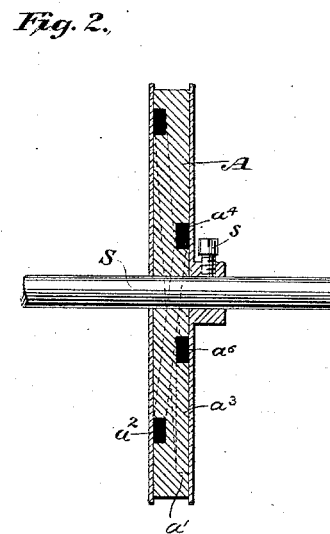


Patented Dec. 24, 1889.



Inventor
Henry S. Prentiss
By his Attorneys
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UNITED STATES PATENT OFFICE.

HENRY S. PRENTISS, OF NEW YORK, N. Y.

ELECTRIC CAM.

SPECIFICATION forming part of Letters Patent No. 417,742, dated December 24, 1889.

Application filed May 10, 1889. Serial No. 310,287. (No model.)

To all whom it may concern:

Be it known that I, HENRY S. PRENTISS, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Electric Cams, of which the following is a specification.

The object of the invention is to provide a device having the nature of a cam which shall close an electric circuit but once in two revolutions of the shaft upon which the device is fixed.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a disk in which the invention is embodied with a portion of the cover cut away, and Fig. 2 is a section through the line 2 2 of Fig. 1.

The device may be fixed upon a shaft S by means of the set-screw s. Within the disk A is formed a continuous groove a, having its lowest portion, or portion nearest the periphery of A, at a'. This groove contains a small portion of mercury m. In the position shown in Fig. 1 the device has just operated or performed the function required and is ready to be carried forward for another operation. The groove a can be traced by the dotted lines in Fig. 1 throughout two complete turns or revolutions within the disk. If we suppose the shaft S is turning so as to carry the disk in the direction indicated by the arrow, it is evident that the mercury m will be carried or will run within the groove a in the direction shown by the small arrows. When the disk a has made one revolution, the mercury will stand in the groove a at the point a². The groove at this point is at the back side of the disk, as shown in Fig. 2, and it passes, therefore, behind that portion of the groove which is shown at a³. The continued revolution of the disk carries the mercury through that part of the groove shown at a⁴ and a⁵, and finally, at the end of the second revolution, will reach the portion marked a⁶. A very slight additional motion allows the mercury to drop into the place a'—that is, at the point from which it started. In falling down the perpendicular part of the groove just beyond a⁶, the mercury envelops the two ends of a small wire w, which may be con-

veniently attached to the shaft, as shown, and this operation will close an electric circuit, of which the shaft may form a part, and the other terminal may be a spring pressing against the edge of the disk. The circuit may include any device which is required to be operated; hence it will be seen that the cam has been obliged to make two complete revolutions in order to close the circuit once.

The device is useful in many places, but is especially useful in a clock where some device, as a calendar, is desired to be set in operation once in twenty-four hours, and this device saves the necessity of adding a twenty-four-hour wheel to the clock.

It will of course be plainly seen that three or more turns or convolutions of the duct may be made in the same manner, in which case the operation of the device takes place but once in the number of turns of the shaft corresponding to the number of such convolutions.

I claim as my invention—

1. A disk or wheel having a closed duct or groove, which makes two complete turns or convolutions within said disk, a conducting-fluid within said duct, and means, as the wires w, whereby an electric circuit is closed by the passage of said fluid at a certain point in said duct.

2. The combination of the shaft S, the disk A, having the duct formed within it in two complete convolutions and closing upon itself, as shown, the mercury or conducting-fluid, and the conducting-wires through which a circuit is closed by the passage of said mercury.

3. The combination of a shaft, a disk or wheel carrying a duct, which makes two complete convolutions and closing upon itself, a moving body within said duct, and means whereby an electric circuit is closed by the passage of said body through a certain predetermined part of said duct.

In testimony whereof I have hereunto subscribed my name this 9th day of May, A. D. 1889.

HENRY S. PRENTISS.

Witnesses:

DANL. W. EDGECOMB,
CAROLINE E. DAVIDSON.