

(No Model.)

2 Sheets—Sheet 1.

H. HIGGIN.

TRACK DEVICE FOR OPERATING SIGNALS, &c.

No. 596,591.

Patented Jan. 4, 1898.

Fig. 1.

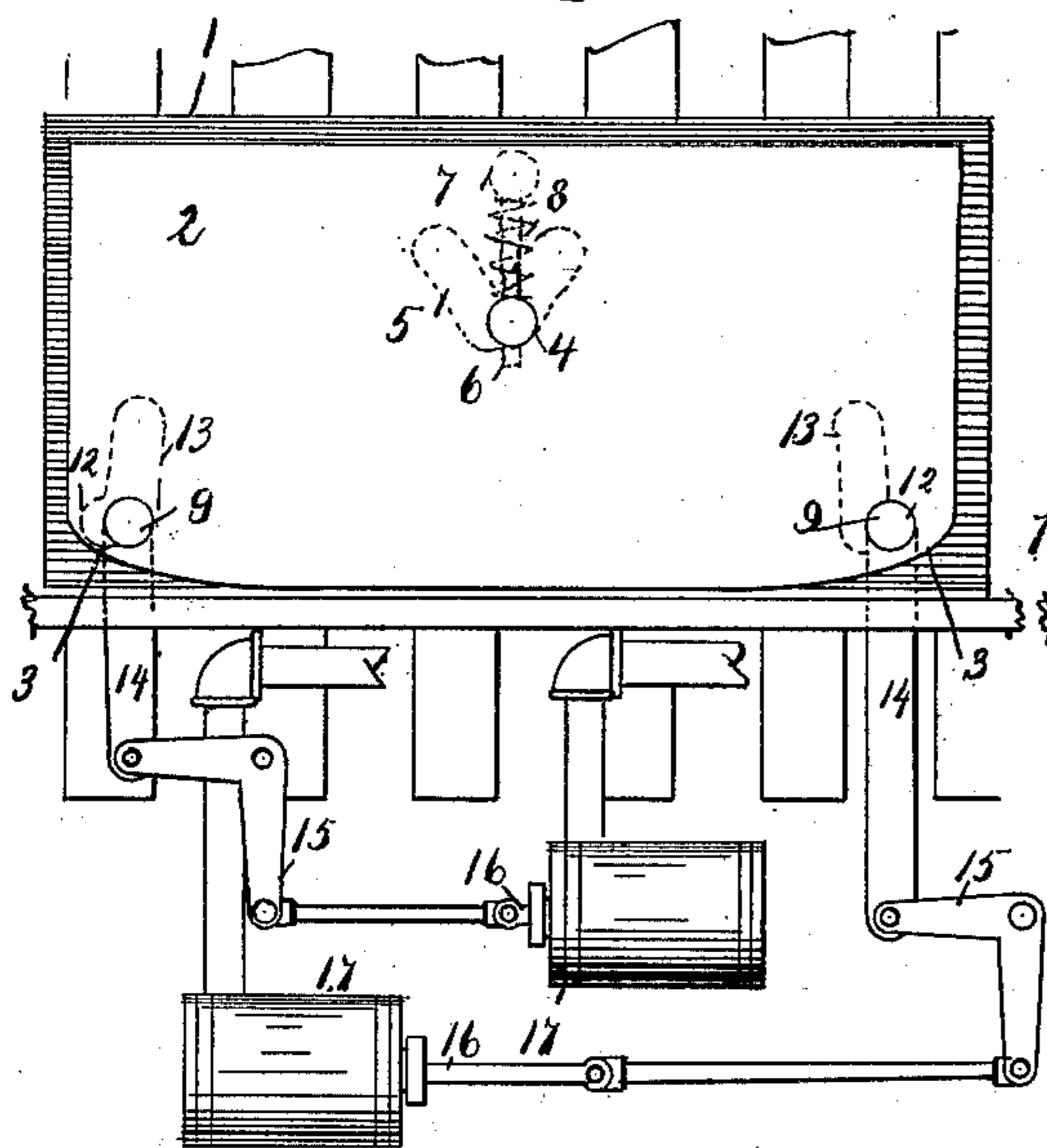


Fig. 2.

