

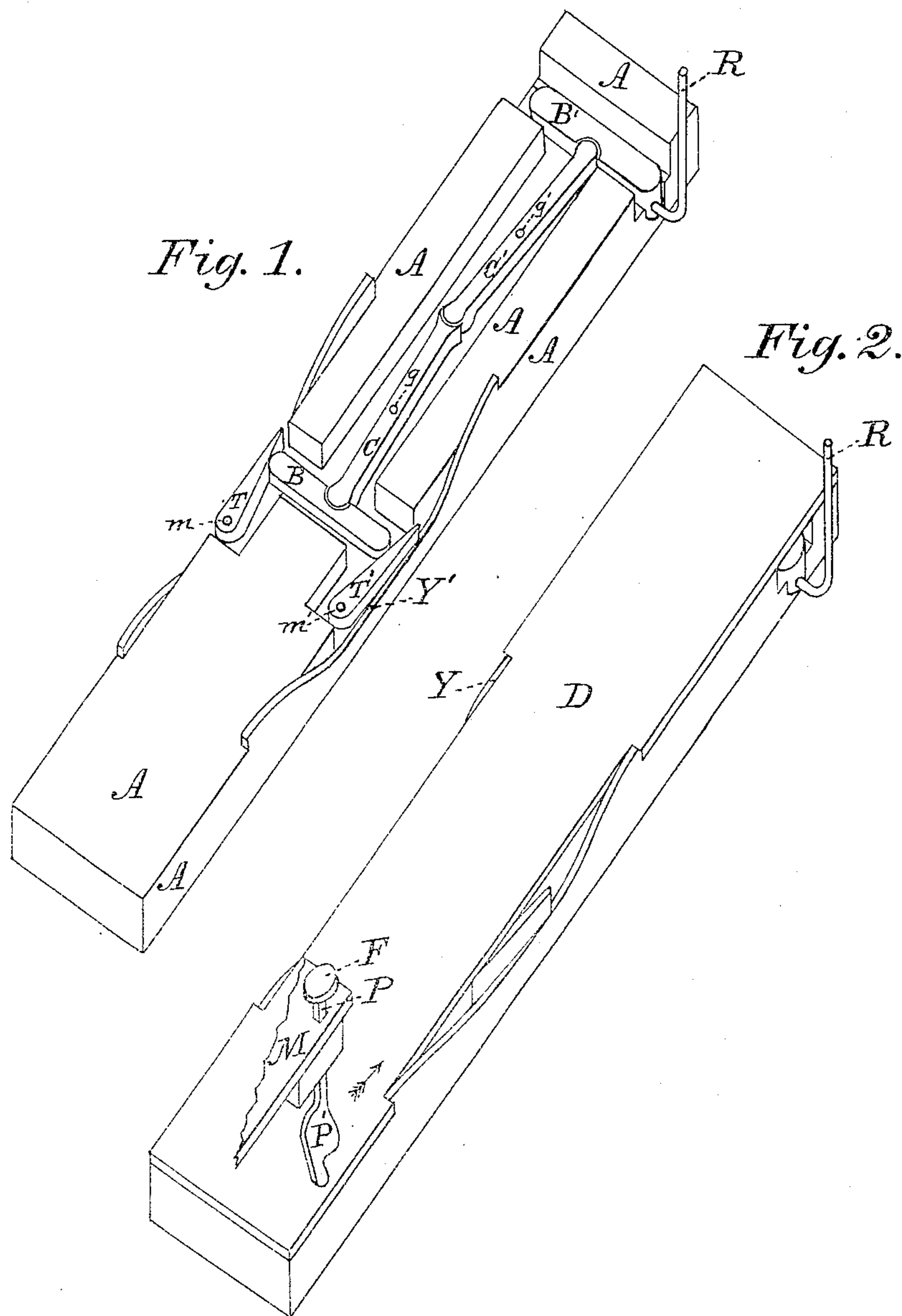
No. 778,806.

PATENTED DEC. 27, 1904.

S. C. SMITH.
STREET RAILWAY SWITCH MOVER.

APPLICATION FILED MAR. 21, 1904.

