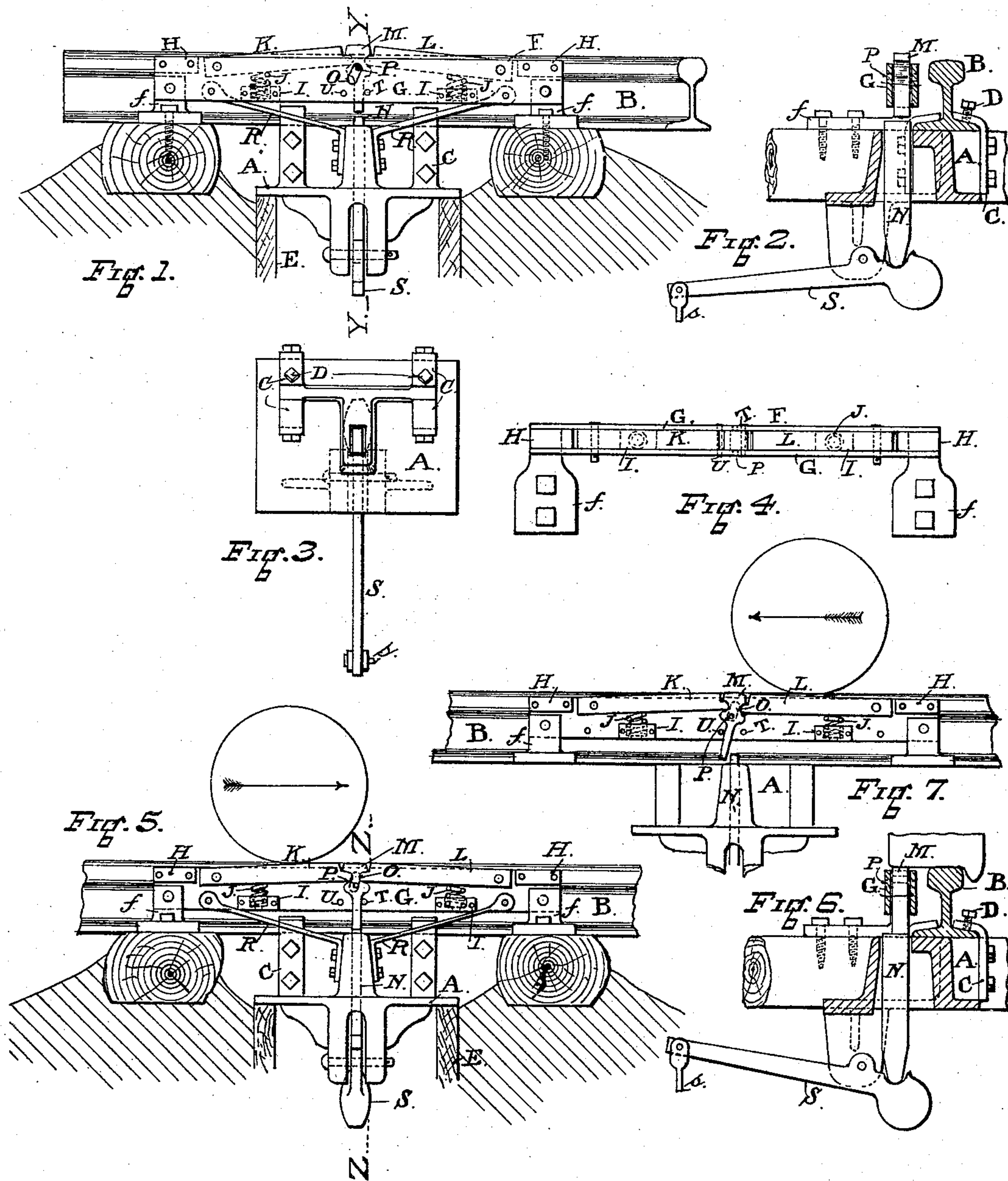


(No Model.)

J. H. WINSPEAR.
AUTOMATIC SIGNAL PRESSURE HEAD.

No. 572,495.

Patented Dec. 1, 1896.



