

(No Model.)

6 Sheets—Sheet 1.

J. C. MOORE.  
HARVESTING MACHINE.

No. 603,652.

Patented May 10, 1898.

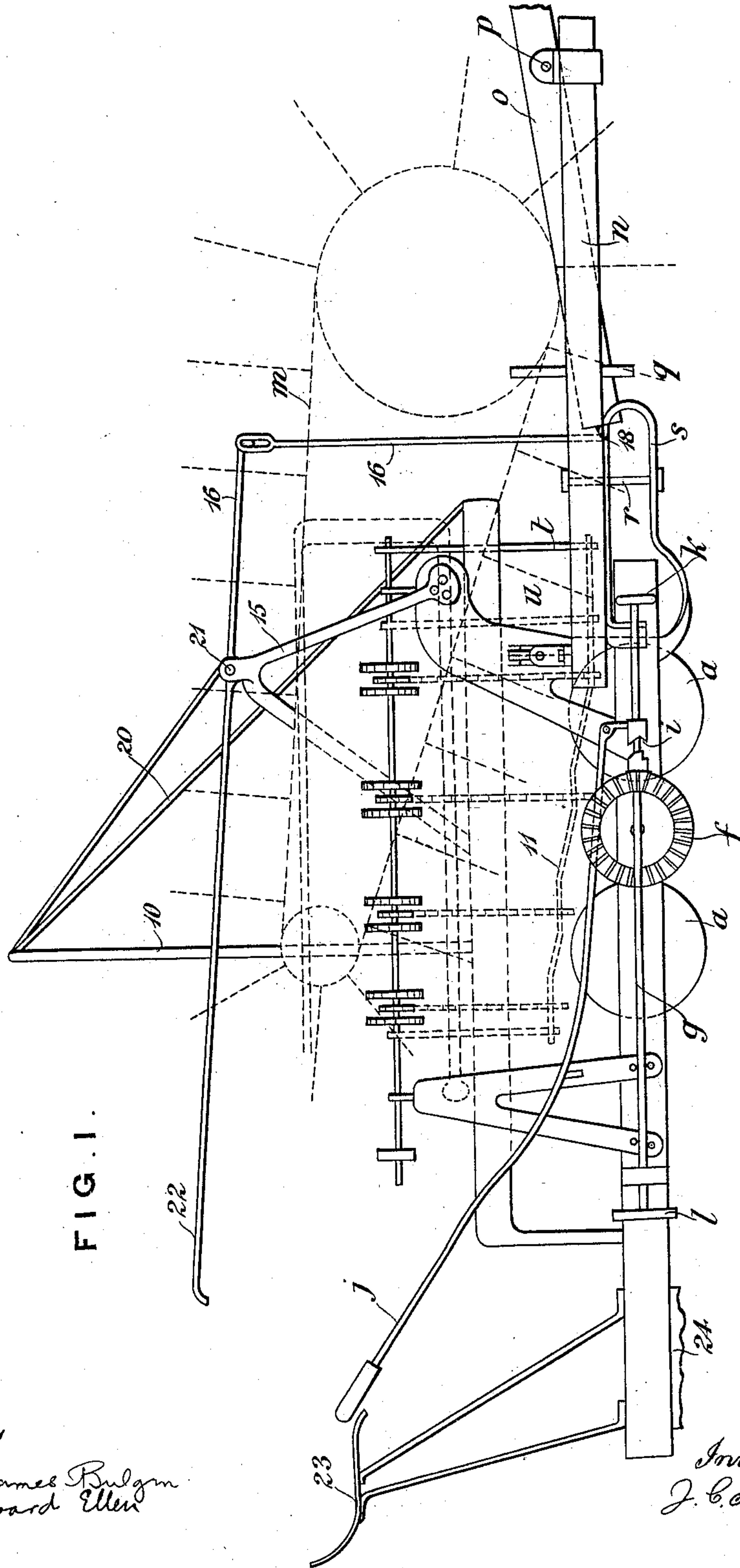


FIG. 1.

Witnesses  
William James Bulgin  
Albert Edward Ellen

Inventor  
J. C. Moore

(No Model.)

6 Sheets—Sheet 2.

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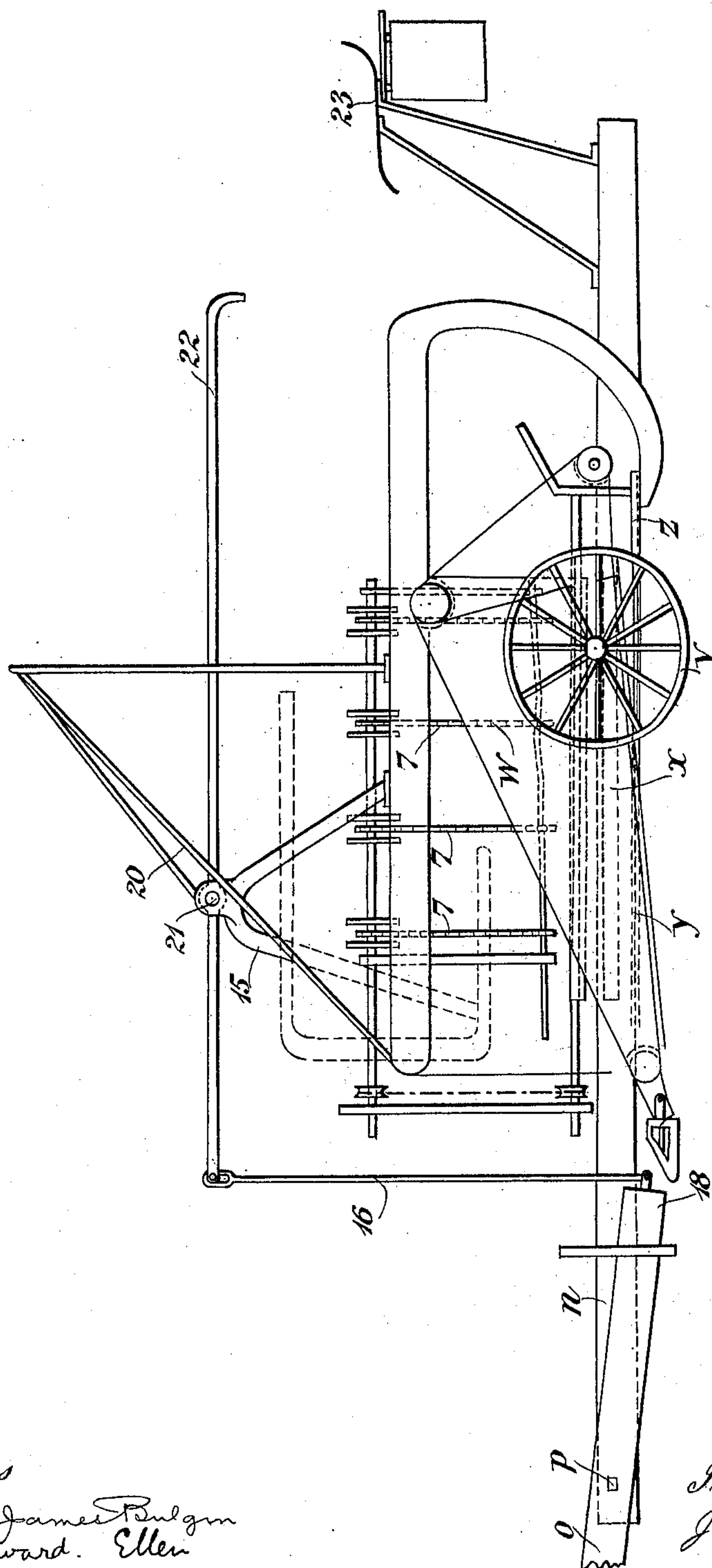


FIG. 2.