4 SHEETS—SHEET 1.



WITNESSES:
H. B. Smith M. D.
G. W. Whiteman

Samuel Crawford Smith INVENTOR

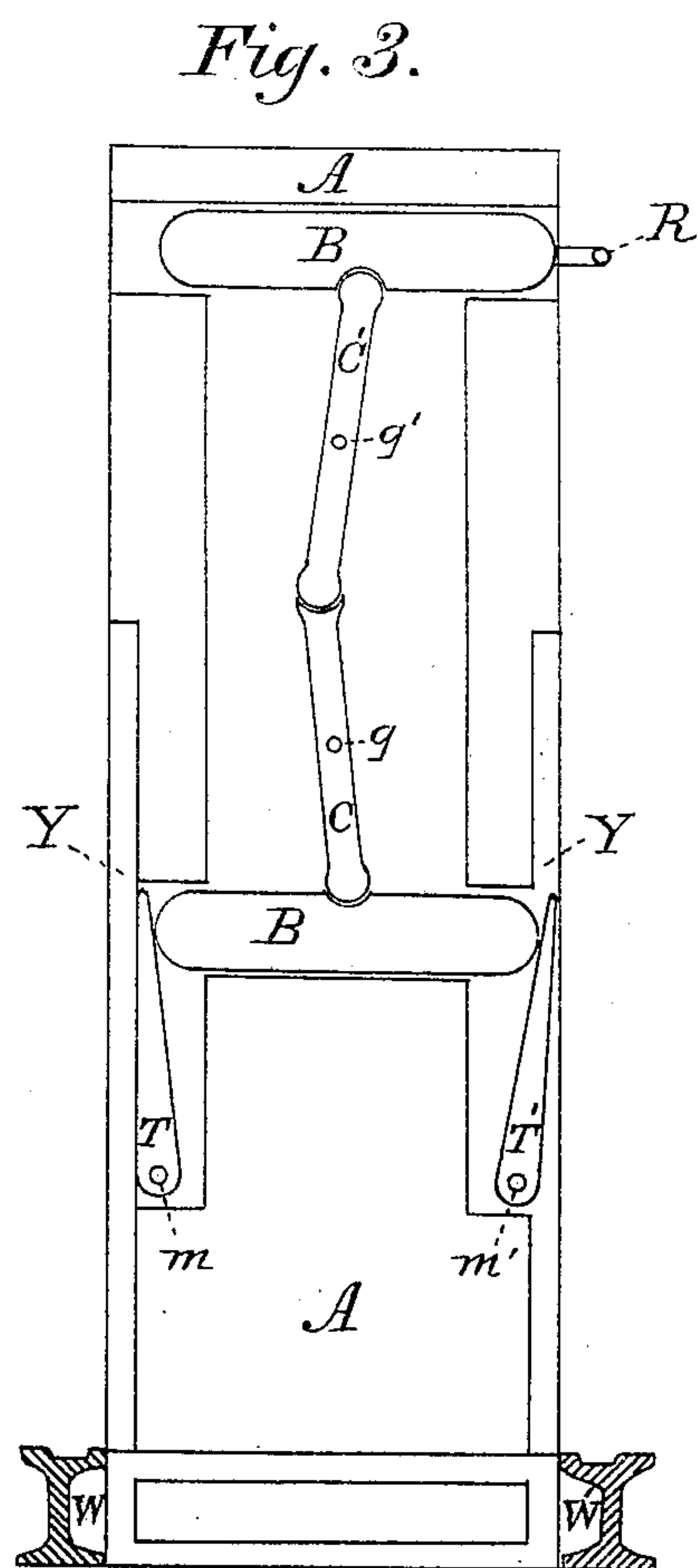
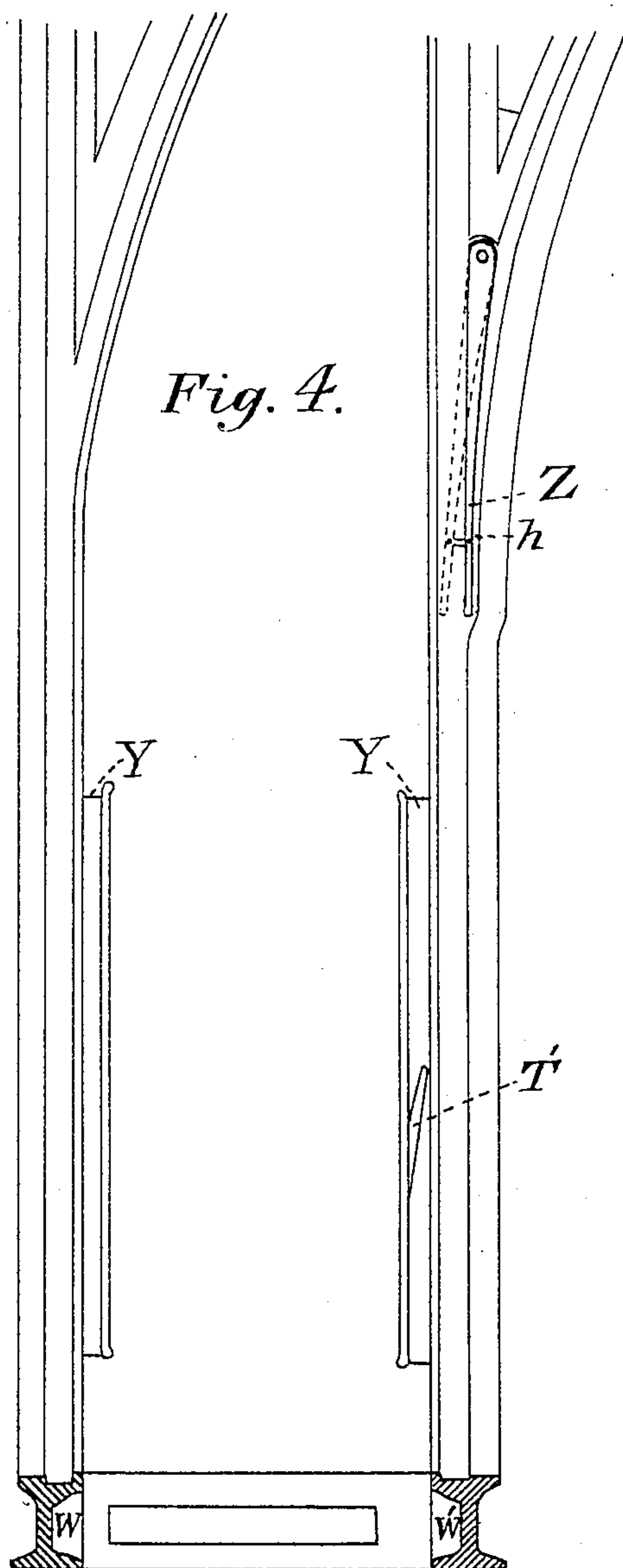
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4 SHEETS—SHEET 3.

