

No. 855,434.

PATENTED MAY 28, 1907.

W. D. McATLIN.

HORSE POWER.

APPLICATION FILED APR. 13, 1906.

2 SHEETS—SHEET 1.

FIG. 1.

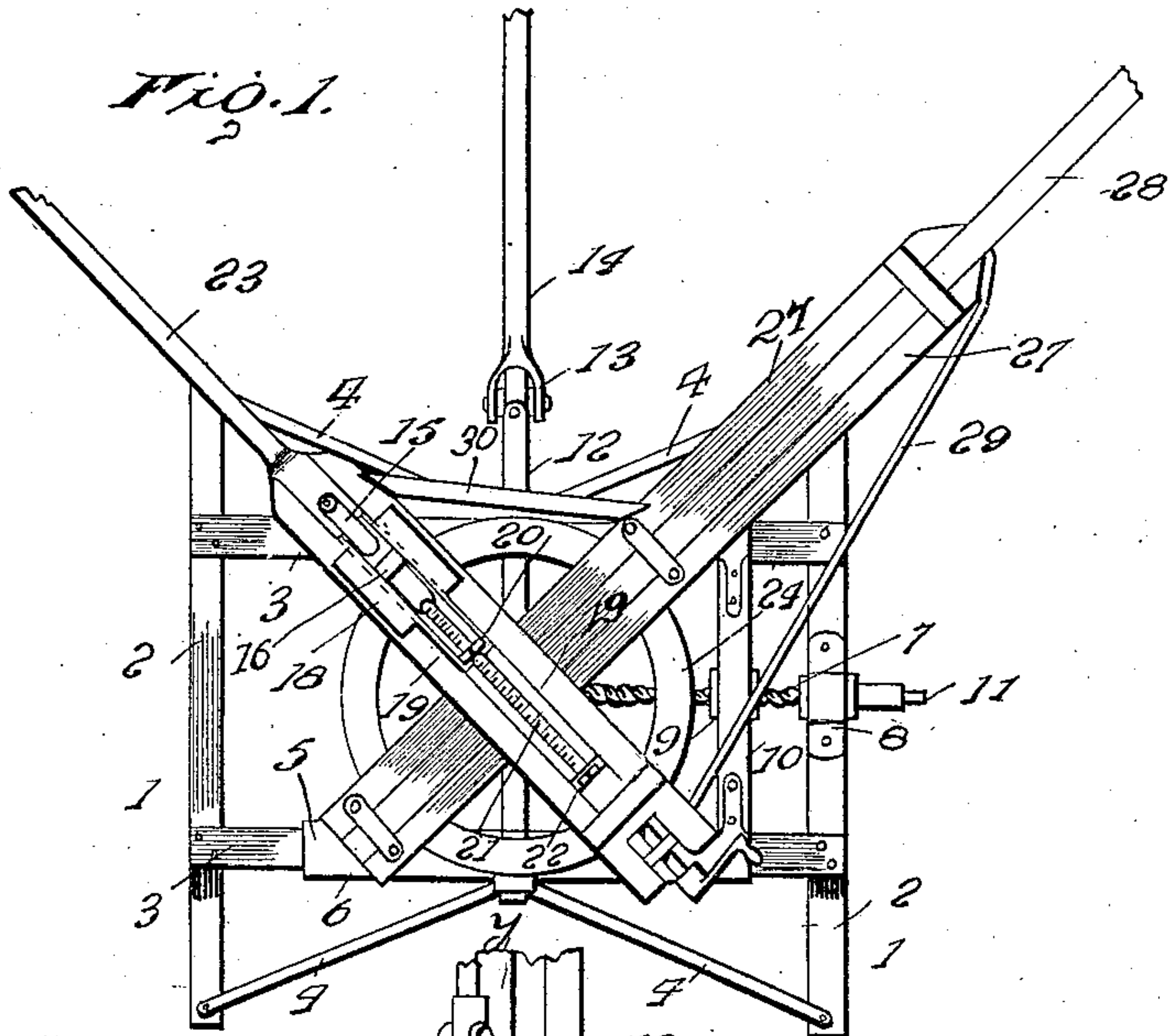


FIG. 2.