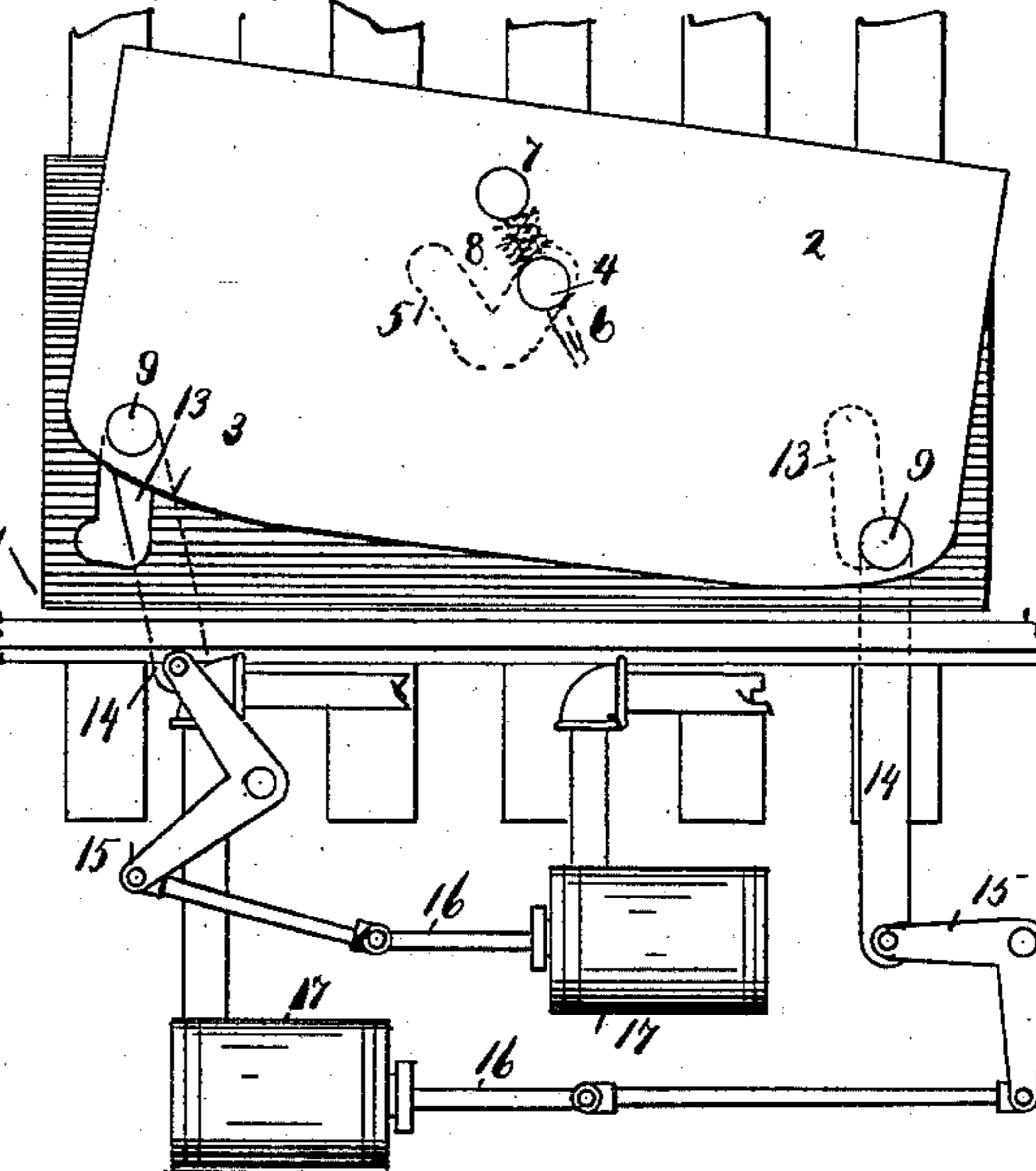


Fig. 3.