Witnesses  
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FIG. 3.

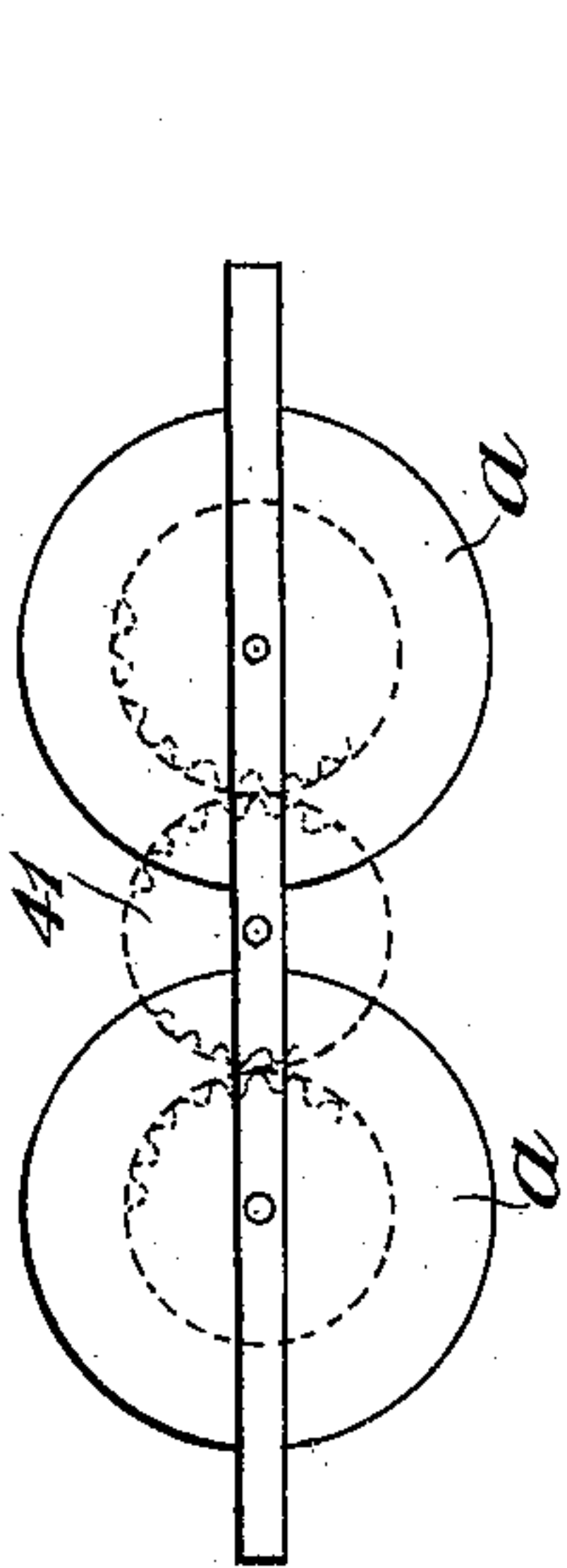


FIG. 4.

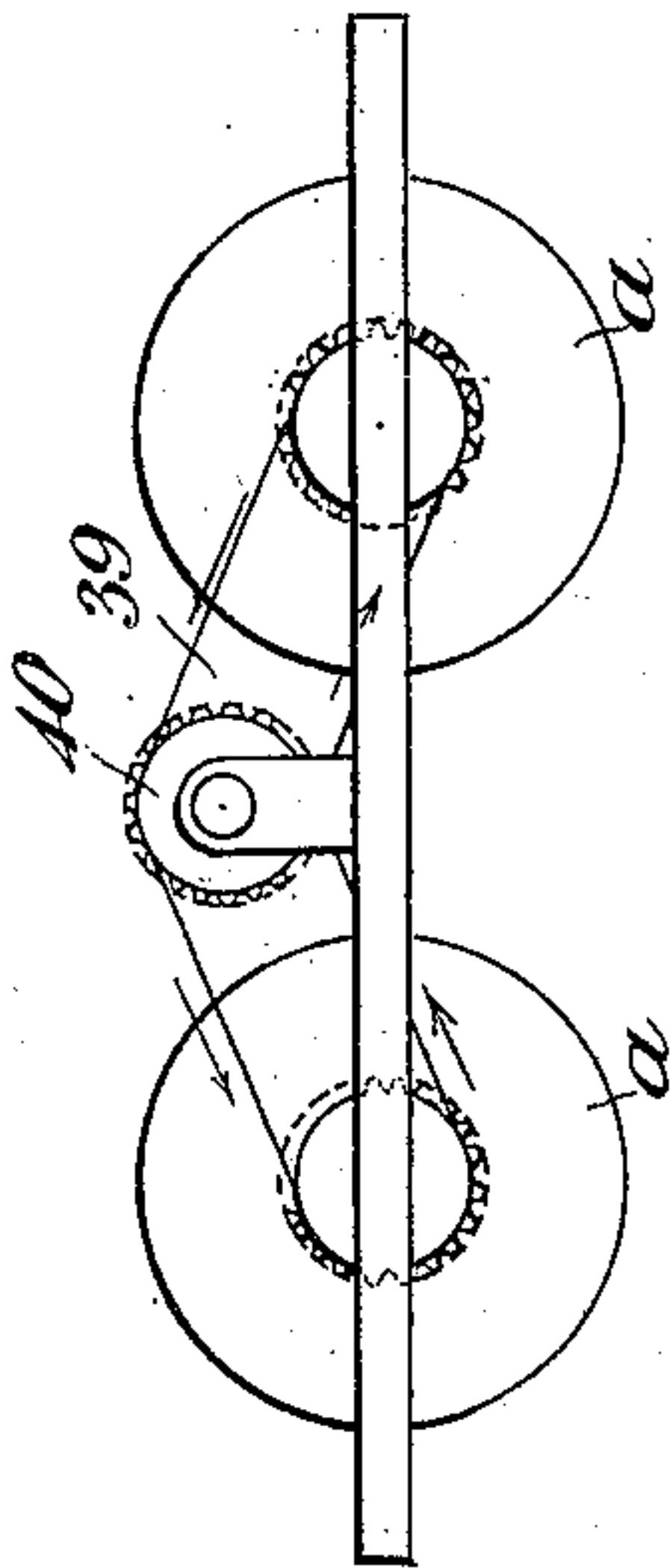


FIG. 11.

