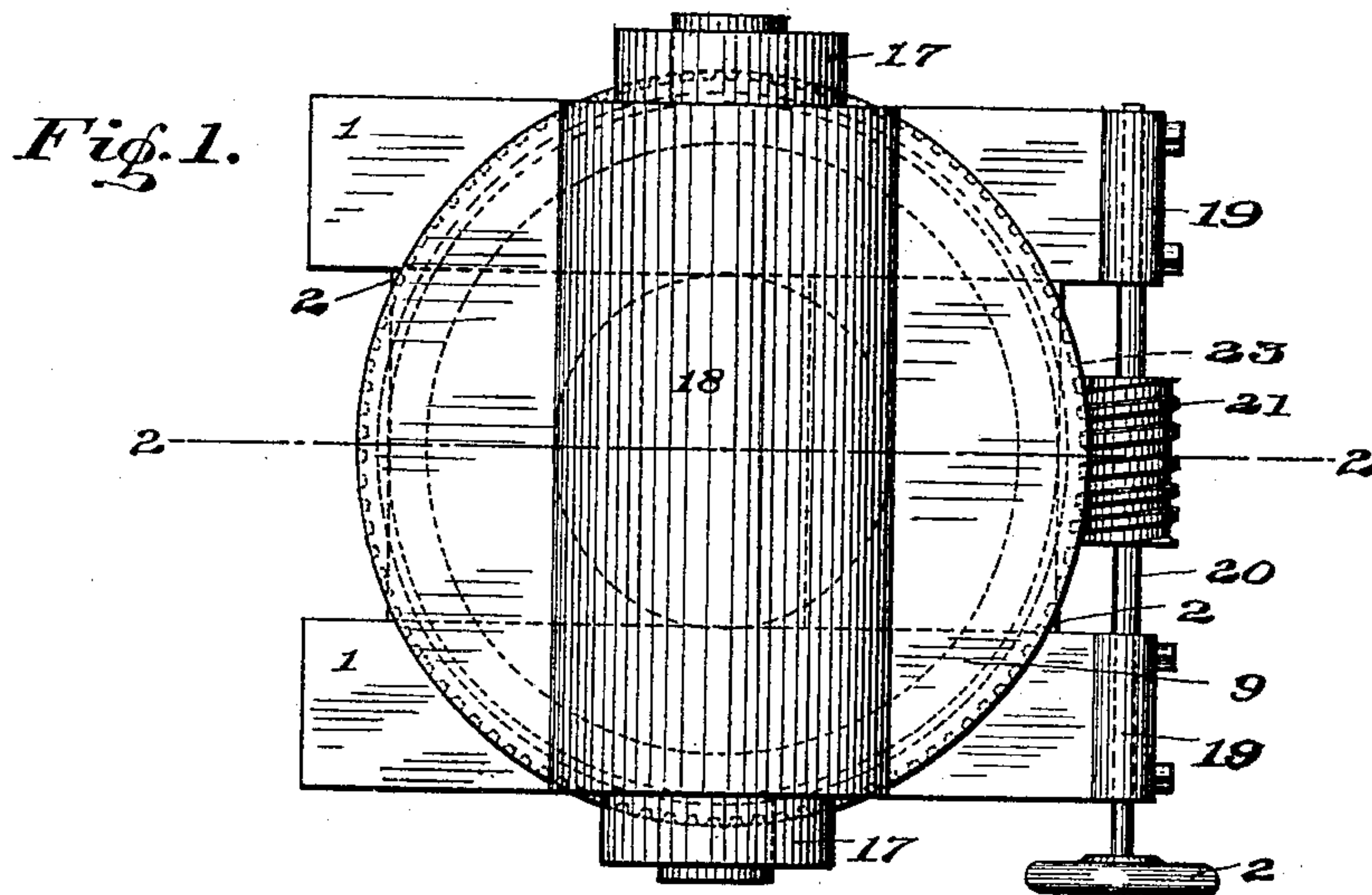


No. 814,105.

