

No. 713,781.

Patented Nov. 18, 1902.

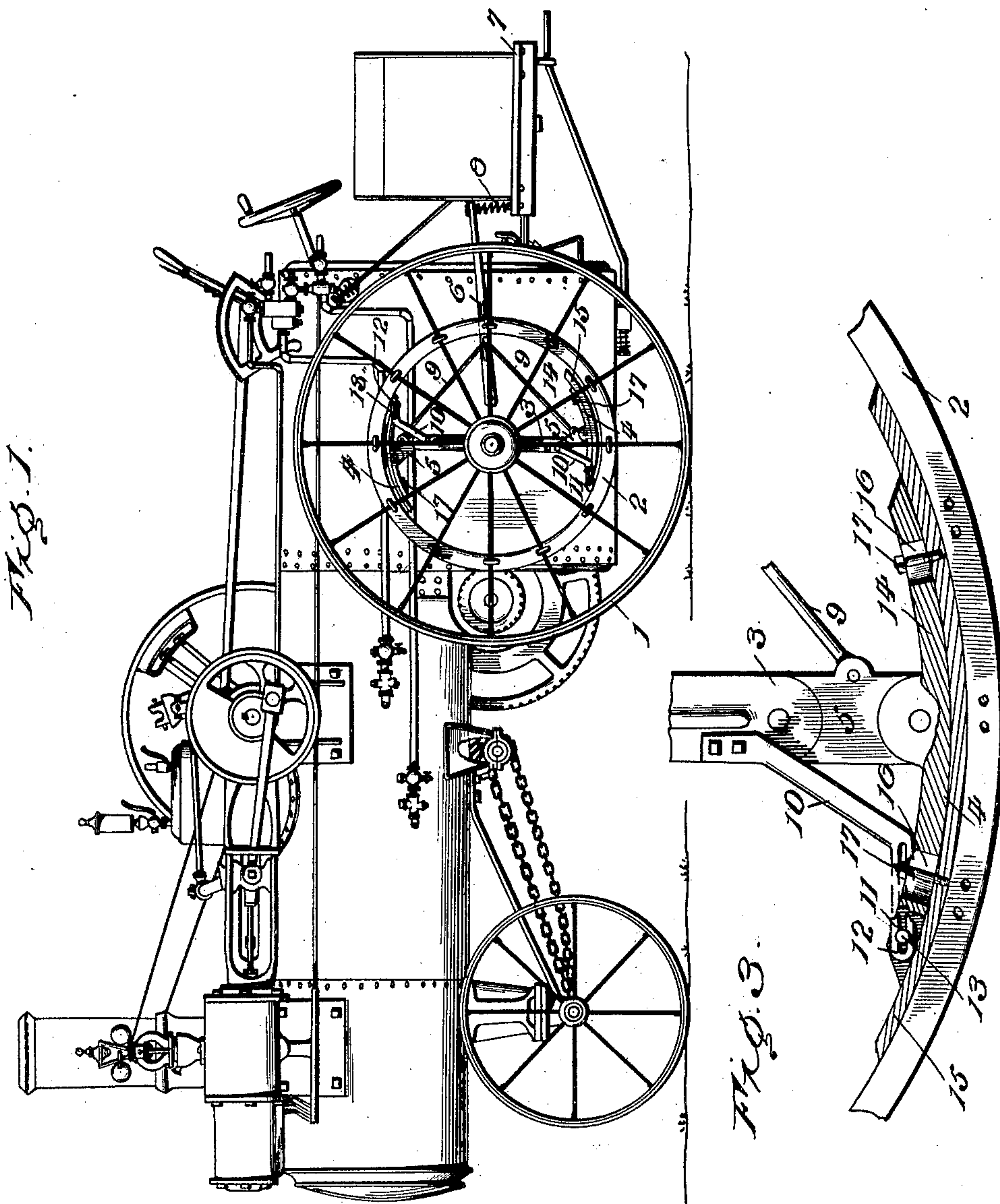
F. W. LYONS.

BRAKE MECHANISM FOR TRACTION OR PORTABLE ENGINES.

(Application filed Mar. 27, 1902.)

(No Model.)