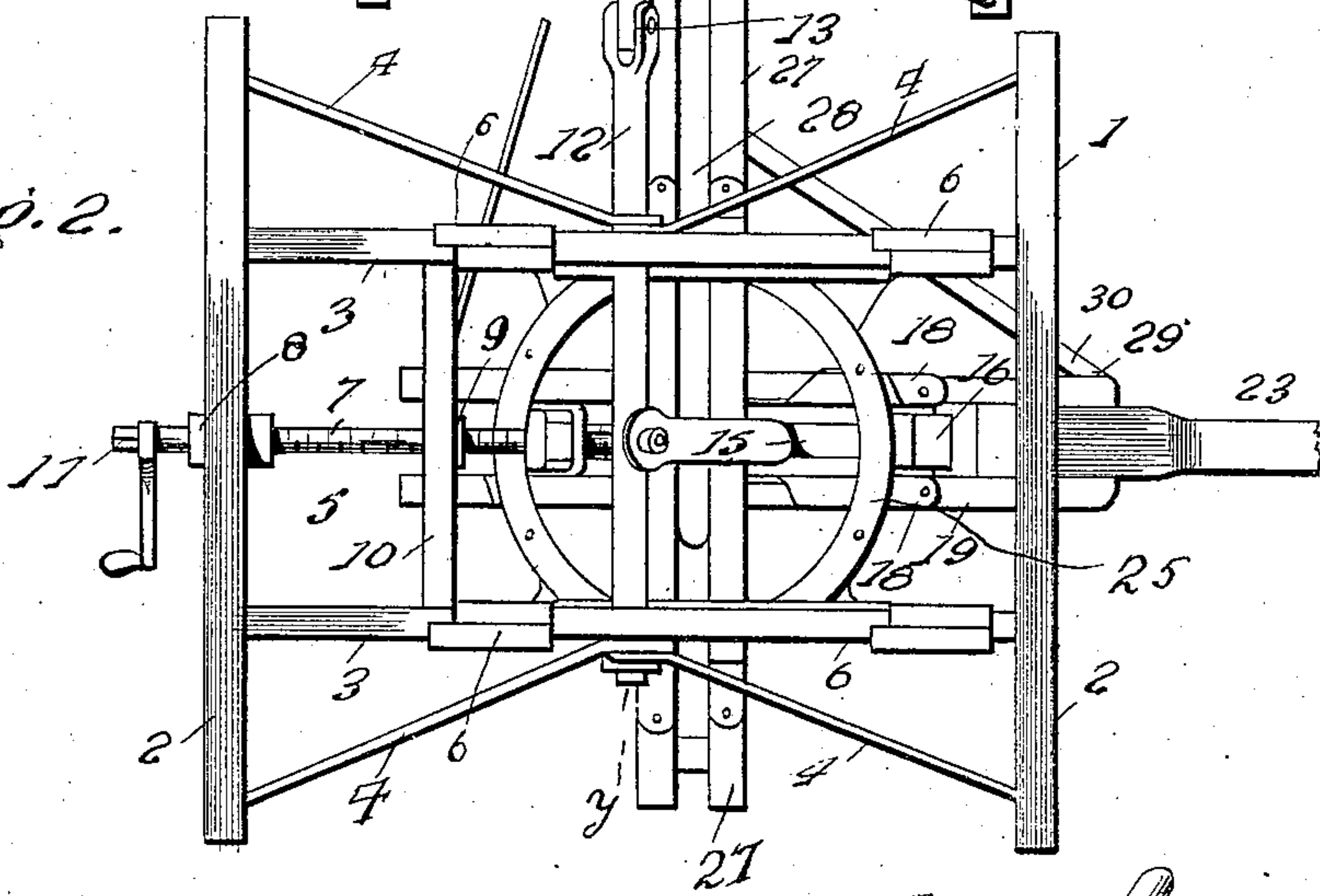
