

No. 692,429.

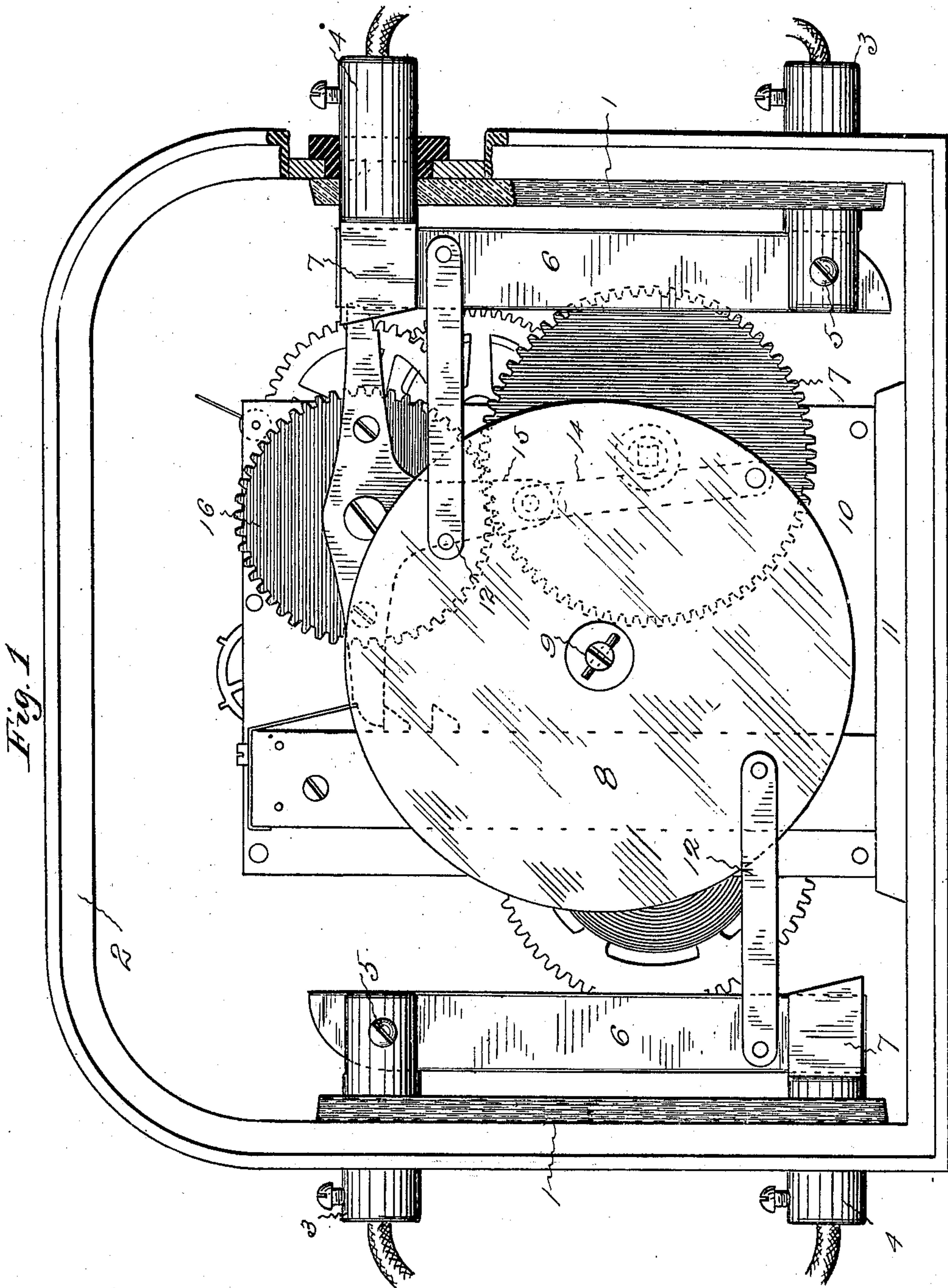
Patented Feb. 4, 1902.

H. J. COGSWELL.  
ELECTRIC SWITCH.

(Application filed Mar. 2, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses  
C. F. Kilgus  
V. R. Kohnert.