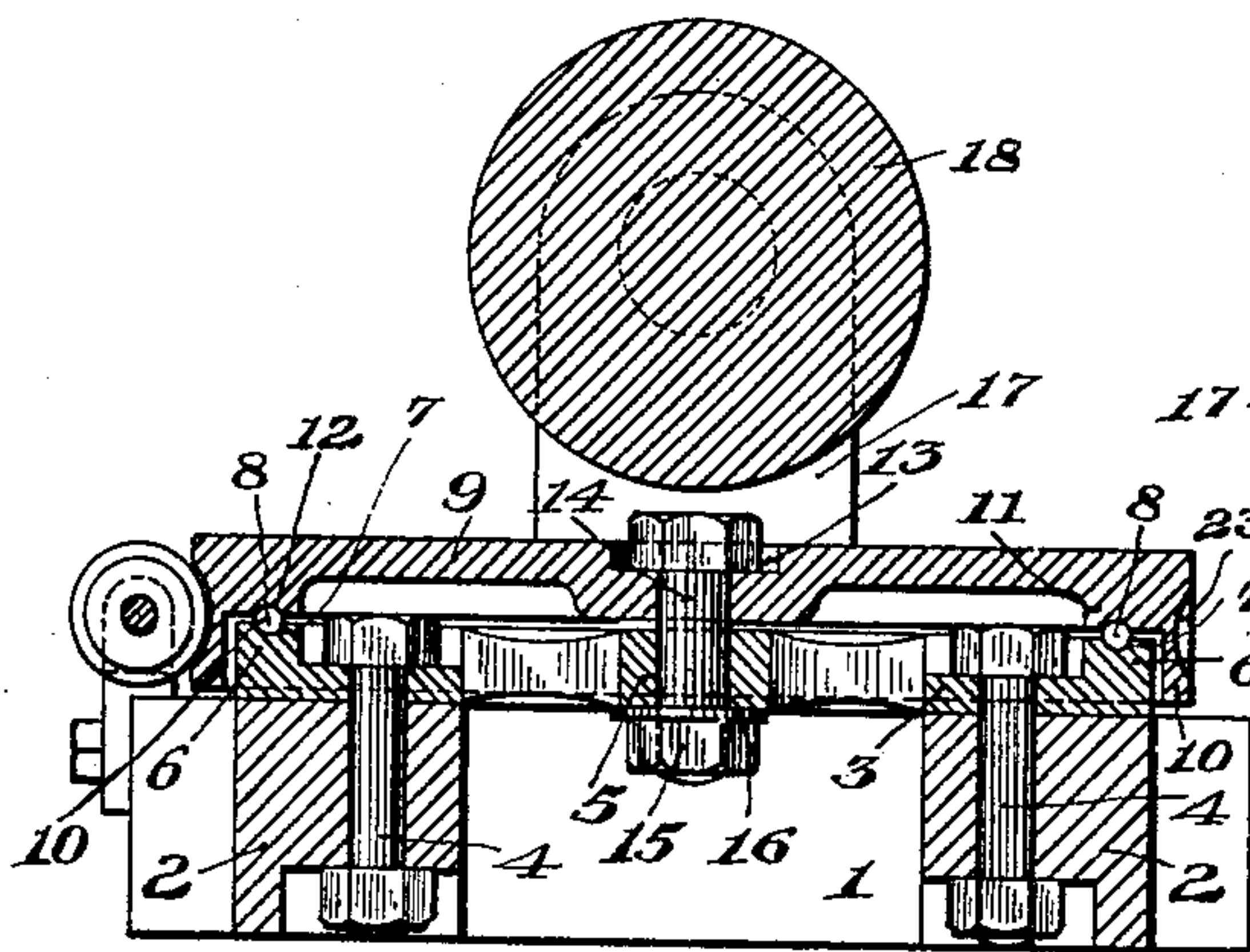
PATENTED MAR. 6, 1906.

