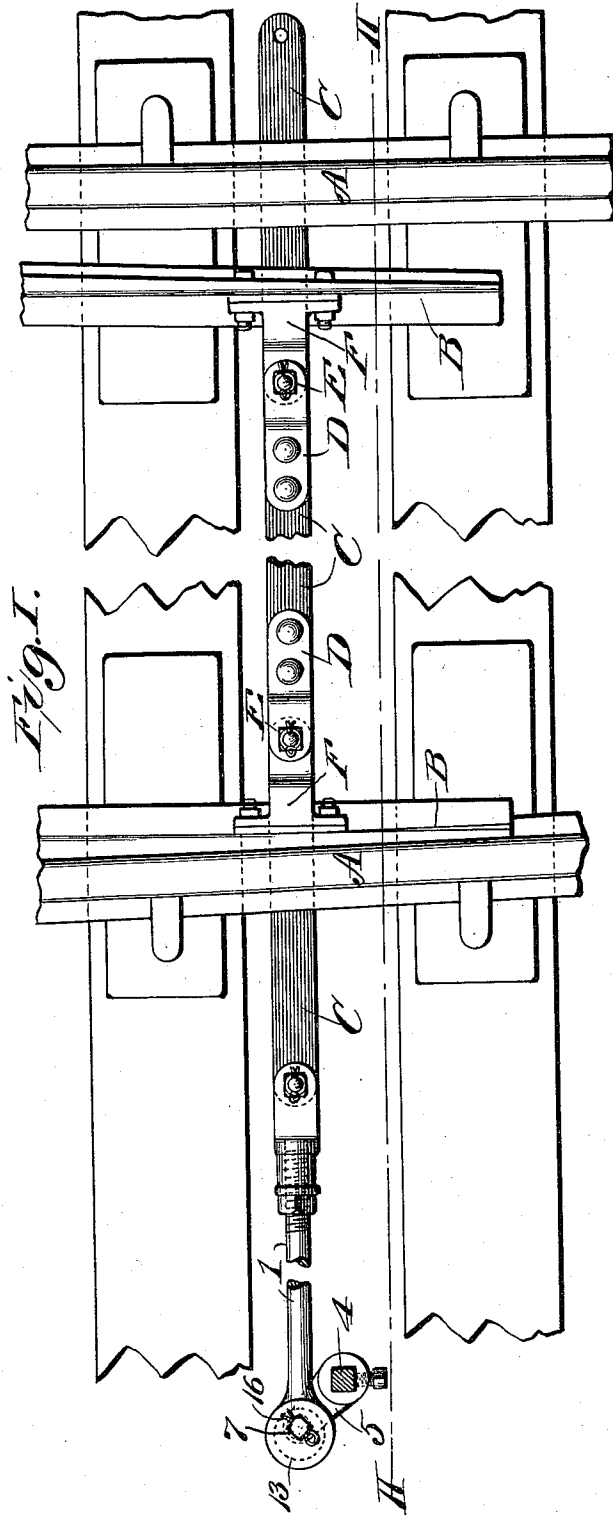
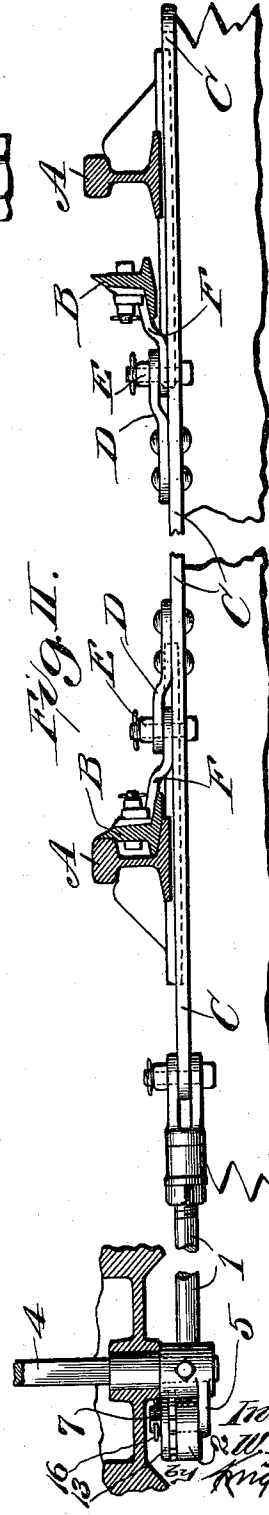


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APPLICATION FILED JULY 26, 1915.

1,165,080.

Patented Dec. 21, 1915.
2 SHEETS—SHEET 1.



