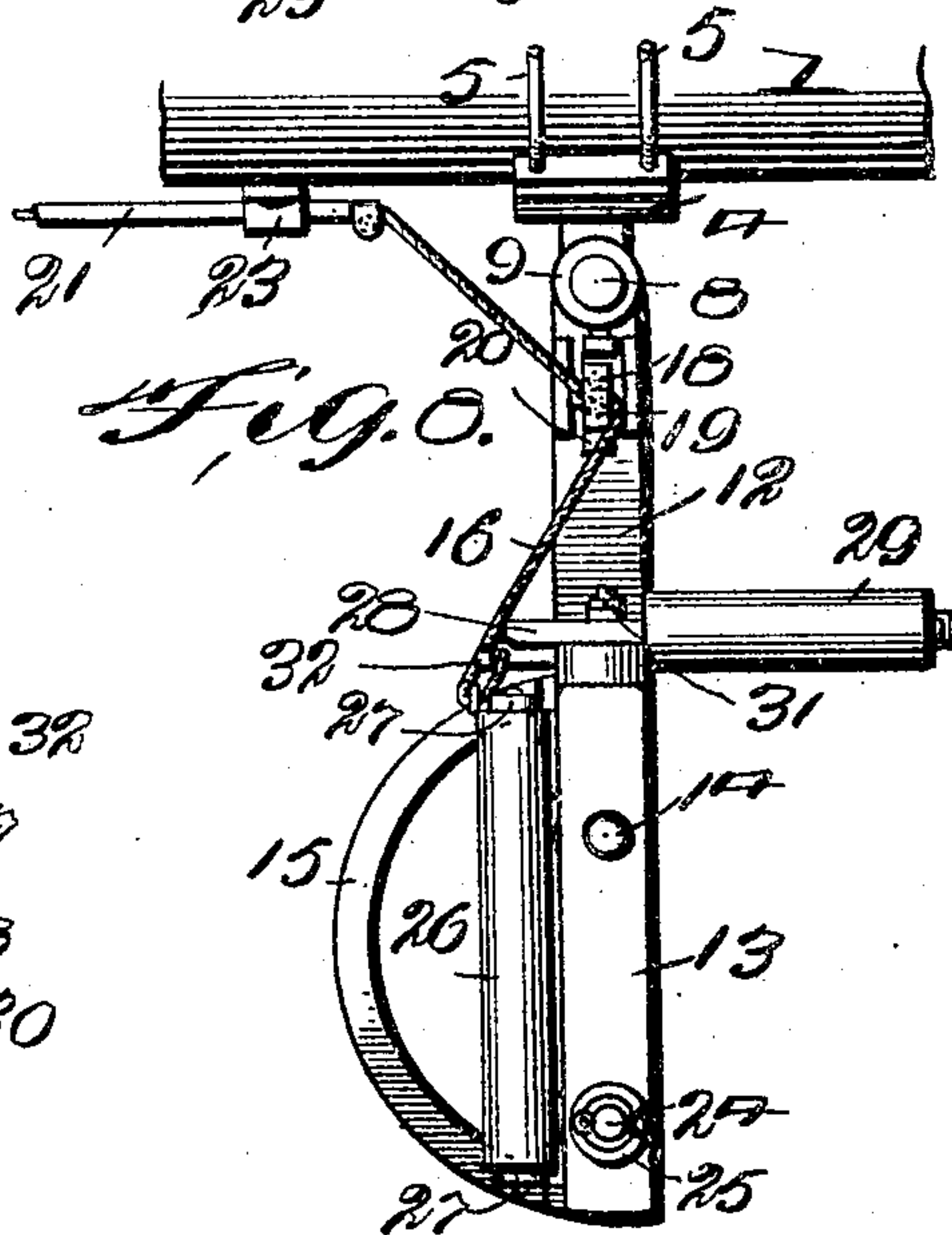
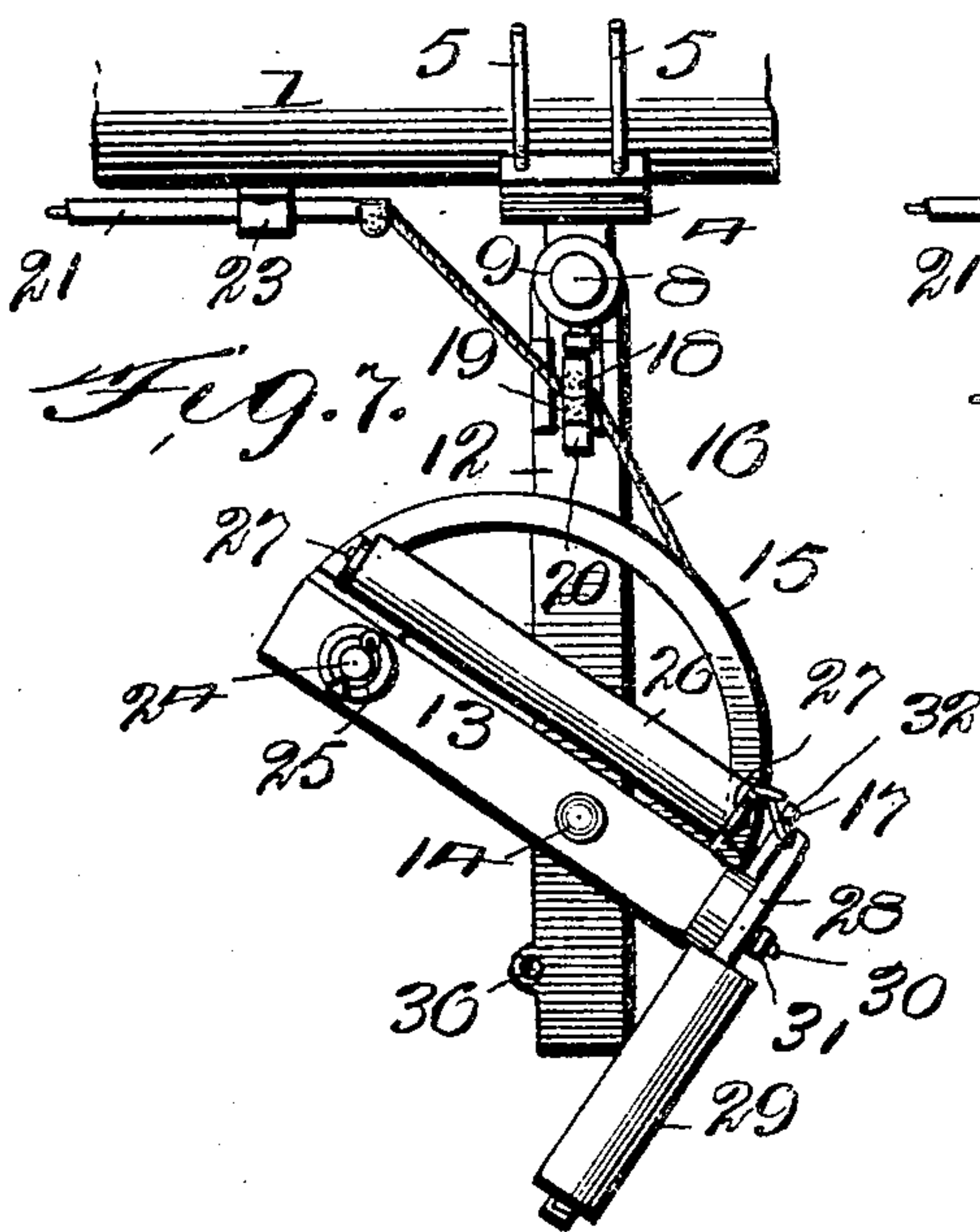
