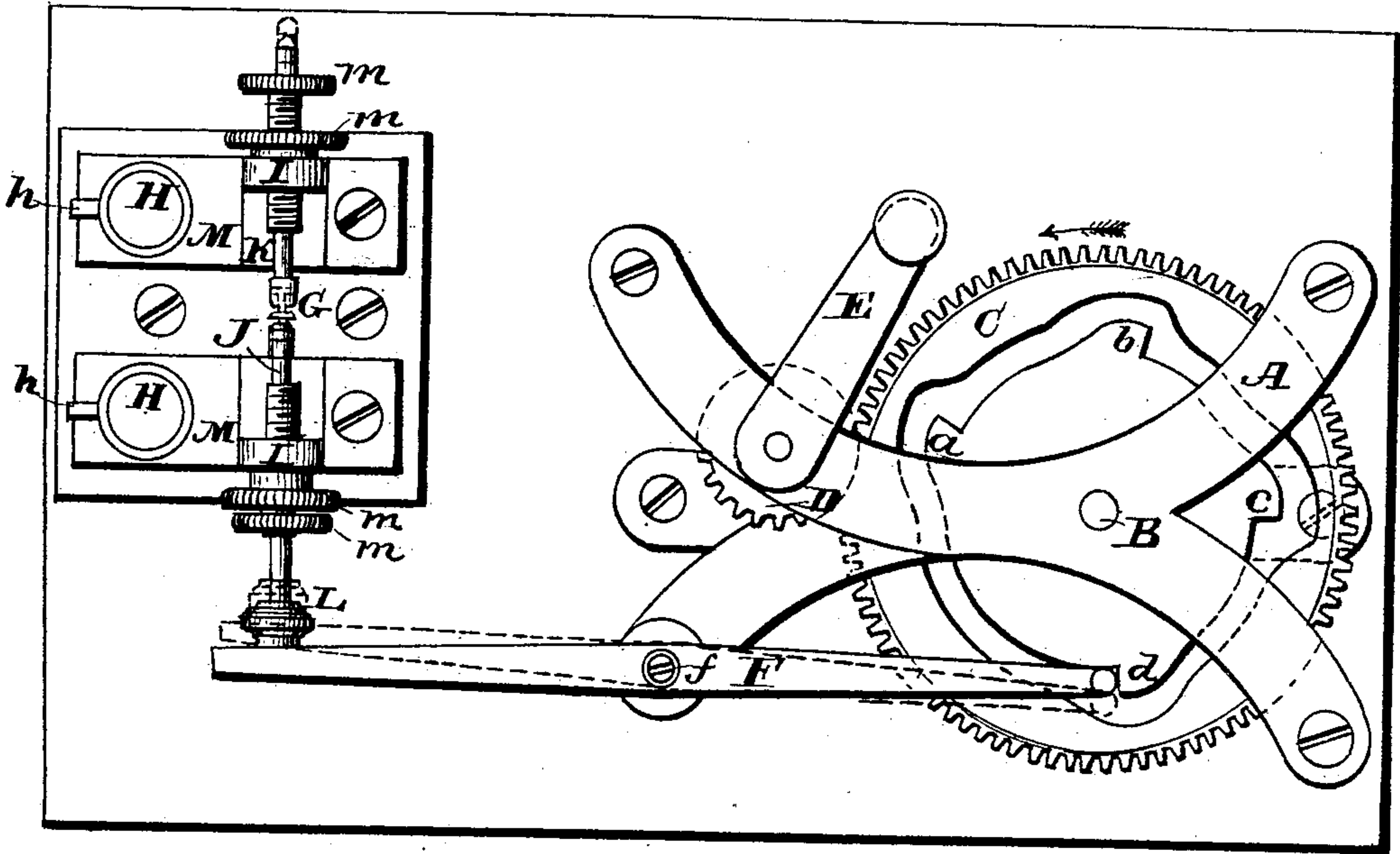


J. M. FAIRCHILD,
Fire Telegraph.

No. 70,673.

Patented Nov. 5, 1867.



Witnesses:
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Inventor:

J. M. Fairchild,
by his Attorney.

John E. Earl

UNITED STATES PATENT OFFICE.

