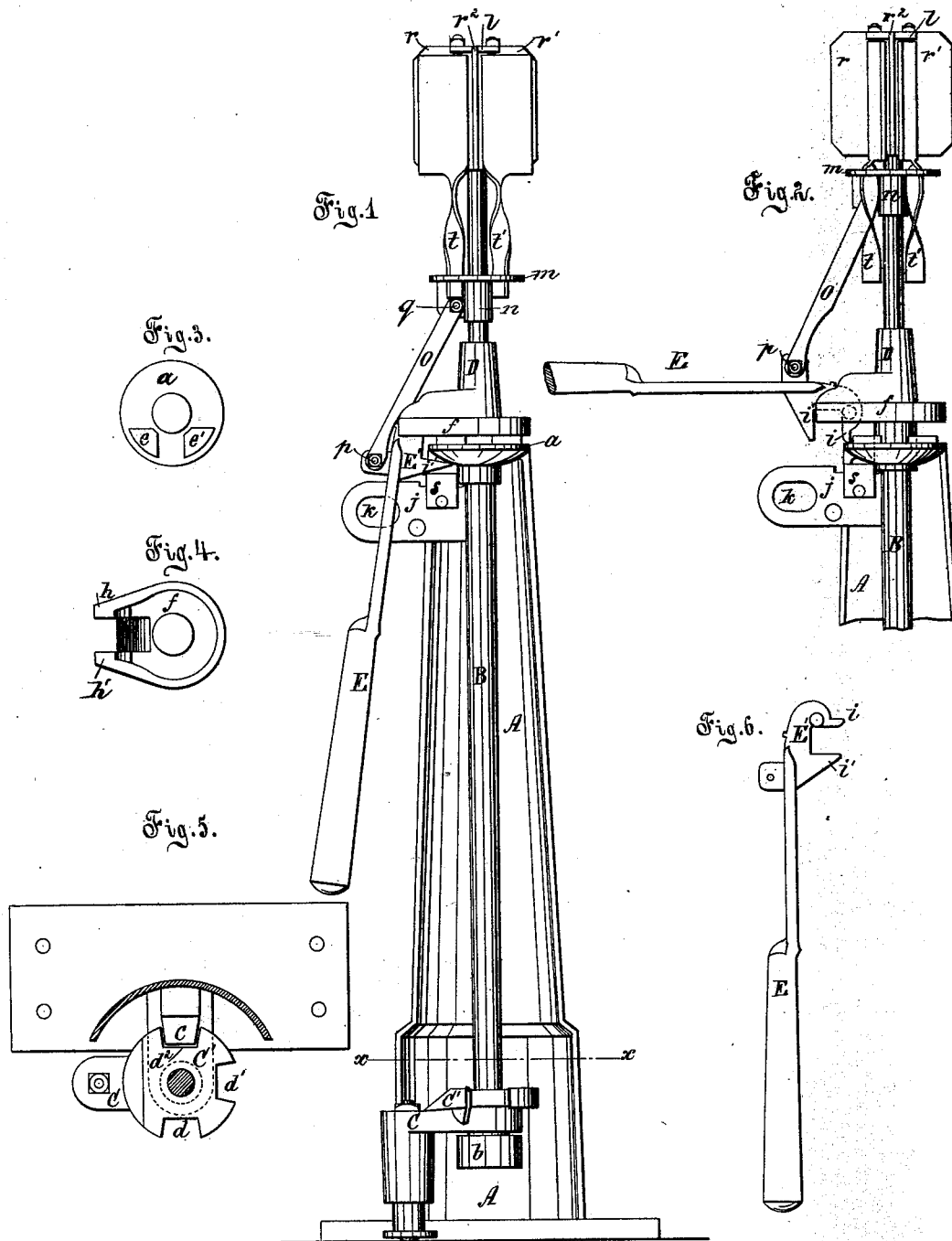


J. BRAHN.
Railway-Switch Stand.

No. 218,110.

Patented Aug. 5, 1879.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES BRAHN, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN RAILWAY-SWITCH STANDS.

Specification forming part of Letters Patent No. **218,110**, dated August 5, 1879; application filed February 5, 1878.

To all whom it may concern:

Be it known that I, JAMES BRAHN, of Jersey City, State of New Jersey, have invented certain new and useful Improvements in Railway-Switch Stands, of which the following is a specification, reference being had to the accompanying drawings, forming part of the same.

Figure 1 is a front elevation of my switch-stand, showing the same closed. Fig. 2 is a similar view of the upper part of the stand, showing the same open. Figs. 3 to 6, inclusive, are detailed views of several parts of the stand hereinafter particularly described.

My invention consists of a railway-switch stand containing the devices and combination of devices hereinafter described and claimed, whereby the proper adjustment of the switch operated by it is insured when the stand is in its normal condition, and when operated to shift the switch it cannot be restored to its normal condition until the switch is completely shifted into its proper position.