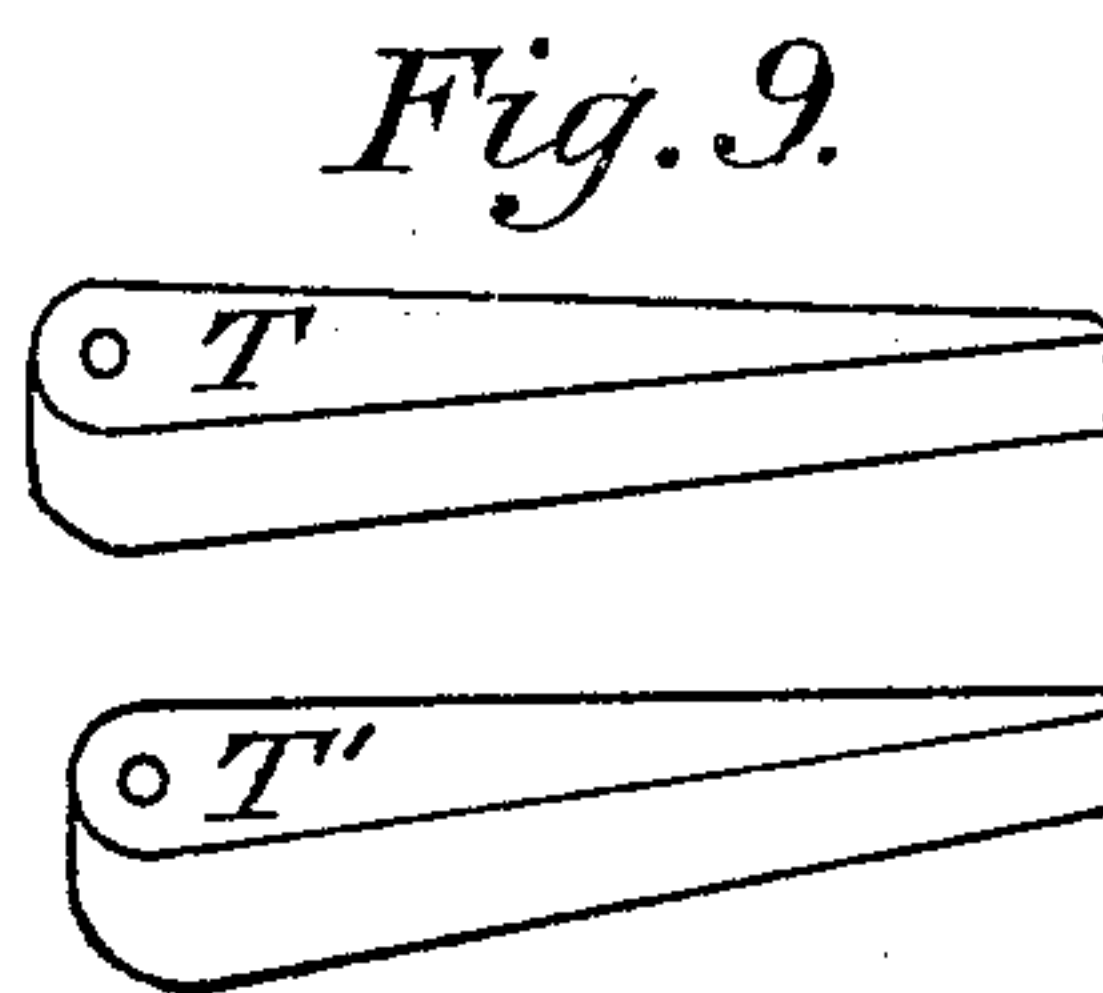
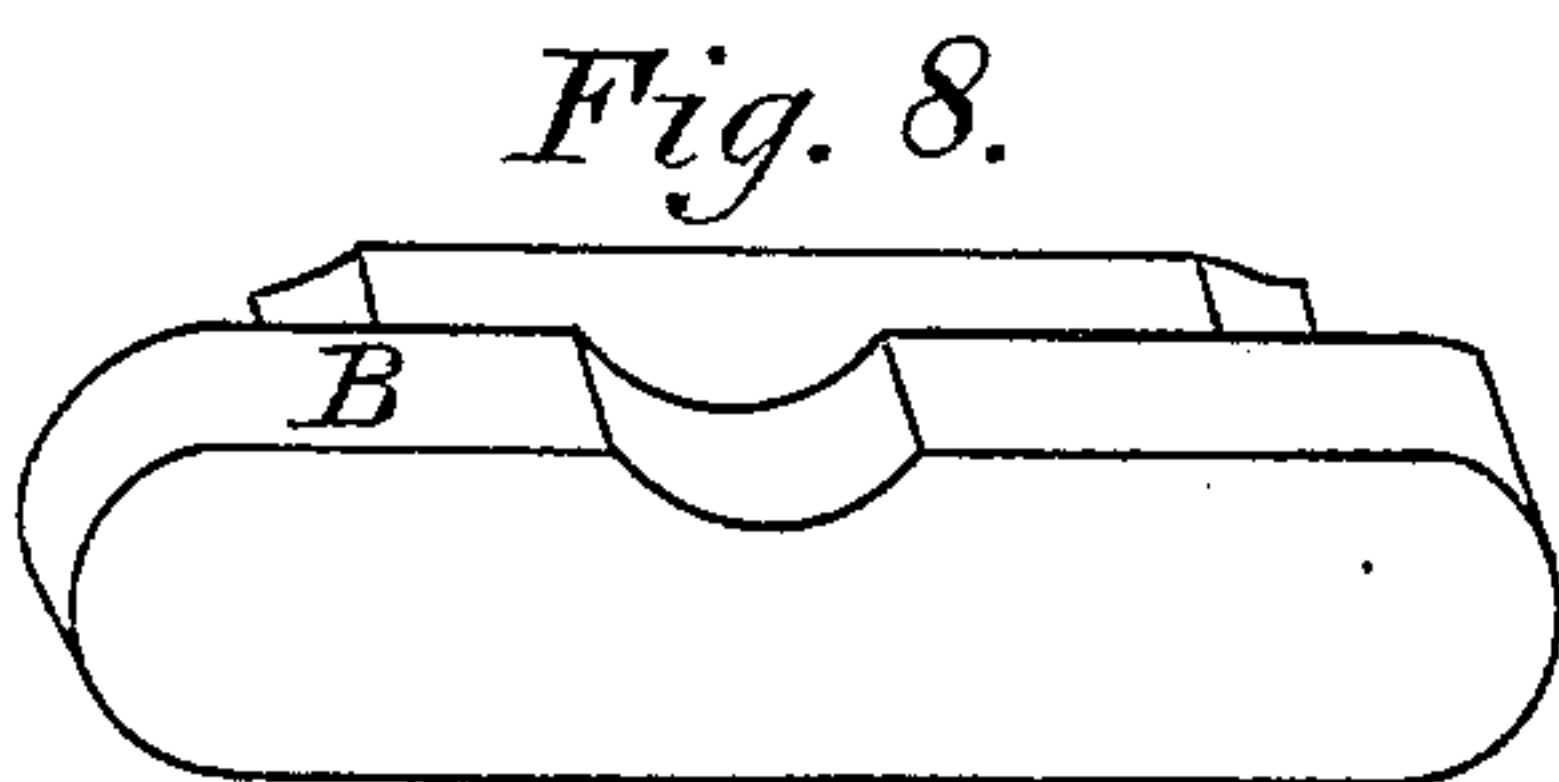
