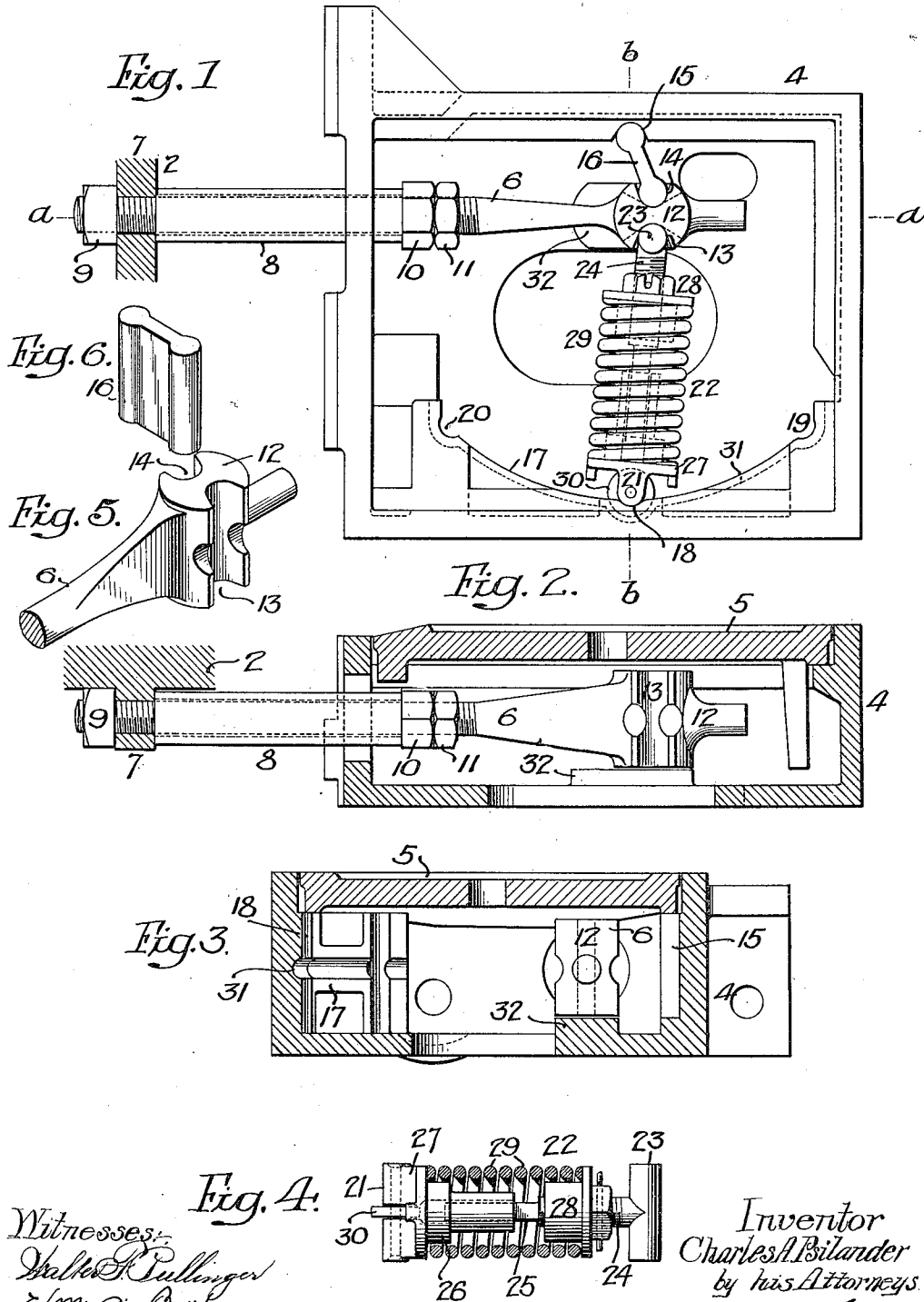


C. A. PSILANDER.
 SPRING SWITCH.
 APPLICATION FILED JULY 27, 1912.

1,064,537.

Patented June 10, 1913.

2 SHEETS—SHEET 1.



Witnesses:
 Walter H. Pullinger
 Wm. A. Ramm

Inventor
 Charles A. Psilander
 by his Attorneys
 Howson & Howson

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2 SHEETS-SHEET 2.