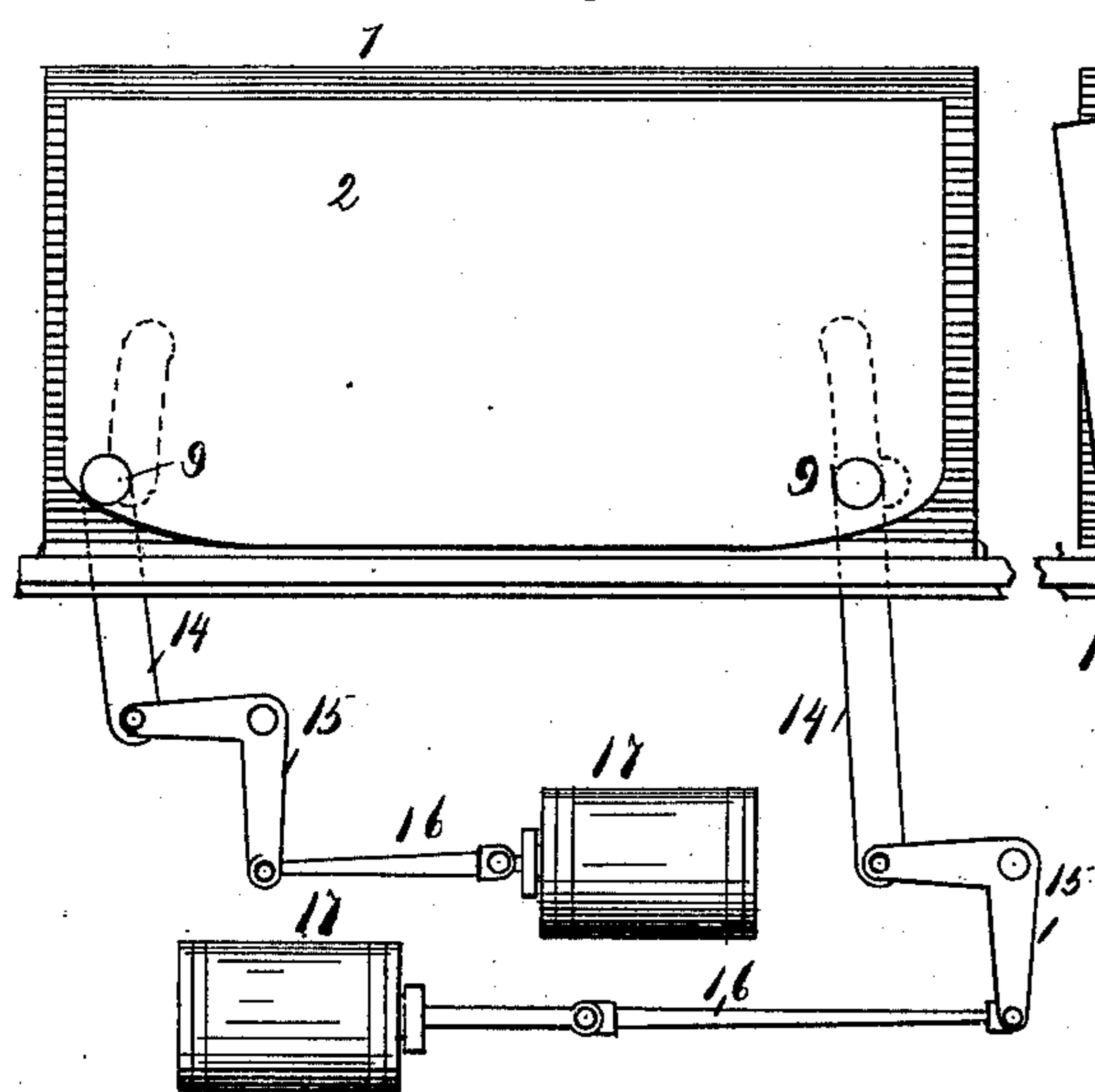