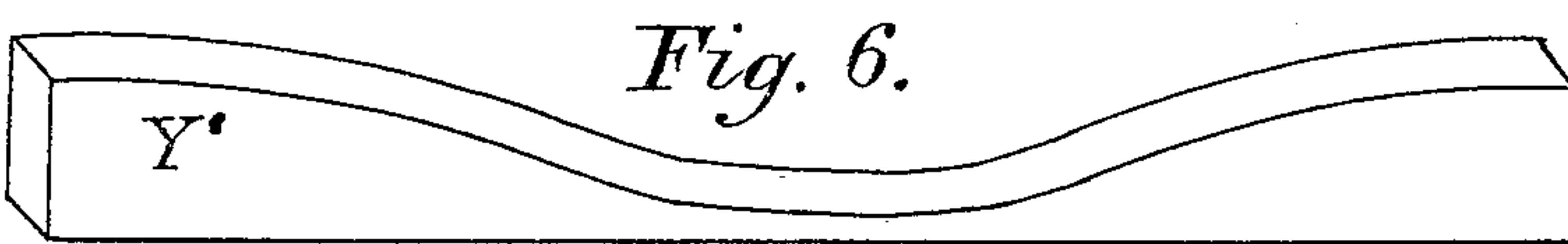
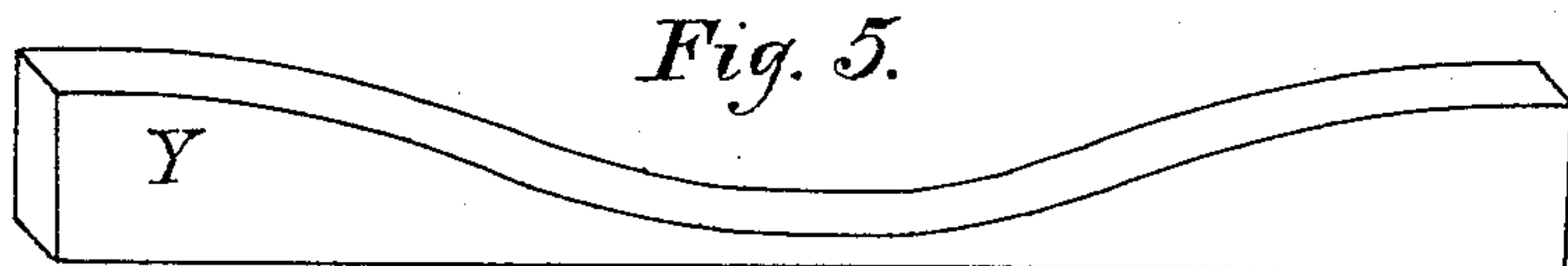