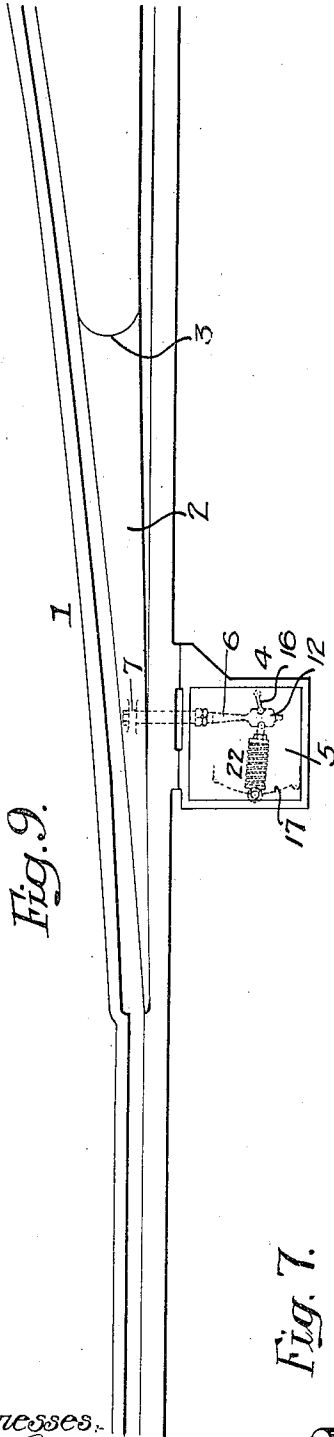


Fig. 9.

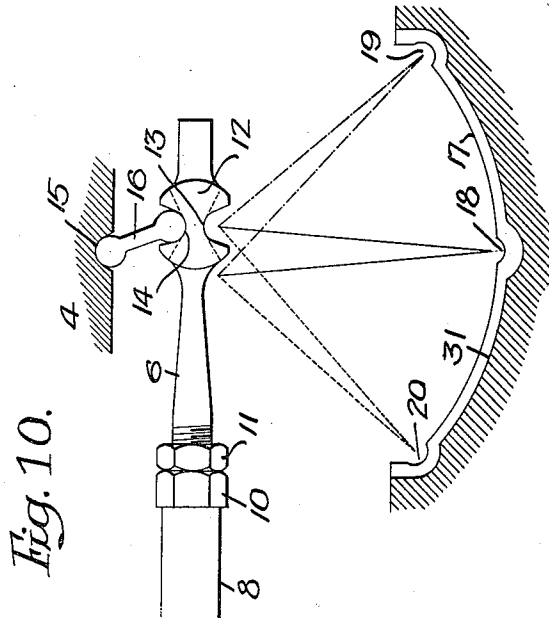


Fig. 10.

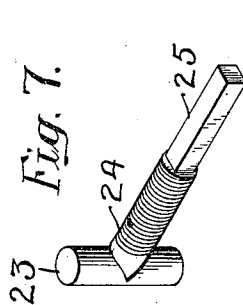


Fig. 7.

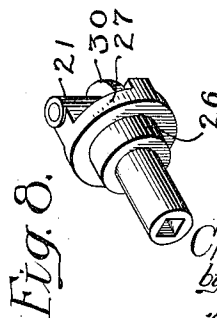


Fig. 8.

Witnesses:
Walter A. Bullinger
Wm. A. Barr

Inventor:
Charles A. Psilander
 by his Attorneys
Howe, M. W. & Co.

UNITED STATES PATENT OFFICE.

CHARLES A. PSILANDER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO WILLIAM WHARTON, JR., & COMPANY, INCORPORATED, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

SPRING-SWITCH.

1,064,537.

Specification of Letters Patent.

Patented June 10, 1913.

Application filed July 27, 1912. Serial No. 711,902.

To all whom it may concern:

Be it known that I, CHARLES A. PSILANDER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Spring-Switches, of which the following is a specification.

One object of my invention is to construct a simple and effective pinless switch actuating and locking mechanism, which will allow the tongue in a switch structure to yield and will return it to position against either wall of the switch structure or will yieldingly hold it against either wall.

