

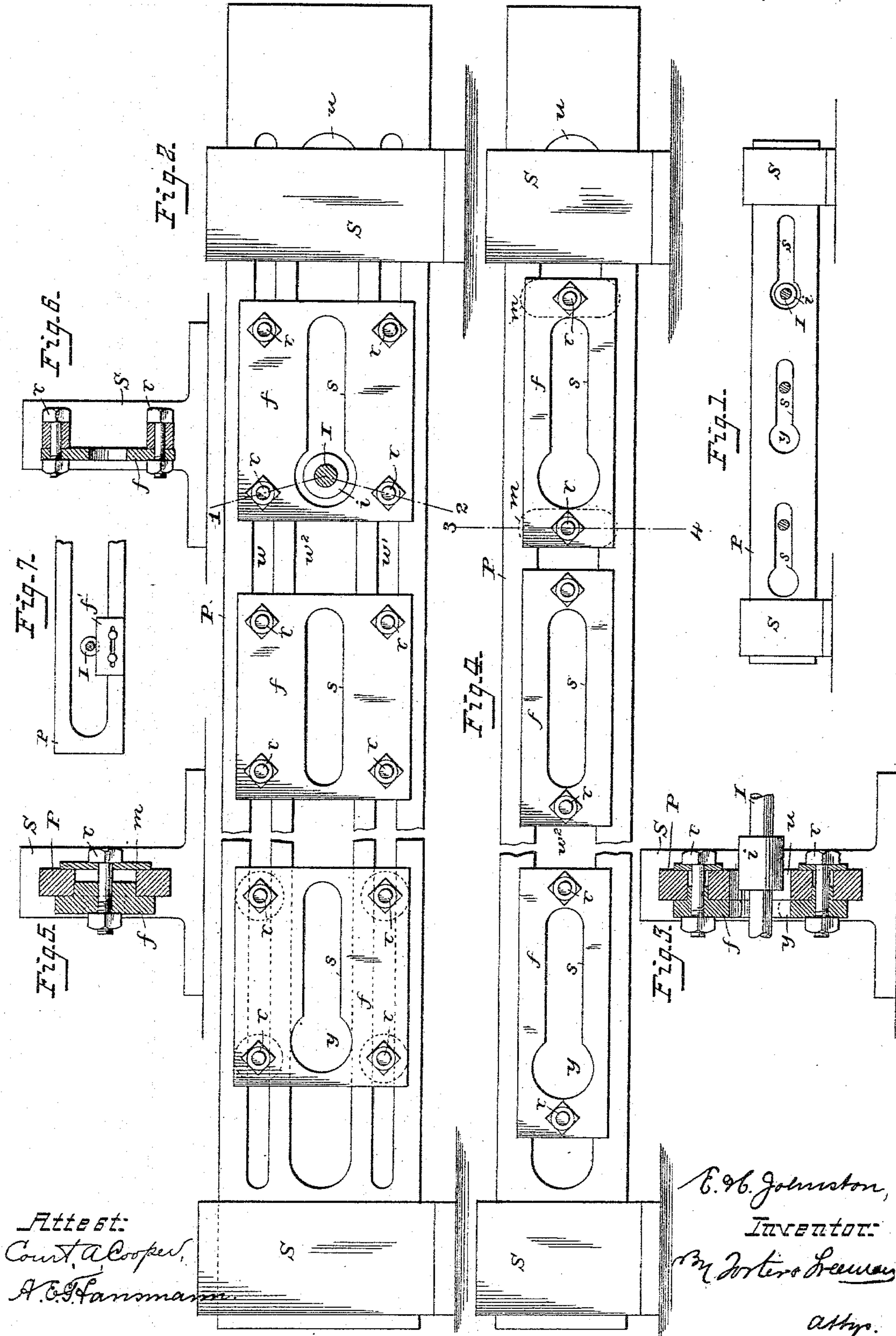
(No Model.)

E. H. JOHNSTON.

LOCKING DEVICE FOR RAILWAY SWITCHES.

No. 356,841.

Patented Feb. 1, 1887.



Attest:
Court A. Cooper,
A. C. S. Farnham.

E. H. Johnston,
Inventor:
My Attorney
atty.

UNITED STATES PATENT OFFICE.

EDWARD H. JOHNSTON, OF PHILADELPHIA, PENNSYLVANIA.

LOCKING DEVICE FOR RAILWAY-SWITCHES.

SPECIFICATION forming part of Letters Patent No. 356,841, dated February 1, 1887.

Application filed February 27, 1886. Serial No. 193,486. (No model.)