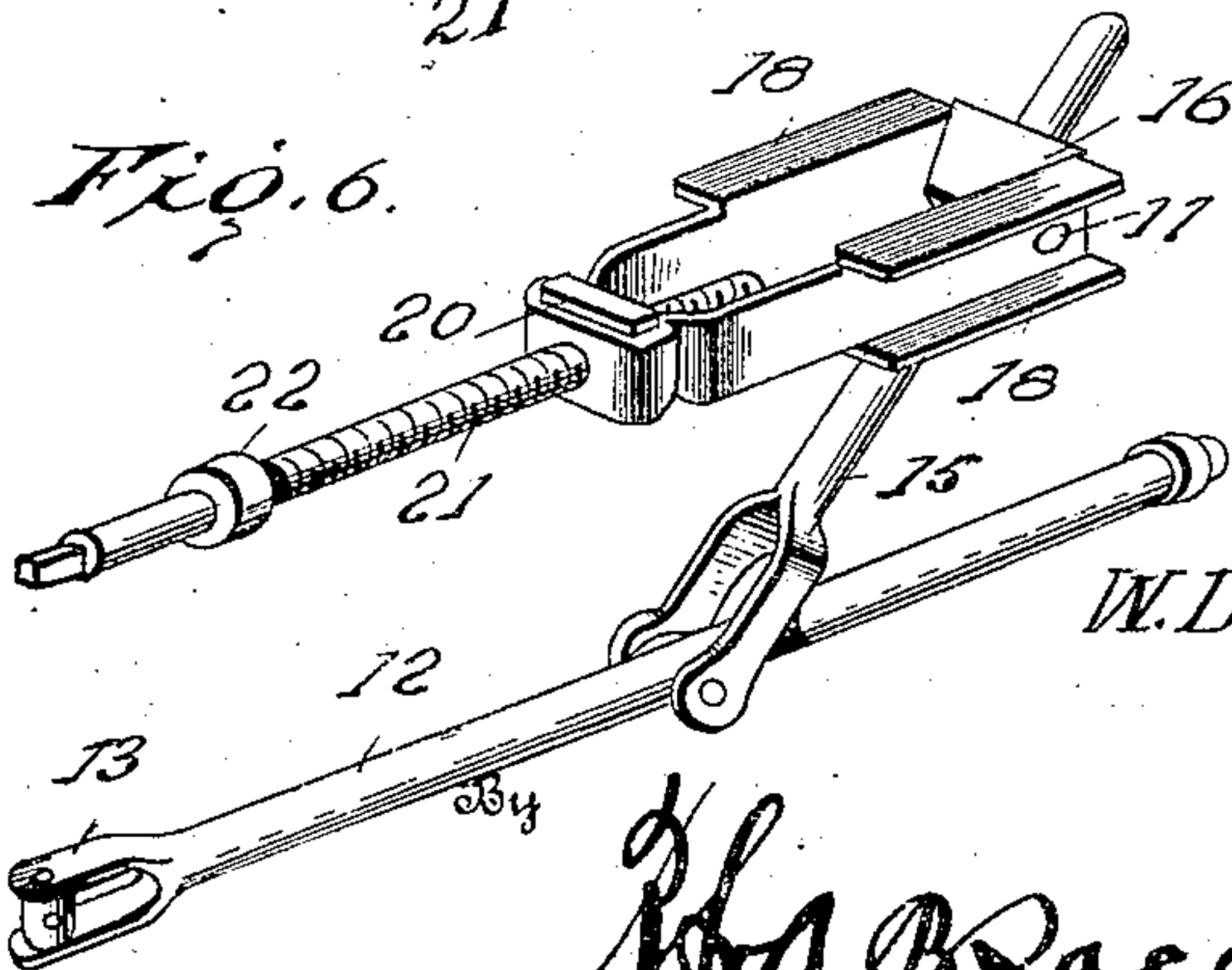