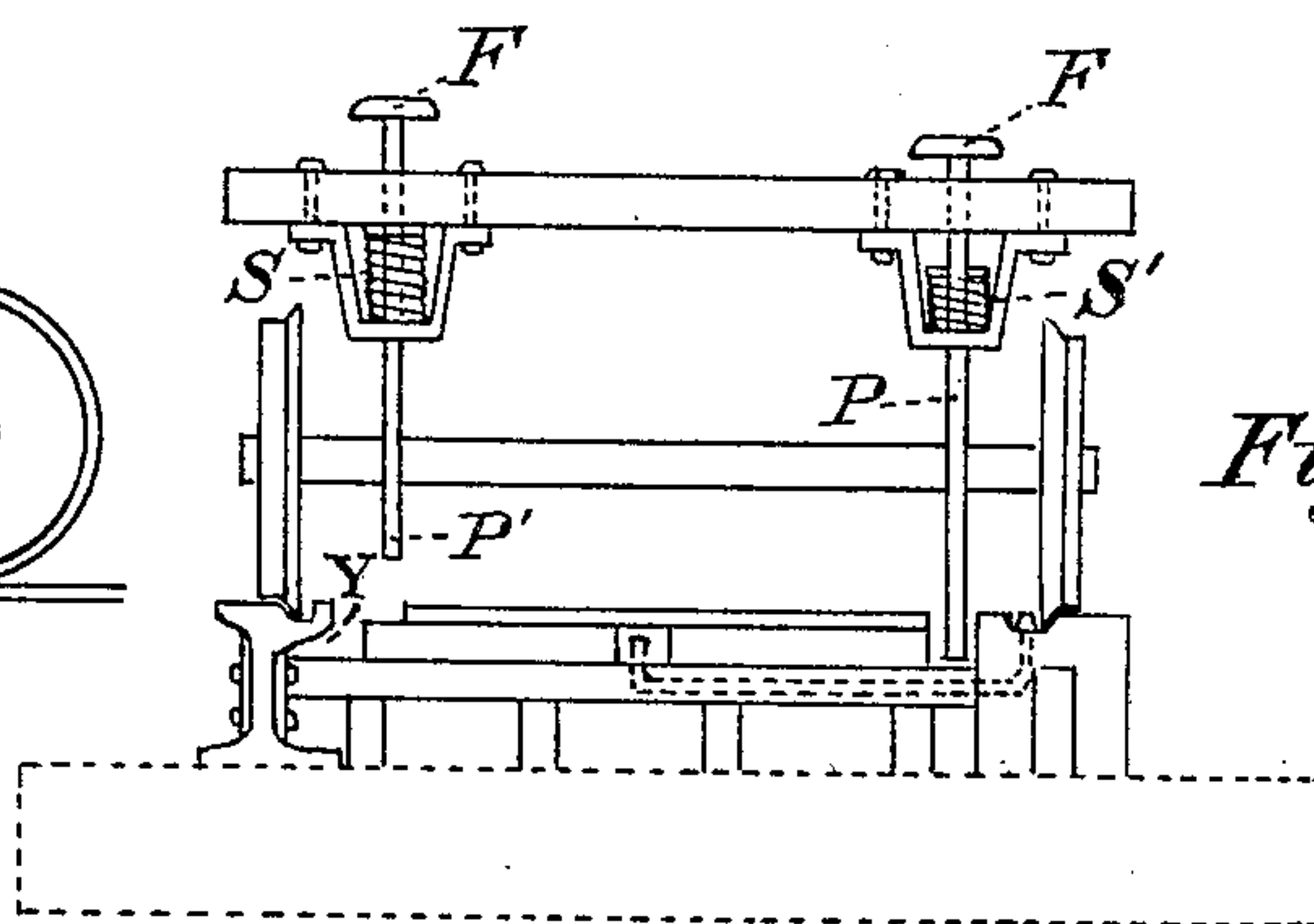
