

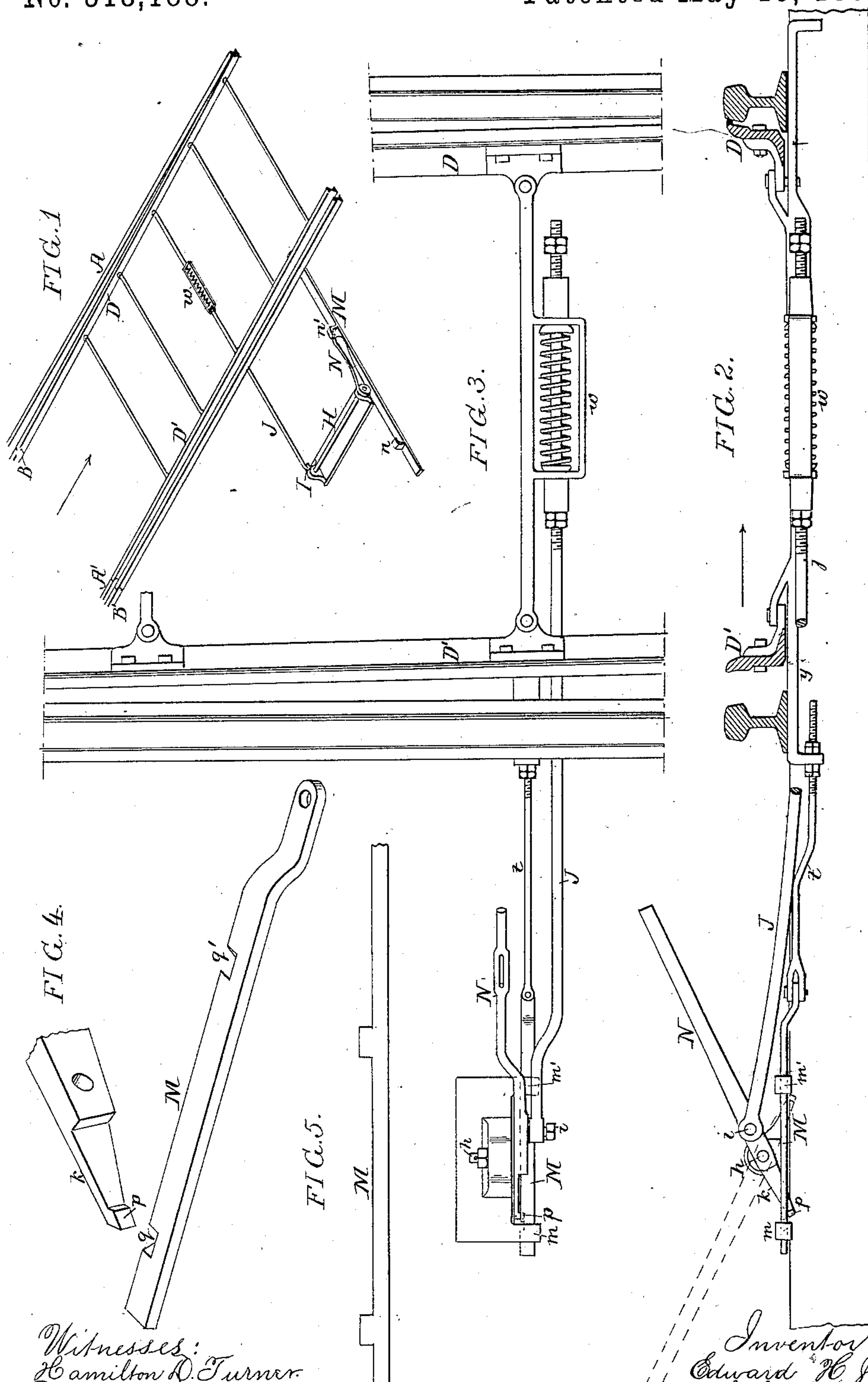
(No Model.)

E. H. JOHNSTON.

RAILWAY SWITCH.

No. 318,188.

Patented May 19, 1885.



Witnesses:
Hamilton D. Turner.
David S. Williams.

Inventor:
Edward H. Johnston
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UNITED STATES PATENT OFFICE.

EDWARD H. JOHNSTON, OF PHILADELPHIA, PENNSYLVANIA.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 318,188, dated May 19, 1885.

