(No Model.)

F. D'A. GOOLD.

LOOP SWITCH.

No. 489,674. Patented Jan. 10, 1893.

Fig. 1.

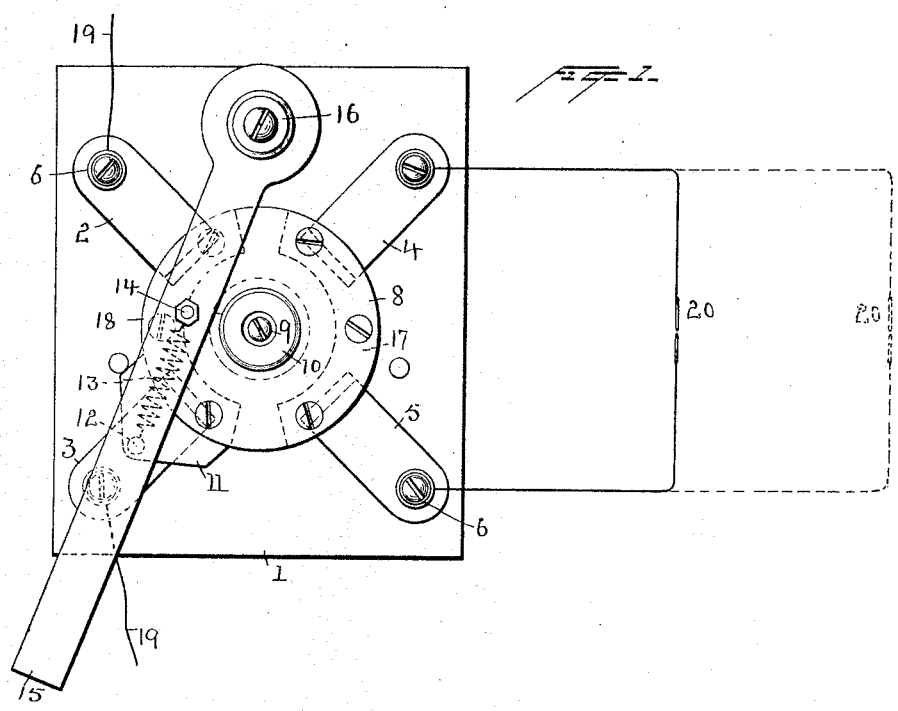
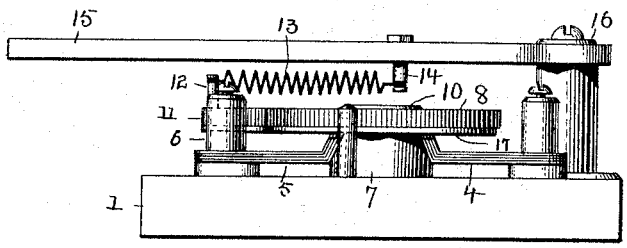


Fig. 2.



Witnesses
Norris. A. Clark
W. F. Oberle

Inventor
F. D'A. Goold
By his Attorney
Dyer & Seely

UNITED STATES PATENT OFFICE.

FREDERICK D'A. GOOLD, OF SCHENECTADY, ASSIGNOR TO THE EDISON GENERAL ELECTRIC COMPANY, OF NEW YORK, N. Y.

LOOP-SWITCH.

SPECIFICATION forming part of Letters Patent No. 489,674, dated January 10, 1893.

Application filed April 15, 1892. Serial No. 429,274. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK D'A. GOOLD, a citizen of the United States, residing at Schenectady, county of Schenectady, and State of New York, have invented a certain new and useful Improvement in Loop-Switches, of which the following is a specification.

The present invention relates to loop switches, especially designed for use on arc lighting circuits, but evidently the switch may be used in connection with any suitable circuits and apparatus.

The object is to provide a simple and efficient loop switch, which, when in one position, maintains the line closed through a translating device or group of translating devices, such as arc lamps, and which, when in a second position, maintains the line closed without interposing said translating device or translating devices.

The invention consists in the several combinations hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a plan view of the switch and circuit connections; and Fig. 2 is a side view of the switch, looking from the right of Fig. 1.

1 is an insulating base of wood, slate or other suitable material, on which are several contact springs, 2, 3, 4, 5, each preferably composed of several layers of metal, such as brass, as indicated by the side view. The contact ends of these springs are bent upward, as shown in Fig. 2. At the outer end of each spring, is a suitable binding-post 6. At the center of the base is a brass or other suitable hub 7, to the top of which is secured an insulating disk or plate 8, by means of the screw and washer 9, 10. Said disk is provided at one side with an extension 11, carrying a pin 12, to which one end of the stiff, spiral spring 13 is secured, the opposite end being secured to the pin 14 carried by the switch arm 15. Said arm is pivoted at 16, at one side of the pivoted or rotatable disk 8. Secured to the under side of the disk 8 are two metal pieces 17, 18, which, as shown in Fig. 1, in dotted lines, are arc-shaped, each being of sufficient length to unite two of the devices 2, 3, 4, 5. The supply circuit 19 is connected to the two contact springs 2, 3. The translating device 20, (or translating devices, as indicated by the additional lamp 20, shown in dotted lines, Fig. 1) is connected to the two springs 4, 5. When the switch arm is in the position shown, the circuit 9 will be complete through the plate 18, but the translating device will be disconnected from said circuit. As the arm is moved toward the right, the spring 13 is gradually put under increased tension, and carried from its position, in a straight line between pin 12 and pivot 16, to a position to pull the disk, forming the movable member of the switch, toward the right. When the upper end of the spring is carried by and below the center of the disk, the spring is allowed to act to turn the disk thus giving an instantaneous make and break. By the arrangement described, tension is given to the spring in a very gradual manner, since the first movement of the switch handle changes the direction of the spring, at the same time slowly extending, rather than directly and suddenly extending, the same. When the switch is turned as described, the plate 18 will connect springs 3, 5, and the plate 17 will connect springs 2, 4, thereby looping the translating devices into circuit. Since the springs 2, 3, &c., press upward against the contact plates carried by the rigid disk 8, excellent contact will be obtained, and the switch is simpler and occupies less space than the drum loop switches heretofore employed.

What I claim is,

1. The combination, in a snap switch, of stationary contacts, a pivoted or rotatable switch member, against the under side of which said contacts bear, a switch arm pivoted at one side of said body but extending over the same, and a spring, the ends of which are connected respectively to the arm and the rotatable switch member on the same of the pivot of said arm substantially as described.

2. The combination, in a switch, of a base, a hub or extension 7, a plate pivoted thereon and adapted to move forward and backward on its pivot a limited distance, contact plates thereon on the side toward the base, springs on the base pressing against said side of the movable plate, a handle pivoted at one side of the movable plate and extending over it, and a spring connecting said handle and movable plate, the points of attachment of the

spring both being on the same side of the handle pivot substantially as described.

3. The combination, in a switch, of a base, a plate carrying contact devices thereon, springs on the base and adapted to press against the contacts, a handle being pivoted at one side of but extending over the plate, and a spring connected to the handle between its free end and its pivot, and connected to said plate at a point farther from the pivot than the connection to the handle, but on the same side of said pivot substantially as described.

This specification signed and witnessed this 11th day of April, 1892.

FREDK. D'A. GOOLD.

Witnesses:
CHARLES M. CATLIN,
A. W. ANDREWS.