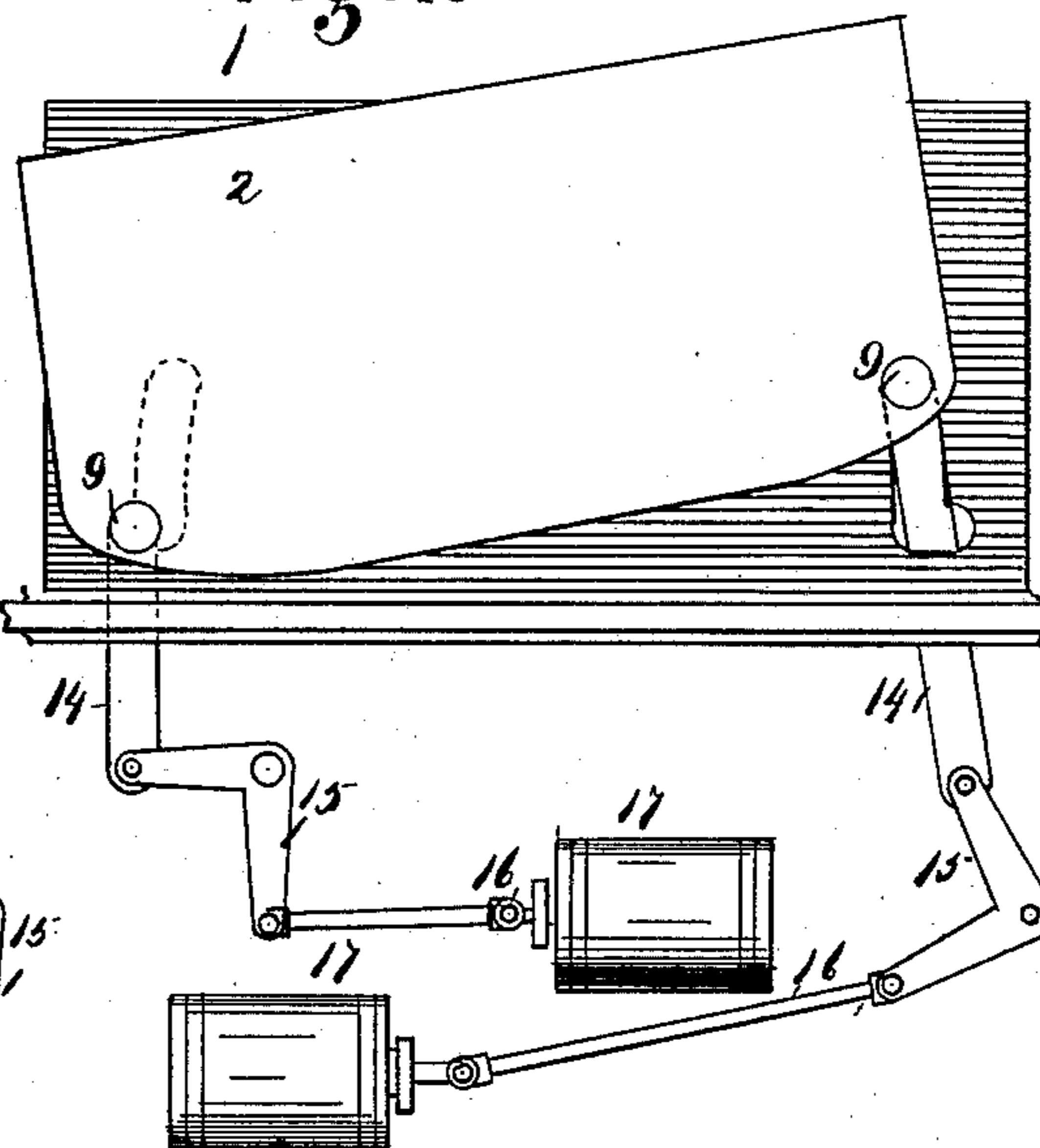


