

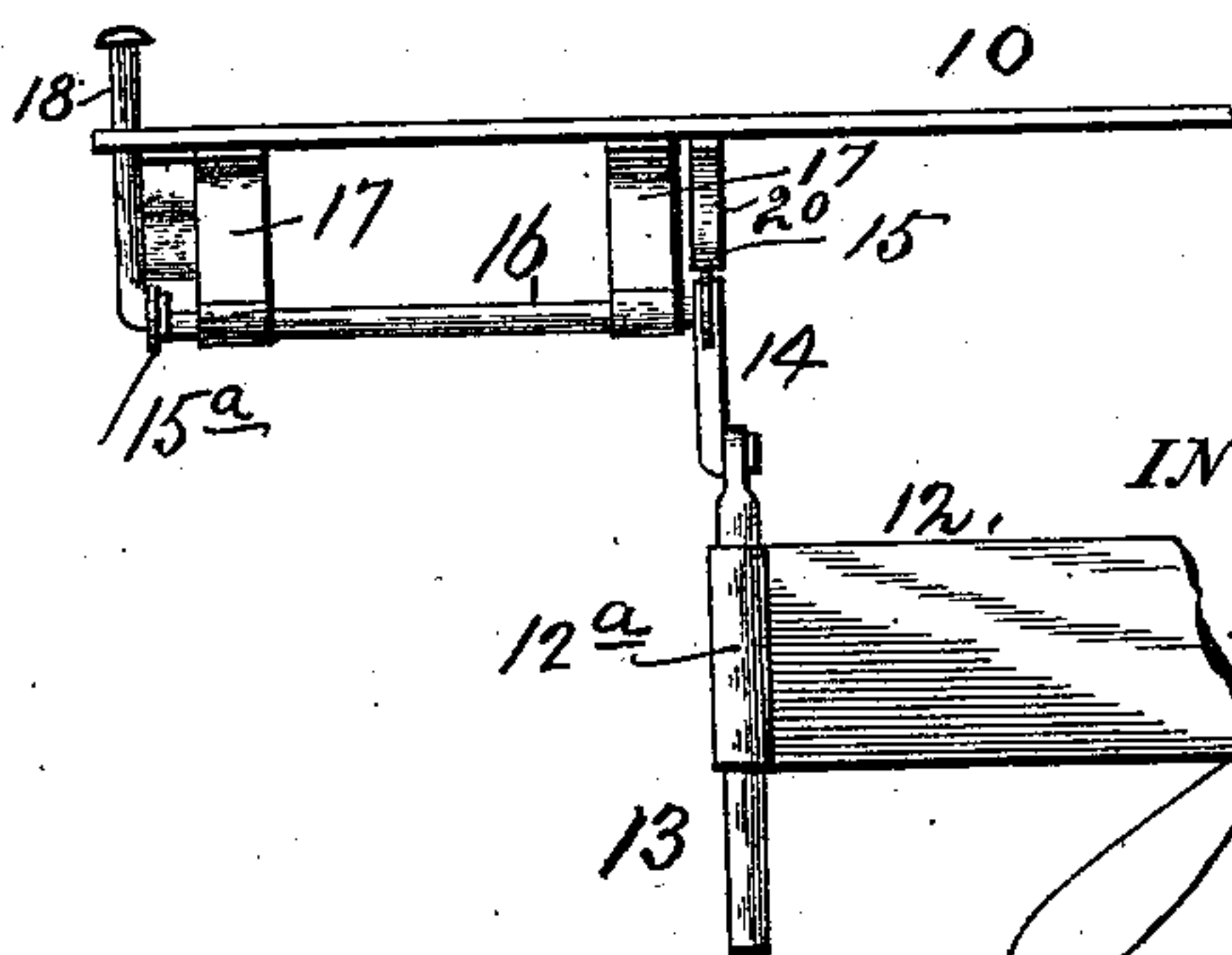
