

T. O'BRIEN.
ADJUSTABLE CRANK FOR RAILWAY SWITCHES.
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993,789.

Patented May 30, 1911.

Fig. 1.

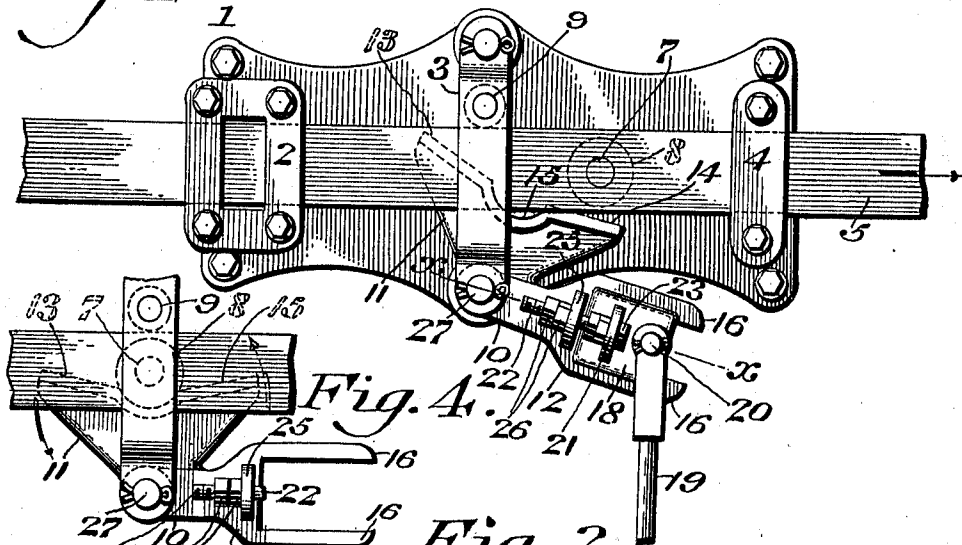


Fig. 4.

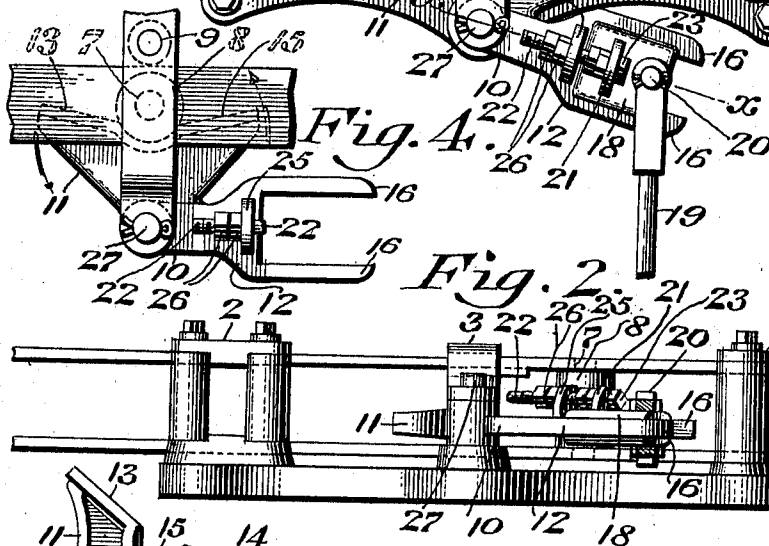


Fig. 2.

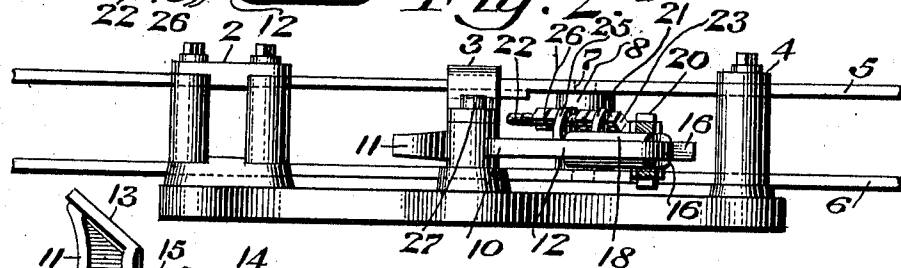


Fig. 5.