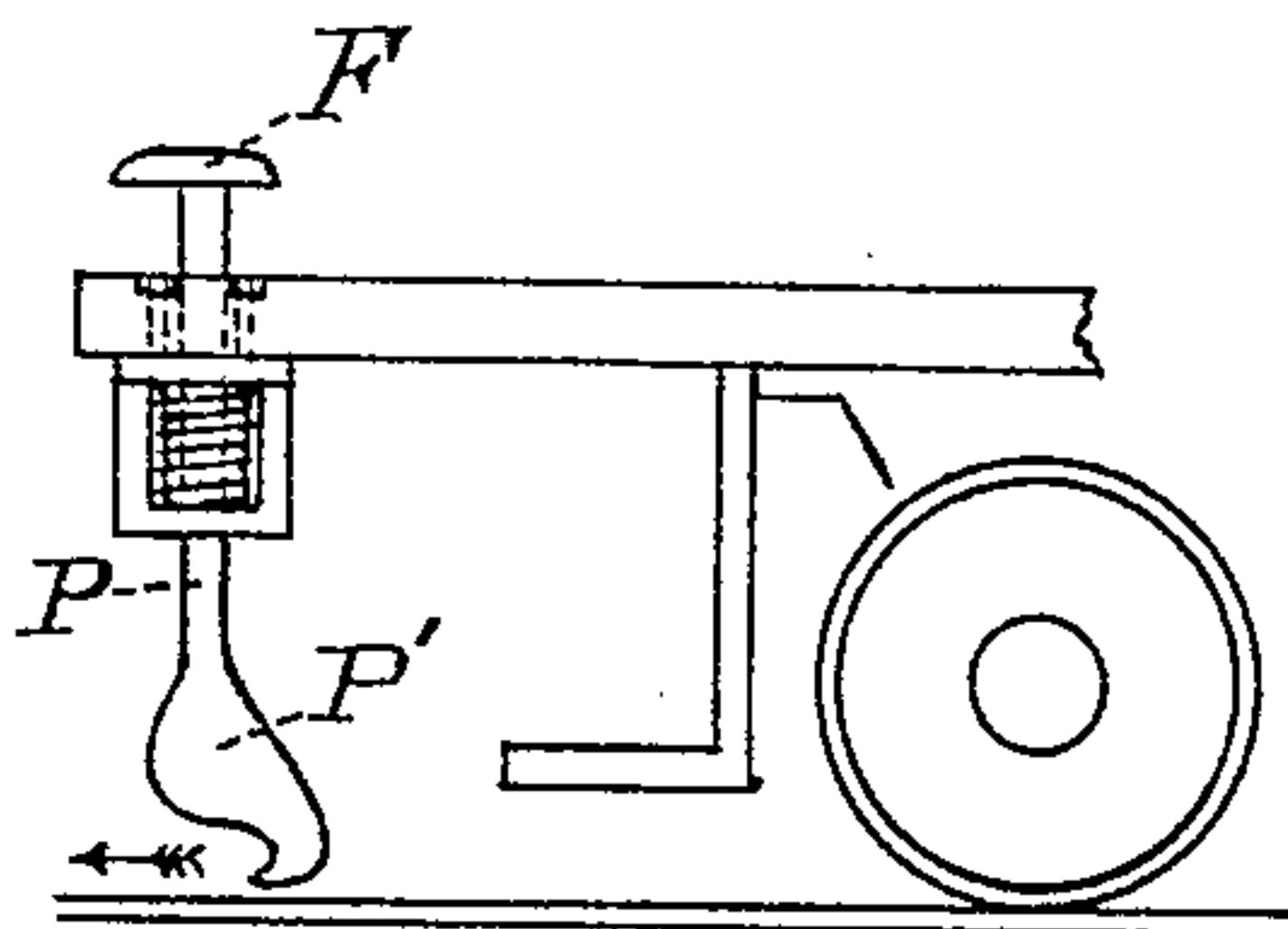
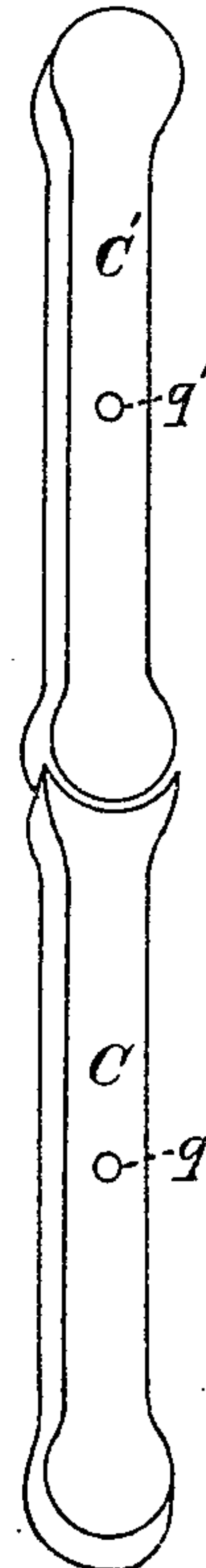


