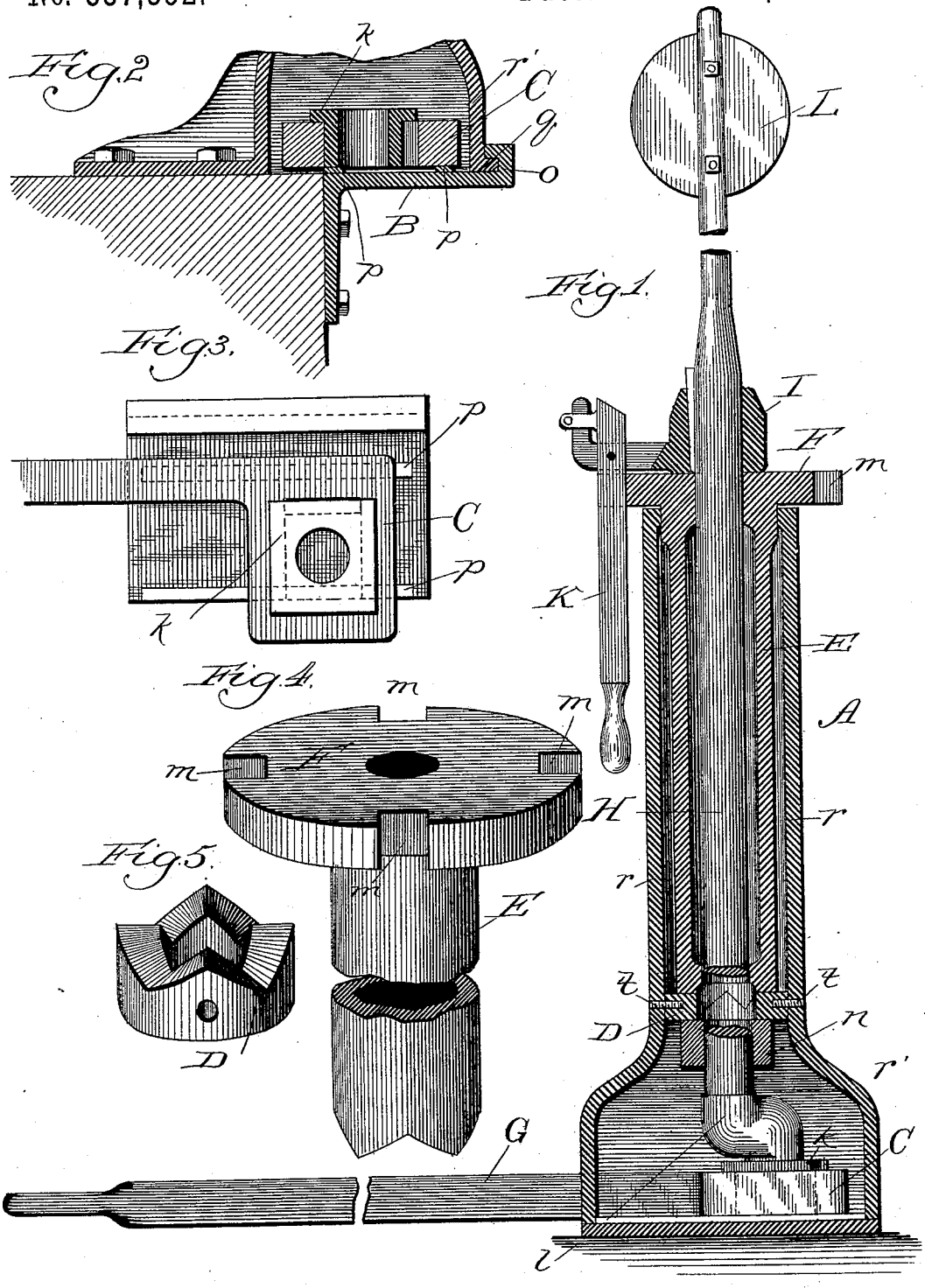
(No Model.) 2 Sheets—Sheet 1.

A. A. STROM.

SWITCH STAND.

No. 337,352. Patented Mar. 2, 1886.



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(No Model.) 2 Sheets—Sheet 2.

