No. 724,955. PATENTED APR. 7, 1903.

J. A. SCHNELL.

MECHANICAL MOVEMENT.

APPLICATION FILED JAN. 17, 1903.

NO MODEL.

Fig. 3

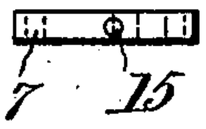

Fig. 4.

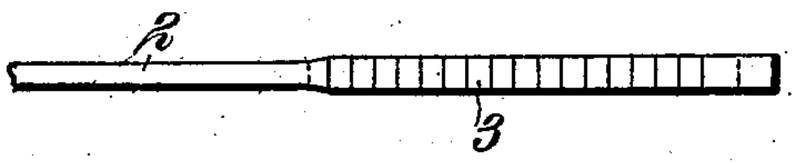

Fig. 5.

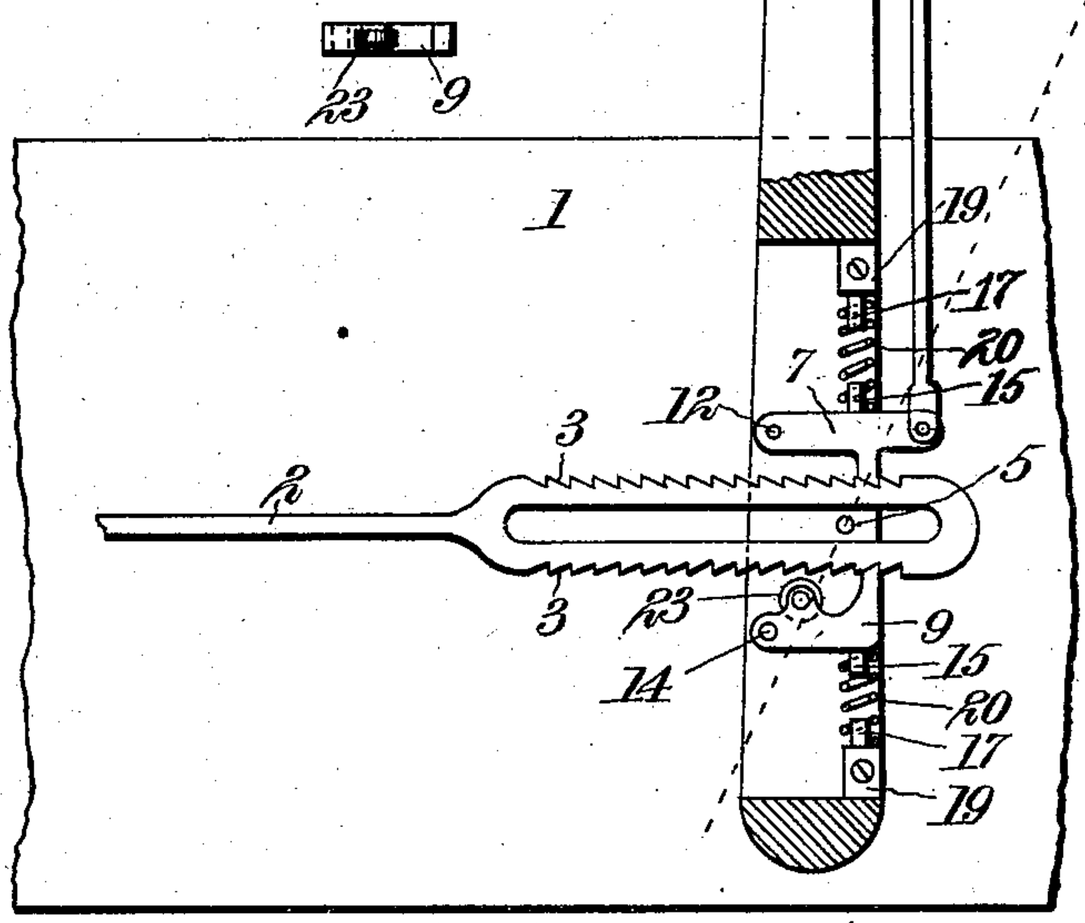

Fig. 1.

Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

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MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 724,955, dated April 7, 1903.

Application filed January 17, 1903. Serial No. 139,387. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. SCHNELL, of Hampstead, in the county of Carroll and State of Maryland, have invented certain Improvements in Mechanical Movements, of which the following is a specification.

This invention relates to certain improvements in that class of mechanical movements in which a longitudinal motion in one direction of a bar provided with ratchet-teeth on its edges is effected by means of a vibratory hand-lever having two pawls situated at opposite sides of the fulcrum. In such apparatus one pawl engages with a set of ratchet-teeth and moves the lever forward, while the other is moving back to take hold of the other set.

The present invention consists in novel means whereby the actuating-pawls are detached from the ratchet-teeth of the bar to admit of the backward or return movement of the same, as will hereinafter fully appear.

In the further description of the said invention which follows reference is made to the accompanying drawings, forming a part hereof, in which—

Figure 1 is a side view of the improved combination of mechanical devices with a part of the hand-lever thereof removed. Fig. 2 is an edge view of a part of the hand-lever alone. Figs. 3, 4, and 5 are details of the apparatus.

Referring now to the drawings, 1 is a board which will represent a part of the side of a wagon when the invention is employed as part of a hand-brake mechanism, one of the many uses to which the invention may be applied, and 2 a bar leading to the mechanism which directly applies the brake-shoe. The bar 2 is slotted at its end, and the edges of the slotted portion are provided with ratchet-teeth 3.

4 is a vibratory hand-lever, the lower end of which is slotted for the reception of the ratchet-bar 2, and 5 a bolt which passes through the said hand-lever, of which it is the fulcrum, and the slotted bar 2 and is secured in the board 1.

7 and 9 are pawls, the former situated above and the latter beneath the slotted bar 2, with their points arranged to engage with its ratchet-teeth. These pawls are pivoted to the hand-lever 4, respectively at 12 and 14, and each is provided with a pin 15, which is connected to a similar pin 17, projecting from a fixed block 19, by means of a spiral spring 20.

With the construction described it will be understood that in the vibration of the hand-lever 4 the bar 2 will be moved forward or in the direction indicated by the arrow in Fig. 1, and that as one pawl is carrying the bar forward the other is moving backward to take hold of the ratchet-teeth upon the reversed movement of the hand-lever.

To provide means for lifting the upper pawl from contact with the teeth of the bar 2, it is connected by a link 21 to a hand-operated bell-crank 22, pivoted to the upper end of the hand-lever.

The lower pawl is unprovided with any such hand detaching device and instead is furnished with a roller 23, or in some cases merely a projection, which in the ordinary vibration of the hand-lever is not in contact with the teeth of the bar 2; but when the hand-lever is made to take an extreme forward position, or to that indicated by the dotted oblique line x, the roller is forced against the teeth and the point of the pawl detached therefrom.

To apply the brake, the hand-lever is vibrated until the brake-shoe comes in contact with the tire of the wheel; but should it be necessary to relax the pressure of the brake-shoe on the wheel without throwing off the brake the upper pawl is lifted by means of the hand-operated bell-crank and its link. The brake-shoe will then be held by the lower pawl only, and by backing the hand-lever the pressure on the wheel can be reduced.

To throw off the brake entirely, provided the upper pawl is lifted, the hand-lever is pushed forward to the position indicated by the dotted line x, which detaches the point of the pawl from the teeth and causes them to rest on the roller, which offers no obstacle to the return or backward motion of the ratchet-bar.

I claim as my invention—

A slotted hand-lever, a slotted bar having ratchet-teeth on both of its edges which bar is inserted in the slotted lever, a fixed fulcrum-bolt which passes through the slotted

ratchet-bar and the hand-lever, a pawl adapted to engage with the upper teeth of the bar with a hand-operated mechanism to lift the said pawl; combined with a lower pawl having a projection adapted when the hand-lever is pushed over in one direction to an extreme position to come in contact with the said lower teeth and thereby detach the point of the said pawl therefrom, substantially as specified.

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Witnesses:
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