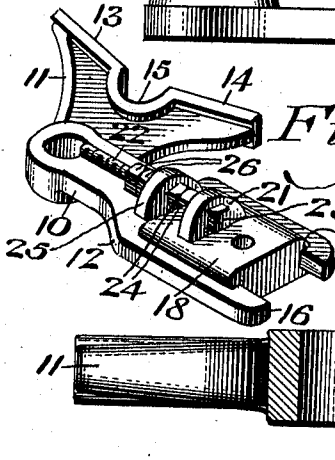
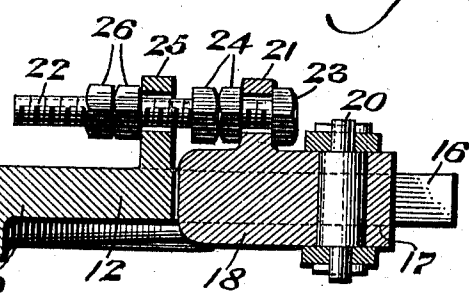


Fig. 3.



WITNESSES

P. F. Nagle.
L. Couville.

BY

Thomas O'Brien, INVENTOR.
Gibbs & Fairbank, ATTORNEYS

UNITED STATES PATENT OFFICE.

THOMAS O'BRIEN, OF PHILADELPHIA, PENNSYLVANIA.

ADJUSTABLE CRANK FOR RAILWAY-SWITCHES.

993,789.

Specification of Letters Patent.

Patented May 30, 1911.

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To all whom it may concern:

Be it known that I, THOMAS O'BRIEN, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Adjustable Crank for Railway-Switches, of which the following is a specification.

My invention consists of a novel adjusting device for a railway switch whereby the same may be accurately set and provision is made for taking up the wear of the various members of the switch mechanism.

To the above ends my invention consists of a novel construction of an adjustable block or member located in an arm of the elbow lever or switch crank, said block and switch crank being provided with lugs through which passes a bolt common thereto, said bolt having locking devices fastened thereto.

For the purpose of illustrating my invention, I have shown in the accompanying drawing one form thereof which is at present preferred by me since the same has been found in practice to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described.

Figure 1 represents a plan view of an adjustable crank for a railway switch embodying my invention. Fig. 2 represents a side elevation thereof. Fig. 3 represents, on an enlarged scale, a section on line $x-x$ Fig. 1. Fig. 4 represents a plan view showing the crank with the adjustable head or block removed. Fig. 5 represents a perspective view of the switch crank in detached position, showing the adjustable block and adjusting devices thereon.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates a base or bed plate which is adapted to be secured in position by any suitable fastening devices and is provided with the plates 2, 3 and 4 which serve as guides for the upper and lower slide-bars 5 and 6, respectively, which are joined by the pin 7 having the roller 8 thereon, said slide-bars 5 and 6 being guided by means of the roller 9, as will be understood from Figs. 1 and 4, said roller being secured in position by any suitable devices.

10 designates the switch crank which is composed of the limbs or members 11 and 12, the member 11 being provided with the faces 13 and 14 which diverge and the curved recess 15 intermediate of the same. The foregoing parts are of the usual construction and their function and operation will be familiar to those skilled in the art and I will now proceed to describe more particularly the novel features of my present invention. Near the extremity of the arm 12 of the switch crank 10, I widen the same considerably and provide it with a bifurcated or forked portion comprising two members 16, which serve as the ways and fit in the grooves 17 of the adjustable block or section 18, the latter having an extremity of the switch rod 19 secured thereto by means of the pin 20 or other suitable fastening device.

21 designates a lug cast or secured upon the adjustable block or section 18 through which passes the threaded stem or bolt 22, the head 23 thereof being adapted to contact with said lug 21 and be held in place by the lock or jam nuts 24, said bolt passing through the lug 25 on the member 12 and being provided with the lock or jam nuts 26 by means of which the position of the lug 21, with respect to the lug 25, can be adjusted or maintained according to requirements, whereby the block 18 can be moved away from and afterward toward the pivotal point 27, according to requirements. When the block 18 is adjustably moved to the right from the position shown in the drawings, one of the nuts 24 will be tightened against the lug 25.