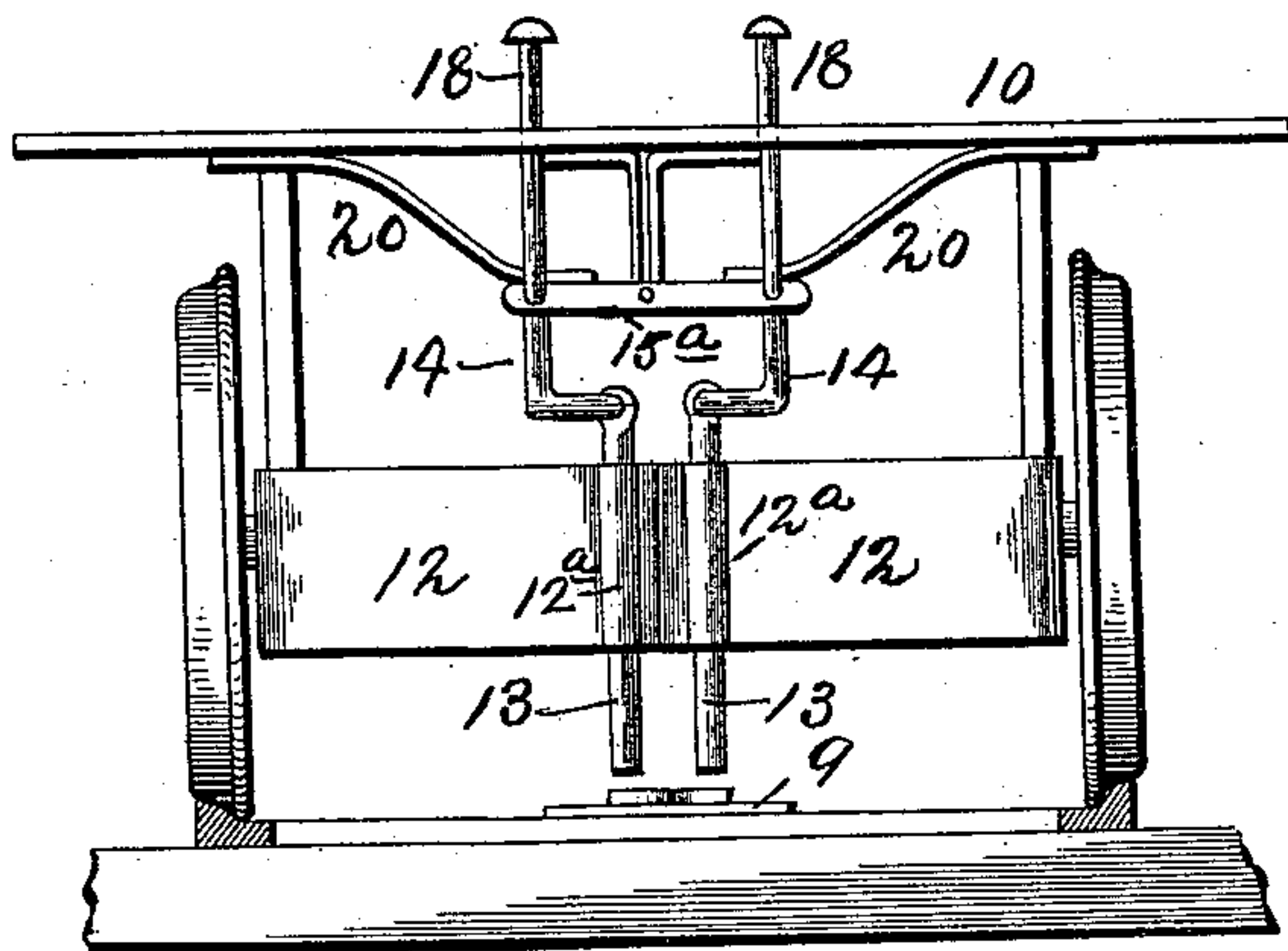
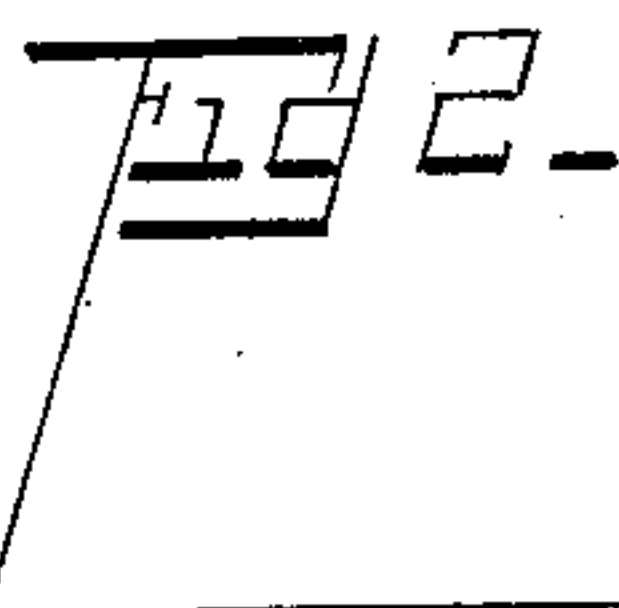