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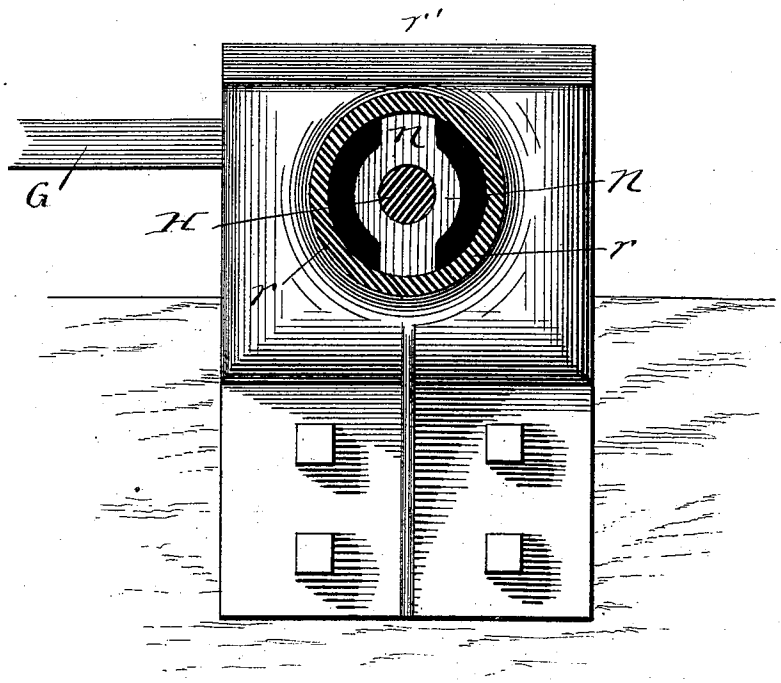
Fig. 6.



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UNITED STATES PATENT OFFICE.

AXEL A. STROM, OF AUSTIN, ILLINOIS.

SWITCH-STAND.

SPECIFICATION forming part of Letters Patent No. 337,352, dated March 2, 1886.

Application filed September 28, 1885. Serial No. 178,324. (No model.)

To all whom it may concern:

Be it known that I, AXEL A. STROM, a citizen of the United States, residing at Austin, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Switch-Stands; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates, particularly, to a stand for split switches, the principal object being to avoid cause for the derailment of rolling stock or injury to itself or to the wheels when the switch is closed, by providing a construction whereby the switch shall be automatically opened by the flange of the locomotive-wheel, which first comes into contact with it, and whereby the device shall be readily readjusted with accuracy, and also be capable of operation by hand.

It is also my object to afford a generally-improved construction of switch-stand.

My invention consists in the general construction of my improved device; and it further consists in certain details of construction and combinations of parts, all as hereinafter more fully set forth.

Referring to the drawings, Figure 1 is a central vertical section of my improvement, displaying the parts in operative combination; Fig. 2, a vertical section of the base, having the upper part of the device broken away, and showing the improved construction of the supporting-bracket secured upon a single head-block; Fig. 3, a plan view of the supporting-bracket, showing the yoke of the switch-bar in position; Fig. 4, a perspective view of the movable table, provided with four peripheral recesses and formed with a vertical sleeve having its lower extremity provided with teeth forming the movable part of a clutch; Fig. 5, a perspective view of the lower stationary part of the clutch, and Fig. 6 a sectional plan view taken on Fig. 1 immediately below the clutch device.

A is the standard portion of the device, comprising the vertical hollow cylinder *r*, having cast with it the hollow base *r'*, provided with a flange, *q*.

B is the supporting-bracket, in the form of an angular plate bent at its horizontal edge, to afford the shape of an angle-iron forming a socket, *o*, to hold the base *r'* at the flange *q*, which enters it, and provided on its upper horizontal surface with flat ribs *p*, which serve as the ways for the sliding yoke C on the switch-actuating bar G, and also affords stops to prevent the displacement of the base *r'*, which covers them and abuts at opposite internal sides against their extremities. The lower extremity of the cylindrical portion *r* of the standard is provided with a strengthening-web, *n*, which affords a seat for the lower portion of a clutch, D, which is firmly secured in position by means of screws *t*, as shown in Fig. 1. The movable part of the clutch is afforded by the hollow cylinder E, provided for the purpose upon its lower extremity with teeth corresponding with those formed on the part D, and cast or formed as a part of the rotary table F hereinafter described. The diameter of the cylinder E is less than that of the internal diameter of the cylinder *r*, to fit within the latter, which is reduced besides at its lower end, as already described, also toward its upper extremity, to afford a close fit and consequent bearing to the diametrically-enlarged upper extremity of the cylinder E. The plate or disk F surmounts the cylinder *r* when the part E is adjusted in position, preferably, however, to avoid friction without contact with the same, and is provided, for a purpose hereinafter named, with four recesses, *m*, formed in the periphery at equal distances apart—*i. e.*, ninety degrees.

