

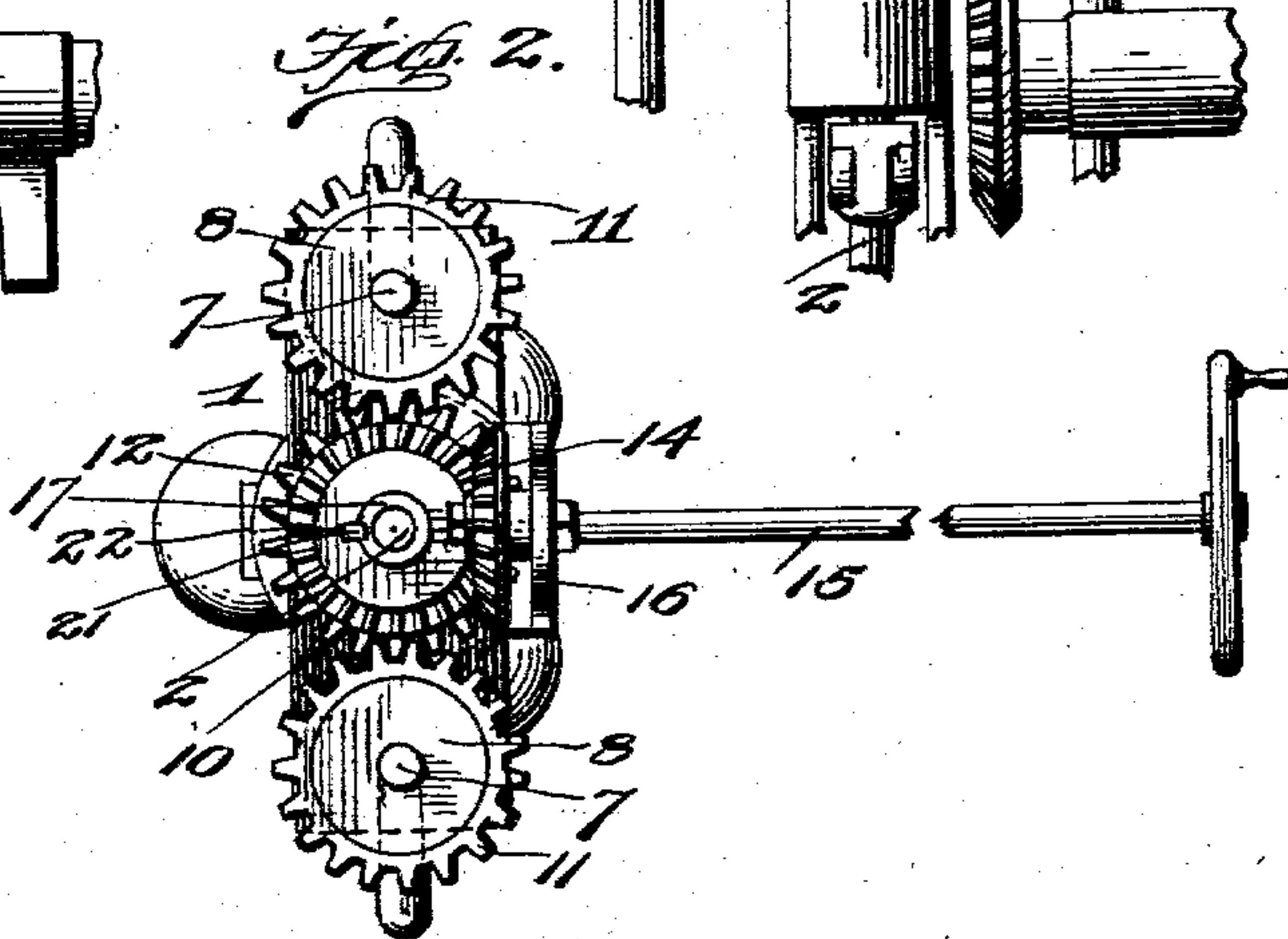
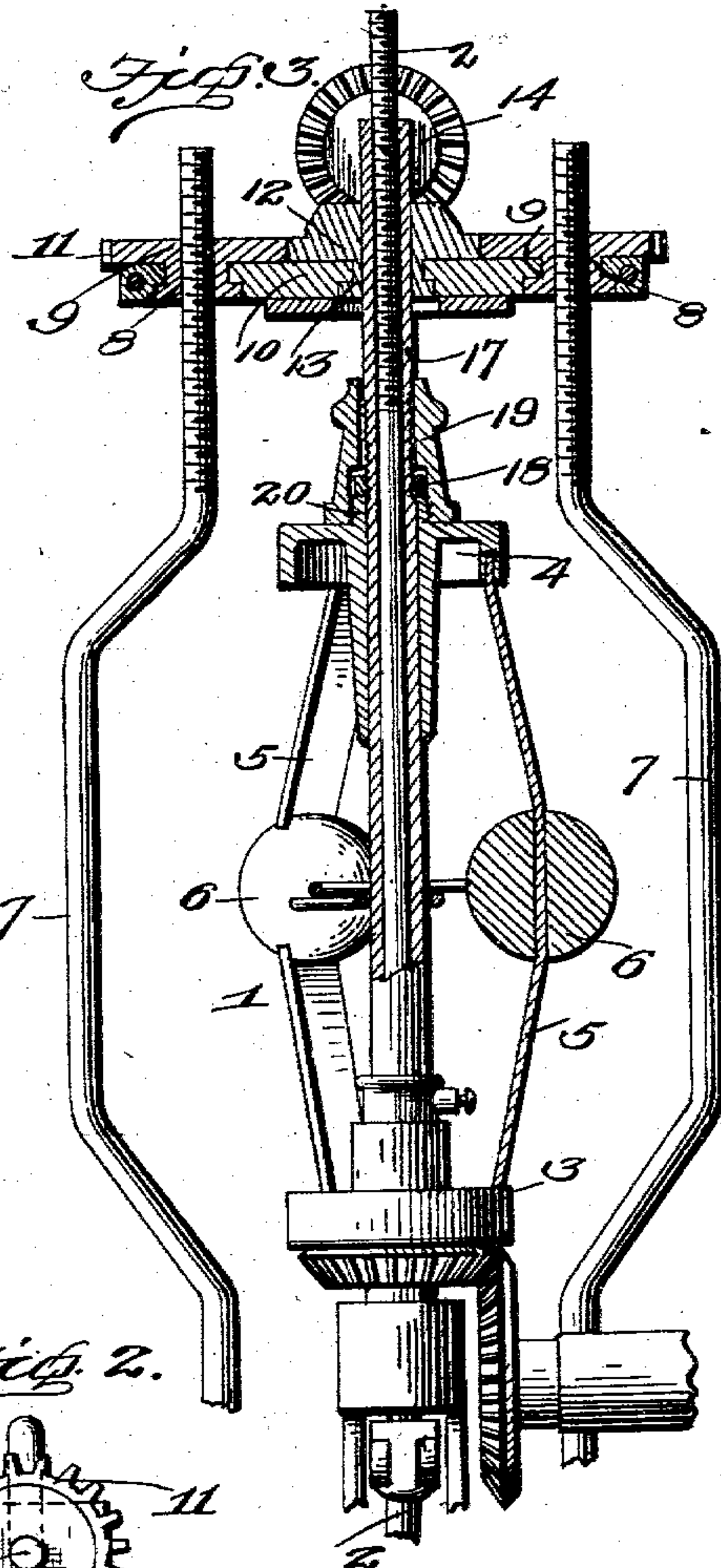
