

C. C. KORNS.
SWITCH THROW.

APPLICATION FILED OCT. 15, 1902.

NO MODEL.

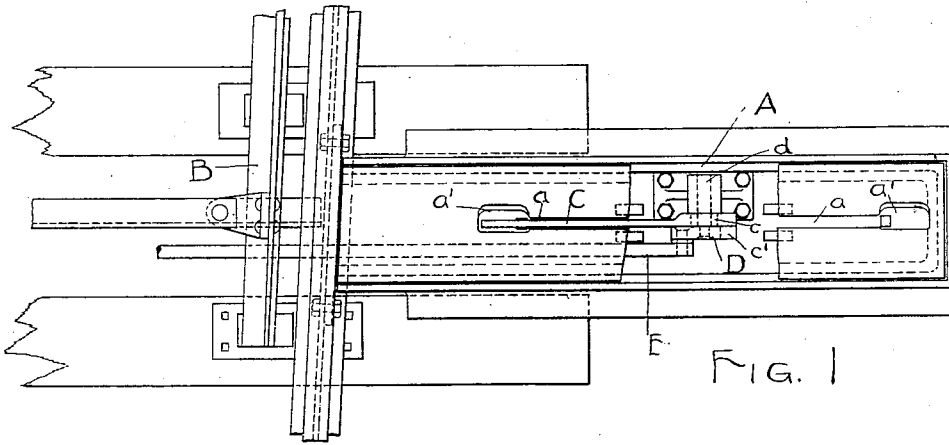


FIG. 1

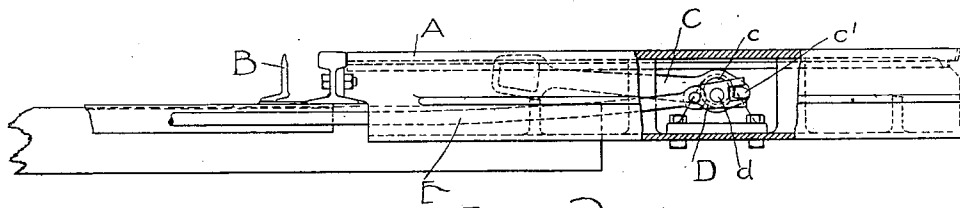


FIG. 2

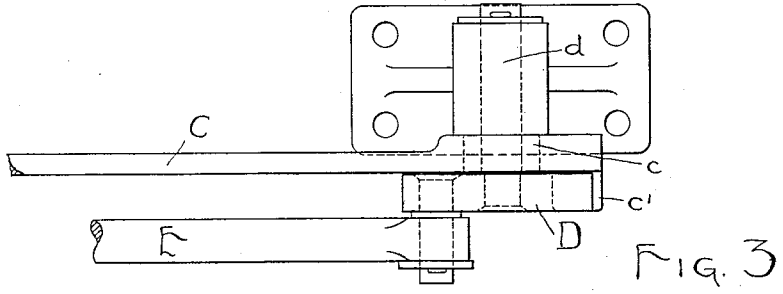


FIG. 3

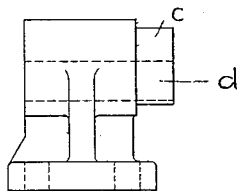


FIG. 4

WITNESSES:
A. V. A. B. M. Cauley.
Loretto Osbornell

INVENTOR
 C. C. Korns,
 BY
Geo. A. Permelée,
 His ATTORNEY.

UNITED STATES PATENT OFFICE.

CLARENCE C. KORNS, OF JOHNSTOWN, PENNSYLVANIA, ASSIGNOR TO THE LORAIN STEEL COMPANY, A CORPORATION OF PENNSYLVANIA.

SWITCH-THROW.

SPECIFICATION forming part of Letters Patent No. 738,205, dated September 8, 1903.

Application filed October 15, 1902. Serial No. 127,429. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE C. KORNS, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Improvement in Switch-Throws, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention has relation to certain new and useful improvements in switch-throws, and more particularly to a switch-throw designed for use in streets and other places where it is necessary or desirable that the switch-lever shall normally lie below the surface of the street or pavement.

The object of my invention is to provide switch-operating means of simple and practical character in which the operating-lever is normally concealed in a suitable box or casing set in the street or pavement in such position as to be readily accessible through the slotted cover of such box or casing, while at the same time the switch is automatically locked thereby against accidental movement.

With this object in view my invention consists in the novel construction, arrangement, and combination of parts, all as hereinafter described, and pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view showing my improved switch-throw with portions of the box or casing broken away; Fig. 2, a side view of the same; Fig. 3, a plan view of the operative parts on a larger scale, and Fig. 4 a detail view.

The letter A designates a suitable box or casing, which in use is designed to be set in the street or pavement adjacent to the switch B, substantially flush with the surface thereof. C is the operating-lever, which is pivoted near one of its ends at the central portion of the box on a large center *c*. D is a short lever, which is pivoted on a center *d*, which is eccentric with respect to the center *c*, the axis of *d* being below the axis of *c*. One end portion of this lever D is engaged by a pin or projection *e'* on the short arm of the lever C, and to its opposite end portion is pivotally connected the switch-rod E.

The cover portion of the box A has a longitudinally-extending slot *a* therethrough to permit of the operation of the lever C, the end portions *a'* of such slot being laterally enlarged to admit the hand for the purpose of grasping the handle portion of said lever. This lever is normally in the oblique position shown in Fig. 2, with its handle portion lying just within the box A, where it can be readily reached by the hand. With the lever in this position it will be readily seen that if the switch-rod were directly connected thereto the switch would not be locked, but might be accidentally thrown, or that a car or engine by trailing through the switch might throw the lever upwardly out of the box and possibly injure some person in the street. This, however, is effectually prevented by means of the short lever D, which, it will be noted, by reason of the eccentric relation of the centers *c* and *d* has been forced past the center *c* to a position in which it is securely locked against accidental movement.

The manner in which the lever D is turned on the center *d* to actuate the switch-rod E when the lever C is thrown is apparent from the drawings. The simplicity of the arrangement and its positive action, combined with the locking-feature above described, make it a very useful device for the purpose.

While I have illustrated the invention in connection with a split switch, it will of course be understood that it may be used to equal advantage with other forms of switches. Various changes may also be made in the details of construction and arrangement without affecting the material features of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a switch-throw, the combination with an operating-lever, and a switch-rod to be operated thereby, of an intermediate lever to which the said rod is connected, and which is connected to the operating-lever, said intermediate lever having its center parallel with but below the center of the operating-lever, the point of connection between the switch-rod and the intermediate lever, and the point of connection between the intermediate lever

and the operating-lever, being respectively at opposite sides of the axes of said levers.

2. In a switch-throw, the combination with an operating-lever, and a switch-rod to be operated thereby, of a short intermediate lever, parallel with the operating-lever and fulcrumed eccentrically thereof, one arm of said intermediate lever being connected with the short arm of the operating-lever, and its other arm with the switch-rod.

3. The combination with the operating-lever, of the short lever pivoted intermediate of its ends eccentrically of the operating-lever, and having one of its arms operatively connected to said operating-lever, and a switch-rod connected to the other arm of said short lever.

4. The herein-described switch-throw, comprising essentially an operating-lever C pivoted near one end on the large center *c*, the short lever D pivoted on a center *d* which is eccentric to the center *c*, and having one of its arms operatively engaged by the short arm of the lever D, and a switch-rod pivotally connected to the other arm of the said lever D, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

CLARENCE C. KORNS.

Witnesses:

GEO. H. PARMELEE,
H. W. SMITH.