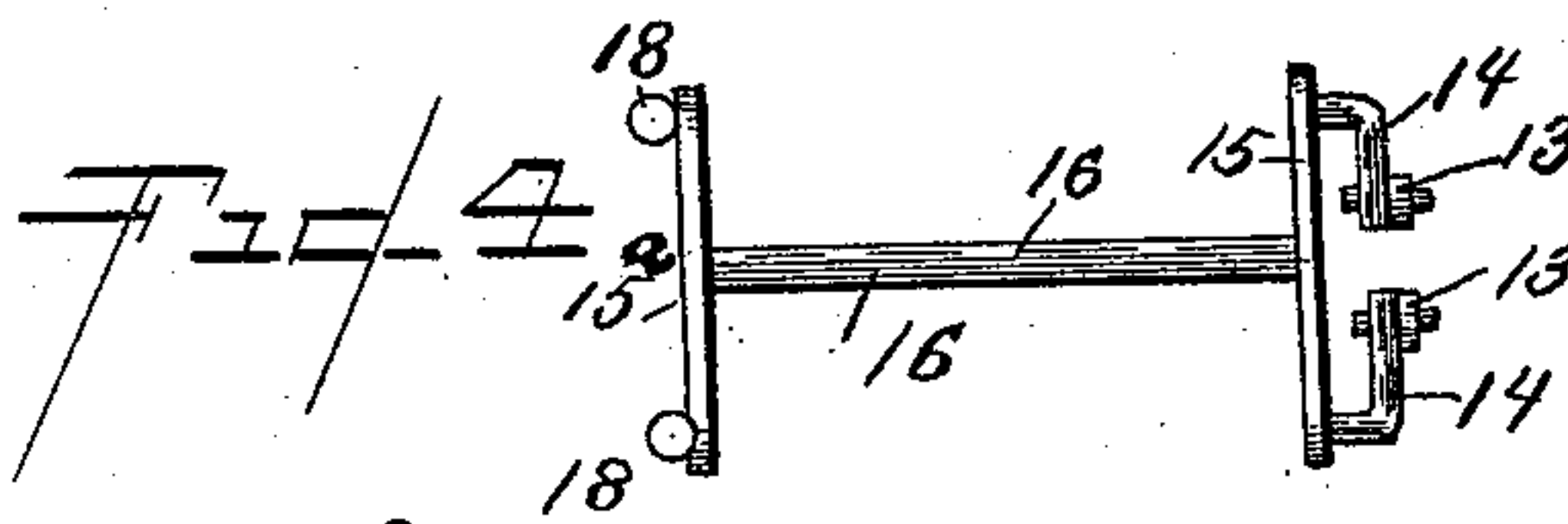
