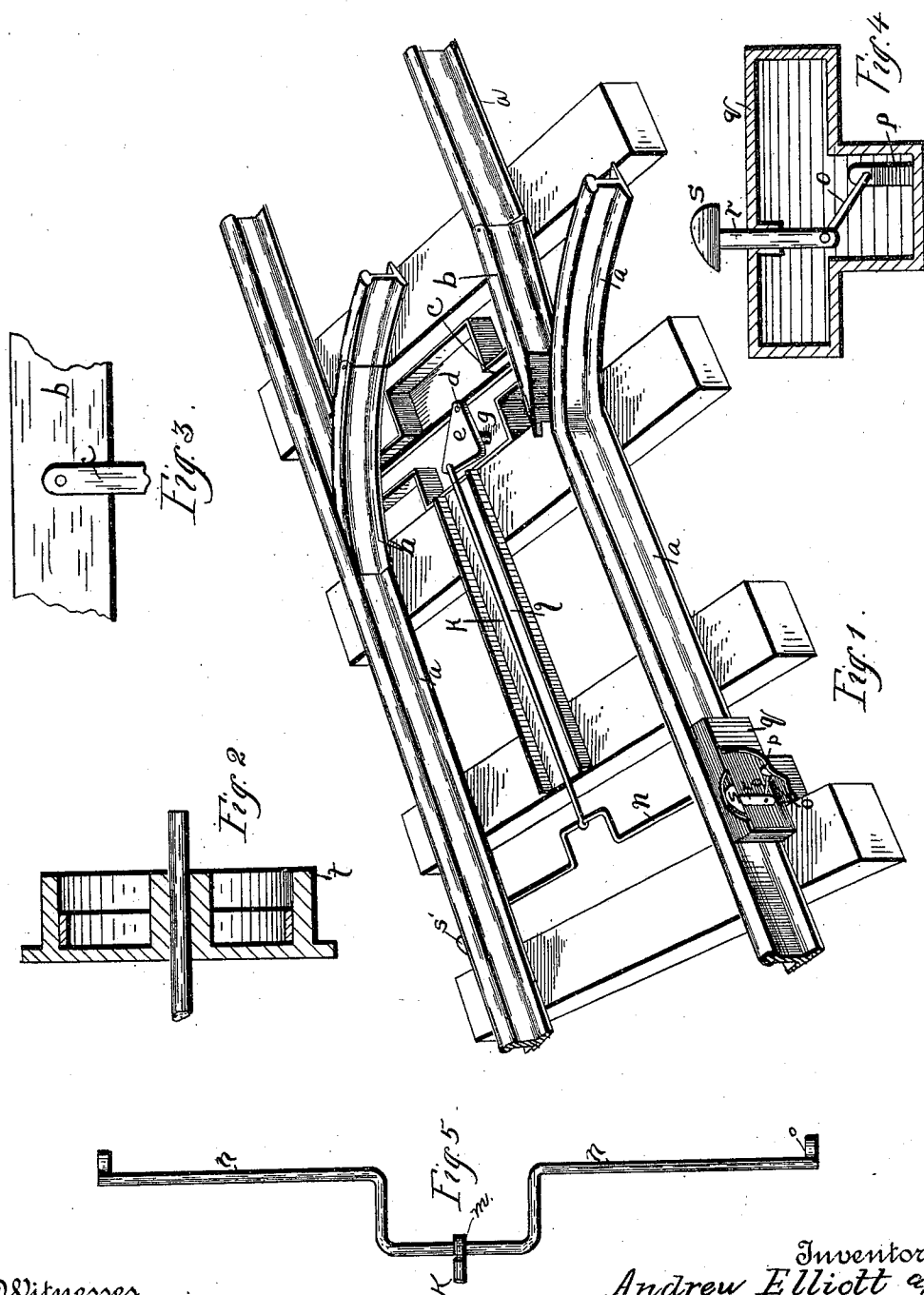


(No Model)

A. ELLIOTT & E. KESTNER.
AUTOMATIC SWITCH.

No. 583,364.

Patented May 25, 1897.



Witnesses
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UNITED STATES PATENT OFFICE.

ANDREW ELLIOTT AND EMIL KESTNER, OF PITTSBURG, PENNSYLVANIA.

AUTOMATIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 583,364, dated May 25, 1897.