J. M. WILLIAMS.  
TIMBER JACK.

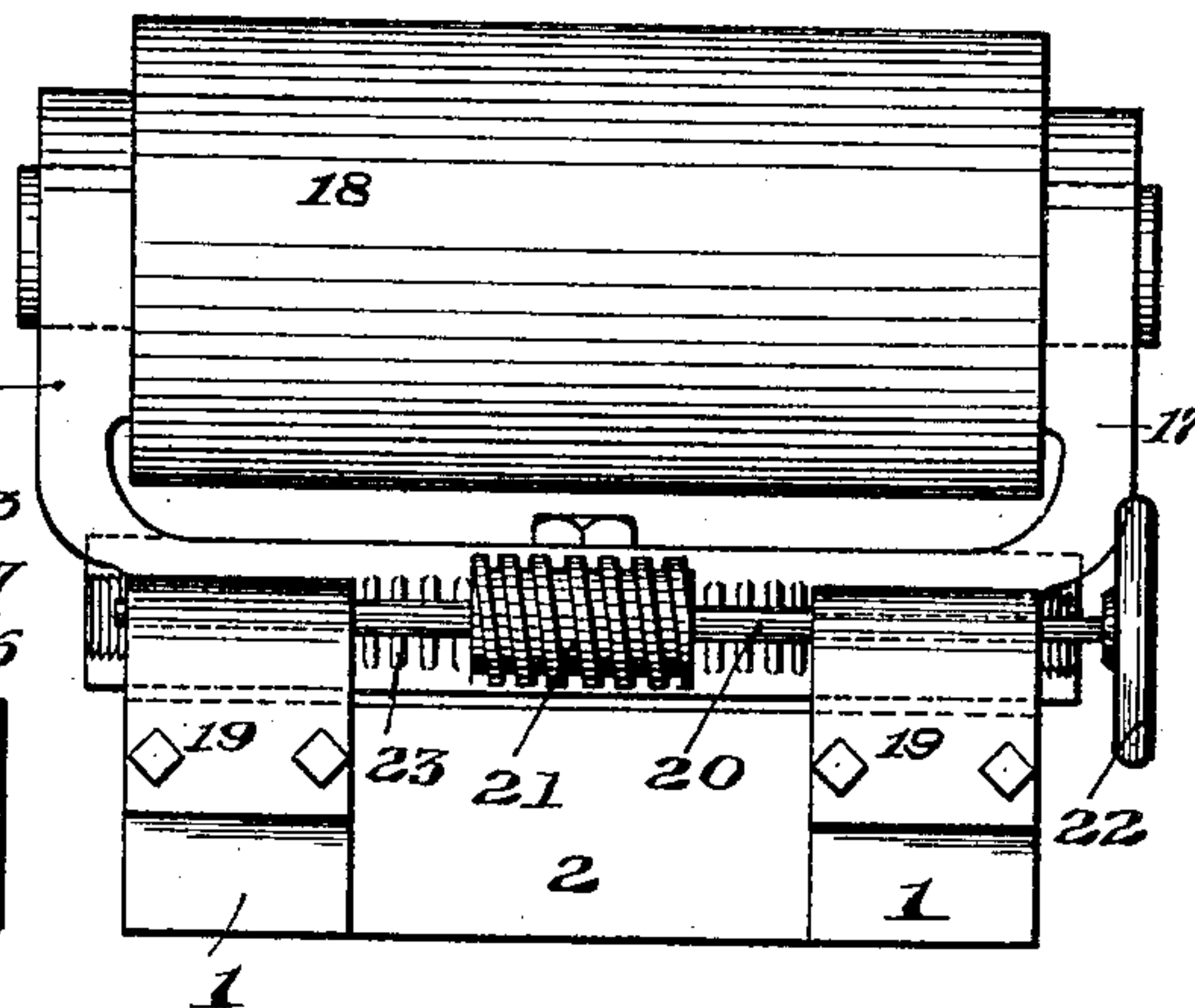
APPLICATION FILED OCT. 25, 1905.



*Fig. 2.*



*Fig. 3.*



WITNESSES

*Walter Samaries*  
*J. H. Harrison*

INVENTOR

*John M. Williams*  
*by Edward A. Lawrence,*  
*his attorney.*



# UNITED STATES PATENT OFFICE.

JOHN M. WILLIAMS, OF SHALER TOWNSHIP, ALLEGHENY COUNTY,  
PENNSYLVANIA.

## TIMBER-JACK.

No. 814,105.

Specification of Letters Patent.

Patented March 6, 1906.

Application filed October 25, 1905. Serial No. 284,299.

### *To all whom it may concern:*

Be it known that I, JOHN M. WILLIAMS, a citizen of the United States, residing in Shaler township, in the county of Allegheny and State of Pennsylvania, have invented or discovered new and useful Improvements in Timber-Jacks, of which the following is a specification.

My invention relates to timber-jacks or devices for transporting heavy timbers, beams, or like articles.

To enable change of direction to be effected without lifting the timber and changing the position of the jack, the roller-frame is usually pivoted to the base, so that by the use of controlling means or by swinging the timber any desired direction may be effected without readjustment of the jack. I provide new and improved means of pivotal attachment between the base and the roller-frame, whereby great ease of movement is obtained despite the weight of the load. An annular flange is attached to the base, usually said flange being integral with circular metallic plate fixed on said base. The roller is supported on standards arising from the opposite sides of a circular plate adjacent to the edge. Said circular plate is pivoted to said base and antifriction members interposed between the plate adjacent to its edge and said flange on the base, a lip downwardly depending from the roller-frame plate encircling said flange to protect the same from dirt or foreign matter. Means are provided for rotating the parts in relation to each other. It will be seen that the weight of the load on the roller is applied directly on the ball or roller bearings between the roller-supporting plate and the base, so that no binding or friction results.

In the accompanying drawings, Figure 1 is a plan view of my invention, the roller being shown upward. Fig. 2 is a vertical section of the same along the line 2 2 in Fig. 1, and Fig. 3 is a side elevation showing the worm-gear mechanism.

The following is a detailed description of my invention as the same is illustrated in the drawings.

The base of my jack is preferably formed as a frame consisting of two longitudinal pieces 1 1 and cross-pieces connecting the same, 2 2. If desired, however, the said frame may be constructed of a single piece of

heavy plank or other timber or may be constructed of cast or other metal.