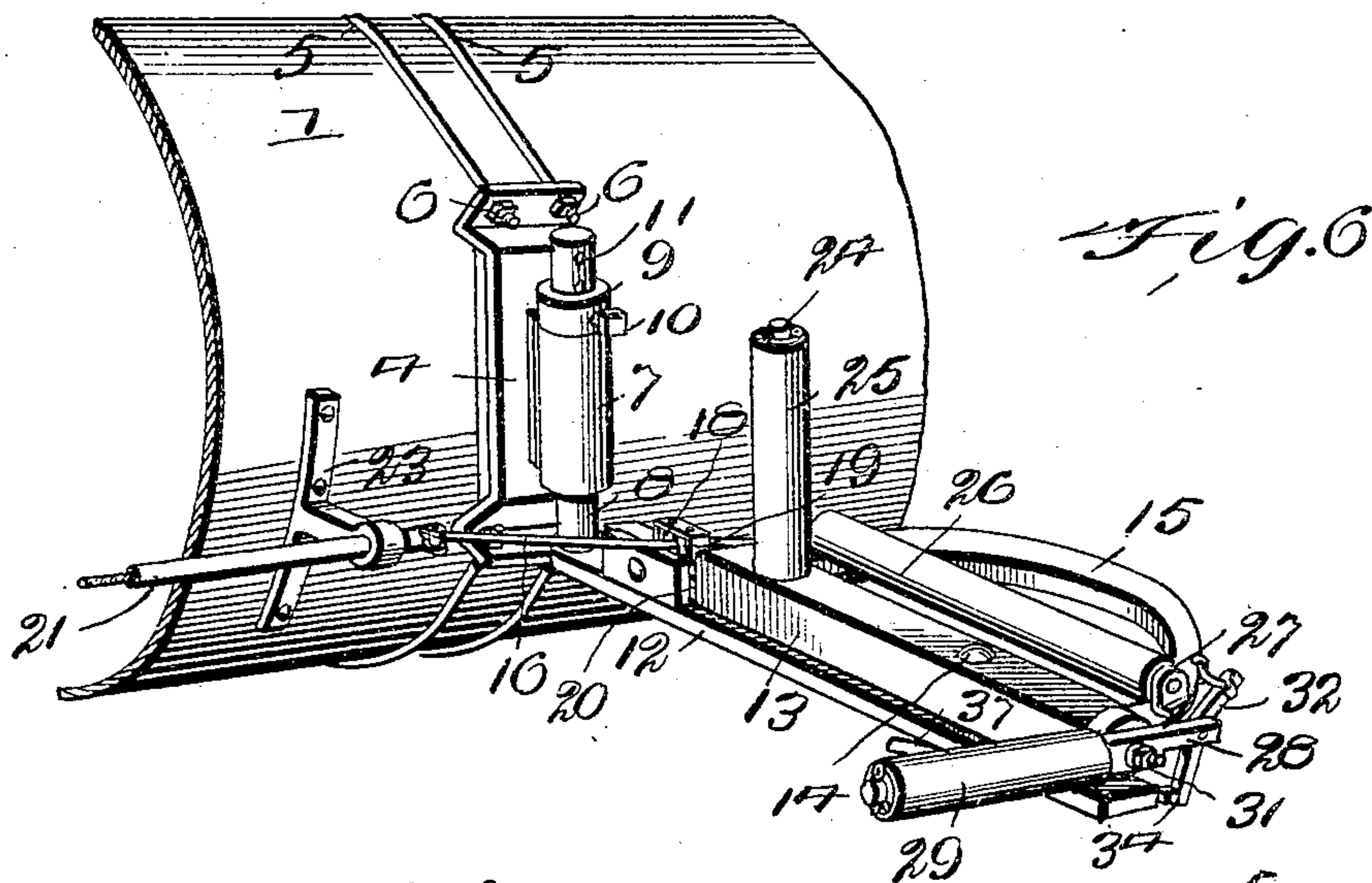
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3 SHEETS—SHEET 3.