A is a pillar or frame, upon which the moving parts are mounted. B is a shaft, fitted to revolve and slide vertically in bearings in the head *a* of the pillar, at its top, and a bracket or arm, *b*, at its bottom. C is a crank-arm, secured to the said shaft near its lower end, to which a rod is to be connected for shifting a switch. C' is a notched disk, made fast to or formed on the crank-arm, a face view of which is shown in Fig. 5. *c* is a lug or projection on the bracket *b*, fitted to engage the notches *d* *d'* *d''*. The upper face of the head *a* of the pillar A is shown in Fig. 3, *e* *e'* representing on said face two segmental lugs or projections. The edges of said lugs are also seen in Fig. 1. D is a hub, secured on the shaft B. The base *f* of the hub is enlarged, and has the form shown at Fig. 4, which represents the under face of said base. E is a lever, pivoted in the base *f* between the projections *h* *h'*. The head E' of this lever has the form shown in Fig. 6. The arm *i* rests on the upper face of the head *a* of the standard A, and the arm *i'* falls under the edge of said head when the lever is depressed, as in Fig. 1, the said arm *i* being fitted to pass loosely between the lugs *e* *e'*. When the lever is raised, as in Fig. 2, the arm

when the shaft, with all its accessories, may revolve in its bearings, and thus shift a switch by the swinging of the cranking arm. *j* is an arm, formed of a broad piece of metal, fixed in the shaft B, for the purpose of locking the lever when swung down in the position shown in Fig. 1, there being a slot in the lever, through which said arm passes, and the arm being provided with a hole, *k*, through which may be passed the bow of a padlock. This arm is, as stated, fixed in the shaft B in vertical line with the lever E, and therefore is carried by said shaft when the latter is rotated, it being thus always in position to engage said lever whenever the same is thrown down, as in Fig. 1. A single arm thus serves the purpose of locking the lever on whichever side of the stand the lever is thrown down.

The operation of this stand is as follows: When the same is in the position shown in Fig. 1, the switch is supposed to be adjusted properly to one of the tracks connected with it. In this position it is locked both at the lower and the upper ends of the shaft—at the lower end by the lug *c* engaging the notch *d'* in the disk C', and at the upper end by the arm *i* on the head E' of the lever E resting on the face *a* of the base *f*, on the left side of the lug *e* on said face. Now, when the said lever is raised, as shown in Fig. 2, the action of said lever, as the arm *i* swings down and slides over the upper face of the head *a*, is to lift the hub D, and with it the shaft B, on which it is fixed, thereby unlocking said shaft, so that it may be revolved in its bearings, the disk C' being lifted clear from the lug *c*, and the arm *i* in the head of the lever being swung out of engagement with lug *e* on the face of the head *a*. The shaft B may then be revolved either a quarter or a half turn. If a quarter-turn and then stopped and the lever depressed, the notch *d'* will drop over the lug *c*, and the arm *i* will pass in between the lugs *e* *e'*, when the shaft will be locked in position. This movement will have shifted the switch. If a half-turn is given to the shaft B, then the notch *d* will drop over the lug *c*, and the arm *i* will pass to the right side of the lug *e'*, and then, the lever being depressed, the shaft will be locked in that position. With every movement of the lever the signals at the top of the shaft B will be

changed, indicating the position of the switch and the condition of the track. The arm *i'* on the head of the lever E, when the lever is depressed, passes under the head *a*, and thereby locks the shaft down, so that it cannot be raised without first raising the lever.

s is a stop-block fixed to the arm *j*, which limits the upward movement of the shaft B.

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

1. The combination, in a switch-stand, of the revolving and vertically-moving shaft B, to which are secured the notched disk C', hub D, and crank C, the lug *c*, head *a*, and the lever E, provided with the arm *i'*, and pivoted in the base of the said hub, all constructed and arranged to operate as and for the purpose described.

2. The combination, in a switch-stand, of the revolving and vertically-moving shaft B, to which are secured the crank C and hub D, the lever E, provided with the arms *i i'* and pivoted in the said hub, and the lugs *e e'*, one or more, on the face of the head *a*, constructed

and arranged to operate as and for the purpose described.

3. The combination, in a switch-stand, of the revolving and vertically-moving shaft B, to which is secured the hub D, the lever E, provided with the arm *i'* and pivoted in the said hub, and the head *a* of the column A, all constructed and arranged to operate as and for the purpose described.

4. The combination, in a switch-stand, of the revolving shaft B, to which are secured the crank C and hub D, the arm *j*, secured to said shaft, so as to be rotated with it, the lever E, pivoted in the hub D and provided with a slot, through which may pass the said arm *j* when the said lever is depressed, all constructed and arranged to operate as and for the purpose described.

Witness my hand this 2d day of February, 1878.

JAMES BRAHN.

Witnesses:

B. S. CLARK,

THEODORE G. HESTER.