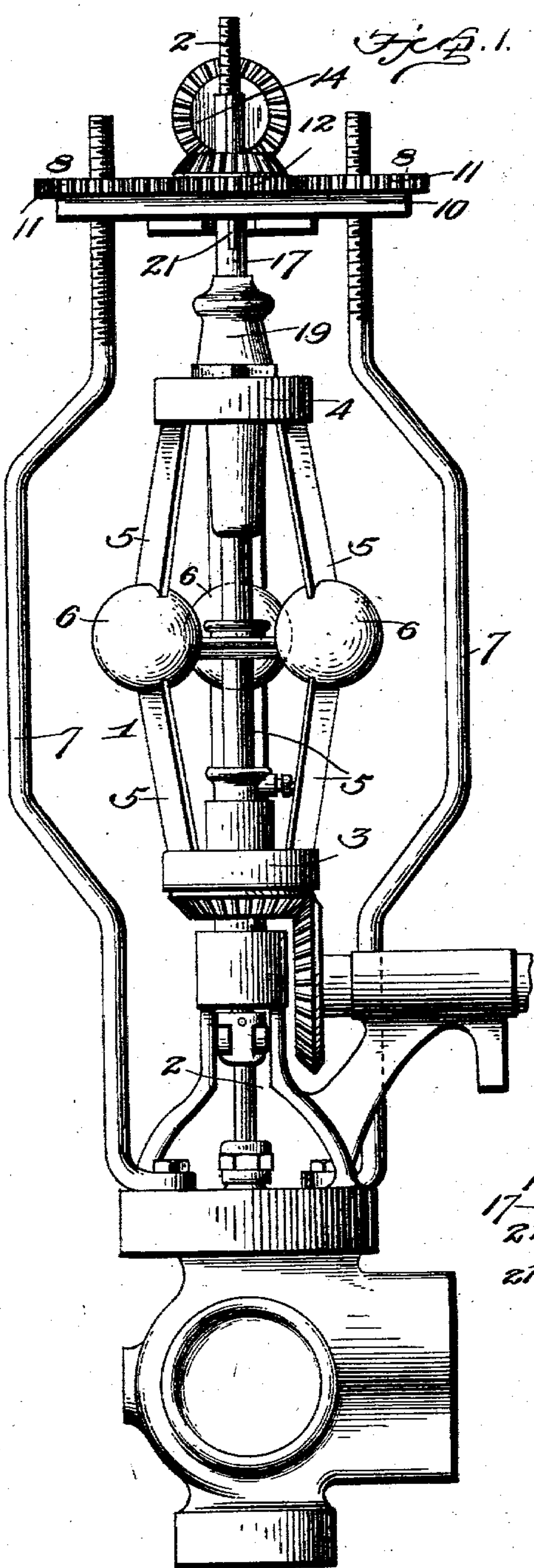
No. 721,005.