Fig. 4.



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(No Model.)

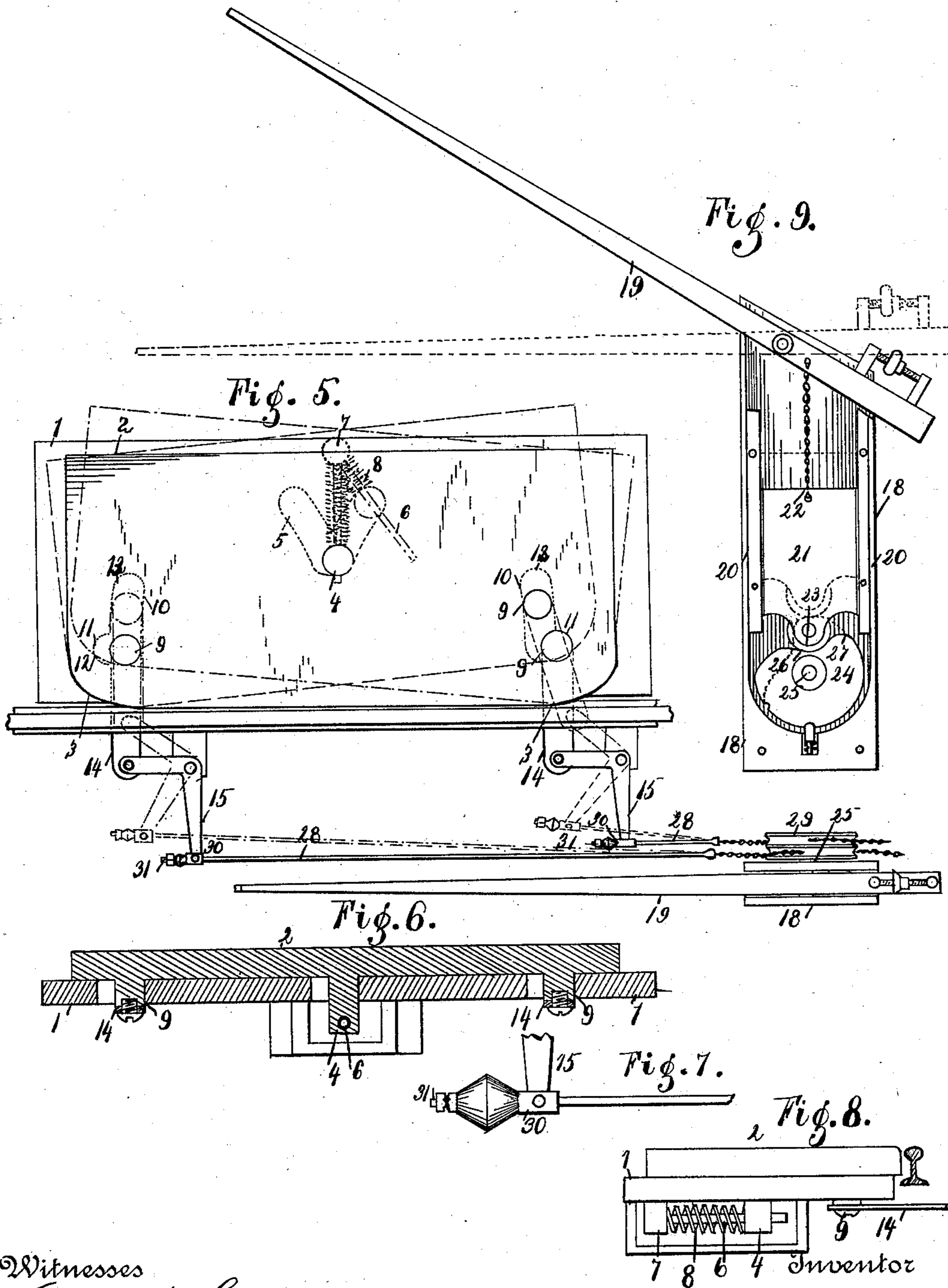
2 Sheets—Sheet 2.