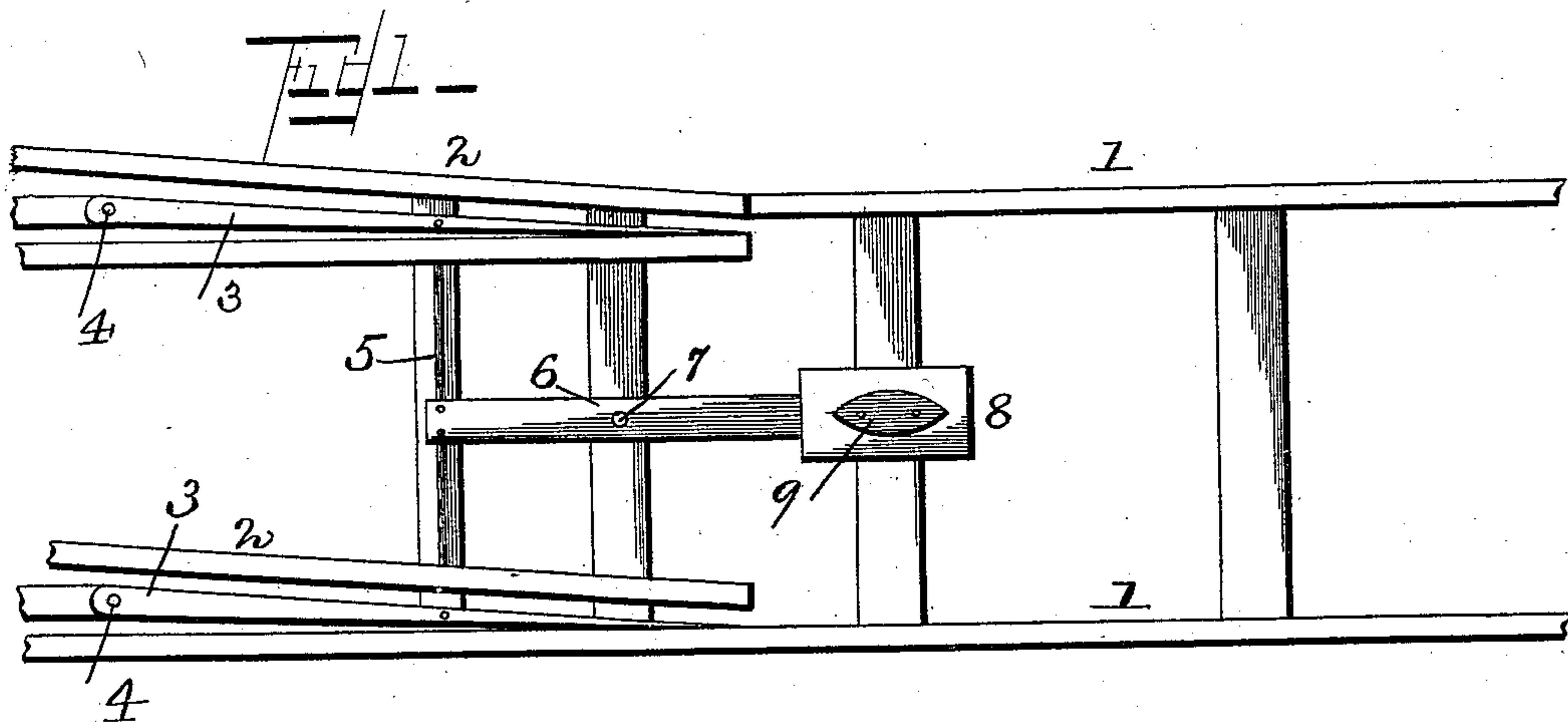
(No Model.)