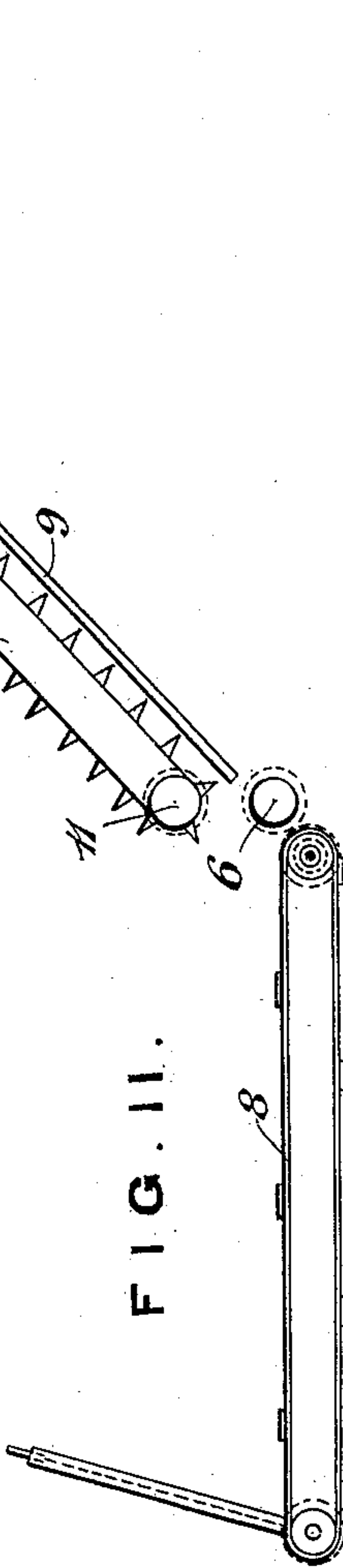


FIG. 10.

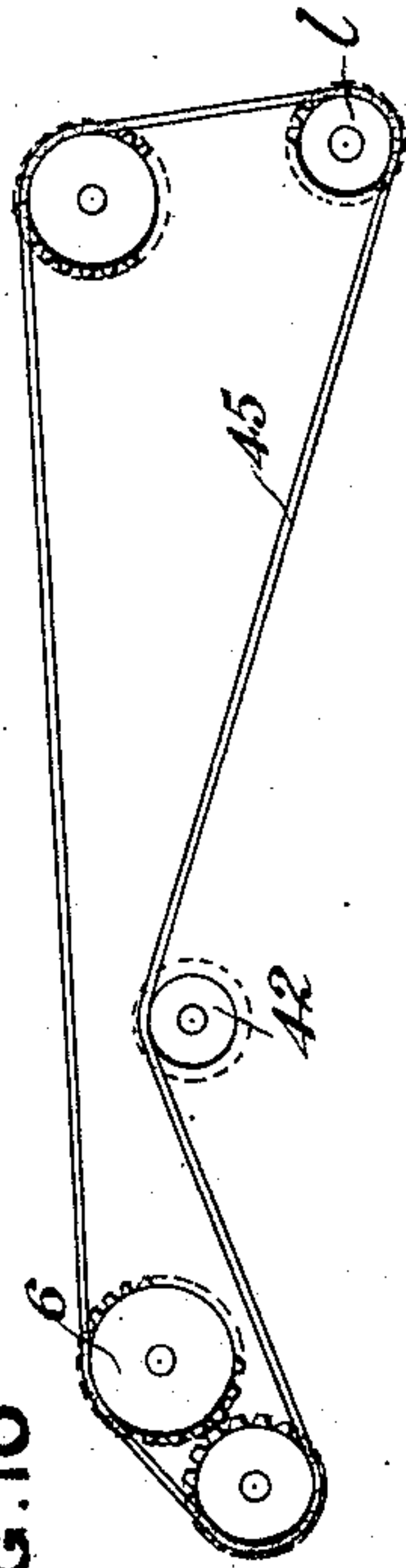
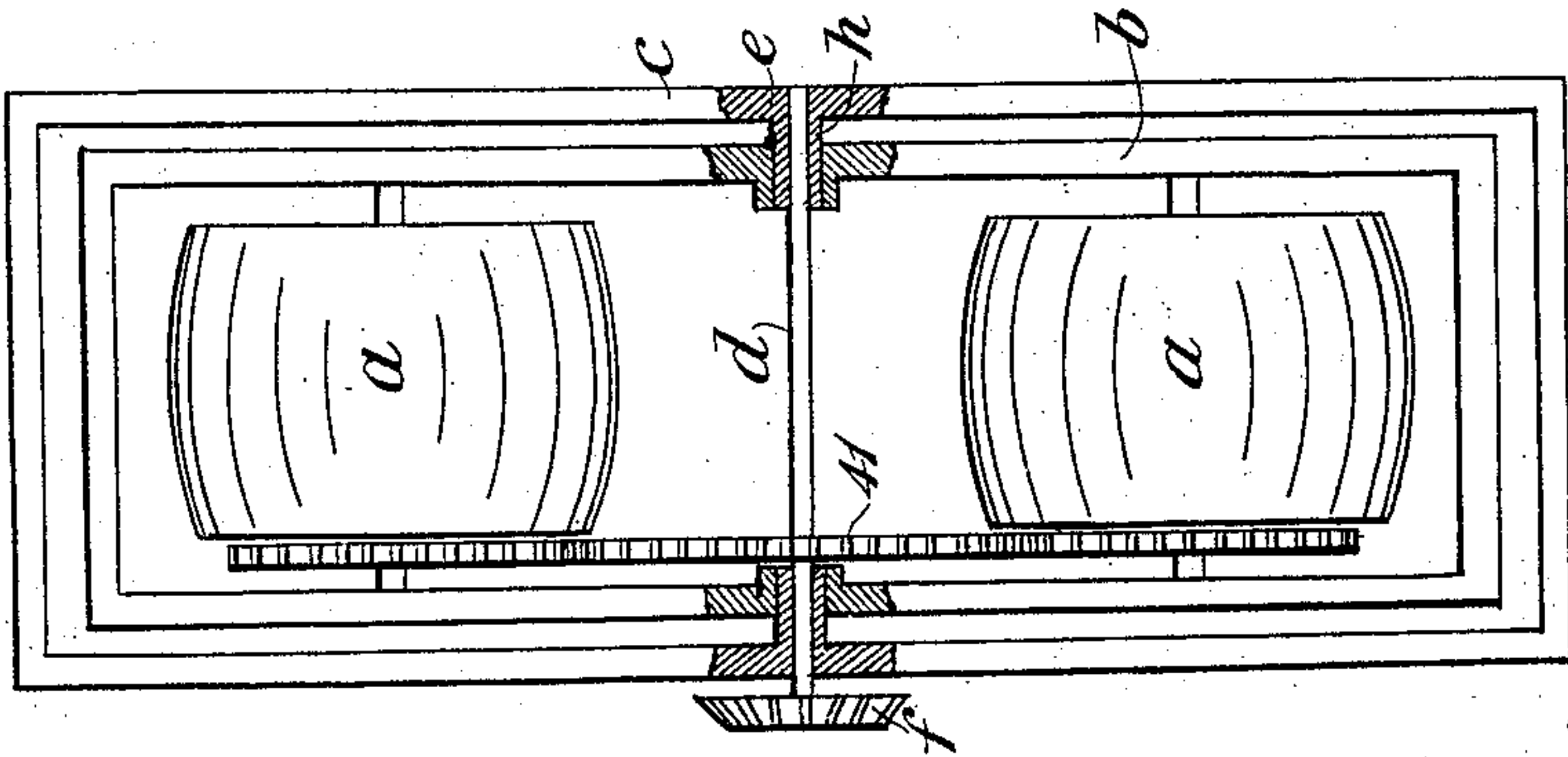


FIG. 5.