Fig. 10.



WITNESSES:

K. B. Smith M. D.
L. M. Whitman

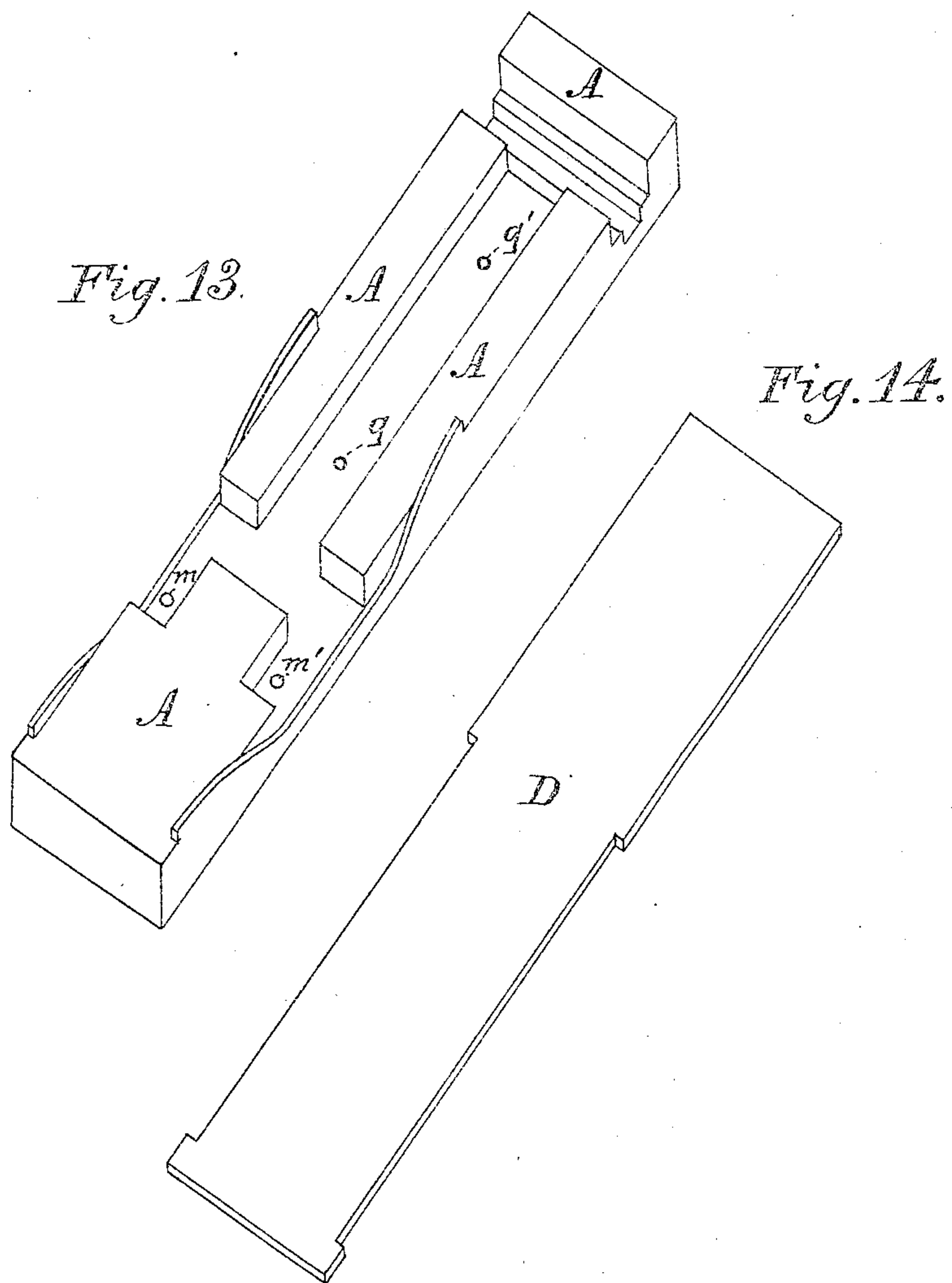
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4 SHEETS—SHEET 4.



WITNESSES:
H. B. Smith M.D.
G. W. Whitman

Samuel Crawford Smith INVENTOR

UNITED STATES PATENT OFFICE.