W. H. FARMER & T. WHITE.

MEANS FOR OPERATING THE SWITCHES OF STREET RAILWAYS.

No. 466,602.

Patented Jan. 5, 1892.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM H. FARMER AND THOMAS WHITE, OF SAGINAW, MICHIGAN.

MEANS FOR OPERATING THE SWITCHES OF STREET-RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 466,602, dated January 5, 1892.

Application filed April 8, 1891. Serial No. 388,107. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM H. FARMER and THOMAS WHITE, citizens of the United States, and residents of Saginaw, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Means for Operating the Switches of Street-Railways; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Our invention relates to improvements in means for operating the switches of street-railways.

As is well known in street-railways, where a car is to be switched from a main track to a side line, it is customary for the driver to stop the car just before it reaches the switch, and by means of a rod or other instrument to actuate the switch-rails. This is a very unsatisfactory method, as frequently, especially in the night, the driver has to leave the car and operate the switch-rails by hand, thus not only involving an unnecessary amount of labor, but also entailing delay in running the cars. It also sometimes happens that the car passes beyond the switch-rails, owing to miscalculation on the part of the driver, rendering it necessary to back the same before the switch-rails can be operated.

The object of this invention is to obviate the above objections and provide means whereby the switch-rails can be readily, reliably, and efficiently operated without the driver stopping the car.

The invention consists in the novel construction and combination of parts, hereinafter fully described, and specifically pointed out in the claim.

In the accompanying drawings, Figure 1 represents a plan view of a railway, showing our improved switch in connection therewith. Fig. 2 is a cross-section of the same, also showing a car with the means for operating the switch-rails. Fig. 3 is a detail side view of the devices for operating the switch-rails. Fig. 4 is a detail plan view of the same.

In the said drawings, the reference-numeral 1 designates the main rails of an ordinary street-railway.

The numeral 2 denotes the side track, the end or switch rails 3 of which are pivoted at 4, so that they can be shifted, so as to cause the car to travel on the main or side track, as is well understood by those skilled in the art.

So far the parts referred to may be of any ordinary or suitable construction. Intermediate of their ends and at about the center the switch-rails 3 are connected together by means of a transverse bar 5, which in turn is connected with a horizontal lever 6, pivoted to the cross ties or sleepers at 7. At its opposite or free end this lever is provided with a plate 8, having an upwardly-projecting cam 9, being an oblate, having rounded sides and sharp ends, as clearly shown in Fig. 1.

The numeral 10 designates the front platform of an ordinary street-car having at its forward end two transverse bars 12, which are united or connected together at their inner ends. Working in sleeves 12^a on these bars are two vertical rods 13, either of which when pressed down, as hereinafter described, is capable of engaging with the cam 9, so as to actuate the same. At their upper ends these rods are connected by means of links 14 with a rock shaft or arm 15, secured to a horizontal shaft 16, journaled in brackets 17, depending from the under side of the car. The front end of this shaft 16 is provided with a rock-shaft 15^a similar to shaft 15. To the ends of this shaft are secured upwardly-projecting rods 18, which pass up through the floor of the car and are so located and arranged as to be easily depressed by the foot of the driver when required.

20 20 designate two flat springs, one end of each of which is secured to the car while the other end bears upon the rock-shaft 15, so as to return the parts to normal position after being actuated.

The operation is as follows: When the parts are in their normal positions—that is to say, the rods 13 being elevated—a car in passing over the road would not actuate the switch-rails as the said bars would not come in contact with the cam 9. If, however, the driver de-

sires to operate the switch-rails he depresses one or the other of the rods 18 by his foot, which through the medium of the rock-shafts, horizontal bar, and links will depress one of
5 the rods 13, causing it to come in contact with the cam 9 and shift it to the right or left, according to which rod is depressed, and correspondingly moving the switch-rails.

Having thus described our invention, what
10 we claim is—

In a street-railway car, the combination of the upwardly-projecting rods, the rock-shaft to which said rods are connected, the horizontal rod to which said rock-shaft is secured,
15 the rock-shaft secured to the opposite end of

said rod, the links connected with the rock-shaft, the vertical rods connected with the links and adapted to actuate a switch-rail, and the springs secured to the car and bearing upon one of said rock-shafts, substantially as described.

In testimony that we claim the foregoing as our own we have hereunto affixed our signatures in presence of two witnesses.

WILLIAM H. FARMER.
THOMAS WHITE.

Witnesses:

C. I. BEATTY,
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