A further object of the invention is to arrange the mechanism so that it will yieldingly hold the tongue in either of its positions with equal pressure, without changing the adjustment of the spring.

These objects and other advantageous ends I secure in the following manner, reference being had to the accompanying drawings, in which:—

Figure 1, is a plan view illustrating the locking mechanism; Fig. 2, is a sectional view on the line *a—b*, Fig. 1; Fig. 3, is a sectional view on the line *b—b*, Fig. 1; with some of the parts removed; Fig. 4, is a side view of the spring section detached from the box; Fig. 5, is a perspective view of a part of the tongue rod, showing the sockets; Fig. 6, is a detached perspective view of one of the rockers; Figs. 7 and 8, are detached perspective views of parts of the spring section; Fig. 9, is a diagram view illustrating a switch structure and showing the location of the casing; and Fig. 10, is a diagram view showing the three positions of the yielding rocker.

Referring to Fig. 9, 1 is the switch structure.

2 is the tongue of the switch pivoted at 3. 4 is the casing located at one side of the switch structure. This casing has a cover 5.

6 is a tongue rod which extends through an opening in the casing and is attached at its outer end to a lug 7 on the switch tongue 2. 8 is a sleeve which surrounds this rod and bears against one side of the lug, while a nut 9 on the rod bears against the other side of the lug. The sleeve is held in position by the nut 10 and jam nut 11 on the rod 6. At the inner end of the rod, within the casing, is a head 12 having sockets 13 and 14—one at each side. At one side of the

casing is a socket 15 and mounted in the sockets 14 and 15 is a rocker 16. This rocker has rounded ends, as clearly shown in Fig. 6, so as to freely rock in the said sockets.

On the opposite wall of the casing of the box 4 is a segmental track 17, having notches 18, 19 and 20, for the reception of a curved end 21 of the spring rocker 22. This rocker has a rounded T-head 23 at the opposite end fitting the socket 13 in the head 12 of the tongue rod 6. The T-head 23 is mounted on a screw stem 24, having a square extension 25, which projects into an opening in an extension 26 of the head 27 provided with a rounded projection 21, and resting against a shoulder on this head and shoulder on a nut 28 is a spring 29, which will allow the parts to yield under pressure. The nut 28 can be adjusted on the stem 24 and held by a transverse pin adapted to a slot in the nut. Carried by the head 27 is a roller 30, which travels in a groove 31 in the segmental track 17. This groove is deepened at the notches 18, 19 and 20, so that when the spring rocker is resting in one of the notches, the roller 30 is clear of the base of the groove, but when it is desired to shift the spring rocker to either of the other notches, then this roller 30 bears upon the base of the groove 31, while the projection 21 is clear of the segmental track 17, so that the roller is only in action when it is necessary to shift the segments to either of the other notches. The head 12 is flat on the upper and lower surfaces and rests on a platform 32 projecting from the base of the casing 4. In the present instance, one side of the head is a duplicate of the other, so that the rockers will fit either side; facilitating the assembling and the adjustment.

If it is desired to increase or diminish the adjustment of the tension of the spring 29, the nut 28 can be turned on the stem 24. The parts can be readily assembled and dismantled without removing the bolts between the casing and the switch structure, and yet when the parts are in position, they are positive in their action and are not liable to become disarranged.

It will be noticed, upon referring to Fig. 1, that the distance between notches 13 and 18 is shorter than the distance between notches 13 and 20; consequently the spring

in the yielding rocker 22 is more compressed when in central notch 18 than in notch 20. The relative positions of notches 18, 19 and 20 to notch 13 are, however, such that the component of the spring pressure in the direction of the tongue rod 6 is the same when the spring member is in any of its three positions and, consequently, holds the tongue against either side of the switch structure with an equal pressure without any adjustment of the spring. Thus the switch may be shipped from the works already adjusted; the mechanism to act either as a spring device or as a tongue locking device. The switch structure is placed in the track where it is desired to allow a car to pass over the switch, either at a turn-out or siding.

When the mechanism is in the position illustrated in Fig. 1, with the spring rocker in the notch 18, the device acts as a tongue lock; securing the tongue in either of its two extreme positions against accidental displacement. When the spring rocker is in the notch 20, it exerts a pulling action on the rod 6; yieldingly holding the tongue against the wall of the switch structure, so that when a car passes through the switch, the wheels push the tongue away from the wall, but the tongue will return to its position against the wall.