Inventor  
Henry J. Cogswell,  
By his Attorney  
Harry P. Williams

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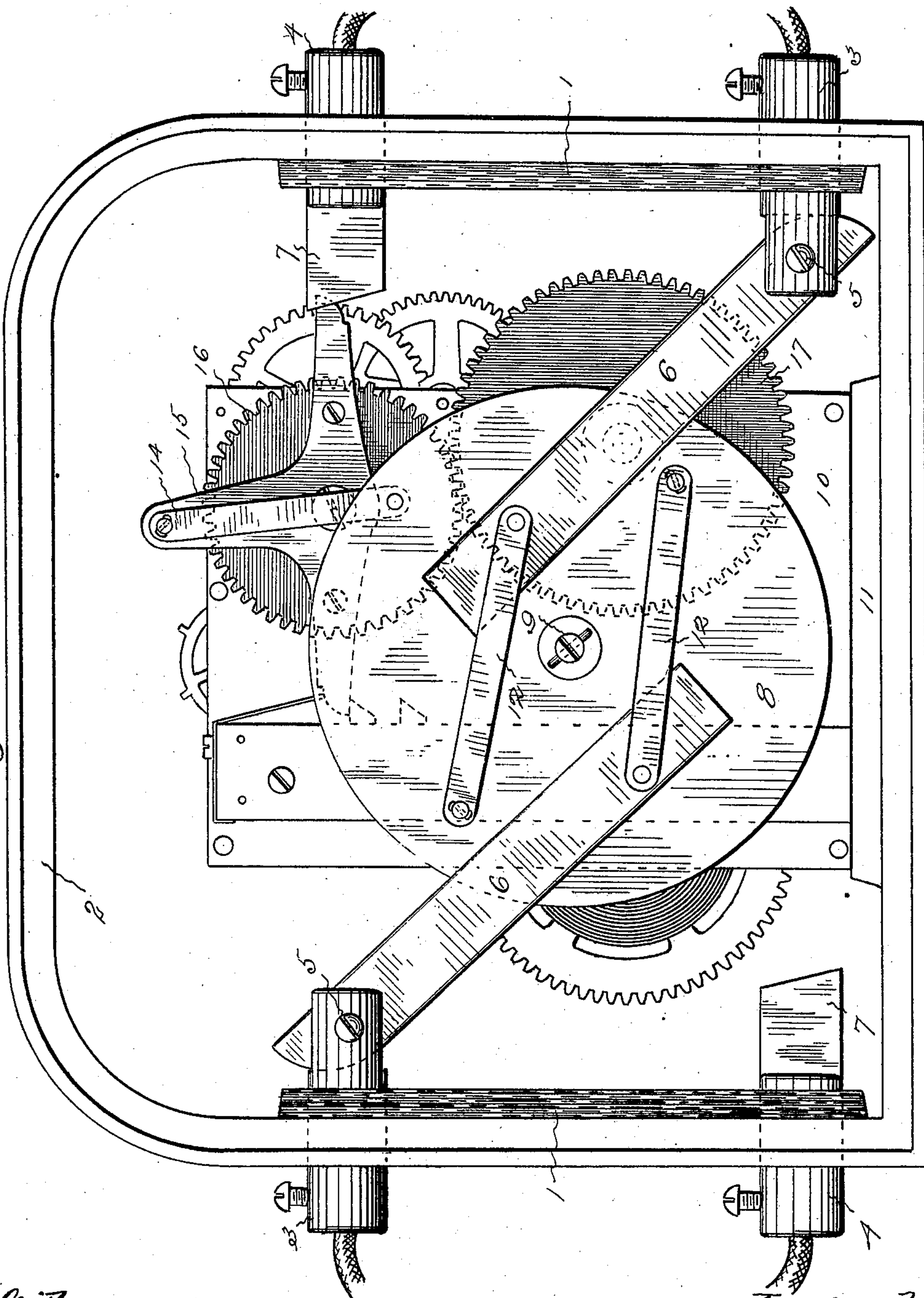
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(No Model.)

2 Sheets—Sheet 2.

Fig. 2



Witnesses  
C. F. Kilgore  
T. R. Holcomb.

Inventor  
Henry J. Cogswell,  
By his Attorney  
Harry P. Williams.



# UNITED STATES PATENT OFFICE.

HENRY J. COGSWELL, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE  
ACME SWITCH COMPANY, INCORPORATED, OF HARTFORD, CONNECTI-  
CUT, A CORPORATION OF CONNECTICUT.

## ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 692,429, dated February 4, 1902.

Application filed March 2, 1901. Serial No. 49,537. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY J. COGSWELL, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Electric Switches, of which the following is a specification.