Witnesses  
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FIG. 6

FIG. 7

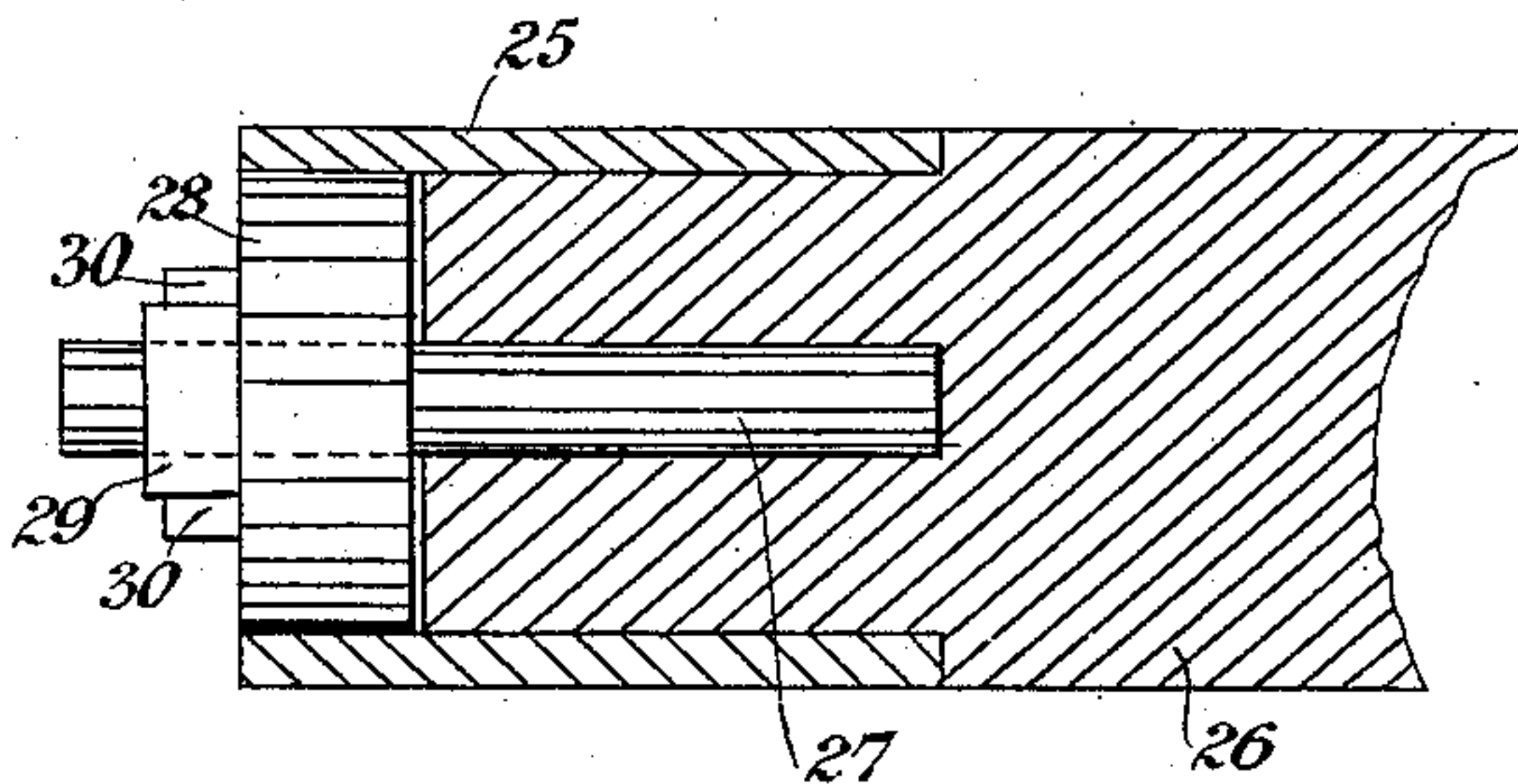
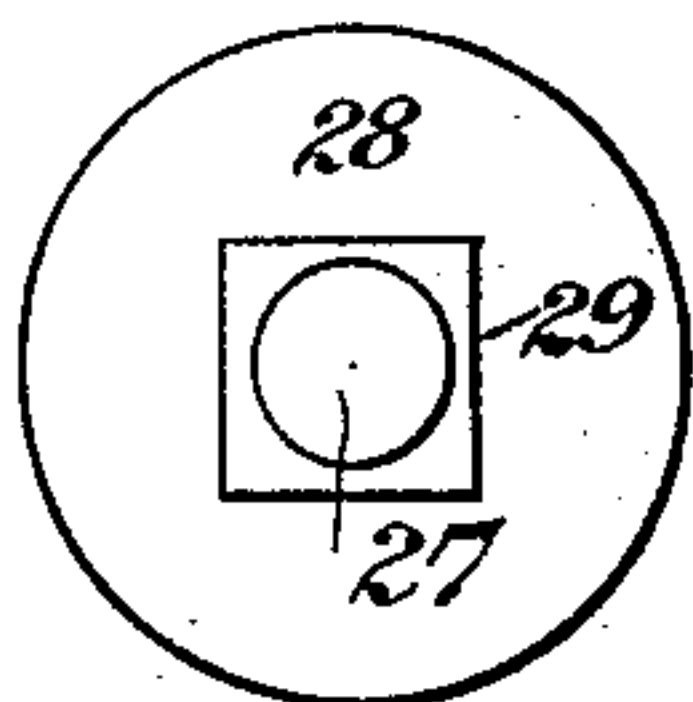