James H. Winspear

Inventor

Witnesses

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UNITED STATES PATENT OFFICE.

JAMES H. WINSPEAR, OF OMAHA, NEBRASKA.

AUTOMATIC SIGNAL PRESSURE-HEAD.

SPECIFICATION forming part of Letters Patent No. 572,495, dated December 1, 1896.

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To all whom it may concern:

Be it known that I, JAMES H. WINSPEAR, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented an Automatic Pressure-Head for Attachment to the Rail and Tie of a Tramway or Railroad, of which the following is a specification.

The objects of my invention are to provide a simple but durable mechanical device so constructed that when attached to the rail or tie of a tramway or railroad if a car, motor, or other vehicle for traffic upon the rails of the road passes over the device in one direction it will cause it automatically to drive down a pin, which is divided into an upper and lower section, against one end of a pivoted lever, so as to raise the opposite end of such lever with sufficient force to set in motion a train of gears or other suitably-constructed device or machine when properly attached to such gear or machine or device, while if the vehicle passes in the opposite direction the lever will not be raised or actuated. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the pressure-head in connection with the rail and in its normal condition. Fig. 2 is a section on the line Y Y, Fig. 1. Fig. 3 is a plan of the base-casting. Fig. 4 is a plan view of the pressure-beam. Fig. 5 is a side elevation of the pressure-head in connection with the rail, the outer plate of the pressure-beam removed and showing the wheel of a vehicle moving over it in the direction indicated by the arrow. Fig. 6 is a section on the line Z Z, Fig. 5. Fig. 7 is a part side elevation showing the pressure-head with the outer plate of the pressure-beam removed and the wheel of a vehicle moving over it in the direction indicated by the arrow.

Similar letters refer to similar parts throughout the several views.

The base-casting A forms a seat for one of the rails B of the track, to which it is securely attached by the clips C and set-screws D. The casting extends outward from the rail and rests upon the walls of the box E. The pressure-beam F is formed of the two plates G, separated at either end by the blocks H and at their lower edge by the blocks I. The blocks I are bored to receive the spiral springs

J, and pivoted at one end between the plates G are the pressure-bars K and L. The other ends of these bars are formed as shown by the drawings and engage with the upper section of the divided or broken pin, formed of the sections M and N. The ends of the bars K and L where pivoted are flush with the top of the plates G, but by reason of the springs J the other end of the bars and the pin M are carried above the top of the plates. The distance that the pin M and bars K and L are permitted to rise above the plates G is regulated by the slots O, cut through the plates, and by the pin P, driven through and protruding from either side of M.

The beam F is supported by the feet *f*, resting upon the ties of the road-bed, and is braced and held as one piece with the base-casting by the braces R. The feet *f* are made of such a height that the top edge of the plates G will be slightly lower than the head of the rail, while the bars K and L and pin M will be higher than the rail.

Pivoted between the jaw formed on the under side of the base-casting is the lever S. The lower section N of the divided or broken pin passes through the base-casting and is supported by this lever.

When the pressure-head is in its normal position, Figs. 1 and 2, the lower section N of the pin is separated a small distance from the upper section M, as shown, and the lever S, coupled by a rod or other connection *s* to the signal or other machine to be actuated, is held in the position shown. Now if a vehicle be moved along the rail in the direction indicated, (see Figs. 5 and 6,) the tread of the wheel will bear upon the bar K, and by the weight of the vehicle the spring will be compressed and the bar forced down level with the top of the rail. The bar in its downward movement will act upon the pin M, force it against the cross-pin T, and, guided by the cross-pin M, will move downward in a vertical line, strike the upper end of N and cause the end of the lever S to be depressed and likewise the opposite end of the lever to rise. As the outer end of the lever moves from a depressed to a higher level it carries with it the rod or connection *s* and actuates the danger-signal or other machine. Had the vehicle moved along the rail in the opposite direction,

or as indicated by the arrow, Fig. 7, the tread of the wheel would bear upon the bar L, and by the weight of the vehicle the spring would be compressed and the bar forced down level with the top of the rail. As in the former case, the bar in its downward movement will act upon the pin M and force it against the cross-pin U, but in this case, as U is situated some distance from the line of M, the lower end of M will be forced sidewise before moving downward. The pin M will therefore miss pin N, the lever S remain stationary, and the signal or other machine not to be actuated.