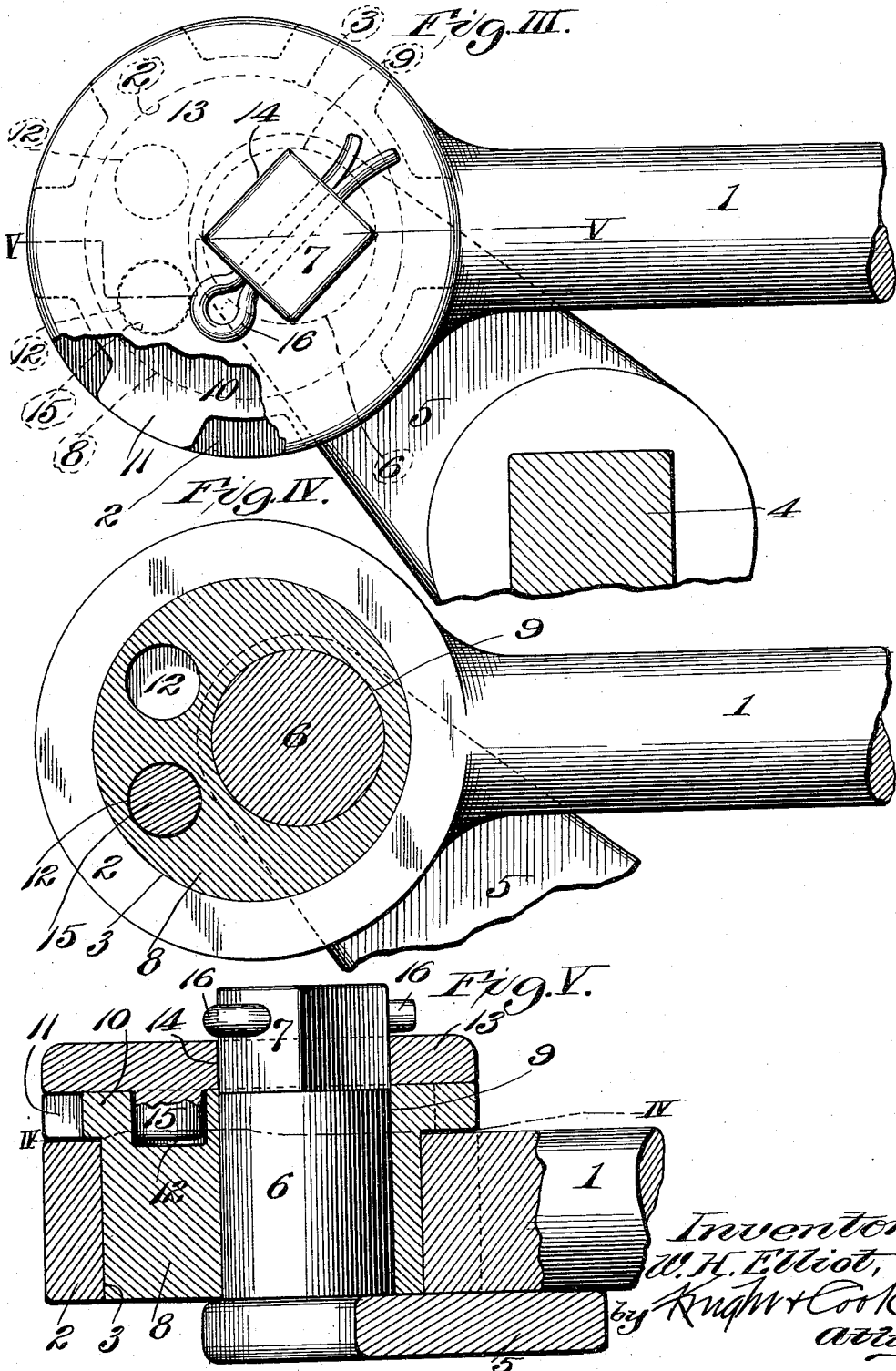
Inventor:
W. H. Elliot,
By *Knapp & Cook*
attys.

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W. H. Elliot,
by *Rugby & Cook*
attys.

UNITED STATES PATENT OFFICE.

WILLIAM H. ELLIOT, OF ST. LOUIS, MISSOURI.

ADJUSTABLE SWITCH-OPERATING DEVICE.

1,165,080.

Specification of Letters Patent.

Patented Dec. 21, 1915.

Application filed July 23, 1915. Serial No. 41,892.

