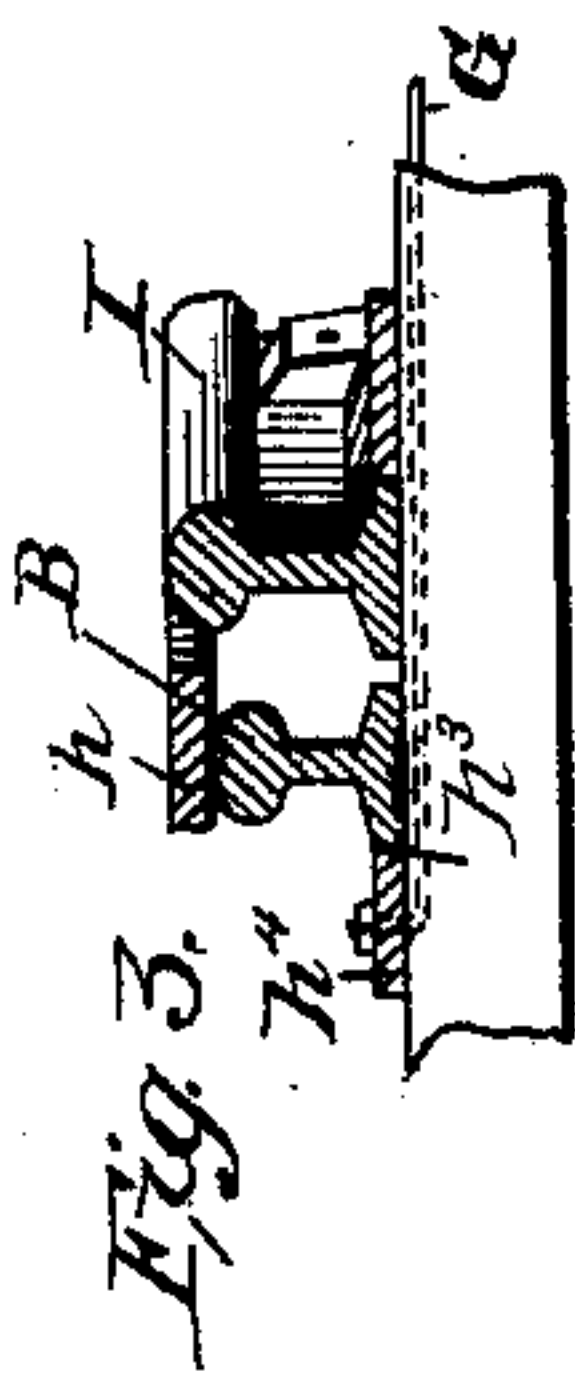


W. N. KNIGHT.
RAILWAY SWITCH.

Patented Sept. 3, 1889.



Fred G Dieterich
P.B. Turpin.



BY

Mum Z

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WALTER N. KNIGHT, OF BOARDMAN, FLORIDA, ASSIGNOR OF ONE-HALF TO
WILLIAM H. SMITH, OF SAME PLACE.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 410,364, dated September 3, 1889.

Application filed February 14, 1889. Serial No. 299,665. (No model.)

To all whom it may concern:

Be it known that I, WALTER N. KNIGHT, of Boardman, in the county of Marion and State of Florida, have invented a new and useful
5 Improvement in Railroad-Switches, of which the following is a specification.

My invention is an improvement in railway-switches; and it consists in certain novel constructions and combinations of parts, as
10 will be hereinafter described, and pointed out in the claim.

In the drawings, Figure 1 is a plan view showing the switch open to the siding. Fig. 2 is a similar view showing the switch open
15 to the main line, and Fig. 3 is a detached sectional view on about line 3 3 of Fig. 2.

The main line has rails A B, which for convenience of reference I shall term, respectively, the "inner" and "outer" rails. The operating-shaft C is journaled near to the outer
20 rail, and has an operating-lever D and crank-like portions E E', to which the connecting-rods F and G are secured, which rods are reciprocated by the turning or partial turning
25 of the shaft C, as will be readily understood from the drawings.

The side track H has inner and outer rails H' and H², the outer rail H² being practically a continuation at b of the side rail B of the
30 main track. The inner rail H' of the side track has a pivoted section h at its inner end, such section being pivoted at h' at one end and rising or inclining gradually upward toward its opposite end, and adapted at such
35 end at h² to lap up on the rail B, as shown in Fig. 1, when the switch is open to the siding, or be adjusted laterally clear of such rail B when the switch is closed to the siding, as will be understood from Fig. 2.

The section h is formed adjacent to its end or portion h³ which laps on rail B with a depending edge or shoulder h³, formed at an angle diagonal to the direction of length of the section h, and arranged to abut square
45 against the outer side of rail B when the switch is open. This is preferably effected by forming the section h adjacent to its movable end with a base-plate h⁴ and with a

tread portion thereon, the latter forming the bearing for the wheels and being extended 50 beyond the base-plate, so that the end of the latter will form the shoulder h³.

The side track has a rail I arranged between the rails A and B, and which may for such reason be called the "intermediate" rail. 55 This rail, when the switch is open, forms a continuation of the inner rail H' of the side track. I extend the rail I at i in rear of its juncture with the rail H' to form practically a guard-rail, as shown in both Figs. 1 and 2. 60 This rail I has a pivoted or hinged section I', which is movable at its free end against the inner side of the outer rail A of the main track.

The main-track rail B has a hinged section 65 B', which may be adjusted into alignment with the fixed portion of rail B, or out of such alignment when the switch is respectively closed or open to the main line, as shown in the drawings. 70

It will be understood that the rail I, as well as the section h, rises or inclines upward toward the juncture of rails I h, so that the cars, &c., may be conveniently elevated over the rail B of the main line. The movable 75 section h is connected by rod G with the crank E' on the shaft C, and sections B' and I' are both connected with the crank E by rod F. By preference this connection is effected by the aid of the base bar or beam J, 80 to which both sections B' and I' are secured, as shown.

From the foregoing it will be seen that all three of the pivoted sections B', h, and I' move in the same direction to open the side track, 85 and also to close same.

The invention is simple, easy, and certain of operation, and possesses no parts likely to easily get out of order.

It will be noticed that the improvement 90 avoids and dispenses with the use of frogs and the like, and provides a frogless switch, as is desirable.

Having thus described my invention, what I claim as new is—

The improvement in railway-switches 95

herein described, consisting of the main line
having section B', the side track having sec-
tion h' , provided with portion h^2 and shoul-
der h^3 , the intermediate rail I, having section
5 I' and extension i , the bar or beam J, the
main shaft having crank-like portions, and
the rods for connecting such portions with

the sections to be operated, substantially as
set forth.

WALTER N. KNIGHT.

Witnesses:

WM. HICKSON,
W. JOHNSON.