2 Sheets—Sheet 1.



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Witnesses

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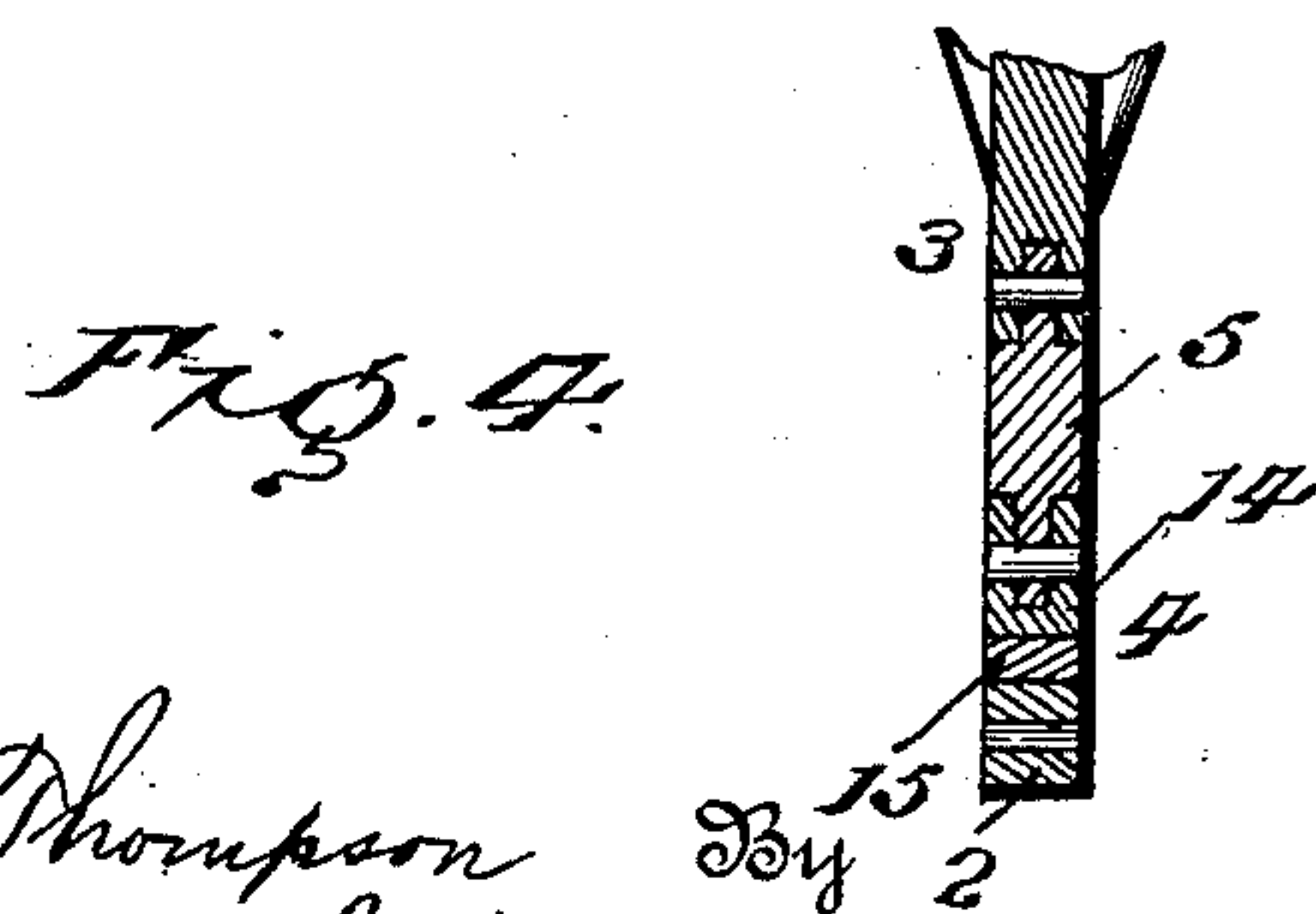
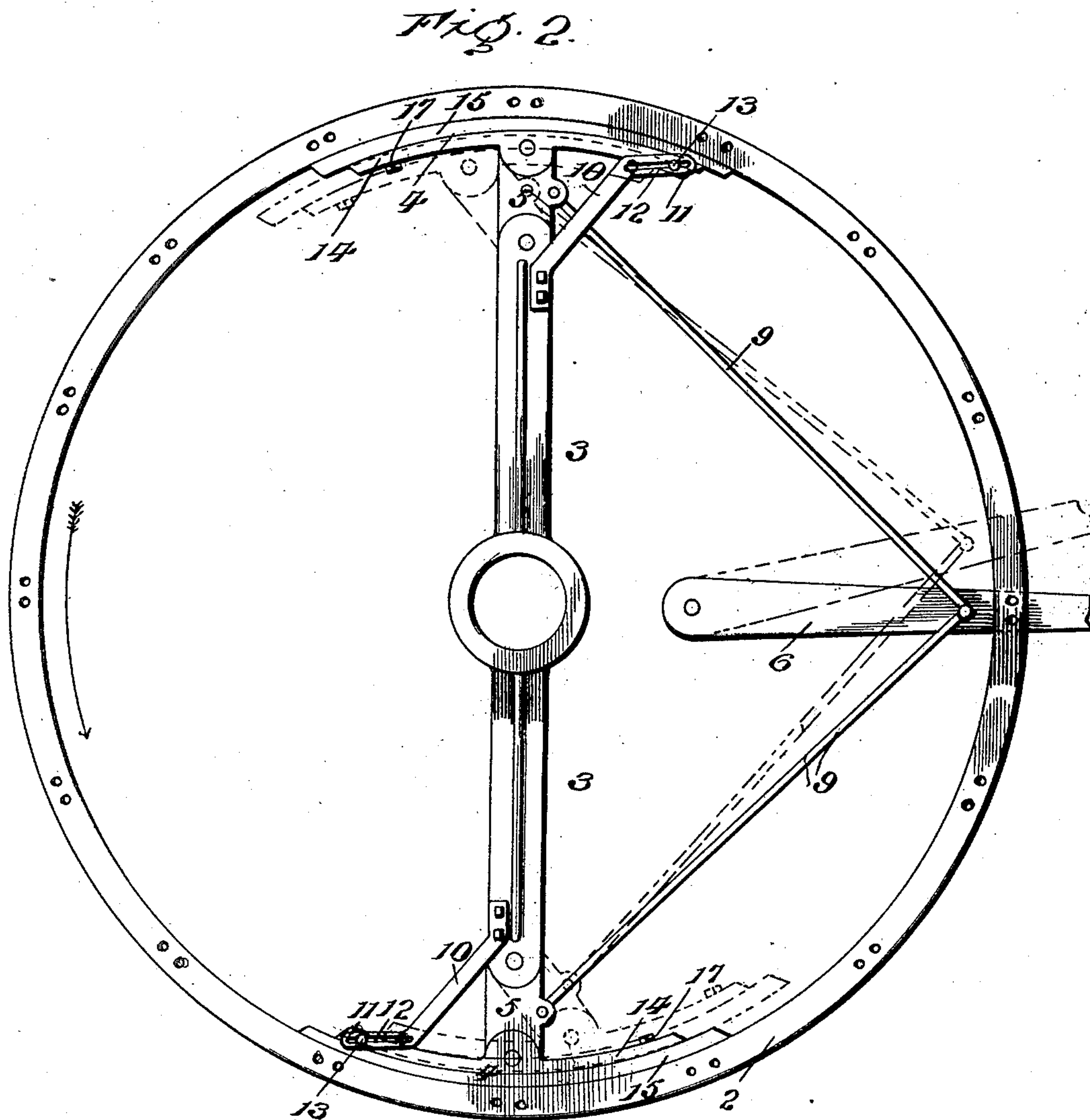
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2 Sheets—Sheet 2.



