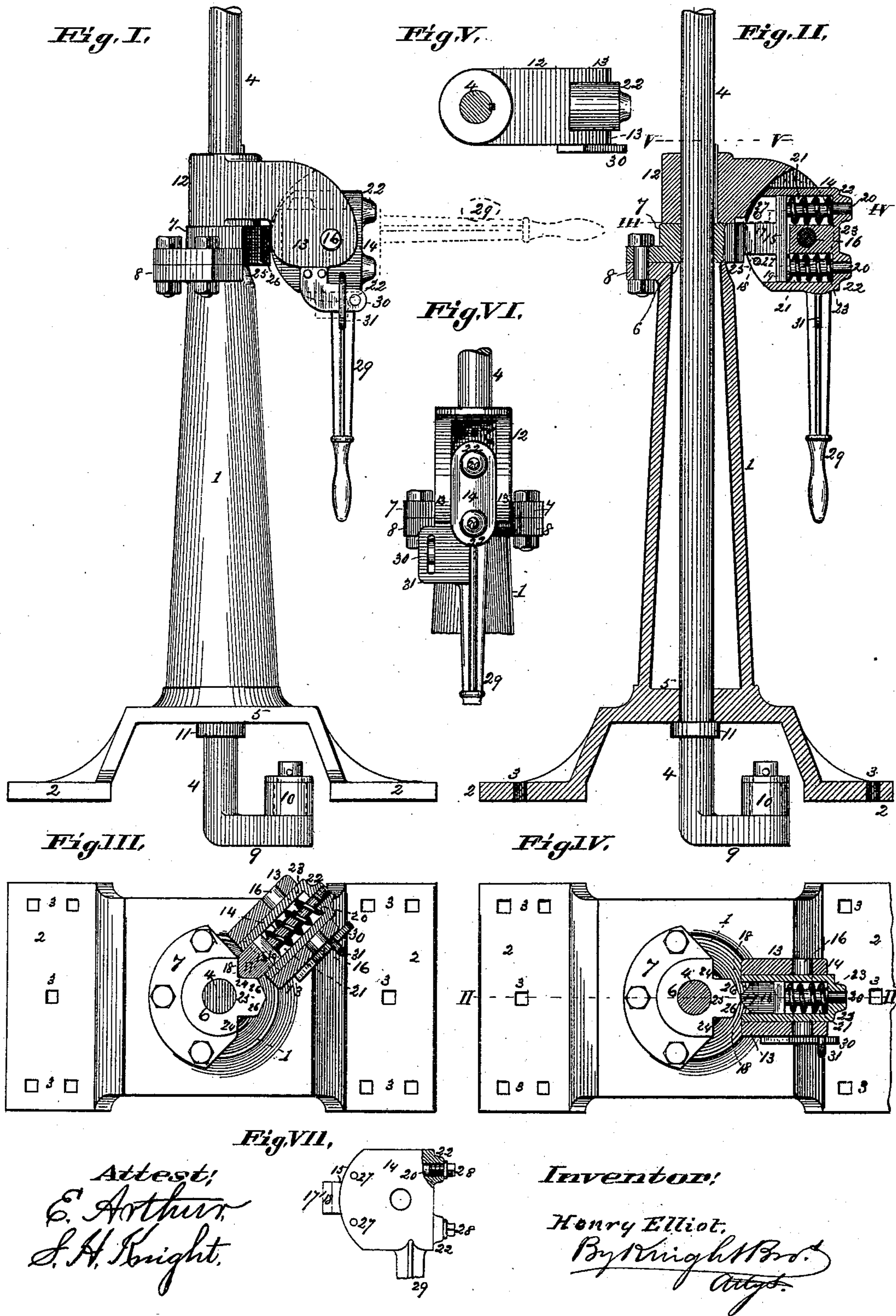


(No Model.)

H. ELLIOT.  
AUTOMATIC SWITCH STAND.

No. 395,964.

Patented Jan. 8, 1889.



# UNITED STATES PATENT OFFICE.

HENRY ELLIOT, OF ST. LOUIS, MISSOURI.

## AUTOMATIC SWITCH-STAND.

SPECIFICATION forming part of Letters Patent No. 395,964, dated January 8, 1889.

Application filed May 31, 1888. Serial No. 275,537. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY ELLIOT, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Automatic Switch-Stands, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This stand is intended specially for split switches, and is constructed to be reversed by an engine running through it when it is set in the wrong direction for such passage.

Figure I is an elevation of the device. Fig. II is an axial vertical section at II II, Fig. IV. Figs. III and IV are stepped horizontal sections at III IV, Fig. II, showing the movable parts in different positions. Fig. V is a horizontal section at V V, Fig. II, showing the turn-head in top view. Fig. VI is a detail front view. Fig. VII is a side view of the bolt-case.

The stand has a hollow pillar, 1, with feet 2, adapted to rest on two railway-ties, to which they are attached by spikes or bolts passing through the holes 3.

4 is the signal-shaft, having a lower bearing, 5, and an upper bearing, 6. The former may be cast in one piece with the pillar, as shown, while the latter is in a block, 7, which is bolted to a flange, 8, at the top of the pillar. The lower end of the shaft 4 has a crank, 9, for connection of the rod 10, which is connected to the switch-rails.