H is the spindle, or feature usually provided with the target L, extending through the cylinder E, internally reduced, as shown, toward its opposite extremities to afford bearings for the spindle and prevent a wabbling motion of the same, and through the web or cross-bar *n*, and provided at its lower extremity with a crank, *l*, which fits within the central opening of the shifting-block *k* of the yoke C, the crank being limited to a sweep of ninety degrees to avoid the occurrence of its assuming a position on a dead-center.

I is the collar, surrounding and keyed to the spindle H and surmounting the plate or disk F, and K is the handle or lever, of common construction, pivoted to an extension of the collar in a position to be lowered into the recesses *m* successively when the plate is turned, to lock the plate and spindle together, when

desired, as hereinafter described, and capable of being raised out of the same to permit turning of the spindle independently of the table.

Owing to the foregoing construction an open switch will be automatically closed by the flange of the wheel which first strikes it, the pressure against the switch-rail forcing the spindle H, through the medium of the bar G, into the position shown in Fig. 1 of the drawings, wherein the target L faces the approaching trains, indicating the open condition of the switch, and, owing to the normally-locked connection of the table F and spindle due to the position of the lever K within a recess, *m*, the turning of the spindle also turns the table to the limit of play of the crank *l*, the upper part of the clutch being raised by the torsion out of contact with the lower stationary part and returned into its normally-locked position when the turn is completed.

After an occurrence like the one just described the switch is readjusted by hand by lifting the handle K out of the recess *m* and turning it back—thus independently of the table F, which remains stationary during the operation—to the full limit of play (ninety degrees) of the crank *l*, where it will be in position to enter another recess, *m*; the device then being ready for another automatic operation, and the target extending lengthwise of the track. It will thus be seen that the purpose of the four recesses in the plate F ninety degrees apart is to permit, when desired, resetting of the switch and target, and locking of the table and spindle after each automatic operation.

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

1. A switch-stand having a standard, *r*, and base *r'*, containing a rigid clutch portion, D, a recessed annular table, F, upon a cylinder, E, having teeth at its lower extremity to engage with the clutch portion D and afford a clutch, a spindle, H, extending through the device, and provided at one extremity with a crank, *l*, constantly off a dead-center, a switch-bar, G, connected with the crank, and a lever, K, pivotally connected to the spindle, to enter a recess in the table and interlock the spindle with the table, whereby the turning of either shall simultaneously turn the other, substantially as and for the purpose set forth.

2. A switch-stand having a standard, *r*, and base *r'*, containing a rigid clutch portion, D, a recessed annular table, F, upon a cylinder, E, having teeth at its lower extremity to engage with the clutch portion D and to afford a clutch, a spindle, H, extending through the device, and provided at one extremity with a crank, *l*, constantly off a dead-center, a switch-bar, G, carrying a yoke to receive the crank *l*, and a lever, K, pivotally connected to the spindle to enter a recess in the table and interlock the spindle with the table, whereby the turning of either shall simultaneously turn the other, substantially as and for the purpose set forth.

3. In a switch-stand, the base *r'*, having a flange, *q*, in combination with a bracket, B, provided with a recess, *o*, to receive the flange *q*, and afford means for securing the stand to be supported on a single head-block, substantially as described.

4. In a switch-stand, the base *r'*, in combination with a bracket, B, provided with ribs *p*, affording ways for the sliding yoke of the switch-bar and stops for the base, substantially as described.

5. In a switch-stand, the base *r'*, having a flange, *q*, in combination with a bracket, B, provided with a recess, *o*, to receive the flange *p*, and afford means for securing the stand to be supported on a single head-block, and ribs *p* on the bracket, affording ways for the sliding yoke of the switch-bar and stops for the base *r'*, substantially as described.

6. A switch-stand comprising, in combination, a standard, *r*, and base *r'*, provided with a flange, *q*, a bracket, B, having a recess, *o*, and ribs *p*, a clutch portion, D, rigidly secured within the standard *r*, a recessed annular table, F, provided with a cylinder, E, having teeth at its lower extremity to engage with the clutch portion D and form a clutch, a spindle, H, extending through the device, and provided with a crank, *l*, constantly off a dead-center, a switch-bar, G, carrying a yoke to receive the crank *l* and move upon the ribs *p*, and a collar, I, keyed to the spindle, and provided with an extension carrying a pivoted lever, K, the whole being being constructed and arranged to operate substantially as described.

AXEL A. STROM.

In presence of—
MASON BROSS,
WM. SADLER.