H. HIGGIN.

TRACK DEVICE FOR OPERATING SIGNALS, &c.

No. 596,591.

Patented Jan. 4, 1898.



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# UNITED STATES PATENT OFFICE.

HENRY HIGGIN, OF NEWPORT, KENTUCKY.

## TRACK DEVICE FOR OPERATING SIGNALS, &c.

SPECIFICATION forming part of Letters Patent No. 596,591, dated January 4, 1898.

Application filed November 20, 1896. Serial No. 612,879. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY HIGGIN, a citizen of the United States, residing at Newport, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Track Devices for Operating Gates, Signals, &c., of which the following is a specification.

The object of my invention is to provide a mechanism adapted to be operated by a passing train for announcing the approach or passage of it, for closing or opening a passage across the track, or both, or for operating any form of barricading, signaling, or annunciating device.

My invention consists in means for automatically announcing the approach or passage of a train or closing or opening a passage-way across the track, in mounting a lever-plate adjacent to the track in such position that it will be struck by the wheel-flange of a passing car and driven into a pivotal bearing and then swung on the pivot to actuate the annunciating or barricading mechanism, and in the combination and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 is a plan of my device arranged to operate a fluid-pressure system; Fig. 2, a plan view showing the plate in the position it will occupy after it has been swung on its pivot; Fig. 3, a plan view showing the plate in the position it will occupy after being forced into its pivotal bearing by a wheel traveling from right to left; Fig. 4, a plan view showing the plate in the position it will occupy after having been struck by a wheel passing from right to left; Fig. 5, a composite view showing the device connected with a railway-crossing gate, its normal position being shown by full lines and a position in its movement in each direction by dotted lines; Fig. 6, a section on line 6 6 of Fig. 5; Fig. 7, a detail view showing the method of connecting the levers and operating-rods; Fig. 8, an end elevation of my device; and Fig. 9, a side elevation, partially cut away, of a railway-gate.

The numeral 1 represents a base-plate mounted adjacent to the inner side of one rail of a railway-track.

2 is a lever-plate having rounded corners 3 adjacent to the rail and provided with a

lug 4, adapted to take into a V-shaped slot 5 in the base 1. A pin 6 takes through the lug 4 and into a lug 7, pivoted to the base 1. A spring 8 is mounted on the pin between the lugs in such manner as to press the plate toward the rail and into the apex of the V-shaped slot.

Secured to the lever-plate 2 near its ends are two downwardly-projecting cylindrical lugs 9, each taking through an L-shaped slot 10 in the base 1. In these slots the base 11 of the L is substantially parallel to the track and has at its end a curve 12, corresponding with the periphery of the cylindrical lugs 9, while the stem 13 of the L is substantially at right angles to the track and curved in an arc having as its center the center of the curve 12 at the base end of the slot at the opposite end of the plate. Secured to the lower end of each lug 9 is a link 14, connected at its free end with a bell-crank lever 15, pivoted adjacent to the track. In Figs. 1, 2, 3, and 4 the free ends of the bell-crank levers are connected with pistons 16, working in a cylinder 17. The flange of a car-wheel passing along the track will strike the curved edge of plate 2 and force it in the direction in which the wheel is traveling until lug 9 on the opposite end of the plate engages with the curved wall 12 of its slot, and the plate is then swung on this lug as a pivot, thereby moving the link 14 and actuating the corresponding piston by means of the bell-crank lever 15. It will be seen that when the plate 2 is operated by a wheel traveling from left to right the piston connected with the forward end of plate 2 will be actuated and pressure generated in that cylinder for operating a signal or other device, while the piston connected with lug 9 acting as a pivot will remain stationary. If the plate is operated by a wheel traveling in the opposite direction, the piston which was stationary before will be actuated and the first piston will remain stationary, thus making it possible to operate a system of signals or other devices from either direction.