FIG. 8

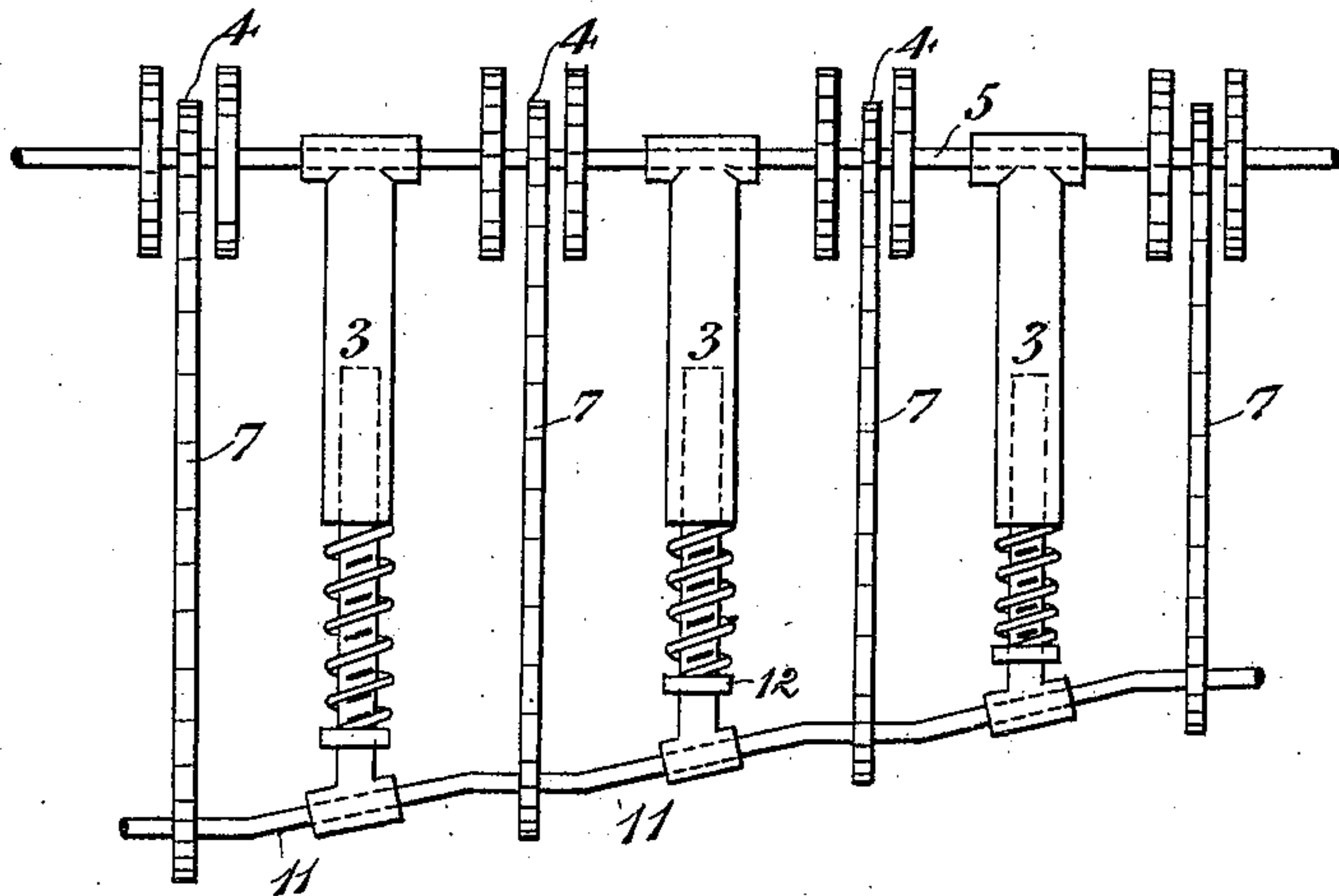
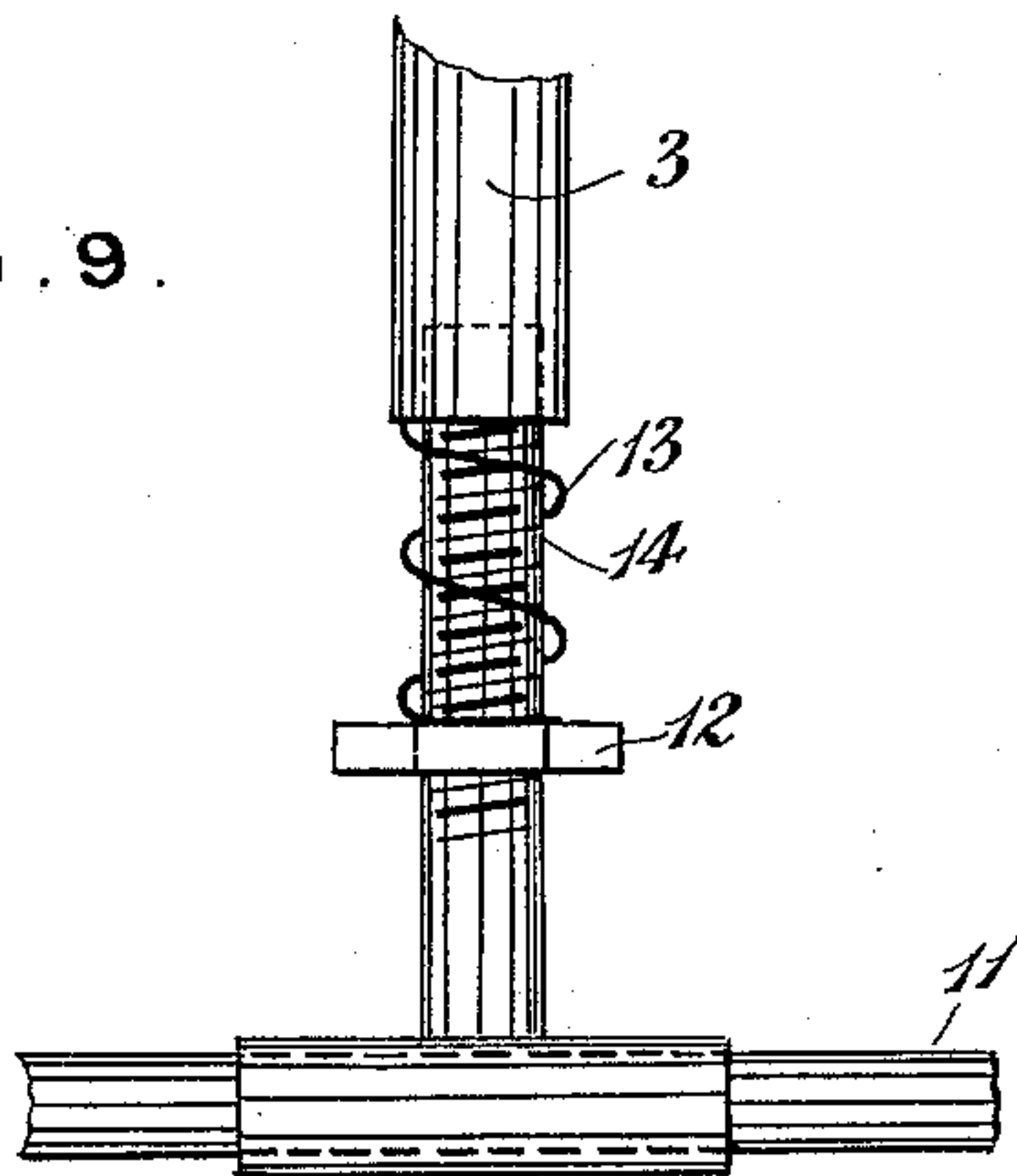