PATENTED FEB. 17, 1903.

L. BRANCHE, JR.  
SPEED REGULATOR FOR TRACTION ENGINES.

APPLICATION FILED OCT. 18, 1902.

NO MODEL.



Witnesses  
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# UNITED STATES PATENT OFFICE.

LOUIS BRANCHE, JR., OF ROSIERE, NEW YORK.

## SPEED-REGULATOR FOR TRACTION-ENGINES.

SPECIFICATION forming part of Letters Patent No. 721,005, dated February 17, 1903.

Application filed October 16, 1902. Serial No. 127,546. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS BRANCHE, Jr., a citizen of the United States, residing at Rosiere, in the county of Jefferson and State of New York, have invented certain new and useful Improvements in Speed-Regulators for Traction-Engines; and I do 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 a speed-regulator for traction-engines, and has for its object to provide simple and effective means whereby the throttle-valve may be governed from the platform of the engine to quickly and conveniently regulate the speed of the engine as desired.

With the above and other objects in view, which will readily appear as the nature of the invention is better understood, said invention consists in certain novel features of construction and combination and arrangement of parts, which will be hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in side elevation of a steam-engine governor embodying my invention. Fig. 2 is a top plan view thereof. Fig. 3 is a vertical section.

Referring now more particularly to the drawings, 1 represents a centrifugal governor of any desired make or type; 2, the throttle-valve stem; 3, the stationary non-slidable collar; 4, the sliding collar, and 5 the spring-arms carrying the usual ball-weights 6.