11 is a collar on the shaft 4 beneath the bearing 5.

12 is a head keyed fast to the shaft 4 and bearing on the block 7. The head 12 has two jaws, 13, between which is the block or housing 14 of the locking-bolt 15. The block 14 turns on a horizontal arbor, 16, passing through it and the jaws 13. The block 14 turns through ninety degrees from the position shown in full lines in Figs. I and II to the position shown in broken lines in Fig. I. The bolt 15 has a point, 17, with beveled faces 18 on each side, and has a cross-bar, 19, from which extend guide-pins 20. The guide-pins are within sockets 21 and work in bearings 22.

23 are spiral springs surrounding the guide-pins within the sockets 21, one end of each spring bearing against the cross-bar and the

other against the inner end of the socket 21. The office of the springs is to push the bolt forward. The bolt when horizontal and in its forward position, as seen in Fig. III, engages in one of the recesses 24 of the block 7 to prevent the turning of the head 12 and the signal-shaft 4, unless sufficient force is brought against the switch-rails to force back the bolt upon the springs 23, and thus disengage the point 17 from the recess 24.

Between the notches or recesses 24 is a tongue, 25, ending in a beveled point, over which the point 17 passes in going from one of the recesses 24 to the other. This point has two faces, 26, whose inclination is such that the point 17 will not rest on either of them, but will slide along the same to the recess 24 upon that side, so that the switch is (when at rest) always set to one side or the other.

The axis of the arbor 16 is in a horizontal plane passing through the middle of the bolt 15, when the latter is in the position shown in Fig. II, so that no amount of power exerted on the point of the bolt will tend to turn the block 14 on the arbor.

27 are stop-pins limiting the forward movement of the bolt when its point is turned downward to release it from the block 7. (See broken lines in Fig. I. See Figs. II and VII.)

The bearing-sockets 22 have an inside screw-thread, and into these sockets are fitted screw-plugs 28 when it is desired to remove the automatic character of the stand, said plugs preventing the backward movement of the bolt. In this case the switch is reversed only by hand, the bolt being released from the recess 24 by lifting the handle 29 from the position shown in full lines in Figs. I, II, and VI to the position shown in broken lines in Fig. I. This turns the block 14 through one-fourth of a circle. The shaft may now be turned by means of the handle, and the handle is then swung down into the position shown in full lines, which carries up the end 17 of the bolt into the recess 24. The handle may be locked in this position, if desired, by a padlock inserted in the staple 30, which is fast upon one of the jaws 13, and which passes through a slotted lug, 31, upon the side of the arm.

It will be seen that with the use of the screw-plugs 28 the switch-stand may be used with

any form of switch. When worked by hand, the point of the bolt cannot be lifted up into either of the recesses 29 until the switch is in correct position for use, so that the proper placing of the switch-rails is assured.

I claim—

1. The combination, in a switch-stand, of a fixed part having locking-recesses, an upright signal-shaft, 4, with a crank connected with the switch-rails, and a pivoted block upon the signal-shaft having a spring-bolt with beveled end adapted to engage in the locking-recesses, substantially as and for the purpose set forth.

2. The combination, in a switch-stand, of a fixed part, 7, having recesses 24, a bolt, 15, housed in a pivoted block, 14, guide-pins 20, springs 23, screw-threaded bearings 22, and screw-plugs 28, substantially as and for the purpose set forth.

3. The combination, in a switch-stand, of the block 7, having recesses 24, the signal-shaft carrying a head, 12, with block 14, pivoted thereto, a spring-bolt working in said block and adapted to engage in the recesses, and a handle, 29, upon the block 14, for the purpose set forth.

4. The combination, in a switch-stand, of a fixed part of the stand-pillar having locking-recesses, an upright signal-shaft, a block pivoted upon the signal-shaft and turning in a

vertical plane and carrying a handle, by which it may be turned, and a spring-bolt having bearing in the block and having a beveled end adapted to engage in the locking-recesses when the block is in a certain position, substantially as described.

5. The combination, in a switch-stand, of a fixed part of the pillar having recesses 24 and a tongue, 25, the signal-shaft 4, a head, 12, secured to the shaft, a block, 14, pivoted to the head by a horizontal pivot or arbor, 16, a bolt, 15, working in the block 14 and having guide-pins 20, surrounded by springs 23, and handle 29 upon the block 14, all substantially as and for the purpose set forth.

6. The combination, in a switch-stand, of a fixed part of the pillar having recesses 24 and a tongue, 25, between the recesses, the signal-shaft 4, a head, 12, secured to the shaft, a block, 14, pivoted to the head by a horizontal pivot or arbor, 16, a bolt, 15, working endwise in the block 14 and having guide-pins 20, surrounded by springs 23, for the purpose set forth, and a handle, 29, upon the block 14, with a slotted lug, 31, engaging on a fixed staple, 30, all substantially as set forth.

HENRY ELLIOT.

In presence of—

SAML. KNIGHT,

BENJN. A. KNIGHT.