SAMUEL CRAWFORD SMITH, OF PHILADELPHIA, PENNSYLVANIA.

STREET-RAILWAY-SWITCH MOVER.

SPECIFICATION forming part of Letter: Patent No. 778,806, dated December 27, 1904.

Application filed March 21, 1904. Serial No. 199,299.

To all whom it may concern:

Be it known that I, SAMUEL CRAWFORD SMITH, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Street-Railway-Switch Mover, of which the following is a specification.

My invention relates to a device for operating a street-railway switch in which vertical plungers operate in conjunction with guide-tracks of a bed-plate. The device may be embedded at a sufficient depth to admit of a coat of asphalt over the cover or a course of Belgian blocks or a substantial cast-iron cover at surface of road-bed, as desired.

The invention allows the motorman to retain his position on the car at all times and dispenses with men in large cities whose business it is to move the switches, but who at the same time occupy most dangerous positions in the street centers. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an isometrical view of the switch-mover. Fig. 2 is another view to show the cover on the switch-mover and one end of a street-car with one of the plungers and a plow. Fig. 3 is a plan of the device. Fig. 4 is another plan showing the switch-tongue with $\frac{1}{2}$ the hole wherein R (the switch-shifter) moves underneath the tongue. Figs. 5 and 6 show the curved guide-tracks either cast or connected with the bed-plate A. Figs. 7, 8, 9, and 10 show the various castings composing a "sleepy-jack." Fig. 11 shows a side view of truck-platform of a street-car, plunger, and front car-wheel. Fig. 12 shows a cross-section of a plunger at rest and a plunger in action in its passage through right-hand guide-track. Figs. 13 and 14 are castings of bed-plate and cover.

Similar letters refer to similar parts throughout the several views.

A is the bed-plate, B B' C C' the sleepy-jack, and T T' lever arms or thrusts.

P is the plunger moving up and down in a square or round hole in car-platform and passing through a spring S to depress and elevate P', (the plow.)

Y Y' represent part of the bed-plate, called the "guide-track."

W W' are wedges interposed between the T-rail and the guide-track to complete guide. Into this guide-track of the bed-plate the plunger P descends, and the plow P' traverses the guide-track, which in its passage it cleanses of dirt, snow, or debris by pressure from foot of motorman and after moving the lever-arm T, centered on pivot M, set in bed-plate A, ascends to its position at rest in the car-platform, the motorman pressing his right foot on the right-hand button F to move the car to the right of switch or pressing left foot on left-hand button F' to move the car to the left of switch.

When the plow presses the lever-arm to the left hand, it sets in motion the sleepy-jack set in bed-plate A throughout its entire length, the parts C C', cast or pivoted at q and q' , either bolted to each other or free to move tangentially, as shown in the drawings, which operating on the switch-mover R, which plays in a hole in the switch-tongue and, as shown in Fig. 3, pulls the switch-tongue Z to the right, as indicated by the dotted lines X, as shown in Fig. 4, and the car switches off or moves to the right, or by pressing left-hand button in the same manner the car will swing to the left.

The switch-mover may be set at any distance desired from the switch, according to the length of the sleepy-jack. In darkness or in snow-storms it will operate the same with certainty without stopping the cars and at the same time not interfering with the old method of moving the switch by hand by the motorman, whose car may not be equipped to do the work.

Underneath the bed-plate A, which may be of cast-iron throughout, one or more holes may be made to communicate with the sewer, and thus drain the water and prevent freezing. Petroleum as a lubricator is a safeguard against freezing, and the several parts of the switch-mover may be hollow-cast as receptacles for petroleum, which may ooze through perforations in the bottom of the parts in sufficient quantities to check any tendency to freeze.

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

1. The combination in a railway-switch and its complemental tongue of a bed-plate and cover, grooves extending substantially from top to bottom of said plate and forming guides for plungers carried by a car, pivotal members alternately lying in the path of said plungers and means between the pivotal members and said tongue for shifting the same, substantially as described.

2. The combination in a railway-switch and its complemental tongue of a bed-plate and cover, inclined grooves extending substantially from top to bottom of said plate and forming guides for plungers carried by a car, pivotal members alternately lying in the path of said plungers and a series of levers between the pivotal members and said tongue for shifting the same, substantially as described.

3. In a railway-switch, the combination of the rails, switch-tongue and a switch-mover to which the tongue is connected, of a system of levers arranged beneath the level of and between the said rails and pivotal members adapted to be alternately operated by a moving car for shifting said tongue, substantially as described.

4. In a railway-switch, the combination of the rails, switch-tongue and a switch-mover to which said tongue is connected, of a bed-plate arranged below the level of the rails, inclined grooves, in the said plate, pivotal members alternately adapted to lie across the said grooves and a sleepy-jack between said members and the switch-mover, substantially as described.

SAMUEL CRAWFORD SMITH.

Witnesses:

H. B. SMITH,

G. W. WHITEMAN.