

(No Model.)

F. W. MOUNT.
ELECTRIC SWITCHBOARD.

No. 504,738.

Patented Sept. 12, 1893.

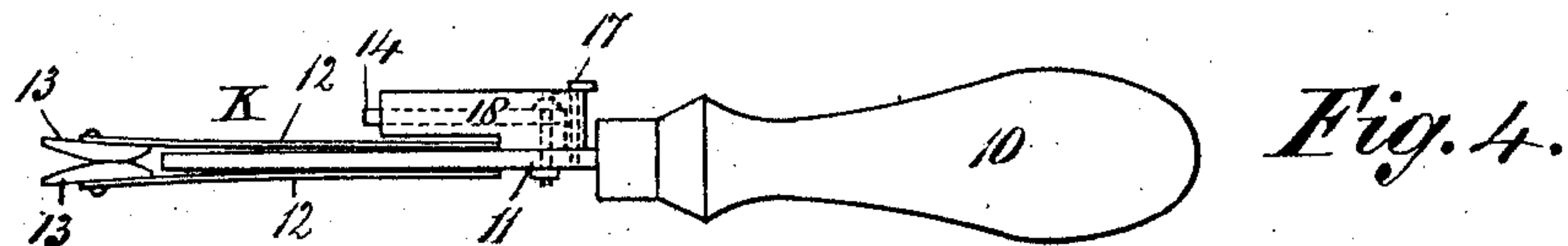