FIG. 9



Witnesses  
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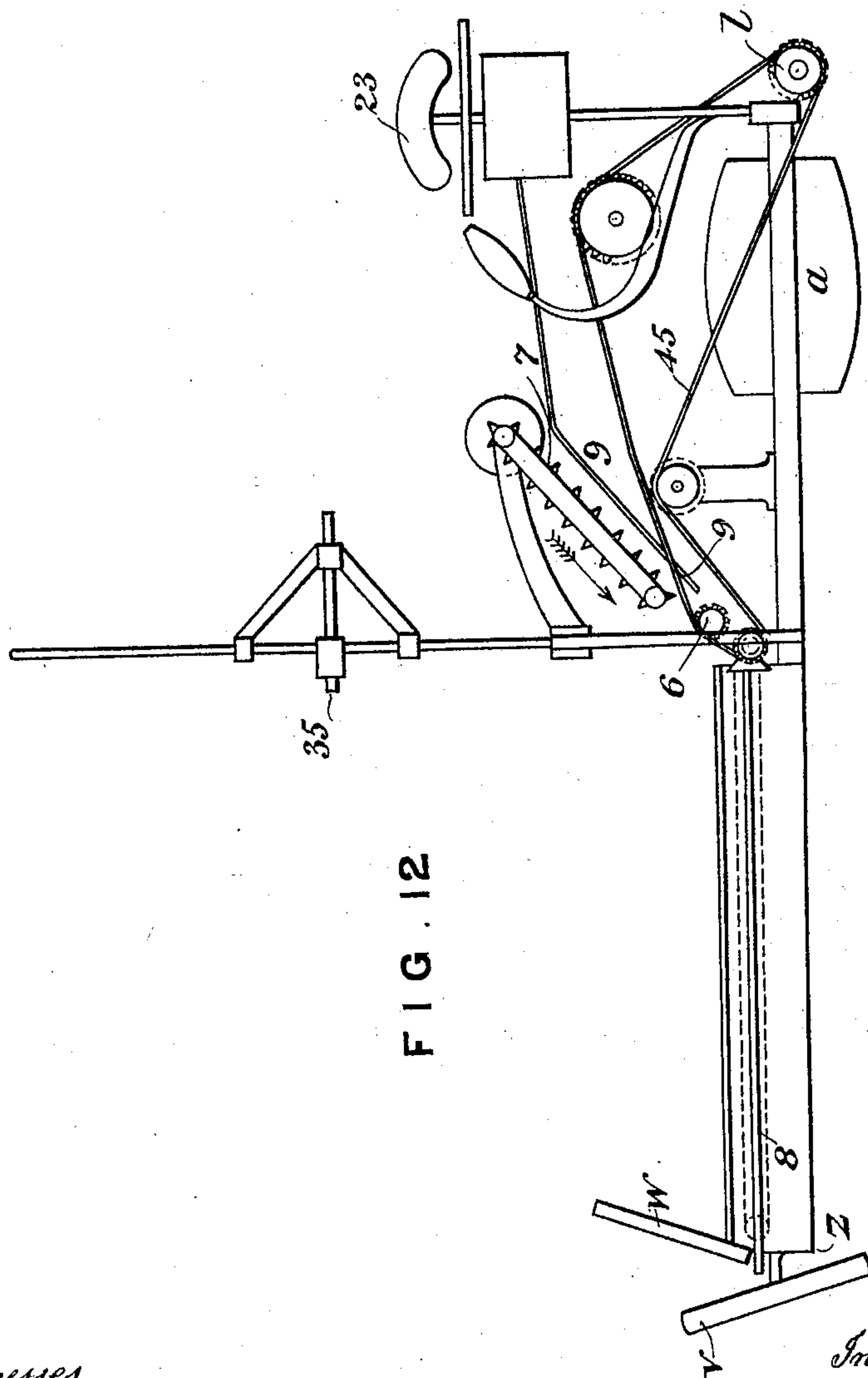


FIG. 12

Witnesses

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FIG. 14.