This invention relates to a switch which has movable knife-blades that are engaged with and disengaged from stationary contacts for closing and opening an electric circuit.

The objection of the invention is the construction of a switch of this nature with well-insulated and durable parts that will rapidly open and close the blades the required distance, thus producing a switch that is particularly applicable for connection with a mechanism that will cause it to act automatically for opening and closing the electric circuit.

The embodiment of the invention that is illustrated by the accompanying drawings has two pairs of circuit-terminals mounted upon insulating-bases with two contact-blades, one pivoted to one of each pair of terminals and adapted to engage the other of each pair of terminals, a rotatably-supported disk of insulating material with an insulating-link connecting each blade with the disk and a link connecting the disk with an operating crank-arm.

Figure 1 of the drawings shows an elevation of a switch that embodies this invention connected with a clock-mechanism which will cause the blades to automatically move at the predetermined times, the parts in this view being illustrated in the positions occupied when the circuit is closed. Fig. 2 is a similar view with the parts illustrated in the positions occupied when the circuit is open.

The bases 1 of the switches are preferably formed of slate, although they may be formed of other insulating material. These bases are shown as attached to the insides of opposite walls of a case 2. Supported near each end by each base is a terminal post, to which the ends of circuit-blades are adapted to be connected by suitable binding-screws. These posts 3 3 and 4 4 are shown in the views as ex-

tending through the side walls of the case, the post 3 on one side being at the bottom end of its base and on the other side at the top end of its base, while the post 4 on one side is at the top end of its base and on the other side is at the bottom end of its base. Pivottally connected by a screw 5 with the inner end of each of the posts 3 is a conducting-blade 6. Each blade is arranged to be engaged with and disengaged from the yielding inner ends 7 of the posts 4.

A disk 8, preferably formed of insulating material, is mounted on a stud 9, projecting from a plate 10, attached to a base 11, that is placed upon the bottom of the case. Each blade is connected by a link 12, preferably formed of insulating material, with the disk, so that as the disk is given a rotary movement the blade will be oscillated on its pivot-stud. This disk may be rotated by any suitable means. The drawings illustrate the disk as connected by a link 14 with a crank-arm 15, which crank-arm is fastened to a pinion 16, that meshes with a gear 17. The gear 17 may be connected with a common clock mechanism, as shown and described in the Patent No. 669,477, issued to me on March 5, 1901. The clock mechanism forming no part of the present invention is not herein fully illustrated and described. It is merely indicated as suggesting one form of means for operating the switch which forms the subject of the present invention. If the blades are in position to close the circuit, as illustrated in Fig. 1, and the crank-arm 15 by any means, as by the pinion 16 and gear 17, is given a semirotation, the disk will be so rotated as to cause the links to draw the free ends of the blades from the brush ends of the terminal posts 4 and open the blades to the positions illustrated in Fig. 2. The next semirevolution of the crank-arm rotates the disk so that the links cause the blades to again engage the brush ends of the contact-terminals 4.

This switch can be made to open and close very rapidly the approved distance. It is efficient, strong, and well insulated, so that it is particularly applicable for connection with a clock-movement, which will periodically

cause it to operate for opening and closing the circuit.

I claim as my invention—

1. An electric switch having insulated circuit terminal posts, pivoted blades, each blade being adapted to connect and disconnect a pair of terminals, a rotatable disk, links connecting the blades with the disk, a crank-arm, a link connecting the crank-arm with the disk, and means for intermittently rotating the crank-arm, substantially as specified.

2. An electric switch having insulated circuit terminal posts, conducting-blades each having one end pivoted to a terminal post, and the other end adapted to connect and disconnect an opposite terminal post, a rotatable disk, links connecting the free ends of the blades with the disk, a crank-arm, a link con-

necting the crank-arm with the disk, means for rotating the crank-arm, and means for intermittently preventing the rotation of the crank-arm, substantially as specified.

3. An electric switch having insulated circuit terminal posts, pivoted blades, each blade being adapted to connect and disconnect a pair of terminals, a rotary disk of insulating material, links connecting the blades with the disk, a crank-arm connected with the disk, a pinion connected with the crank-arm, and a gear meshing with the pinion, substantially as specified.

HENRY J. COGSWELL.

Witnesses:

V. R. HOLCOMB,

H. R. WILLIAMS.