Witnesses

*W. E. Barry*  
*S. W. Fitzgerald*

Inventors  
*C. M. Hoeregott and*  
*H. C. Eby*

*W. J. Fitzgerald*

Attorneys



# UNITED STATES PATENT OFFICE.

CARL M. HOEREGOTT AND HENRY C. EBY, OF JOLLEY, IOWA.

## BELT-SHIFTER.

No. 795,441.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed September 6, 1904. Serial No. 223,522.

*To all whom it may concern:*

Be it known that we, CARL M. HOEREGOTT and HENRY C. EBY, citizens of the United States, residing at Jolley, in the county of Calhoun and State of Iowa, have invented certain new and useful Improvements in Belt-Shifters; 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 a belt-shifting attachment which will be found useful for a great variety of purposes, though especially desirable and important for use upon traction-engines and other motors where a belt-wheel is employed and where it becomes desirable and important to disengage the belt from the drive-wheel; and our invention consists of certain novel features of combination and construction of parts, as will be hereinafter pointed out in the claims.

The main object of our invention, among others, is to provide a belt-shifter which may be relied upon to promptly disengage the belting from the driving-wheel of the engine while the latter is in its operative position or while the belting is being rapidly driven in the actuation of the threshing-machine or other appliance with which the engine is placed in coöperation.

A further object of our invention is to provide an attachment of the character specified which may be readily disposed out of the way when not required for use, as when the engine is being drawn from place to place.