FIG. 6.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

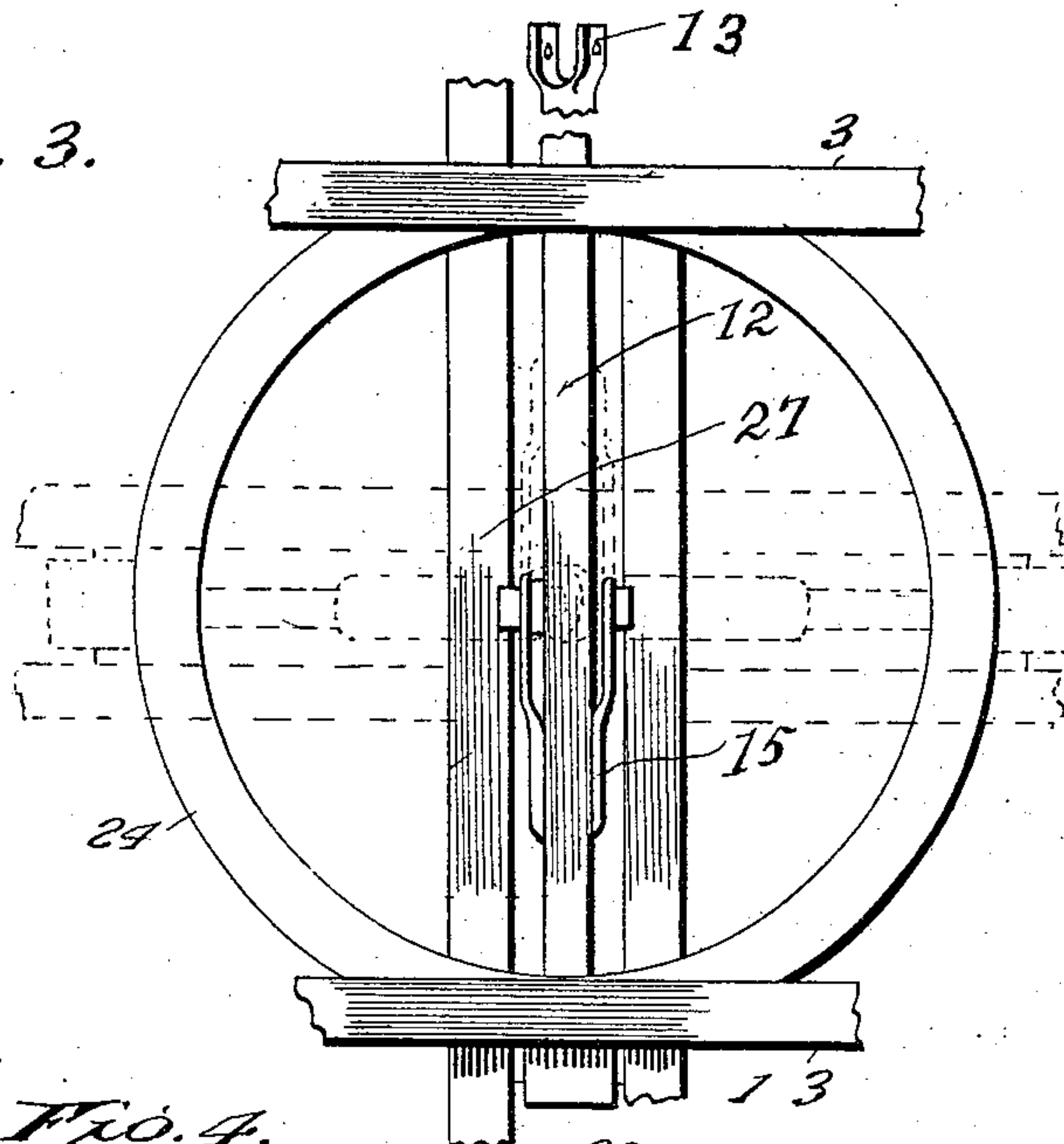


Fig. 4.