When the spring rocker is in the socket 19, it exerts a pushing action on the rod 6 and holds the tongue in the other extreme position against the wall farthest from the box, to which position it is returned when displaced by the car wheels, but the relative positions of the notches or sockets 18, 19 and 20 are such that the tension of the spring always remains right and requires no adjustment.

If it is desired to shift the mechanism, all that is necessary is to push the roller end of the spring member or projection 21 out of its notch. The wheel then takes a bearing on the base of the groove 31 and rolls on that surface until the other notch is reached. The projection 21 will drop into the notch, taking a firm seat. The rocking parts can be made of hardened material, if desired. This change of position can easily be made with a common bar or switch iron.

By the above construction, I am enabled to make a very practical actuating and locking mechanism for switch structures, which will be exceedingly durable owing to the extended bearing surfaces of the several parts, and owing to the absence of short pins and links, thus avoiding lost motion, usually resulting through wear.

I claim:—

1. The combination in an actuating and locking mechanism for tongue switches, of a tongue; a rod connected thereto and having a socket at each side; a casing into which the

rod extends; said casing having a notch at one side and a plurality of notches at the opposite side; a non-yielding rocker located on one side of the rod and adapted to engage one socket in the rod and the notch in the casing; and a yielding rocker on the other side of the rod adapted to engage the other socket in the rod and either of the plurality of notches at the other side of the casing.

2. The combination in an actuating and locking mechanism for tongue switches, of a tongue; a rod connected thereto; a casing into which the rod extends; a head on the rod having sockets at each side; a casing having a notch in one side wall and a plurality of notches in the opposite side wall and connected by a segmental track; a non-yielding rocker between the wall having a single notch and the head of the rod; and a yielding rocker having one end resting in the socket in the rod and the other end capable of being shifted to rest in either of the sockets in the other side wall of the casing.

3. The combination in an actuating and locking mechanism for tongue switches, of a tongue; a rod having a socket in each side; a non-yielding rocker adapted to one of said sockets; a casing having three sockets therein; and a yielding rocker adapted to the socket in the rod and any one of the sockets in the casing; said casing sockets being so arranged, with respect to the rod, that the rocker in either of its three positions will yieldingly hold the tongue with equal pressure.

4. The combination in actuating and locking mechanism for tongue switches, of a switch tongue; a rod attached to the tongue; a casing into which the rod extends; a head on the rod having sockets on each side thereof; said casing having a single groove at one side thereof; a non-yielding rocker located between the groove in the casing and one of the sockets in the head; said casing having notches on the opposite side connected by a segmental track; and a yielding rocker having projections adapted to enter one of the notches and carrying a spring which will yield when the switch tongue is actuated and will allow for the adjustment of the rocker in the casing.

5. The combination in actuating and locking means for tongue switches, of a switch tongue; a rod attached to the tongue; a casing into which the rod extends; said rod having sockets at its inner end at each side; a casing having a socket in one wall; a non-yielding rocker located between the last mentioned socket and one socket in the rod; the casing having three sockets on the opposite side thereof; a segmental track connecting the sockets; a yielding rocker mounted between the socket and the rod and in one of the sockets in the casing; and a roller adapted to travel between the sockets.

6. The combination in actuating and locking mechanism for tongue switches, of a switch tongue; a rod attached thereto; a casing into which the rod extends; said rod
5 having a head with vertical sockets in each side thereof; said casing having a single, vertical socket in one wall thereof; a non-yielding rocker having an extended bearing in the said casing socket and in one of the
10 sockets in the head; the opposite wall of the casing having three sockets spaced apart; and a yielding rocker having a stem with a T-head at one end adapted to the socket in
15 the end; a head at the opposite end of the rocker having a rounded projection adapted to fit in one of the sockets in the casing and

having a roller arranged to travel on the casing when the said rocker is shifted; a nut on the stem; and a spring mounted between the nut and the head; said stem having an
20 extension adapted to an opening in the head, so that the spring can yield when the tongue is actuated by a wheel passing through the switch.

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

CHARLES A. PSILANDER.

Witnesses:

M. ELVA NEVILLE,
WM. A. BARR.

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