Application filed January 23, 1885. (No model.)

To all whom it may concern:

Be it known that I, EDWARD H. JOHNSTON, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain
5 Improvements in Railroad-Switches, of which the following is a specification.

My invention is based on that for which application for a patent was filed by A. R. Roberts November 10, 1884, Serial No. 147,509,
10 the invention described in the said application consisting of the combination of a switch, a lever for operating the same, and a yielding connection of one to the other, with a safety device rigidly connected to the switch, and
15 constructed for restricting the movement of the lever when the switch is obstructed, the restriction notifying the switchman of the existence of such obstruction. My invention has the same object, is substantially the same
20 as that of the said Roberts as far as any broad claim is concerned, and is restricted to specially-constructed mechanism described and claimed hereinafter.

In the accompanying drawings, Figure 1 is
25 a perspective view illustrating the invention of the said Roberts; Fig. 2, a transverse section of parts of the switch, the operating devices made according to my invention being shown in elevation; Fig. 3, a plan view of Fig.
30 2; Fig. 4, detached perspective views of parts of the device, and Fig. 5 a modification.

Referring in the first instance to Fig. 1, which shows the invention of the said A. R. Roberts, A A' are the permanent rails of the
35 main track, B B' the rails of a siding or turnout, and D D' the switch-rails. A rod, J, is attached to the switch-rails through the medium of an ordinary yielding connection, *w*, and is connected to the pin of a crank, I, on
40 a shaft, H. On the same shaft is the operating-lever N for adjusting the switch, and beneath this lever is a sliding rod, M, rigidly connected to the switch-rails, and this rod has two projections, *n n'*.

45 In switches of this class the switch-rails should yield to the wheels of cars traversing in the direction of the arrow without bending the rod J and disturbing the operating mechanism; hence the said yielding connection *w*, which may be constructed in different
50 ways.

Should a piece of stone or other obstruction

prevent the complete adjustment of the switch in either direction the switchman cannot move the operating-lever down to the full extent, 55 owing to one or other of the projections *n n'*, and this restriction of the movement of the operating-lever will notify the switchman that there is an obstruction to be removed.

It will not be necessary here to describe a 60 modification of the device shown and described in the said application of Roberts.

Referring now to Figs. 2, 3, and 4, illustrating my invention, it will be seen that the switch-rails D D' are rigidly connected by a 65 bar, *y*, and rod *t* to the safety-bar M, adapted to slide in guides *m m'*; but the connection of the switch to the operating-lever N, instead of being through the medium of a shaft and crank, as in the said application of Roberts, 70 is direct—that is to say, the rod J, attached to the switch through the medium of a yielding connection, *w*, is connected to a pin, *i*, fixed to the lever at a short distance from the pivot *h* of the same. The lever is continued be- 75 yond its pivot, so as to form a short arm, *k*, which adjoins one edge of the safety-bar M, the latter having two recesses, *q q'*. These recesses are such as to permit a projection, *p*, on the short arm of the lever to pass through 80 either recess in adjusting the switch, providing there is no obstruction to prevent the switch-rails from reaching their proper destinations. When there is any such obstruction, the said projection of the short arm of the le- 85 ver cannot pass through either recess of the safety-bar, and the lever cannot be depressed beyond the inclined position shown in Fig. 2 when the switch is moved in the direction of the arrow, or beyond the position shown by 90 dotted lines when the switch is moved in a contrary direction. This inability to depress the operating-lever to its full extent is a notification to the switchman that there is an obstruction to be removed, as in the case of the 95 aforesaid application of Roberts.

It is not essential that the safety-bar should be notched and that there should be a projection on the short arm of the lever, for there may be projections on the safety-bar, as shown 100 in Fig. 5, to arrest the short arm of the lever when the switch-rails cannot reach their proper destination.

In view of the prior invention of Roberts,

set forth in the aforesaid application, I restrict my claim to—

The combination of the switch and operating-lever N, and the rod J, connected at one
5 end directly to the said lever and at the opposite end by a yielding attachment to the switch, with a safety-bar, M, rigidly connected to the switch, and constructed with relation to the short arm of the said lever, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD H. JOHNSTON.

Witnesses:

HENRY HOWSON, Jr.,

HARRY SMITH.