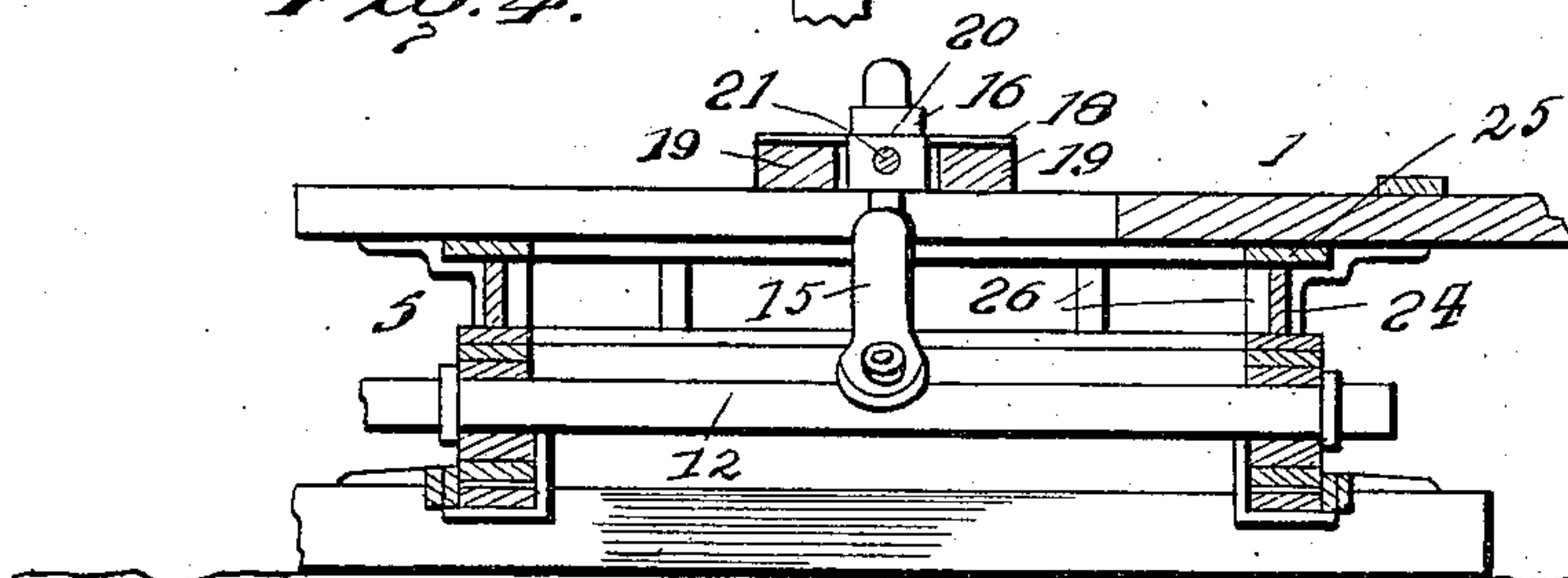
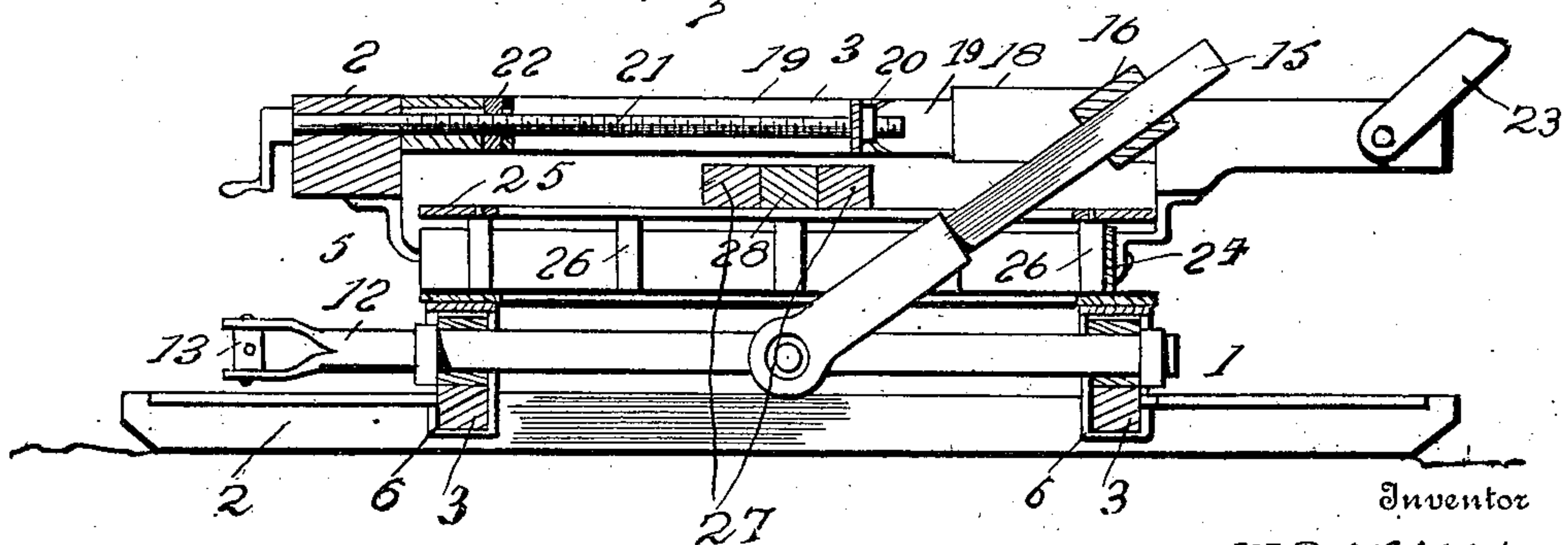