Application filed December 26, 1896. Serial No. 616,966. (No model.)

To all whom it may concern:

Be it known that we, ANDREW ELLIOTT and EMIL KESTNER, citizens of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Switches, of which the following is a specification, reference being had therein to the accompanying drawings.

15 This invention relates to certain new and useful improvements in automatic switches, and has for its object to provide a switch particularly adapted for street-railways that will be operated by the wheel of the car.

15 The invention further aims to provide a switch of the above class that will be extremely simple in its construction, strong, durable, effectual in its operation, and comparatively inexpensive to manufacture.

20 With the above and other objects in view the invention finally consists in the novel construction, combination, and arrangement of parts to be hereinafter more specifically described, and particularly pointed out in the claims.

25 In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like letters of reference indicate similar parts throughout the several views, in which—

30 Figure 1 is a perspective view of a portion of the track, showing switch and our improved operating appliance in position. Fig. 2 is a transverse vertical sectional view of the car-wheel, showing the operating-flange thereon. Fig. 3 is an underneath plan view of a portion of the switch-rail, showing the bar connected thereto. Fig. 4 is a vertical longitudinal sectional view of the trip-pin casing, showing pin in position. Fig. 5 is a detail view of the bell-crank lever.

Referring now to the drawings by reference-letters, *a a* indicate the full rails; *b b*, the switch-rails, to the underneath side of which is attached a bar *c*, carrying a pin *d* to receive an aperture provided in the corner of a triangular plate *e*, supported by a post *f* in a casing *g*, arranged in the track-bed. This casing *g* is formed with guides *h h*, which receive the bar *c*, and a rod *k* is connected to the triangular plate and operates in a guide *l*, the opposite end of said rod *k* being attached

to a bell-crank *m*, formed on a rod *n*, extending transversely of the track. Cranks *o o* are formed on the ends of this rod and are supported by standards *p p'* in a casing *q*, located outside of the rails, said crank ends being attached to the trip pins or levers *r r'*, protruding through said casing and formed with inclined heads *s s'*, extending above the rail and adapted to be engaged by the extra flange *t*, which is secured on the car-wheel.

To operate our improved automatic switch for the car passing to the curved track, we provide on the right-hand wheel of the front truck the flange *t*, and for the car traveling on the straight track the flange *t* is on the left-hand wheel of the front truck. We will assume now that the switch is in the position shown in the drawings, with the car moving to the right, or on the straight track. For this car the flange *t* is attached to the left-hand wheel of the front truck and engages the head *s'* of the trip-pin, operating the rod *n*, and, through the operation of this rod and the rod *k*, causing the plate *e* to operate the bar *c* and move the switch-rails in position for the car to continue on the straight track, the operation of the wheel engaging the trip-pin *s'*, forcing the same downward and lifting the trip-pin *s* above the level of the rail. For the car intended to pass into the curved track the flange will be placed on the right-hand wheel of the forward truck, said flange engaging the trip-pin head *s* and reversing the movement of the switch-rails, as heretofore described, which will permit the car to pass onto the curved track. On the return trip the switch-rails are forced away from the full rails by the action of the car-wheel flanges between the switch-rails and the full rails, as in the ordinary construction of switches.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of our invention.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In an automatic switch, a bar connected to said switch-rail, a casing in the track-bed carrying a pin supporting a triangular-shaped plate, said plate being pivotally attached to the bar operating the switch-rail, a rod at-

tached to said plate and extending longitudinally between the rails, and to a bell-crank formed on the rod, extending transversely of the track, trip-pins attached to the L-shaped
5 arm of the transverse lever, and adapted to be engaged by flanges on the car-wheel, to operate the switch.

2. In an automatic switch, a bar connected to said switch-rail, a casing located in the
10 track-bed between the rail, and carrying guideways for the bar, said casing provided with a pin carrying a triangular-shaped plate, said plate being pivotally attached to the bar operating the switch-rail, a rod attached to

said plate and extending longitudinally between the rails and to a bell-crank lever carried by a transverse rod, said transverse rod having on each end an L-shaped arm, engaging operating-pins, located on the outside of the tracks to engage a flange on the car-wheel, substantially as shown and described. 15 20

In testimony whereof we affix our signatures in presence of two witnesses.

ANDREW ELLIOTT.
EMIL KESTNER.

Witnesses:

A. M. WILSON,
GEO. B. PARKER.