

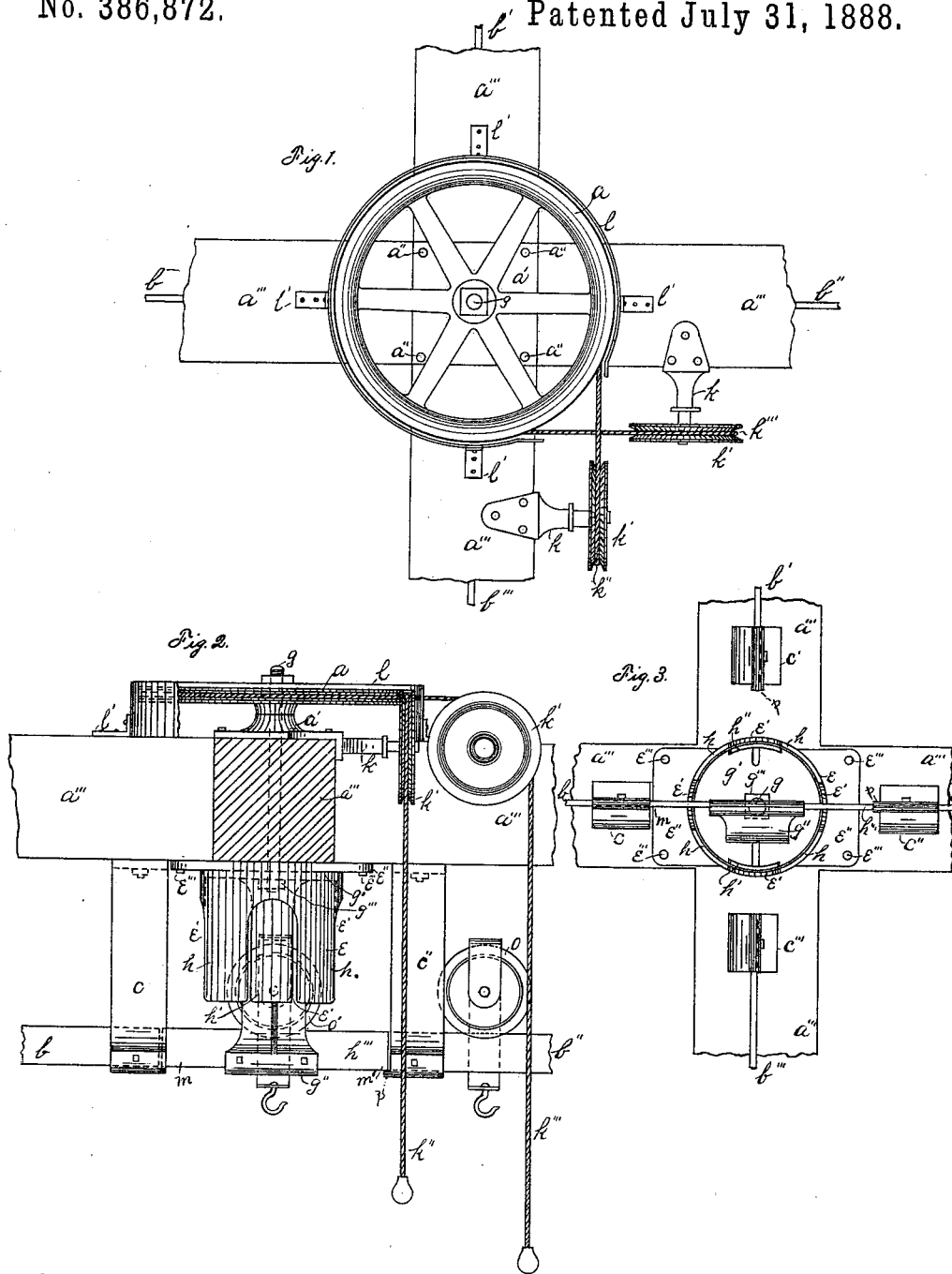
(No Model.)

E. S. ELLIS.

SWITCH FOR OVERHANGING TRACKS.

No. 386,872.

Patented July 31, 1888.



Witnesses:  
Frank J. Leonard,  
Clarence L. Bemis.

Inventor.  
Edmund S. Ellis,  
per. B. D. Hudgens,  
Attorney.

# UNITED STATES PATENT OFFICE.

EDMUND S. ELLIS, OF LAKE, ILLINOIS.

## SWITCH FOR OVERHANGING TRACKS.

SPECIFICATION forming part of Letters Patent No. 386,872, dated July 31, 1888.