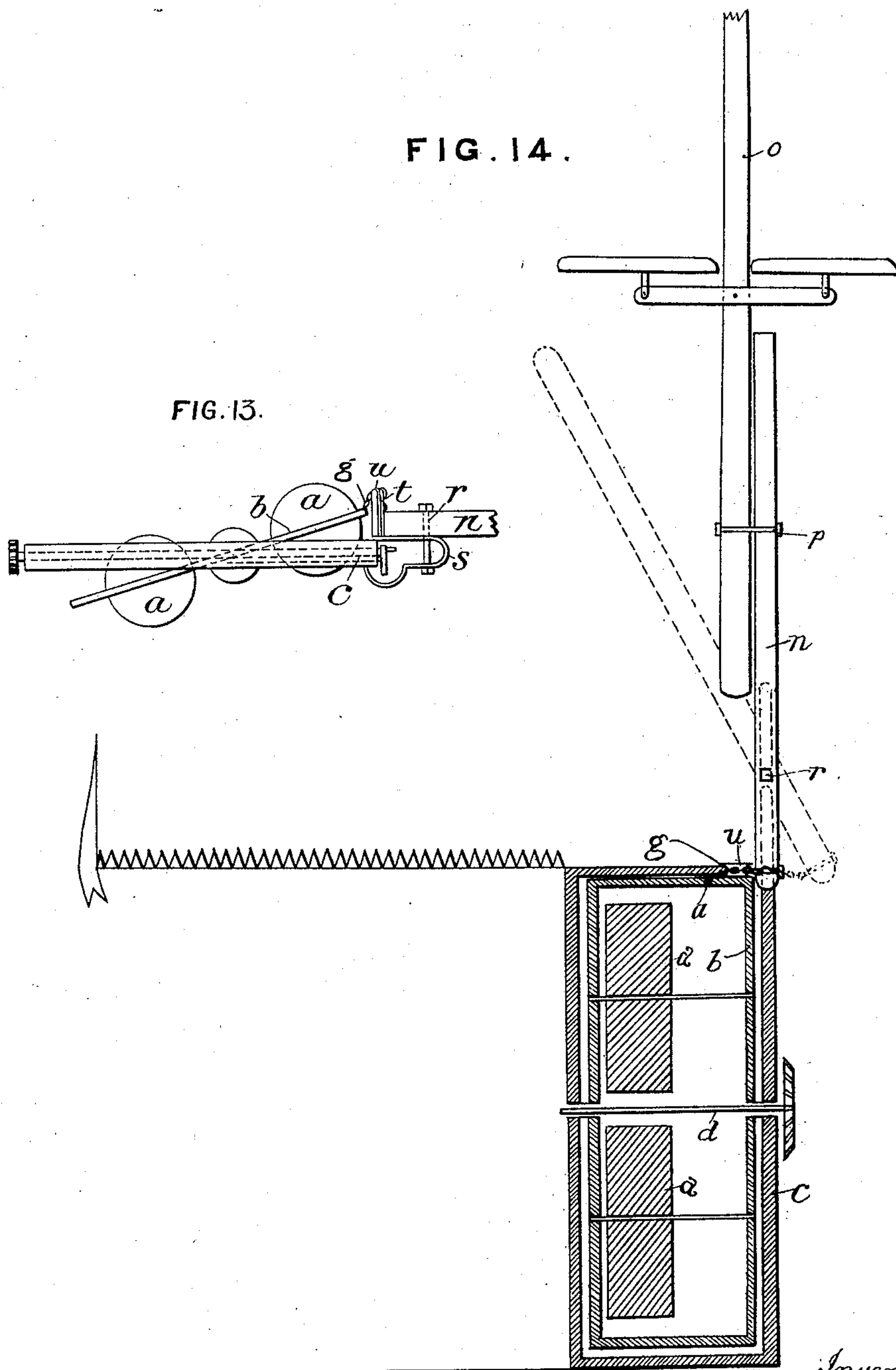
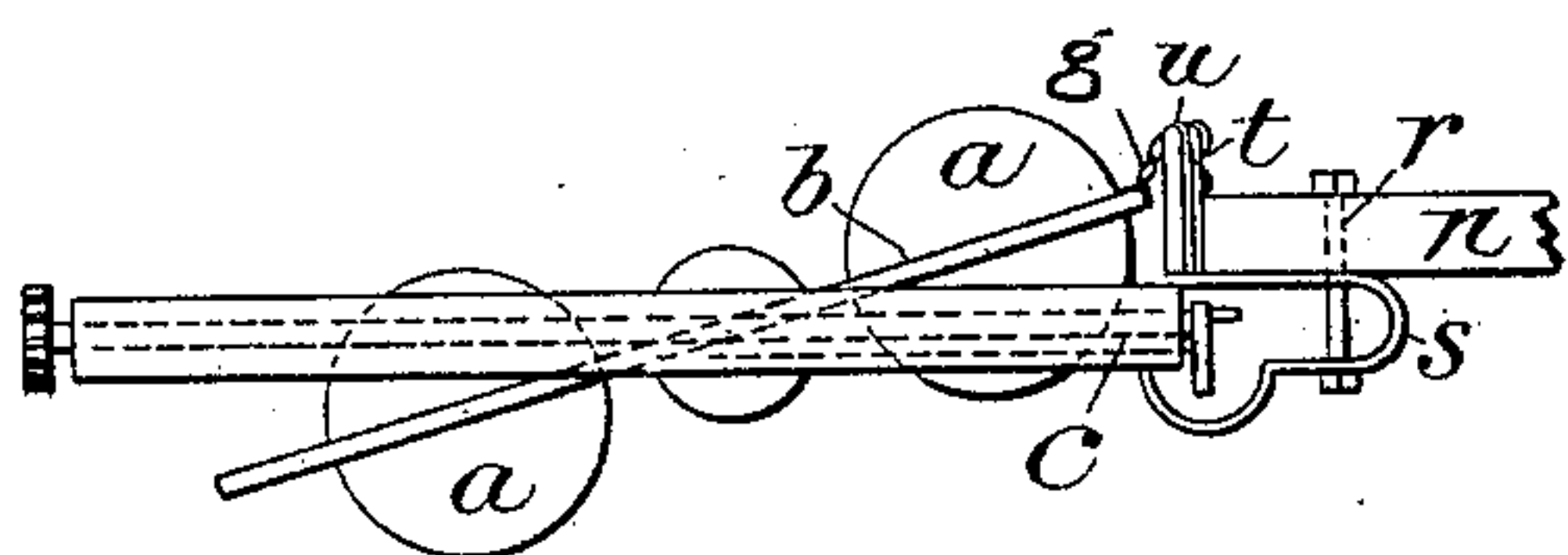


FIG. 13.



Witnesses  
William James Bygum  
Albert Edward Allen

Inventor  
J. C. Moore



# UNITED STATES PATENT OFFICE.

JOHN C. MOORE, OF EASTBOURNE, ENGLAND.

## HARVESTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 603,652, dated May 10, 1898.

Application filed October 15, 1896. Serial No. 609,033. (No model.) Patented in France June 11, 1896, No. 257,163; in Germany June 18, 1896, No. 91,255; in Sweden June 23, 1896, No. 8,313; in Italy June 27, 1896, LXXXII, 279; in Norway July 3, 1896, No. 5,336; in Canada September 25, 1896, No. 53,581, and in Spain November 21, 1896, No. 19,631.

*To all whom it may concern:*

Be it known that I, JOHN CRAWFORD MOORE engineer, a subject of the Queen of Great Britain, residing at The Meads, Eastbourne, in the county of Sussex, England, have invented certain new and useful Improvements in or Relating to Reaping and Harvesting-Machines, (for which patents have been granted to me as follows: in Germany, No. 91,255, dated June 18, 1896; in France, No. 257,163, dated June 11, 1896; in Italy, Vol. LXXXII, No. 279, dated June 27, 1896; in Spain, No. 19,631, dated November 21, 1896; in Norway, No. 5,336, dated July 3, 1896; in Canada, No. 53,581, dated September 25, 1896, and in Sweden, No. 8,313, dated June 23, 1896,) of which the following is a specification.

This invention relates to reaping and harvesting machines; and it consists in the improved construction and arrangements of certain parts of same by which the mechanism is simplified.

To carry out the above object I employ two or more main road driving wheels or rollers of suitable diameter and shape, carried in a frame or support which is movably or pivotally attached to another frame or support, this latter frame or support carrying the mechanism of the machine.

I order that my invention may be fully understood, I now refer to the annexed drawings, in which—

Figure 1 is a side elevation showing my invention; Fig. 2, a side elevation of opposite side of machine, showing divider-chain; Fig. 3, a side elevation of intermediate driving-wheel; Fig. 4, a side elevation showing arrangement of chains for driving; Fig. 5, a plan view, sectional, of ground-wheels and supporting-frames or carriages; Fig. 6, an end view of roller-bearings; Fig. 7, a sectional view of same when in position; Fig. 8, an elevation showing stays and elevating chains or bands for elevating the crop to the packers or tying apparatus; Fig. 9, a view, to enlarged scale, of spring bearing or stays for carrying elevating chains and wheels; Fig. 10, a diagrammatic view of driving-chain-operating mechanism; Fig. 11, a rear view, detached, showing traveling apron, ele-

vator-chains, and divider-board; Fig. 12, a detached rear view of driving-chains, ground-wheels, and divider-board; Fig. 13, a detail view hereinafter explained. Fig. 14 is a plan of a part of the ground-wheels and supporting-frames with the chain *g* attached to the rear end of the pivoted draft-pole and the other end attached to the pivoted wheel-frame.

