

(No Model.)

S. BELL.

DEVICE FOR OPERATING TRAIN SWITCHES.

No. 358,325.

Patented Feb. 22, 1887.

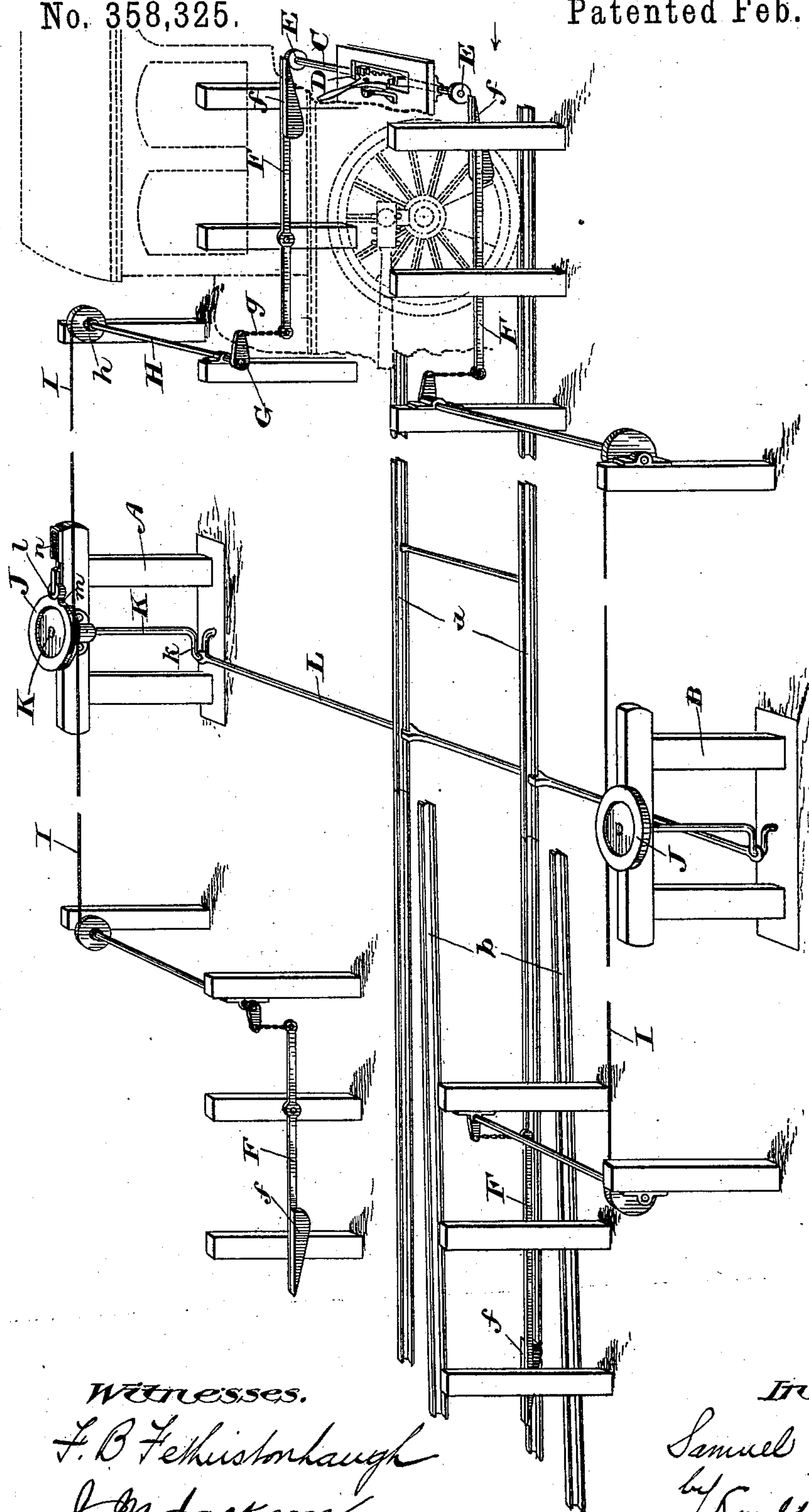


Fig. 1.

Witnesses.

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DEVICE FOR OPERATING TRAIN-SWITCHES.

SPECIFICATION forming part of Letters Patent No. 358,325, dated February 22, 1887.

Application filed July 29, 1886. Serial No. 209,426. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL BELL, of the village of Alliston, in the county of Simcoe, in the Province of Ontario, Canada, have invented a certain new and Improved Device for Operating Train-Switches, of which the following is a specification.