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*To all whom it may concern:*

Be it known that I, EDMUND S. ELLIS, a citizen of the United States, residing at the town of Lake, in the county of Cook and State of Illinois, have invented a new and useful Switch for Hanging Tracks, of which the following is a specification.

The object I seek to attain by my invention is to provide a mechanism by which loaded trucks or cars which travel upon hanging tracks may be transferred from one track to another which crosses it at right angles, or at any angle which the convenience of location may require; and it consists of a pivoted hanger, which is operated by a horizontal grooved wheel provided with cords or chains for rotating it, which pivoted hanger carries a section of track and rotates within an incised cylinder projecting downward from and supported by the beams which support the tracks, and forms a guard for preventing the car from running off the section of track while turning and out of connection with the line-tracks.

In the accompanying drawings, Figure 1 is a top view of the switch as seen from a point above the beams supporting it. Fig. 3 is a bottom view of the switch as seen when viewed from a point directly beneath it and the beams supporting it, and Fig. 2 is a side view of the switch.

Similar letters refer to similar parts throughout the several views.

$a$  is a grooved wheel set horizontally upon the plate  $a'$ , which forms a bearing, and is secured by the bolts  $a''$  upon the intersection of the timbers  $a'''$ , which support the tracks  $b$ ,  $b'$ ,  $b''$ , and  $b'''$ , which are attached to the timbers  $a'''$  by the hangers  $c$ ,  $c'$ ,  $c''$ , and  $c'''$  and the bolts  $d$ .

Directly beneath the wheel  $a$  and the plate  $a'$  the cylinder  $e$ , having four longitudinal incisions,  $e'$ , and a base-plate,  $e''$ , is attached to the under side of the intersection of the timbers  $a'''$  by the bolts  $e'''$ , the incisions  $e'$  being located opposite the four tracks  $b$ ,  $b'$ ,  $b''$ , and  $b'''$ . The shaft  $g$  is immovably attached either with a key or by a square end to the hub of the wheel  $a$ , forming a rotating axis, which extends downward through a hole in the center of the plate  $a'$ , then through the center of the

intersection of the timbers  $a'''$ , then through a hole in the center of the base-plate  $e''$  of the cylinder  $e$ , and through a square hole in the center of the circular base-plate  $g'$  of the hanger  $g''$ , where it terminates and retains the plate  $g'$  with the nut  $g'''$ .

Cast integral with the plate  $g'$ , and projecting downward from its surface to the lower extremities of the parts  $h$  of the cylinder  $e$ , are two shields,  $h'$  and  $h''$ , within the cylinder  $e$ , having curved surfaces concentric with the axis of the cylinder  $e$ , and set at right angles with the short section of track  $h'''$ , attached to the hanger  $g''$ .

Upon the upper surface of the timbers  $a'''$ , and projecting horizontally and at right angles with each other and with the sides of the timbers  $a'''$ , as shown in Fig. 1, two small brackets,  $k$ , are fastened, forming an axis at their ends, which support the two small grooved wheels  $k'$ , over which pass the two cords or chains  $k''$  and  $k'''$  from the groove of the wheel  $a$ , in which they are fastened.

Set free from frictional contact with the wheel  $a$ , and concentric with its center, is the shield  $l$ , which is retained in position by the small angle-plates  $l'$ , which are fastened to the timbers  $a'''$ . The shield  $l$  follows the periphery of the wheel  $a$  until it reaches the points where the cords  $k''$  and  $k'''$  depart from the groove of the wheel  $a$ , and is designed to retain the cords  $k''$  and  $k'''$  in the groove of wheel  $a$ .

When it is desired to transfer a car from the continuous track formed by the tracks  $b$   $b''$  and the section of track  $h'''$  in connection between them, move the car  $o$  to the position on the track  $h'''$  indicated by  $o'$  in Fig. 2, pull downward on the cord  $k''$ , and rotate the wheel  $a$ , hanger  $g''$ , and track  $h'''$  until the end  $m'$  of the track  $h'''$  moves from hanger  $c''$  to hanger  $c'''$ , which is located sufficiently nearer to the cylinder  $e$  than the hanger  $c''$  to form a stop and at the same time form a rest on the flange of the hanger. The center of rotation of the track  $h'''$  being in the hanger  $g''$ , its end  $m'$  moves simultaneously with its end  $m'$  from the hanger  $c$  to the hanger  $c'$ , where it rests upon the lug  $p$ , projecting from the lower side of the hangers  $c'$  and  $c''$  toward the cylinder  $e$ .