In Fig. 5 I have shown a composite view of the device connected with a preferred form of gate, consisting of a casing 18, having a gate-arm 19, pivoted to the upper end thereof. Mounted in ways 20 in casing 18 is a sliding weight 21, connected with the rear

arm of the gate-arm by a flexible connection 22 and provided at its lower end with a roller 23, resting on the periphery of a cam 24, carried by an arbor 25, passing transversely through the casing. The cam is provided with a depressed portion 26 and a raised portion 27. By rotating the cam so as to bring the raised portion in contact with the roller the weight is raised and the gate falls of its own gravity, and by revolving it in the opposite direction the weight descends and raises the gate.

The numeral 28 represents rods, each connected at one end by a flexible connection with a sheave 29, carried by arbor 25, one above and one below the arbor. The other ends of the rods pass through sleeves 30, carried by the bell-crank levers, and are provided with end nuts 31. When plate 2 is struck by the flange of a wheel and swung on its pivot, the bell-crank lever, connected with the end first struck, is actuated and the rod connected therewith is moved, thereby rotating the cam and actuating the gate. The first wheel passing the plate draws the rod forward, and as the other wheels pass the plate the sleeve carried by the bell-crank lever simply slides backward and forward thereon and has no effect upon the gate. If the plate is struck from the opposite direction, the cam is rotated in a direction opposite to the first movement, and the gate is actuated in the opposite direction, the first wheel passing the plate operating the gate and the others having no effect thereon.

The device hereinbefore described may be connected with any form of signaling, announcing, or barricading device without departing from the spirit of my invention.

I have made separate application for patent upon the gate hereinbefore described, filed November 21, 1896, Serial No. 613,024.

I claim--

1. The combination of a base; a plate mounted thereon adapted to be struck by a passing wheel and first moved in the direction of movement of the wheel and then swung on a pivot; and a connection between the

plate and a signaling, announcing, or barricading device, whereby the latter may be operated, substantially as and for the purpose set forth.

2. The combination of a base; a plate mounted thereon, connected with a signaling, announcing, or barricading device and adapted to be struck by a passing wheel, moved in the direction of movement of the wheel and then swung on a pivot thereby operating the announcing, signaling or barricading device, and means for returning the plate to its normal position, substantially as and for the purpose set forth.

3. The combination of a base provided with L-shaped slots; a plate mounted on the base and provided with downwardly-projecting lugs taking into the slots, the latter being arranged to allow a limited sliding movement and then a pivotal movement on the lugs; and connections between the plate and a signaling, announcing, or barricading device whereby the latter may be operated, substantially as and for the purpose set forth.

4. The combination of a base provided with L-shaped slots; a plate, having curved corners adjacent to the track, mounted on the base and provided with downwardly-projecting lugs taking into the slots, the latter being arranged to allow a limited sliding movement and then a pivotal movement on the lugs, and connections between the plate and a signaling, announcing, or barricading device whereby the latter may be operated, substantially as and for the purpose set forth.

5. The combination of a base, 1, having L-shaped slots, 10, a plate, 2, mounted on the base and provided with lugs, 9, taking into the slots; links, 14, secured to the lugs and connected with a signaling, announcing, or barricading device whereby the latter is actuated, substantially as and for the purpose set forth.

HENRY HIGGIN.

Witnesses:

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