Other objects and advantages will be fully brought out in the following specification, reference being had to the accompanying drawings, which are made a part of this application, and in which—

Figure 1 shows a side elevation of our invention complete ready for use. Fig. 2 is a sectional view of Fig. 1 on line 2 2. Fig. 3 is a top plan view of our invention as applied to use, showing it in place to coöperate with the driving-belt. Fig. 4 is a similar view to that presented in Fig. 3, excepting that our belt-shifter is disposed in a folded or stored position, as when the engine is moved from place to place. Fig. 5 is a perspective detail view of a portion of our belt-shifter. Fig. 6 is a perspective detail view of our belt-shifting appliance complete ready for use. Fig. 7 is a top plan view of our belt-shifter after it has been moved around to disengage the belt from

the driving-wheel. Fig. 8 is a top plan view of our belt-shifting appliance in a reversed position from that shown in Fig. 6.

It may be briefly stated that our invention consists, essentially, in a plurality of rollers or rotatable members disposed in such position that one of said members will support the driving-belt in its operative position, while the others will be located and moved to cause the belt to be pushed off the wheel when certain parts of our attachment are drawn upon by the operator.

Referring to the numerals on the drawings, which will be employed to designate the salient features of our invention and accessories deemed necessary to illustrate a practical application thereof to use, 1 indicates the boiler of a locomotive of the usual or any preferred construction, while 2 designates the drive-wheel, around which is disposed the belting 3, all of the usual or any desired construction, said belting being placed in coöperation with the wheel upon the cylinder of the threshing-machine or other mechanism to be driven by the engine.

It becomes desirable to throw off the belting 3 from engagement with the drive-wheel 2, this being necessary at various times, as when quitting work and also in case of any accident to the threshing-machine or other machinery driven, when it becomes important that such driving mechanism shall be immediately stopped from further movement. With the object, therefore, of instantly disengaging the belting from the drive-wheel 2 we call attention to the mechanism illustrated in Fig. 6 and other views, wherein it will be observed that we have provided an anchoring-bracket 4, held in engagement upon the side of the boiler 1, as by the band or bands 5 passing around the boiler and extending through apertures in the end of the bracket, where said ends are secured by suitable nuts 6 or the equivalent thereof. The bracket 4 is provided with an outward extension or socket 7, in which is disposed the vertical post 8, intended to be partially rotated in said socket, said post 8 being held in position in the socket by the collar 9 and the locking set-screw 10, it being understood that said collar may be readily adjusted upon the upper end of the post 8, as by entering the end of the set-screw in one of the countersinks or recesses 11. To the lower end of the post 8 we rigidly secure the outwardly-extending arm 12, upon which our belt-shifter proper is mounted, as will be hereinafter set



forth. Upon the upper side of the arm 12 is pivotally mounted the body portion 13 of our belt-shifter, as by means of the bolt or pivot-point 14, said body portion having upon its forward side the curved flange 15, which has a groove in its outer edge, in which is seated the controlling cable or rope 16, the extreme end of the rope being attached to the outer end of the member 15, as by means of the extension 17, hereinafter specifically referred to.

The cable 16 is passed between the guiding pulleys or rollers 18 and 19, (more clearly shown in Fig. 2,) said rollers being mounted upon a spring-controlled arm or latch 20, said latch being slidably mounted upon the arm 12 and the inner end thereof adapted to enter a slot in the end of the body portion 13, whereby said body portion will be held stationary while in its operative position. The cable 16 is thence extended through the tubular member 21, secured to the side of the boiler, as by the brackets 22 and 23, the free end of the cable being thus disposed in easy reach of the engineer or attendant. It follows, therefore, that a pull upon the cable 16 will withdraw the latch 20 from the slot and move the body portion 13 upon the pivot-point 14, and thereby swing the curved extension 15 around upon the opposite side of the arm 12, this movement being illustrated in Figs. 7 and 8 of the drawings.