While the object of the device is to actuate the lever S and raise the opposite end of same, as shown in Fig. 6, which it will do when the first wheel of the vehicle has passed over it, as shown in Fig. 5, the spiral springs J J immediately raise bars K and L, carrying with them the upper section of the pin M to a point above rail B, as shown in Fig. 1, leaving the lower section of pin N depressed and seated in the depressed end of lever S, which lever is so arranged in its adjustment that it will continue to remain so depressed until any following wheels of the same vehicle or train of vehicles have passed over, thus avoiding but the one shock of the first wheel of the vehicle on lower section of pin N, lever S, or on any set of gear or machine lever S may be fastened to at s. Lever S is to be so adjusted that it will shortly resume its normal position, carrying with it lower section of pin N, as shown in Fig. 2. This is accomplished by the winding up of the set of gearing or machine to which lever is attached at s, and as such gear or machine runs down the lever S, with lower section of pin N, is drawn back into its normal position.

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

1. An actuating device for working a pivoted lever, one end of which lever is attached to a train of gears or machine for railway-signaling, opening and closing gates or switches, consisting of a pressure-beam holding between its two side plates two bars bolted at one end flush with such plates and joined together in loose shackle at the other ends with the upper section or head of a drive-pin; said bars resting on springs in such a manner as to elevate the ends of the bars and shackled pin above the upper edge of the beam side plates; said bars and pin being held down on the springs by a cross-pin through the drive-pin working in slots in side plates of beam; such shackled pin controlled in its length of forward and backward oscillation between the two beam-plates by two cross-pins through pressure-beam, the lower section of driving-pin held and working up and down in an orifice through base-casting and seated on one end of a lever pivoted to base, said base-cast-

ing securely fastened and braced to rail and beam, so that when device is properly placed in position alongside of the rail of a railroad or tramway the wheel of any vehicle passing over such device on such rail of the railroad or tramway in one direction will drive down the upper section of pin against the lower section of pin driving it in turn against the end of the pivoted lever upon which it is seated and raising with force opposite end of lever, but a wheel of a vehicle passing over the device on a rail in opposite direction will drive down the upper section of pin forward of the lower pin, leaving the lower section of pin and pivoted lever undisturbed, substantially as and for the purposes set forth.

2. The combination of pressure-beam F holding the two bars K and L in loose shackle with drive-pin M, which drive-pin is controlled in its forward and backward oscillation by cross-pins T and U and in its up oscillation on springs J J by cross-pin P working in slot O lower drive-pin N working up and down in an orifice through base-casting A and seated on one end of pivoted lever S, placed in position to rail of railroad or tramway so that the wheel of a vehicle passing over and along such rail in one direction will press and drive down the two bars K and L and shackled drive-pin M against the lower pin N seated on lever S, or when passing on rail in opposite direction will press down drive-pin M forward of lower pin N, substantially as and for the purposes set forth.

3. An actuating device, consisting of a pressure-beam, holding between its two side plates two bars bolted at one end flush with said plates and joined together in loose shackle at the other ends with a drive-pin, said bars resting on springs in such a manner as to elevate the end of the bars and drive-pin above the upper edge of the beam side plates, bars and drive-pin held down on the springs by a cross-pin through the drive-pin working in slots in side plates of beam, such shackled drive-pin controlled in its length of forward and backward oscillation between the two beam-plates by cross-bolts through pressure-beam so that when device is properly placed alongside of a rail of a railroad or tramway a wheel of a vehicle passing over device on said rail in one direction will press drive-pin down vertically, and when passing in opposite direction such wheel will press drive-pin down, forward and at an acute angle, substantially as and for the purposes set forth.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 14th day of May, 1896.

JAMES H. WINSPEAR.

Witnesses:

A. C. POWERS,
FRED ANDERSON.