

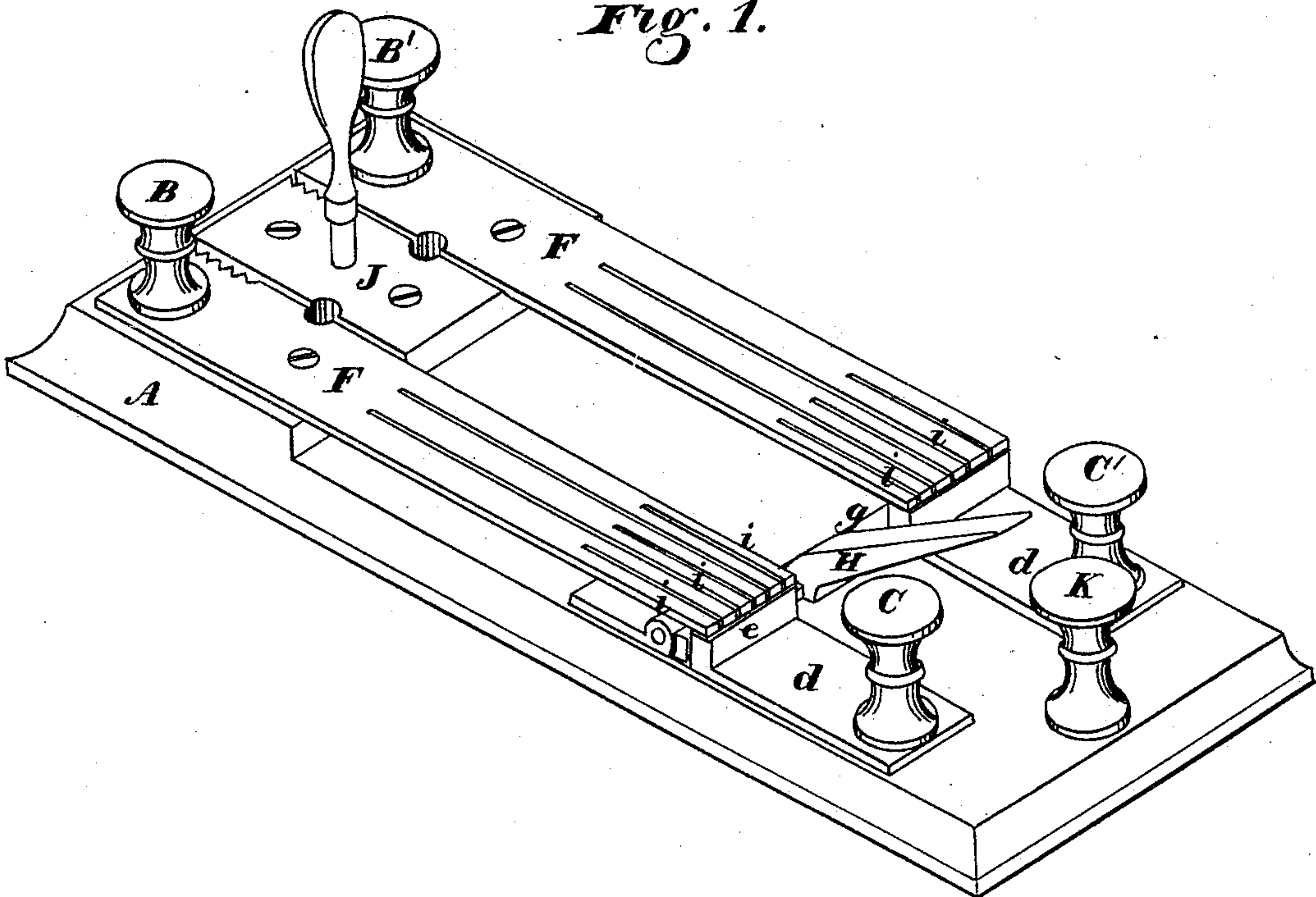
S. D. FIELD.

ELECTRICAL SWITCH OR CUT-OUT.