The connection between the tracks  $b'$  and  $b'''$

being established by the new position of the track  $h'''$ , the car  $o$  may be run off the track  $h'''$  in either direction.

To again form connection between the tracks  $b$  and  $b''$ , pull downward on the cord  $k'''$  and rotate the wheel  $a$ , hanger  $g''$ , and track  $h'''$  reversely until the end  $m$  of the track  $h'''$  strikes against the hanger  $c$  and stops. The car at  $o'$  may then be moved in either direction along the continuous track  $b$ ,  $h'''$ , and  $b''$ .

While the section of track  $h''$  is in connection between the tracks  $b$  and  $b''$ , the shields  $h'$  and  $h''$ , which are located on the plate  $g'$  at right angles with the track  $h'''$ , rest directly across the openings of the cylinder  $e$ , which are opposite the tracks  $b'$  and  $b'''$ , thus preventing a car which might be passing on those tracks from running off from the ends of the open track. The distance between the ends of the tracks  $b'$  and  $b'''$  and the shields  $h'$  and  $h''$  being a trifle less than the radius of the car wheel  $o$ , it will strike the shield  $h'$  or  $h''$  and rebound. While the track  $h'''$  is in rotation between the tracks  $b$ ,  $b'$ ,  $b''$ , and  $b'''$  the car  $o$ , resting within the cylinder  $e$  at  $o'$ , is prevented from running off the track  $h'''$  in either direction by the projecting parts  $h$  of the cylinder  $e$ , which inclose the car on both sides the instant the track  $h'''$  begins to rotate, and the connection between the stationary tracks  $b$ ,  $b'$ ,  $b''$ , and  $b'''$  is broken. The shields  $h'$  and  $h''$ , rotating with the plate  $g'$ , hanger  $g''$ , and track  $h'''$ , always rest across the openings of the cylinder  $e$ , which are located opposite the disjoined tracks.

Having fully specified the construction and operation of my alleged novelty in switches, I claim as my invention and pray to have secured by Letters Patent—

1. The combination of the wheel  $a$ , shaft  $g$ ,

plate  $g'$ , having the shields  $h'$  and  $h''$ , hanger  $g''$ , and track  $h'''$ , with the tracks  $b$ ,  $b'$ ,  $b''$ , and  $b'''$ , the hangers  $c$ ,  $c'$ ,  $c''$ , and  $c'''$ , the cylinder  $e$ , having the four parts  $h$  and base-plate  $e''$ , the bolts  $e'''$ , the beams  $a'''$ , plate  $a'$ , bolts  $a'$ , the shield  $l$ , angle-plates  $l'$ , the brackets  $k$ , grooved wheels  $k'$ , and cords  $k''$  and  $k'''$ , substantially as and for the purposes stated.

2. The combination of the plate  $a'$  and the cylinder  $e$ , having the four incisions  $e'$ , the four projecting parts  $h$ , and the base-plate  $e''$ , with the wheel  $a$ , shaft  $g$ , and the plate  $g'$ , having the hanger  $g''$  and shields  $h'$  and  $h''$ , substantially as set forth, for purposes stated.

3. In a switch for hanging tracks, the combination of the horizontal grooved wheel  $a$ , connected with the plate  $g'$ , having the shields  $h'$  and  $h''$  and hanger  $g''$ , by the shaft  $g$ , set solid with both wheel  $a$  and plate  $g'$  and pivoted in the plate  $a'$ , beams  $a'''$ , and cylinder  $e$ , and rotated within those parts by the cords  $k''$  and  $k'''$ , passing over the grooved wheels  $k'$ , supported upon the brackets  $k$ , substantially as and for the purposes stated.

4. The combination of the wheel  $a$ , shaft  $g$ , cylinder  $e$ , having the parts  $h$  and base-plate  $e''$ , the plate  $g'$ , hanger  $g''$ , shields  $h'$  and  $h''$ , the track  $h'''$ , the hangers  $c'$  and  $c'''$ , and the hangers  $c$  and  $c''$ , substantially as specified.

5. The combination of the plate  $g'$ , hanger  $g''$ , and shields  $h'$  and  $h''$  with the cylinder  $e$ , having the base-plate  $e''$  and parts  $h$ , substantially as shown and described, for purposes stated.

EDMUND S. ELLIS.

Witnesses:

FRANK J. LEONARD,  
CLARENCE L. BEMIS.