To all whom it may concern:

Be it known that I, EDWARD H. JOHNSTON, a citizen of the United States, and residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Locking Devices for Railway Switch and Signal Operating Appliances, of which the following is a specification.

My invention relates to that class of switch and signal operating devices in which locking appliances are used for preventing the movement of the switch and signal connections, except when all the parts are in proper position; and my invention consists in constructing the locking devices each of a frame or support and two or more slotted plates or contacting pieces connected thereto adjustably, so that they may be set in proper position in respect to the connections after the latter have been set in place.

In the drawings, Figure 1 is a side view of a locking-plate constructed in the manner in which such plates have heretofore been made, and shown for the purpose of illustrating my improvement. Fig. 2 is an elevation of a locking-plate provided with adjustable contacting pieces and illustrating my improvement. Fig. 3 is a section on the line 1 2, Fig. 2. Fig. 4 is an elevation of a locking-plate showing a different means of securing the adjustable contacting plates. Fig. 5 is a section on the line 3 4, Fig. 4. Fig. 6 is a transverse section illustrating a modification. Fig. 7 is a side view of a locking-plate illustrating another modification.

In the class of railway signal and switch operating devices invented and constructed by Gustavus N. Reiff, and set forth in his application for a patent, Serial No. 193,485, there are used locking devices consisting of slotted plates *P*, Fig. 1, moving in standards *S*, and each connected to be operated by the adjustment of the switch or signal levers, the switch or signal connections in the shape of bars *I* extending through the slots in the plate and being provided with enlargements *i*, or shoulders, which strike against flanges or projections of the plate whenever the latter is set in position to prevent the movement of such connections.

It has proved difficult to construct the various locking-plates used in connection with the different switches and signals of a station, so as to secure the accurate arrangement of the slots and contacting flanges or parts in respect to the various rods and shoulders, and difficulties have arisen from the slight displacement of the rods in respect to the plates made, as before described, with slots for the passage of the rods. To overcome these objections I make each locking device in the form of a frame consisting of longitudinal rods or supports and slotted plates, bars, or other contacting devices connected adjustably to said supports, so that each may be set to the position required by the arrangement of the connections with which it must co-operate, the adjustment being effected after the connections are in position, so as to insure an exact coincidence of all the parts, and being readily altered at any time, should a slight displacement of the connections from any change in the positions of their bearings render such alterations necessary.

The locking device may be constructed in different ways while embodying my improvements. Thus in Figs. 2 and 3 it is shown as consisting of a frame, *P*, composed of a single plate sliding in the standards *S*, punched out to form longitudinal slots *w w'* and a central slot, *w''*, and plates *f*, secured adjustably upon the plate *P* by bolts *r* passing through the slots *w w'*. Each slot is enlarged at one end, *y*, for the passage of the enlargement *i* upon the switch or signal rod *I*; but is contracted throughout the remainder of its length, so that the enlargement *i* cannot be moved through the plate, except when the enlarged end of the slot coincides therewith.

In Figs. 4 and 5 the frame consists of a plate punched to form a single central opening, *w''*, and slotted plates *f*, secured adjustably to the plate *P* by means of bolts *r* and clamping-plates *m*, as shown.

In Fig. 6 the frame is shown as consisting of two independent bars, *g g*, to which the slotted plates *f* are bolted by means of bolts *r* passing through slots in the said bars.

It will be seen that in all these constructions the slotted plates may be brought to any desired positions and there secured, thereby

5 permitting their accurate adjustment in respect to the connecting switch or signal rods I after the latter have been put in place and avoiding the extreme accuracy of calculation and other difficulties incident to constructing the plates each of a single piece with a number of slots therein.

10 Although I have referred to the plates *f* as constituting the adjustable portions of the locking-frame, these contacting portions may be made in any other suitable manner—for instance, by securing adjustably small blocks or plates *f'* to the plate or frame *P* in such positions as to be struck by the shoulders of the enlargements *i* whenever the connections are to be locked. (See Fig. 7.)

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

20 1. A locking-plate for railway signal and switch apparatus, consisting of a frame carried by suitable supports to slide therein, and a series of contacting pieces or plates con-

nected adjustably to the frame, in combination with switch or signal rods extending and sliding across the frame, substantially as described. 25

2. The combination, with the slotted frame *P* and the contacting plates *F*, bolted adjustably to the said frame, of operating rods extending across the plates and provided with enlargements, substantially as described. 30

3. The combination, with the signal or switch rods of a switch or signal, of a sliding frame or supports and a series of slotted plates secured adjustably thereto, the rods extending through the slots of said plates, substantially as described. 35

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 40

EDWARD H. JOHNSTON.

Witnesses:

G. N. REIFF,

THOMAS NICHOLSON, Jr.