Rising from the frame of the governor are rods 7, threaded at their upper ends to receive nuts 8, journaled in bearings 9 upon a vertically-adjustable head 10 and provided with gear-teeth 11 to mesh with an intermediate gear 12, journaled in a bearing 13. This gear 12 has spur-teeth to mesh with the teeth 11 of the nuts 8, and beveled teeth to mesh with beveled pinion 14, operated by a rod or shaft 15, designed to extend to the platform of the engine, the adjacent end of said rod being journaled in a bracket 16, fixed to the head 10.

The upper end of the valve-stem 2 is threaded, and engaging the same is an internally-threaded sleeve 17, provided at its lower

end with a collar in form of a nut 18, which collar fits and slides in a chambered cap-nut 19, engaging a screw-threaded boss 20 on the sliding collar 4. The sleeve 17 extends upwardly through the gear 12 and is provided with a key or spline 21, adapted to slide in a groove 22 on the interior of said gear, whereby the sleeve is free to slide vertically in the gear and is also connected to rotate therewith.

In operation the governor performs its usual function of checking any dangerous or excess speed; but it is often desired to facilitate or impede the movement of the governor to increase or diminish its sensitiveness and to effect a quick supply of steam to or cut off of steam from the cylinder while the throttle is wide open and the engine is running. The present invention accomplishes this end, as by the adjustment of the rod 15 the driver or engineer may control the governor-valve from the platform of the engine. When this rod is turned in one direction, the head 10 through the described gearing will travel down on the rods 7 and rotate the sleeve 17 on the threads of the stem 2 until the collar 18 contacts with the base of the nut 19 and boss 20, whereupon as the head 10 continues to descend the stem will be forced down to move the governor-valve toward its seat, thereby decreasing or cutting off the supply of steam to the cylinder. When, on the other hand, the rod 15 is turned in the reverse direction, the head 10 will travel up on the rods 7 and the sleeve 17 will rotate on the stem 2 until the collar 18 engages the top of the nut 19, whereupon the further upward movement of the head 10 will cause the stem 2 to be drawn upwardly to move the governor-valve away from its seat, thereby admitting a greater supply of steam to the cylinder. Hence it will be seen that the supply of steam to or cut off of steam from the cylinder may be readily and quickly controlled.

In the normal operation of the governor the movement of the collar 4 under the action of the governor-arms causes the nut 19 to contact with the collar 18 and force the sleeve 17 up or down, the sleeve sliding through the gear 12 during such movement of the collar and transmitting corresponding motion to the stem 2, whereby the governor-valve is



controlled to let in or cut off the supply of steam.

From the foregoing description, taken in connection with the accompanying drawings, it is thought that the construction, operation, and advantages of my improved speed-regulator for traction-engines will be readily apparent without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination, a throttle-valve stem, a centrifugal governor having weighted governor-arms attached to a sliding collar, a traveling head, a gear carried thereby, a threaded sleeve slidable in the gear and rotatable therewith, means for connecting said sleeve with the sliding collar of the governor, and means for rotating said gear and imparting motion to the head, substantially as set forth.

2. In combination, a threaded throttle-valve stem, a centrifugal governor having weighted governor-arms attached to a sliding collar, threaded supporting-rods, a traveling

head, gear-toothed nuts journaled in the head and traveling on the threads of the rods, an intermediate gear also journaled in the head and meshing with the teeth of the nuts, a threaded sleeve working on the valve-stem and having a spline-and-groove connection with the intermediate gear, whereby it is adapted to slide therein and rotate therewith, means for connecting said sleeve with the sliding collar of the governor, and means for rotating said intermediate gear, substantially as set forth.

3. In combination, a throttle-valve stem, a sleeve threaded on said stem and adapted to impart movement thereto, and actuating mechanism with which the sleeve has a slidable and rotatable connection, substantially as set forth.

4. In combination, a throttle-valve stem, a sleeve adapted to impart motion to said stem, and actuating mechanism with which the sleeve has a slidable and rotatable connection, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

LOUIS BRANCHE, JR.

Witnesses:

JAMES RODLE,  
FRED HOPPLE.