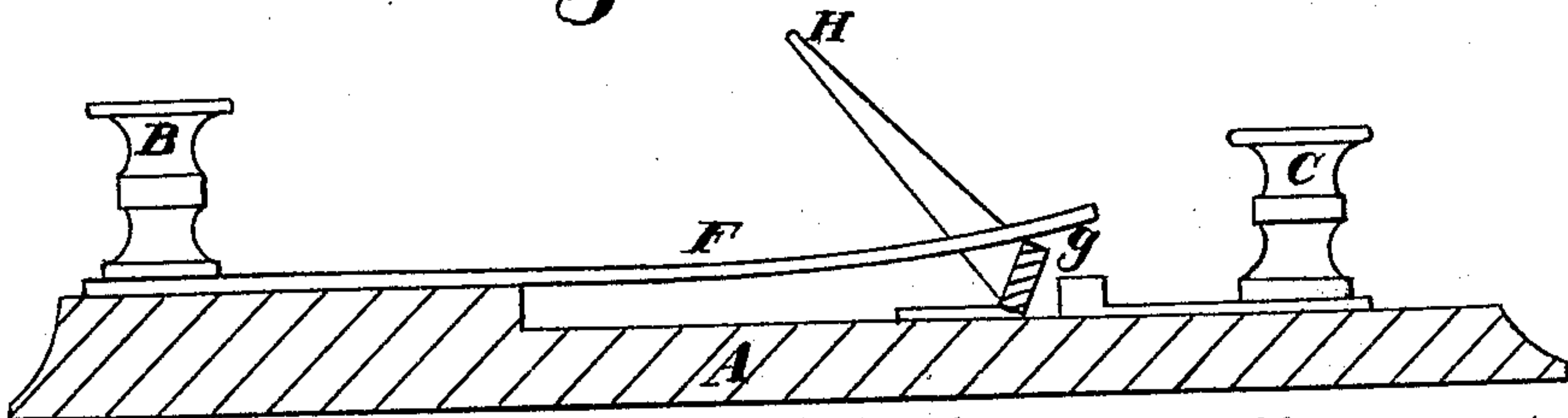
No. 174,128.

Patented Feb. 29, 1876.

*Fig. 1.*



*Fig. 2.*



Witnesses

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# UNITED STATES PATENT OFFICE.

STEPHEN D. FIELD, OF SAN FRANCISCO, CALIFORNIA.

## IMPROVEMENT IN ELECTRICAL SWITCHES OR CUT-OUTS.

Specification forming part of Letters Patent No. **174,128**, dated February 29, 1876; application filed December 14, 1875.

*To all whom it may concern:*

Be it known that I, STEPHEN D. FIELD, of San Francisco city and county, State of California, have invented a Circuit-Changer for Telegraphic Purposes; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention without further invention or experiment.

My invention relates to a device for shifting one set of telegraphic instruments from one wire to another without disturbing the continuity of any such wires during the transfer, thus enabling the operator to shift from one line to another without interfering with a passing message.

Referring to the accompanying drawing, A is the table or base upon which the screw-cups B B' are secured, and with each of which the wire of a telegraphic line is connected. C C' are the screw-cups, with which the wires that lead to the battery and instrument are connected. The screw-cups C C' are each secured upon a metallic plate, *d*, which is fastened to the table or base A, and each metallic plate *d* has a bar, *e*, secured transversely across its end. The screw-cups B B' are each secured upon one end of a spring-plate, F. These plates extend parallel with each other, and are long enough to allow their opposite or free ends to press upon the bars *e* of the plates *d*. The electric current can then pass from either of the screw-cups B B' through the spring-plates F, bars *e*, and plates *d*, into the screw-cups C C', and as long as no connection is made between the parallel plates the current will pass directly to the instrument on one line and return on the other. In order to provide for cutting off the instrument from the line without disturbing the current I place a metal bar, *g*, transversely across below the spring ends of the plates F, which is long enough to pass under both of the plates and extend across the space between them.

The ends of this bar are journaled in a bearing, so that it can be turned as desired, and a lever-arm, H, which is secured to its middle, serves to enable the operator to readily turn it when desired. The bar *g* is flat in one direction, so that when it is lying down it will not touch the spring-plates F, but in the opposite dimension it is wide enough to serve (when it is turned edgewise) as a lever to lift the ends of the spring-plates from the bars *e*, thus breaking the connection with the screw-cups C C' and making the connection through the bar *g* across from one plate to the other. This operation cuts off the current from the instrument without interfering with the continuity of the current. As the contact-surfaces of the spring-plates F F, where they bear upon the bars *e* or *g*, are liable to become dirty or coated with some foreign substance, which would prevent direct contact of the metallic surfaces, I split the plates F into several separate fingers or parallel bars, *i i i*, which will all bear simultaneously upon the metal bar beneath, so that, in case either finger or bar makes a perfect contact, the current will be perfectly transmitted. Each of these fingers is faced with platinum or other non-oxidizable metal. J is the intermediate plate, which serves as a lightning-arrester, and which is connected with a ground-wire through the screw-cup K, but this forms no part of my invention.

My improvements are stated in the following claim—

The spring-plates F F, for connecting the screw-cups B B' with the metallic connections of the screw-cups C C', in combination with the rotating bar *g*, with its lever-handle H, said bar being arranged to lift the ends of the spring from the bars *e*, and serve as a metallic connection between said plates, substantially as and for the purpose described.

STEPHEN DUDLEY FIELD.

Witnesses:

GEO. H. STRONG,  
JNO. L. BOONE.