To all whom it may concern:

Be it known that I, WILLIAM H. ELLIOT, a citizen of the United States of America, a resident of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Adjustable Switch-Operating Devices, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to a switch operating mechanism of the kind wherein means for adjustment are provided to permit of the switch points being properly positioned relative to the main rails, and it has for its object to furnish an extremely simple and readily operable adjustment device in a mechanism of this kind.

The aim in the present improvement is to provide means whereby the degree of switch throwing action performed by a switch stand may be altered due to the adjustment of an element incorporated with the switch stand mechanism.

Figure I is a top or plan view of a railway switch having my improvement installed therein, the switch stand shaft being shown in horizontal section. Fig. II is a vertical cross section taken on line II—II, Fig. I. Fig. III is an enlarged top or plan view of my adjustment device, a portion of the locking washer being broken away. Fig. IV is a horizontal section taken on irregular line IV—IV, Fig. V. Fig. V is a vertical section taken on irregular line V—V, Fig. III.

In the drawings, Figs. I and II, A designates the main rails of a railway track. B are the movable switch points movable horizontally toward and away from the main rails. The switch points are connected by a head rod C having clips D thereon which are joined by bolts E to arms F secured to the switch points. These parts may be of any ordinary construction, no invention being claimed herein for them.

1 designates a connecting rod pivoted at one end to the head rod C and having at its other end a head 2 in which is a circular aperture 3, see Figs. III to V, inclusive.

4 designates a switch stand shaft and 5 is a crank arm secured in any suitable manner to said shaft. The crank arm 5 is provided with a wrist pin, the journal member 6 of which is circular in cross section and which

includes also a non-circular top or end member 7. The said wrist pin is rigidly secured to the crank arm, being preferably formed integral with the arm.

8 designates an eccentric block loosely arranged in the aperture 3 in the head 2 of the connecting rod 1. The eccentric block contains a bore 9 offset from the axis of the block, through which the wrist pin member 6 extends, and it is provided at its upper end with a flange 10 which rests upon the head of the connecting rod to support said block. Said flange is notched to furnish teeth 11 for the engagement of a tool by which the eccentric block is turned in the connecting rod head.

12 are recesses or pockets in the top of the eccentric block intended to receive a locking element to be presently more specifically mentioned.

13 designates a locking washer seated on the eccentric block 8, the said washer having a non-circular hole 14 therein which receives the non-circular wrist pin member 7.

15 is a stud or pin fixed to the locking washer 13, at its under side, which is adapted to be positioned in either of the pockets 12 in the eccentric block. The locking washer is held in place upon the wrist pin by suitable means such as a cotter 16.

The eccentric block 8 is intended to be adjusted in the head 2 of the connecting rod 1 to alter the distance between the axis of the switch stand shaft 4 and the center of the pivoted connection of the connecting rod 1 to the crank arm 5. By such alteration the degree of movement of the switch points may be varied as may be desired.

In accomplishing the adjustment of the eccentric block 8 it is only necessary to remove the cotter or key 16 and lift the locking washer 13 from the eccentric block, when the eccentric block may be turned according to the degree of adjustment to be made. The locking washer is then replaced so that its stud 15 will seat in one of the pockets 12 in the eccentric block and hold it against shifting, due to the connection of the washer to the block and the washer being non-rotatably fitted to the non-circular wrist pin member 7. It will be apparent that the non-circular member of the wrist pin permits a plurality of dispositions of the locking washer, and that a further adjustment of the member 8 is made possible by the pres-

ence of the plurality of pockets which receive the stud or retaining member 15 carried by the washer.

I claim:—

5 1. An adjusting device of the kind described comprising a crank arm having a wrist pin provided with a non-circular end, and eccentric block rotatable on said wrist
10 pin, and a locking member fitted to the non-circular end of said wrist pin and interlocked with said eccentric block.

2. An adjusting device of the kind described comprising a crank arm having a wrist pin provided with a non-circular end,
15 an eccentric block rotatable on said wrist pin, and a locking washer fitted to the non-circular end of said wrist pin and interlocked with said eccentric block.

3. An adjusting device of the kind described comprising a crank arm having a

wrist pin provided with a non-circular end, an eccentric block rotatable on said wrist pin, and a locking washer fitted to the non-circular end of said wrist pin above said
25 eccentric block; one of said members being provided with a recess and the other member having a projection adapted to enter said recess.

4. An adjusting device of the kind described comprising a crank arm having a
30 wrist pin provided with a non-circular end, an eccentric block rotatable on said wrist pin, and a locking washer fitted to the non-circular end of said wrist pin above said
35 eccentric block; one of said members being provided with a plurality of recesses and the other member having a projection adapted to seat in any of said recesses.

WILLIAM H. ELLIOT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."