J. M. FAIRCHILD, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO HIMSELF,
J. K. BUNDY, AND J. M. TOWNSEND, ALL OF SAME PLACE.

IMPROVEMENT IN MECHANISM FOR OPENING AND CLOSING TELEGRAPHIC CIRCUITS.

Specification forming part of Letters Patent No. 70,673, dated November 5, 1867.

To all whom it may concern:

Be it known that I, J. M. FAIRCHILD, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Mechanism for Opening and Closing Telegraphic Circuits; and I do hereby declare the following, when taken in connection with the accompanying drawing, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification and represents a front view of the machine.

This invention is designed for mechanically opening and closing telegraphic circuits for the purpose of conveying certain signals for which the machine is constructed, so that when a signal is received from such an instrument the particular instrument from which the signal comes is known, inasmuch as the different construction of different machines communicates different signals accordingly, the object of the instrument being more particularly designed for fire-alarm telegraphs, but yet may be applied to other uses, as hereinafter described.

In order to the clear understanding of my invention, I will proceed to describe the same as illustrated in the accompanying drawing.

A is a frame supporting in bearings B a toothed wheel, C, into which meshes a pinion, D. The said pinion, being turned by a crank, E, causes the wheel C to revolve, as denoted by the arrow.

In the face of the wheel C is formed a grooved cam having rise and fall at *a b c d*, more or less in number, as the case may be, and placed at an even distance apart, or at an uneven distance, to vary the signal.

F is a lever having its fulcrum at *f* and its one arm constructed so as to ride in the groove in the face of the wheel C, as denoted by the drawing, and so that the turning of the wheel C will at each projection on the cam force down that end of the lever, while the groove will return it to its first position, as denoted in red in the drawing. The projections I form with a square shoulder, so that the lever F acts as a pawl to prevent the turning of the lever in the wrong direction.

Upon a plate, G, of any suitable non-conducting material, (preferring hard rubber or ivory,) I arrange the screw-cups H H, each holding their respective wires *h* for communication, and in the said plate G, I also arrange in proper bearings, I, two spindles, J K, adjusted by screws *m m*, so that the ends of the two spindles may be brought nearer together or set farther apart, as the necessities of the case may demand. The lower end of the spindle J is set into a knob, L, of ivory or other non-conducting material, and so that the said knob will rest upon the other arm of the lever F, and so that by turning the wheel C to cause the movement of the lever F, as before described, and as shown in the drawing, the spindle J will be raised, so as to open the telegraphic circuit, by bringing the end of the spindle J into contact with the spindle K.

The bearings of the two spindles are upon the same metallic plate M as the screw-cups H, so that each spindle is in connection with its respective wire. When the lever is depressed the spindle J drops from its contact with the spindle K and breaks the circuit.

The cam, it will be observed, has four projections, *a b c d*, the space between *a* and *b*, *b* and *c*, *c* and *d*, being equal, while that between *d* and *a* is longer. Therefore by turning this wheel the signal will be given 1, 2, 3, 4, and space, and repeat as often as the wheel is turned.

In different positions different constructions of the cam should be used to give different signals—as, for instance, the projections on the cam being arranged so as to give 1, space, 1, 2, space, 1, space, would be interpreted 121, or whatever interpretation thereof the understanding of the parties communicating might be. If for other than fire-alarm communications, the wheel may be equally spaced, and any number of raps given and spaced by stopping the wheel, then proceeding again, so that the parties communicating have a code of signals indicated by different numbers of raps, and may communicate understandingly, though they may be entirely ignorant of telegraphic communication.

The arrangement of the two spindles in the manner described upon the non-conducting

plate G may be employed for other purposes than for opening and closing the circuit—as, for instance, the plate G may be arranged in such relative position to a door that the opening and closing of the door would act upon the spindle J in like manner as the lever before described. This would be desirable for many localities, and other instances might be given, if necessary, wherein this arrangement would be useful.

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

1. The arrangement of the two spindles J K, in connection with their respective wires upon the non-conducting plate G, so as to open and close the circuit, substantially as set forth.

2. The arrangement of the grooved cam-wheel C and the lever F, combined with the spindles J K, so as to open and close the circuit by the turning of the wheel C, substantially as set forth.

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Witnesses:

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