Fig. 5.



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WILLIAM D. McATLIN, OF SIOUX FALLS, SOUTH DAKOTA.

HORSE-POWER.

No. 855,434.

Specification of Letters Patent.

Patented May 28, 1907.

Original application filed January 27, 1906, Serial No. 298,219. Divided and this application filed April 13, 1906.
Serial No. 311,570.

To all whom it may concern:

Be it known that I, WILLIAM D. McATLIN, a citizen of the United States, residing in the city of Sioux Falls, county of Minnehaha, and State of South Dakota, have invented certain new and useful Improvements in Horse-Powers, of which the following is a specification.

This invention contemplates certain new and useful improvements in horse powers and is a divisional application of my application Serial No. 298,219, filed January 27, 1906.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a top plan view of my improved horse power mechanism. Fig. 2 is a bottom plan view thereof. Fig. 3 is a bottom view in diagram of the same, showing in dotted lines the movement of the tumbling rod. Fig. 4 is a transverse sectional view on the line Y—Y of Fig. 2, but with parts in upright position. Fig. 5 is a transverse central sectional view of the said mechanism. Fig. 6 is a detail perspective view of the tumbling rod and its adjustable mounting.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Upon the frame work 1 consisting of side bars or sled runners 2, connected to cross bars 3 by diagonal members 4, there is mounted a carriage 5. The carriage 5 is mounted to slide back and forth on the frame work 1, and in the present instance the means whereby this movement is provided comprises sleeves 6 that encircle and are slidably mounted upon the cross bars 3. To effect the movement or actuation of the carriage, I have provided a screw rod 7 mounted to turn in a suitable bearing 8 on one of the side bars 2 and held from longitudinal movement thereon, the said screw rod working through the correspondingly formed bearing 9 in a cross bar 10 of the carriage. By means of a spanner or some similar tool applied to the polygonal nut 11 of the screw rod, the latter may be turned so as to move the carriage in one direction or another upon the frame work 1. A tumbling rod 12 is connected by universal

joints 13 to the shaft 14 or similar part that it is designed to rock. The tongue 15 of the tumbling rod 12 is preferably bifurcated at one end to partially encircle the tumbling the and is pivotally connected thereto so that it may be rocked from side to side. The said tongue 15 is provided at its other end with a boxing 16 in which it is mounted to freely turn both axially and longitudinally.

The boxing 16 is provided at its sides with trunnions 17 which are pivotally mounted in a sliding cross head 18. The cross head 18 is mounted in and between guide bars 19 and is susceptible to movement thereon, and it is formed at one end with a transverse bearing 20 in which a threaded adjusting rod 21 is mounted. The rod 21 is also mounted with a swiveled connection in a bearing 22 secured to the bars 19 near one end of the latter. Near the opposite end of the bars 19 there is pivotally mounted a lead pole 23 mounted to be swung in a vertical plane so that it may extend out horizontally or be swung up into a vertical position out of the way. The guide bars 19 are rigidly secured to a ring 24 which is mounted to rotate upon an annulus 25 supported on the carriage 5 and positioned horizontally.