In the practical operation of my device it will be understood that the upper and lower slide-bars 5 and 6 may be actuated in the desired direction by fluid pressure upon the piston contained in the cylinder of the usual electric-pneumatic construction, not shown. As the slide-bars 5 and 6 move in the desired direction, the roller 8 will engage the faces 13 and 14 and the recess 15, thereby rocking the switch crank 10 in the desired direction, whereby the member 12 will be reciprocated and the desired extent of movement imparted to the switch rod 19.

When any adjustment is desired of the movement or throw of the switch point, the same can be readily effected by the adjustment of the bolt 22 and nuts 24 and 26, whereby the desired position or adjustment of the block or section 18 with respect to the fulcrum 27 can be readily effected.

In practice I prefer to make the switch crank 10 as an integral member, as will be understood from the perspective view in Fig. 5, but it will of course be understood that the construction of the same may be varied according to requirements, the essential feature of my invention being in the provision of the adjustable block or member 18 and the novel construction of locking or fastening devices adapted to coact with the lugs 21 and 25 or their equivalents and I therefore reserve to myself the right to make all such changes as will come within the scope of my invention.

It will now be apparent that I have devised a novel and useful construction of an adjustable crank for railway switches which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description and while I have, in the present instance, shown and described a preferred embodiment thereof which has been found in practice to give satisfactory and reliable results, it is to be understood that the same is susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

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

1. In a device of the character stated, a switch crank pivotally supported and comprising a plurality of members, means for actuating said switch crank, a sliding block mounted in one of said members and adapted to be connected to a switch, and adjusting devices for varying the position of said block with respect to the pivotal support of said switch crank.

2. In a device of the character stated, a switch crank pivotally supported and comprising a plurality of members, means for actuating said switch crank, a sliding block mounted in one of said members and adapted to be connected to a switch, adjusting devices for varying the position of said block with respect to the pivotal point of said switch crank, and locking means for said adjusting devices.

3. In a device of the character stated, a switch crank pivotally supported and comprising a plurality of members, means for actuating said switch crank, an adjustable block slidably mounted in one of said members, lugs on said last named member and said sliding block, and adjusting means common to said lugs.

4. In a device of the character stated, a switch crank pivotally supported and com-

prising a plurality of members, means for actuating said switch crank, an adjustable block slidably mounted in one of said members, lugs on said last mentioned member and said sliding block, and adjusting means common to said lugs, in combination with locking devices for said adjusting means.

5. In a device of the character stated, a switch crank pivotally supported and comprising a plurality of arms, means for actuating said switch crank, a block slidably mounted in a bifurcation in one of said arms, grooves in opposite sides of said block, engaged by the inner walls of said arms, lugs on said arm and block, a threaded stem common to said lugs, and lock nuts on said stem coacting with each of said lugs.

6. In a device of the character stated, a base, upper and lower slide bars guided thereon, a switch crank pivotally mounted on said base, and adapted to be actuated by said slide bars, a sliding block mounted on an arm of said switch crank, and adapted to be connected to a switch, and adjusting devices common to said arm and block.

7. In a device of the character stated, a base, upper and lower slide bars guided thereon, a switch crank pivotally mounted on said base, and adapted to be actuated by said slide bars, a sliding block mounted on an arm of said switch crank and adapted to be connected to a switch, lugs on said arm and block, a threaded stem common to said lugs, and locking nuts on said stem adapted to coact with each of said lugs.

8. As an improved article of manufacture, a switch crank, having the bifurcated members 16, an adjustable block having the grooves or ways 17, coacting with said members, lugs 25 and 21 upon said switch crank and block respectively, a threaded stem common to said lugs, and nuts on said stem adapted to coact with said lugs, and permit the adjustment of said block with respect to said switch crank.

9. As an improved article of manufacture, a switch crank, comprising the members 11 and 12, said member 11 having the diverging faces 13 and 14 and the recess 15, said member 12 having the bifurcations 16, a block 18 adjustably mounted therein, lugs 25 and 21 on said member 12 and block 18 respectively, a threaded stem connected to said lugs, and locking nuts on said stem adapted to coact with said lugs and permit the adjustment of said block with respect to said switch crank.

THOMAS O'BRIEN.

Witnesses.

E. HAYWARD FAIRBANKS,
C. D. McVAY.