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BRAKE MECHANISM FOR TRACTION OR PORTABLE ENGINES.

SPECIFICATION forming part of Letters Patent No. 713,781, dated November 18, 1902.

Application filed March 27, 1902. Serial No. 100,280. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. LYONS, a citizen of the United States, residing at Chandlersville, in the county of Muskingum and State of Ohio, have invented certain new and useful Improvements in Brake Mechanism for Traction and Portable Engines; and I 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.

This invention aims chiefly to devise a brake mechanism for use in connection with traction and other engines to check the speed in event of the gearing breaking or similar mishap, the brake mechanism being compact in its arrangement, effective in application, and readily adjustable to compensate for wear.

Inasmuch as the invention is intended principally for traction-engines, it is shown in this connection in the drawings, in which—

Figure 1 is a side view of a traction-engine of ordinary construction, showing the application of the invention. Fig. 2 is a side elevation of the annular brake member, showing the relation of the support to the brake-shoes. Fig. 3 is an enlarged transverse section of one of the brake-shoes. Fig. 4 is a longitudinal section of the brake-shoes.

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.

Inasmuch as the traction-engine illustrated is of ordinary construction and has been selected to demonstrate the merits of the invention, it is not deemed necessary to enter into a detailed description of its construction or working parts. Suffice it to say that the brake mechanism is shown applied to one of the drive-wheels, (indicated at 1.) An annulus 2 is secured to the spokes of the drive-wheel 1, so as to rotate therewith, and may form a part of the ring provided with cog-gearing to mesh with the pinion of the shaft from which the ground-wheel derives power and motion. This annulus or ring 2 constitutes an element or part of the brake mechanism. A bar 3 is stationary being bolted or otherwise secured to a side of the boiler or convenient part of the engine. Brake-shoes 4 are connected by

links 5 with the ends of the bar 3 and are adapted to exert a pressure against the inner surface of the annulus or ring 2. The brake-shoes have an opposite movement and are operated by means of a lever 6, fulcrumed at its inner end to the boiler or body of the engine and having its outer end within convenient reach, so as to be accessible when it is required to set the brake. As shown, the outer end of the lever 6 extends over the footboard 7 in the rear of the engine, and a coil-spring 8 is interposed between said footboard and the rear end of the lever to normally hold the brake out of action. Rods or bars connect the lever 6 a short distance from its fulcrum with the links 5. The upper brake-shoe swings forward and downward, whereas the lower brake-shoe swings upward and rearward, this being shown more clearly by the dotted lines in Fig. 2.

The brake-shoes 4 are longitudinally curved and are pivoted midway of their ends to the links 5 and remain parallel to a given position at all stages of adjustment by means of guides, which, as shown, consist of an arm 10, bolted or otherwise secured at its inner end to the bar 3 and having its outer end portion inclined, as shown at 11, and slotted, as at 12, to receive the pin 13, extended laterally from an end portion of the brake-shoes. Each brake-shoe is composed of a supporting-section 14 and a rubbing-section 15, the opposing or meeting faces of the parts 14 and 15 being of cam formation, so that a relative sliding of the rubbing-section 15 upon the supporting-section 14 will cause an outward movement of the rubbing-section, so as to compensate for wear and insure frictional engagement with the inner surface of the annular brake member 2. A slot is formed in each end of the supporting-section 14 and receives a bolt or fastening 17, extended from the rubbing-section 15, and these fastenings 17 secure the rubbing-section 15 in an adjusted position upon the supporting-section 14.

Should the traction-engine become stalled on an upgrade or tend to back by reason of the gearing breaking or a disarrangement of any of the working parts, a downward pressure upon the rear end of the lever 6 will set the brake-shoes, and a reverse movement of the brake member 2 will set the brake hard

and fast and hold the engine until repairs can be made. Upon starting the engine forward the brake-shoes are released, and by removing pressure from the lever 6 the brake-shoes 5 are moved away from the brake member 2, thereby wholly unshipping the brake and throwing the brake-shoes out of action.

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

- 10 1. A brake mechanism for traction and like engines, the same comprising an annular brake member, a fixed support, brake-shoes, links pivotally connecting the brake-shoes with the said fixed support, actuating means 15 for simultaneously operating the brake-shoes, and guides cooperating with the brake-shoes for keeping them parallel to a given position during all stages of their movements, substantially as set forth.
- 20 2. In a brake mechanism for traction and like engines, a rotatable annular brake member, a fixed support, brake-shoes cooperating with the annular brake member, links pivotally connecting the brake-shoes with the said 25 fixed support, actuating means for simultaneously operating the brake-shoes, arms rigidly attached to the said fixed support and

having their outer ends inclined and slotted, and pins extended from the brake-shoes and entering the slots of the said arms and cooperating therewith to form guides for keeping 30 the brake-shoes parallel to a given position during all stages of their movements, substantially as specified.

3. In brake mechanism for traction and like 35 engines, an annular brake member mounted for rotary movement, a fixed support, brake-shoes having pivotal connection with the said fixed support and adapted to cooperate with the annular brake member, each comprising 40 a supporting-section and a rubbing-section having their meeting faces of cam formation for adjustment of the rubbing-section to compensate for wear, means for securing the two 45 sections of a shoe in an adjusted position, and actuating means for the brake-shoes, substantially as set forth.

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

FRANK W. LYONS. [L. S.]

Witnesses:

CARRIE MURPHY,
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