The body portion 13 has upon its inner end and upon its upper side the vertically-disposed post 24, upon which is rotatably disposed the roller 25, and said body portion also carries the horizontally-disposed roller 26, mounted in suitable bearing seats or brackets 27, the office of the roller 26 being to receive the weight of the belting and prevent the same from dropping down upon the body portion 13 and causing undue wear thereto. Upon the outer end of the body portion 13 we attach the normally upwardly extending arm 28, upon the upper end of which is rotatably mounted the guiding-roller 29. The arm or post 28 is so mounted that it may be disposed in a horizontal plane or left normally standing when in its operative position or when the engine is being driven. We therefore call attention to Fig. 5 of the drawings, wherein it will be observed that the arm is pivotally mounted upon the extension or trunnion 30 and held in place thereon by the nut 31. The cable 16 before it is attached to the extension 17 is passed loosely through the aperture in the arm 32, which latter, it will be observed, is pivoted to the lower end of the arm 28, as indicated by the numeral 33, the opposite end of the arm 32 being provided with a hook-like terminal 34 to engage the edge of the arm or bracket 12. The hook-like extension 34 is held normally upward or in engagement with the edge of the arm 12 by means of the spring 35, disposed between the extension 17 and the end of the

arm 32. It therefore follows that a pull upon the cable 16 will disengage the hook 34 from the arm 12 and will incidentally result in inclining the roller 29 rearwardly, so that it will occupy a horizontal position, a further pull upon the cable resulting in swinging the body portion 13 around upon its pivot-point, so that said roller 29 will be carried to the inner end of the arm 12, while the roller 25 will be simultaneously forced against the edge of the running belt and force the same off of the driving-wheel, as will be clearly obvious. After the belting has been thus disengaged from the driving-wheel the machinery driven thereby will of course come to a stop, thus more promptly attaining this result than would be possible by merely stopping the engine, inasmuch as the impetus of the driving-wheel would continue the driving operation for some little time after the throttle-valve had been closed.

In Fig. 7 it will be observed that the outer end of the arm 12 is provided with a laterally-extending apertured ear 36, in which the end of a stay-rod 37 may be detachably secured, the other end of the stay-rod 37 being carried by the bracket 38 or equivalent device upon the side of the boiler. It therefore follows that by reason of the rotatable post 8 disposed in the socket 7 the said arm and all parts carried thereby may be readily moved around in close contact with the side of the boiler, and thereby disposed entirely out of the way, a valuable and important desideratum.

It will thus be observed that we have provided thoroughly efficient means for accomplishing the purpose of disengaging the belt from the drive-wheel, whereby the machinery driven may be very quickly stopped, and obviously the various parts of our invention may be cheaply and expeditiously manufactured and readily assembled each in its respective place.

While we have described the preferred combination and construction of parts, we wish to comprehend all substantial equivalents as may be regarded as coming within the purview of our invention.

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

1. The herein-described belt-shifter comprising the combination with the driving-wheel and belt thereon, of an arm attached to the side of the boiler; an oscillating member mounted upon said arm and carrying a pair of rollers, one for each side of the belt and means to disengage said oscillating member whereby it will be caused to oscillate and force the inner roller into sharp engagement with the belt and insure that the same will be moved off of the driving-wheel and means to dispose said arm and parts carried thereby parallel



with the boiler of the engine and out of the path of the belt substantially as specified and for the purpose set forth.

2. In a belt-shifter, the combination with a driving-wheel and belt thereon, of an arm attached to the side of the boiler, an oscillating member secured to said arm, said oscillating member having a grooved semicircular flange upon one edge thereof, a roller mounted at each end of said oscillating member, a post 24 to carry the roller upon the inner end of said oscillating member, an arm 28 adapted to carry the roller at the outer end of said member, means to lock said arm in its vertical position, a cable disposed in the groove in said semicircular flange, the outer end of said cable being secured to said locking mechanism whereby, when a pull is given said cable, said locking mechanism will be released and the roller carried thereby disposed out of the path of the belt, and means at the opposite end of said oscillating member adapted to engage and hold said member in its operative position, said means being controlled by said cable, substantially as set forth.

3. In a belt-shifter, an arm having an oscil-

lating member secured thereto, an anchoring-bracket having a socket thereon, means to secure said bracket to the boiler of the engine, a post secured to the extreme inner end of said arm adapted to enter said socket, a collar surrounding the upper end of said post and a set-screw adapted to secure said collar to said post, a stay-rod, one end of which is secured to the boiler by means of a bracket, the opposite end being removably secured to said arm whereby said arm will be normally held in its operative position, said post being rotatably mounted in said socket whereby, when the stay-rod is removed, said arm and parts carried thereby may swing out of the path of the belt, all combined substantially as set forth.

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

CARL M. HOEREGOTT.  
HENRY C. EBY.

Witnesses:

J. K. THOMPSON,  
H. MORNITZER.