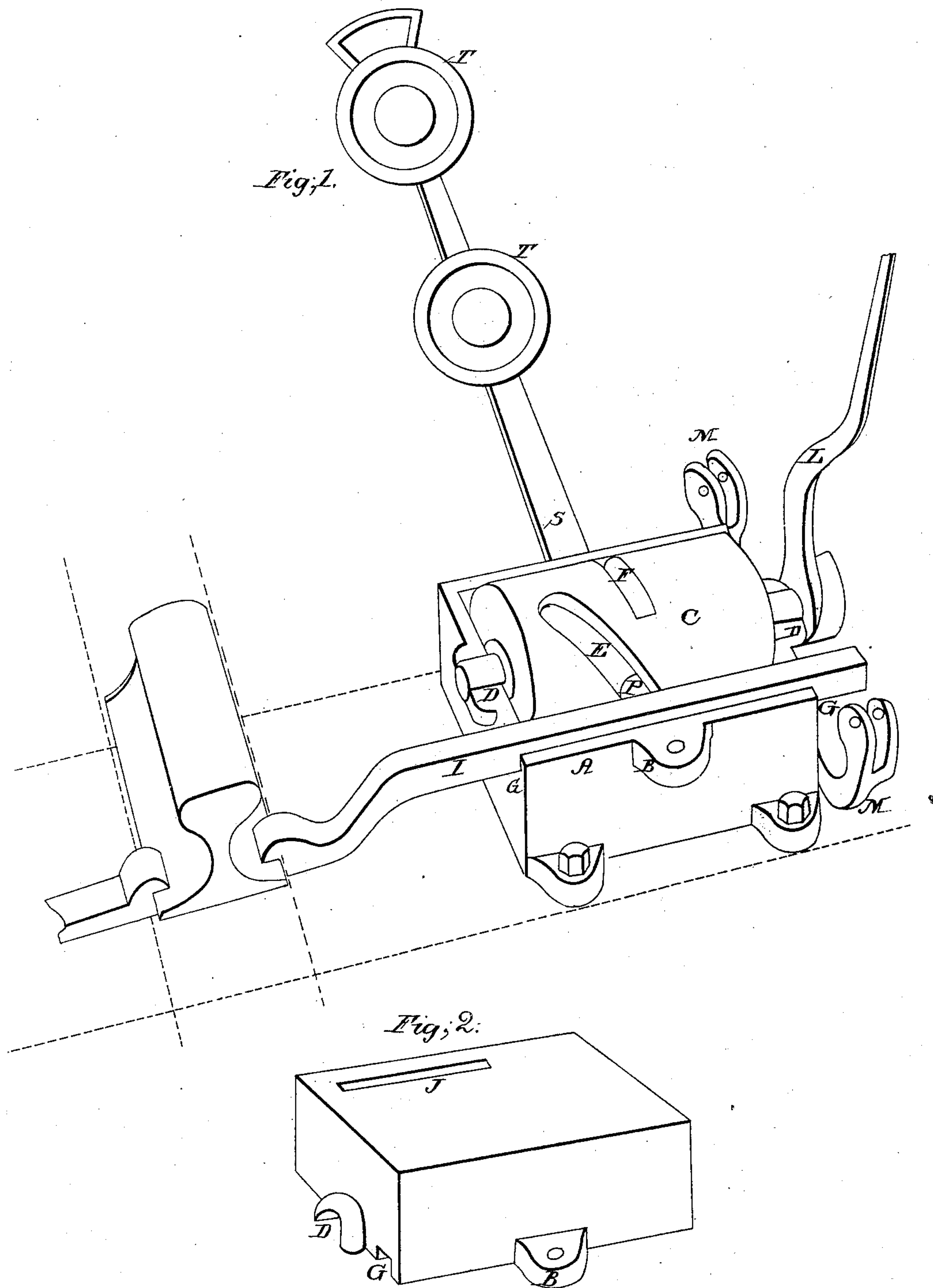


*C. C. Dodge.*

*Railroad Switch.*

*N<sup>o</sup> 21,658.*

*Patented Oct. 5, 1858.*



# UNITED STATES PATENT OFFICE.

CHARLES C. DODGE, OF MARSHALL, MICHIGAN.

## IMPROVEMENT IN RAILROAD-SWITCHES.

Specification forming part of Letters Patent No. **21,658**, dated October 5, 1858.

*To all whom it may concern:*

Be it known that I, CHARLES C. DODGE, of the town of Marshall, in the county of Calhoun and State of Michigan, have invented a new and useful Improvement in Railroad-Switches; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective of the whole machine with the exception of the cover. Fig. 2 represents the cover detached.

This improved device for working switch-rails is designed for hand use, and is more particularly intended to remedy the inconvenience occasioned by the use of the ordinary timber head-blocks in crowded and confined localities.

A, Fig. 1, is the lower, and A, Fig. 2, is the upper, half of a nearly-square cast-iron box, being about eight inches high and long and ten inches wide, which halves are bolted together through lugs cast on the sides, two of which are seen at B B.

C is a cast-iron cylinder which revolves on two journals in the bearings D D. It has two spiral grooves E and F, of different size and pitch, each extending half-way round its periphery on opposite sides. The larger groove E is of a pitch to correspond with the travel of the switch-rails, while the smaller groove F is made to conform to the angle of depression required of the signal-targets T T when there is a want of continuity in the main track.

I represents the tie-bar broken off between the switch-rails. It passes through the box A in grooves in the ends (see G G G) of each half between one side of the box and cylinder and on a level and parallel with its axis.

P is a guide-pin firmly secured to the bar at a proper distance, fitted to and working freely in the groove E.

The target-staff S passes vertically through the slot in the upper half, as seen at J, Fig. 2, between the opposite side of the box and

the cylinder, and is attached below by a pivot-bolt. It is also provided with a pin, (not seen,) fitted to and working freely in the groove F.

L is a lever attached to one end of the cylinder, and crooked for the convenience of shifting end for end, so as to clear the tie-bar when circumstances require such a position.

M M are clutches to receive the lever where it is locked by a bolt when the switch is set.

This improved arrangement is capable of transmitting great power, and is so compact that it can be placed anywhere between or about the track without creating any inconvenience, and it is equally well adapted to a double as a single track by simply enlarging its capacity. It is cheap also in construction, and may be made perfectly durable by simply chilling the groove E and providing the pin P with a friction-roller. Instead of the groove, threads or tongues may be used on the cylinder, working between rollers on the tie-bar, if such should be found to possess more durability or be any cheaper in construction. After being bolted by the lower lugs in a proper position to one of the joint-ties of the track and the tie or any other connecting-bar of the switch-rails placed in contact by its pin with the groove, a motion of the lever from one clutch to another by revolving the cylinder communicates motion to the switch from one track to another by the pin P traversing the groove, while the target-staff, by its pin and groove, is moved simultaneously in a proper manner.

What I claim as my invention, and desire to secure by Letters Patent, is—

The application and use of the combined arrangement of the grooved or threaded cylinder C, lever L, guide-pin P, pivoted target-staff S and pin, tie-bar I, and box A, for the purpose and constructed substantially in the manner as is herein described and set forth.

CHAS. C. DODGE.

Witnesses:

MARTIN D. STRONG,  
S. W. DODGE.