3 is a metal plate bolted or otherwise secured to the base—as, for instance, by bolts 4 4, as shown. In case the base be of metal the said plate may be cast or made integral therewith, as desired. When the construction shown in the drawings is used, I prefer to make my plate in the form of an annular ring with spider-arms to form central boss 5, through which a bolt may be passed. Around the edge of plate 3 I form a flange 6, upon the edge of which I provide a raceway 7 for the balls 8 8.

9 is an annular plate adapted to fit down upon plate 3 and encircle the same by means of its circumferential flange 10, thus keeping out dirt and foreign matter from the raceways.

11 is a circumferential shoulder within the flange 10, which is provided with raceway 12, the complement of raceway 7. In the center of plate 9 I provide a countersunk aperture 13 for the bolt, either forming said countersunk portion by stamping said plate, or, if said plate be of cast metal, casting the same with said countersunk portion, as shown in Fig. 2.

14 is a bolt passing through plates 3 and 9 for a pivot and provided with nut 15 and washer 16, by means of which it may be tightened to bring into proper conjunction the two raceways for proper action of the balls 8 8. If desired, I may change the cross-sectional form of my raceways to allow roller-bearings to be introduced therein instead of the balls 8 8.

17 17 are two journal-standards made integral with or otherwise attached to the plate 9, adjacent to opposite sides thereof, as shown, between which is journaled the roller 18, of wood or metal, as desired.

19 19 are two journal-lugs attached to the base, in which is journaled the shaft 20, having rigidly mounted thereon the worm 21 and provided at one extremity with hand-wheel or other grip 22.

23 23 are a series of teeth attached to or made integral with the circumferential edge of plate 9 and of proper pitch and size to engage the worm 21. Said teeth may be provided around the entire circumference of the plate 9 or for only a sufficient arc thereof to allow of desired rotation, as desired. I pre-



fer, however, to form them around its entire circumference. It is evident that by rotating the worm 21 the plate 9 and the mechanism mounted thereon will be rotated in the  
5 desired direction and to the desired degree.

The operation of my jack is as follows: If used in the position shown in Fig. 1, the jack is placed under the timber or other object to be moved and the same pushed along over  
10 the roller 18 in the desired direction. In case a change of direction is desired—as, for instance, a corner to be turned—the hand-wheel 22 is turned in the proper direction to swing the plate 9 and its roller 18 to bring  
15 the timber into the proper position for the desired movement. If desired, the position of the jack may be reversed when the movement is considerable and the base of the jack be placed under and in contact with the  
20 timber and the roller underneath traveling on the ground. In this manner any required distance may be traversed without the position of the timber on the jack being changed longitudinally. Where the ground or road  
25 is hard enough to sustain the roller without sinking, this method is preferred.

If desired, the plates may be simply pivoted together, as shown, without antifriction devices being interposed, as shown; but I find  
30 that the use of the same greatly facilitates the operation of my invention, and the location of the same adjacent to the edges of the plates gives a wide bearing-surface and enables the load to be sustained vertically  
35 without binding, as would be the case if the antifriction means were applied inside the standards 17 17 or omitted entirely. Any wobbling or lateral motion is thus provided against and prevented.

40 If desired, the worm mechanism may be omitted and the jack rotated by swinging the timber; but as the weight is great I find that some such controlling and operating mechanism is highly preferable.

Although for the sake of clearness I have 45 described the illustrated construction of my invention with great minuteness, I do not wish to be limited thereby, but claim, broadly—

1. In timber-jacks, a base, an annular plate attached to said base having a peripheral flange integral with said plate, a roller, a second annular plate supporting said roller, a lip integral with said second plate and adapted to encircle said flange, raceways in said flange and said second plate, antifriction 55 members adapted to occupy said raceways and means for pivoting said second plate to said first-mentioned plate, substantially as described.

2. In timber-jacks, a base, an annular 60 plate attached to said base and having a raceway adjacent to the edge thereof, a second annular plate pivoted to said first plate and having a downwardly-depending flange adapted to encircle the edge of said first 65 plate, a raceway in said second plate adjacent to the edge thereof, antifriction members adapted to occupy said raceways, a roller, roller-standards attached to said second plate substantially in a vertical line with 70 said raceways and means for rotating said second plate.

3. In timber-jacks, a base, an annular flanged plate attached to said base, a roller, a plate supporting said roller and having an 75 annular lip adapted to encircle said flange, pivotal connection between said plates, teeth on the exterior of said lip and a worm member carried by said base and adapted to engage said teeth, as and for the purpose described. 80

Signed at Pittsburg, Pennsylvania, this 18th day of October, 1905.

JOHN M. WILLIAMS.

Witnesses:

EDWARD A. LAURENCE,  
FRANK HARRIS.