The object of the invention is to devise a simple device by which the driver of a locomotive can change the switch as he approaches it on his engine; and it consists, essentially, of a system of levers, rods, and chains connected to the switch-lever and brought in proximity to the track, so that the driver from his position on the locomotive may actuate the system of levers, &c., so as to adjust the switch into the desired position, substantially as herein-after more particularly explained and claimed.

The figure is a perspective view showing a switch provided with my improved mechanism.

In the drawing I show two switch-frames, A and B, located one on each side of the track.

For the purpose of illustrating my invention I show the cab of the engine in dotted lines. The engine is supposed to be going in the direction indicated by arrow. In the cab I show a bar, C, having teeth formed on it to engage with a toothed quadrant, D, by which the bar C may be adjusted longitudinally. This bar C has rollers E on each end.

F is a lever pivoted on a suitable frame in proximity to the track, having an enlarged end, *f*. The other end of this lever F is connected by chains *g* to the crank G on the end of the rod H. On the other end of this rod H I place a grooved pulley, *h*, which is connected by the chain or cord I to the double-grooved pulley J on the vertical rod K. The rod K is connected by the crank *k* to the switch-rod L. When it is desired to go along the main track *a*, the quadrant D is adjusted so as to move the bar C into a position which will prevent the rollers from engaging with the pivoted lever F. To hold the vertical rod K firmly in position, and thus prevent the crank *k*, situated at its lower end, from operating the switch-rod L, I form two notches, *l* and *m*, on the periphery of the pulley J, keyed to the upper end of the shaft K. Fitting into one of these notches, *l*, I show a spring-roller, *n*. By this means the switch-rod L is held firmly

in position, and the train may pass over the main line without any fear of being thrown off the track.

Should the engine-driver, however, wish to bring his engine and train on the side or station track, *b*, he moves the quadrant D so as to bring the roller E on the bar C beneath the large end *f* of the pivoted lever F. As the train passes along in the direction indicated, the roller E tilts the lever F, which, being connected by the chain *g* to the crank G on the rod H, brings the end of the crank G downward. This action draws upon the wire or chain I, which is attached to the pulley H, and brings it a sufficient distance to permit the spring-roller *n* to drop into the pulley *m* on the pulley J, at the same time causing the crank *k* to revolve such a distance that the switch-rod L will bring the track *a* flush with the side lines or station-track *b*. When the next train passes along from the opposite direction, the switch is moved back into its former position by bringing the roller E under the large end *f* of the lever F, situated on the other side of the switch, so as to draw upon the wire or chain I and bring the pulley J back to its initial position, as shown in the drawing.

It will be seen in the drawing that I show four systems of levers and chains and two switches.

Should the next train be coming in the same direction as the first mentioned and desire to go along the main line, its roller E is brought to run under the large end *f* of the lever F, located on the opposite side of the track; but if not, the quadrant D is adjusted so as to leave the rollers E free, and this train may follow along the side track in the same manner as the former. Should, however, the next train be coming from the opposite direction along the side line, *b*, the main line *a* being closed, its roller E will be brought under the large end *f* of the lever F on the opposite side of the track and tilted, as before described, thus bringing the track *a* flush with the side lines of the track *b*.

It will of course be understood that these systems of levers, rods, and chains are located at suitable distances from the switch, to operate as desired.

It will also be seen that the number of said

tracks *b* to which the switch-track is to be moved will make no difference in the principle of my invention.

What I claim as my invention is—

5 1. The combination, with the switch-rod, of the rod H, arranged parallel therewith, connections between said switch-rod and rod H, the pivoted lever F, having enlarged end *f*, crank G on the end of the rod H, connections
10 between said crank and lever, and a laterally-adjustable bar, C, provided with a roller to engage the enlarged end of the lever F, substantially as and for the purpose specified.

15 2. A switch-rod, L, connected by the crank *k* to the vertical switch-rod K, on which is keyed the pulley J, connected by the wire or chain I, pulley *h*, rod H, crank G, and chain

g to the pivoted lever F, in combination with the bar C, having the roller E, arranged to engage with the large end *f* of the lever F, substantially as and for the purpose specified. 20

3. The combination, with the switch-rod, rod H, and connections between said rods, of the pivoted lever F, crank G, chain *g*, bar C, having teeth and carrying a roller, E, at each
25 end, and the toothed quadrant D, engaging the teeth of the bar C, substantially as and for the purpose specified.

Alliston, July 17, 1886.

SAMUEL BELL.

In presence of—

CHARLES C. BALDWIN,
ALICE K. THOMPSON.