Referring to the figures, in which similar letters refer to corresponding parts, the ground-wheels *a* are carried in a frame or support *b*, which is connected pivotally to another frame or support *c*, and upon this frame *c* the mechanism of the machine is carried. The spindle *d* drives the mechanism of the machine through the medium of the beveled geared wheels which drive the rod or shaft *g*. This spindle *d* runs through the bosses or pivots in bearings *h* in the frames *b* and *c*. *i* is a clutch operated by the lever *j*, by means of which the mechanism can be thrown in or out of operation. The wheel *k*, upon the end of the shaft *g*, drives the knife which cuts the crop by means of a connecting rod and crank or any such well-known means. The other end of the shaft *g*, through the medium of the wheel *l*, drives the reel or tines, packing apparatus, knotter, traveling apron, and elevating-chains by means of chain 45. (Shown in Figs. 10 and 12.) The dotted lines in Fig. 1 (marked *m*) show the tines or reel.

The various parts of the machine which are not shown are of any well-known construction and arrangement, it not being necessary to show them, as my invention consists in the improved parts which I am describing.

The seat supporting the driver is attached or connected to the outer frame *c*, so that the ground-wheels *a* are between the point of support of the seat and the counterbalance-wheel *v*. By this means the machine is to a great extent balanced upon the ground-wheels *a* and a considerable amount of unnecessary weight removed from the wheel *v*.

*w* is a divider-board which is set at a suitable angle. The spiked elevating-chains 7, which run in the direction of the arrow in Fig. 12, convey the crop from the traveling



apron up the inclined surface 9 to the required position for tying. This tying apparatus may be of any convenient construction and is suitably mounted on the frame *c*. The  
 5 fixed spindle 11, on which the wheels carrying the elevating-chains 7 are loosely mounted, is carried by spring telescopic stays 3, pivoted on the upper shaft 5, as shown in Figs. 8 and 9. By altering the tension of the spring  
 10 13, through the medium of the nut 12, which turns upon the thread 14, the tension of the elevating and packing chains 7 may be adjusted. These chains are driven by the upper wheels 4 on the shaft 5, which is preferably  
 15 driven by a chain from a gear on the front end of the conveyer-roll 6. The lower wheels, with the lower portions of the chains 7, lie loosely on the grain to be conveyed.

The draft-pole *o* is hinged at *p* to an additional pole *n*, which is pivotally attached at  
 20 *r* to the support *s* and is connected to the chain *g*, which passes over the pulley *u*, supported on frame *c*, said chain being connected to the frame *b*, carrying the ground-wheels *a*,  
 25 so that when the horses turn next the cutting-bars the rear end of the additional pole *n* will move in a horizontal direction, by which action the inner frame is tilted through the medium of the chain *g* and the front ground-  
 30 wheel raised from the ground, thus facilitating the turning of the machine, (which to all intents and purposes will take place on a center, such as the counterbalance-wheel *v*.) The position when turning is shown in Fig. 13.  
 35 The draft-pole *o* has a vertical movement upon the pivot *p*, the end 18 being connected to the rod 16, pivoted to rod 16', which is pivoted at 21 to the support 15 and terminates in a handle 22. The driver, sitting upon the seat 23,  
 40 can thus regulate the height of the cutting-knife from the ground by raising or lowering the end 18 of the draft-pole *o* through the medium of the handle of lever 22.

If desired, I may affix a platform 24, and  
 45 the string-box may be affixed to same. Referring to Figs. 6 and 7, all the roller ends 26 are provided with a ferrule 25 and spindle 27. The bearing 28 engages upon this spindle 27, and the angular portion 29 of same is carried  
 50 in a support or frame 30 at the end of the rollers. By this means it will be seen that the rollers can be very readily removed when required and the twisting of the crop or foreign matter around the spindle is prevented. The  
 55 connection of the ground-wheels *a* may be of any convenient means—such as chains 39 upon a double sprocket-wheel 40, Fig. 4, or an intermediate wheel 41, Fig. 3—and I do not confine myself to any particular form of connection or drawing, such as that shown on  
 60 Fig. 5. In Fig. 10 the wheel 42 is for the purpose of regulating the tension of the chain 45, which operates the tines, traveling apron, conveying-roller, elevating-chains, and tying ap-  
 65 paratus.

The operation is as follows: The crop is cut by the knife, falls upon the traveling apron, being guided to same by the divider-board and reels, whence it passes to the conveying-roller 6, is carried up the incline 9 by the ele- 70  
 vating-chains, and thence direct to the packer and knotter.

By the use of two frames or supports it will be seen that the machine will travel much  
 more steadily than heretofore, as the inequalities of the ground over which the ground- 75  
 wheels pass will not directly affect the frame carrying the mechanism, as both frames are free to rock independently of each other.

Having now particularly described and as- 80  
 certain the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a harvesting-machine, the combination of a main frame, a wheel-frame pivoted 85  
 thereto on an axis transverse to the line of draft, wheels mounted on transverse axles in the wheel-frame, and means for lifting one end of the wheel-frame around one of the axles as a fulcrum, substantially as described and 90  
 for the purposes specified.

2. In a harvesting-machine, the combination with a main frame, a wheel-frame pivoted thereto on an axis transverse to the line 95  
 of draft, wheels mounted on transverse axles in the wheel-frame, of a draft-pole, an additional pivoted pole to which the draft-pole is hinged, and a chain connected to the pivoted pole, and to the wheel-frame, substantially 100  
 as and for the purposes specified.

3. In a harvesting-machine, the combination with a main frame, a wheel-frame carrying centrally thereof two wheels connected 105  
 pivotally to the main frame, a seat carried by the main frame at one side of the ground-wheels and a counterbalance-wheel at the other side of a draft-pole, a pivoted pole to which the draft-pole is hinged and a chain connected to the pivoted pole and to the wheel- 110  
 frame and causing it to tilt when the draft-pole is turned, substantially as and for the purposes specified.

4. In a harvesting-machine, the combination of a main frame and a wheel-frame pivoted thereto and contained within the main 115  
 frame, said wheel-frame having pivoted therein two or more carrying-wheels on axes which are not coincident, of a driving-spindle, a rod or shaft driven from the said spindle, a clutch connected to the shaft throwing the mechanism in or out of operation, wheels on the shaft 120  
 driving the cutting-knife and other parts of the apparatus and means by which the wheel-frame may be tilted around the axle of one of the wheels when the machine is turned, sub- 125  
 stantially as and for the purposes specified.

5. In a harvesting-machine, the combination with a main frame, a wheel-frame pivoted thereto and contained within the main frame, 130  
 and a shaft forming the pivot and driving the



mechanism of the machine, of a draft-pole, a  
pivoted pole hinged to the same, a chain con-  
nected to the pivoted pole and to the wheel-  
frame and pulleys in the main frame over  
5 which the chain passes, substantially as de-  
scribed and shown in the accompanying draw-  
ings and for the purposes specified.

In testimony that I claim the foregoing I  
have hereunto set my hand this 16th day of  
December, 1895.

JOHN C. MOORE.

Witnesses:

JAMES FLEMING,  
J. M. E. NEWTON.