Preferably anti-friction devices such as balls or rollers 26 are interposed between the annulus 25 and the ring 24 so that the latter may turn freely around the former. Also rigidly secured to the ring 24 are spaced apart beams 27 between which a draft tongue 28 is mounted to slide longitudinally so that it may be extended more or less. The horse or horses are attached to the tongue 28 and also to the lead pole 23. Braces 29 and 30 are secured respectively to the beams 27 and the beams 19 so as to render the parts rigid.

When the horse power mechanism is coupled to a hay stacker such as is embodied in my application for Letters Patent before referred to, or to any other part to be actuated, it is evident that the tongue of the tumbling rod will turn the shaft 14 in one direction, through one-half the revolution or turning movement of the horse power and will then turn the said shaft backward during the remaining half of said movement. By this means as the horse moves around the frame work 1, the shaft 14 or other part to be turned back and forth will be actuated to accomplish the desired movement.

It is to be particularly noted that the car-

riage 5 may be moved to different positions along the supporting frame work 1 so as to shift the carriage to compensate for the position of the shaft 14. It is also to be understood that the cross head for the tongue of the tumbling rod may be shifted or adjusted to different positions so as to vary the pitch of the tumbling rod, and consequently also the pitch or throw of the shaft 14 in its back and forth rocking movement.

While I have hereinbefore designated this invention as a horse power and have shown it provided with the lead pole and tongue 23 and 28 it is manifest that my invention is not limited to a horse power solely, but is broadly applicable to any use where it is desired to rock a shaft back and forth and to impart an oscillating, vibratory, or back and forth or reversing movement, to a part to be actuated.

Having thus described the invention, what is claimed as new is:

1. The combination of a supporting frame work and a tumbling rod mounted therein, means for actuating said tumbling rod, a carriage supporting said actuating means, and slidably mounted on said frame work, and a screw rod connected to said frame work and to said carriage and adapted to adjust the latter with respect to the frame work.

2. The combination of a support, a tumbling rod mounted in said support, a tongue pivotally connected to said rod, a rotatable part provided with a boxing in which said tongue is mounted to turn longitudinally and axially, a cross head mounted in said part and carrying said boxing, and an adjusting rod secured to said cross head.

3. The combination of a frame work, a tumbling rod mounted therein, a gyrating tongue pivotally connected at one end to said rod, a rotatable support designed to gyrate said tongue, a cross head mounted to slide in said support, the tongue being mounted to turn axially and move longitudinally in the cross head, and means for adjustably sliding said cross head in the support.

4. The combination of a frame work, a tumbling rod mounted therein, a gyrating tongue pivotally connected at one end to said rod, a rotatable support consisting of

spaced apart bars, a cross head mounted to slide longitudinally between said bars, a boxing pivotally mounted in said cross head, the tongue being mounted to move axially and longitudinally in the boxing, and an adjusting rod mounted in the support for the cross head and having an adjustable connection with the said cross head, as and for the purpose set forth.

5. The combination of a frame work, a tumbling rod mounted therein, a gyrating tongue pivotally connected at one end to said rod, a rotatable support consisting of spaced apart bars, a cross head mounted to slide longitudinally between said bars, a boxing pivotally mounted in said cross head, the tongue being mounted to move axially and longitudinally in the boxing, and an adjusting rod mounted in the support for the cross head and having a threaded connection with a bearing in said cross head, whereby the rotation of said rod will move the cross head within its support.

6. A cross bar, comprising a supporting frame work, a carriage adjustably mounted on said frame work, means for adjusting the carriage to different positions along the frame work, an annulus supported on said carriage, a tumbling rod journaled in the frame work below said annulus, a ring mounted to turn around said annulus, a draft tongue secured to the carriage by said ring, spaced apart bars 19 disposed at an angle to the tongue and also carried by said ring, a gyrating tongue secured at its lower end to the tumbling rod and extending up through the spaced apart bars, a cross head mounted to slide between said bars, a pivoted boxing carried by said cross head and through which the tongue of the tumbling rod extends and has both axial and longitudinal movement, and an adjusting rod supported between said bars and having an adjustable connection with the cross head, as and for the purpose set forth.

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

WILLIAM D. McATLIN.

Witnesses:

D. C. HAGUE,
C. M. BORRON.