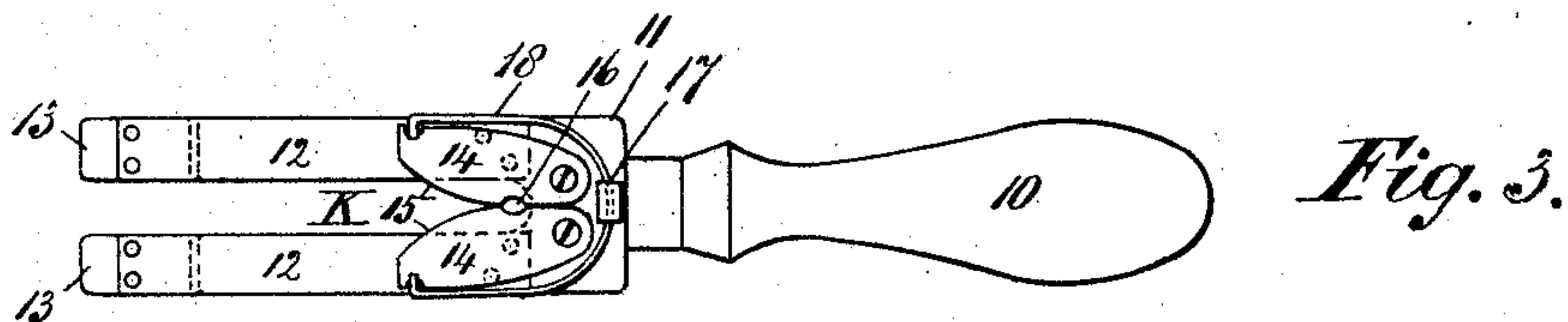
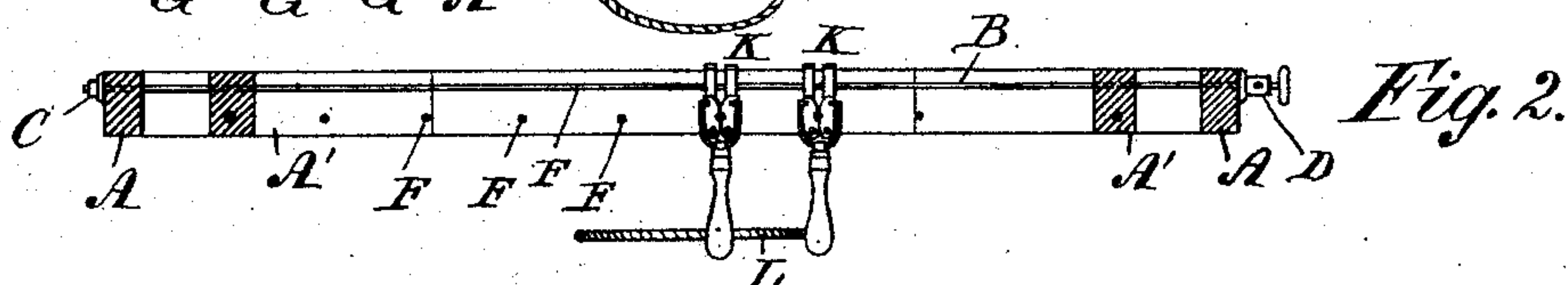
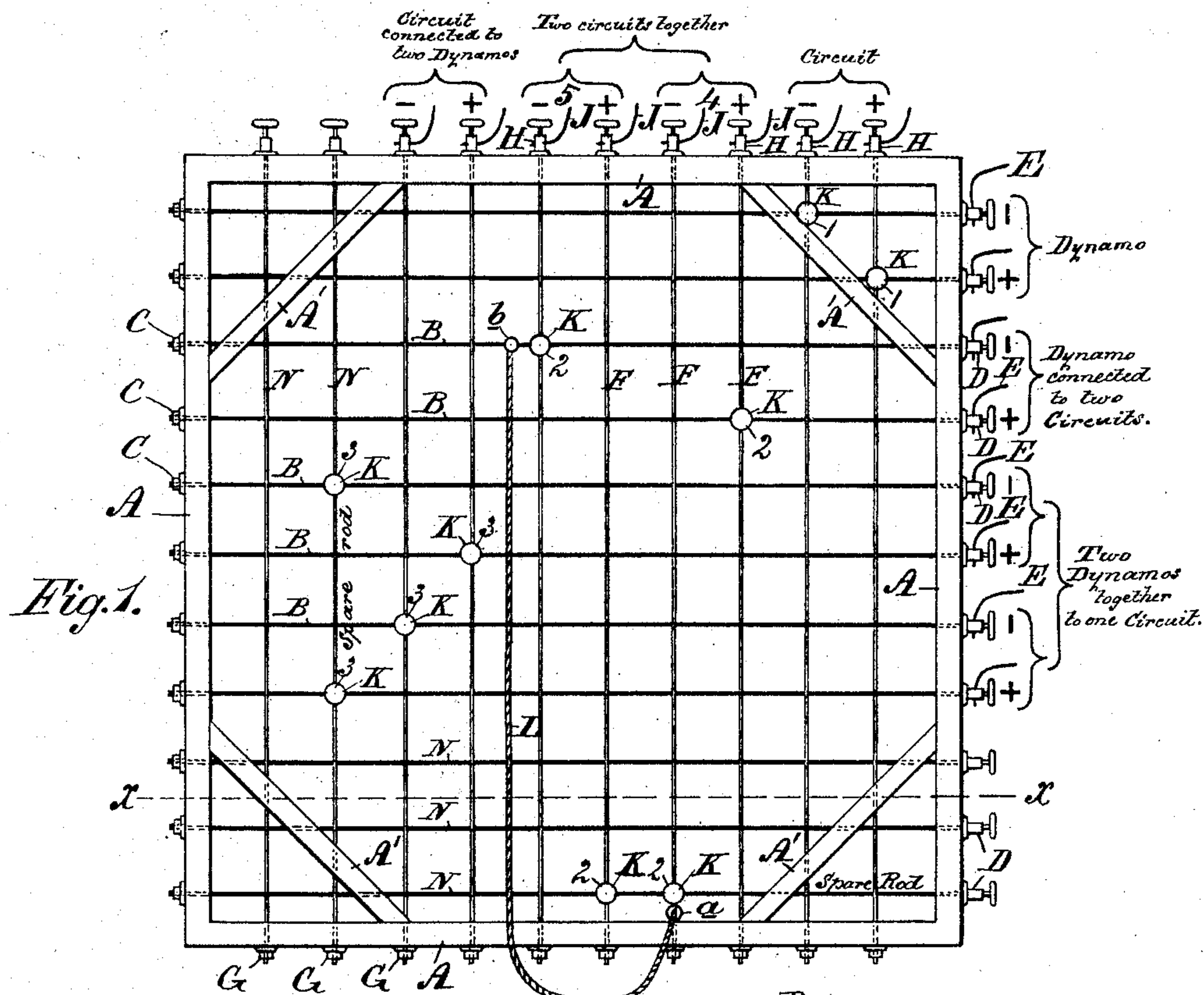
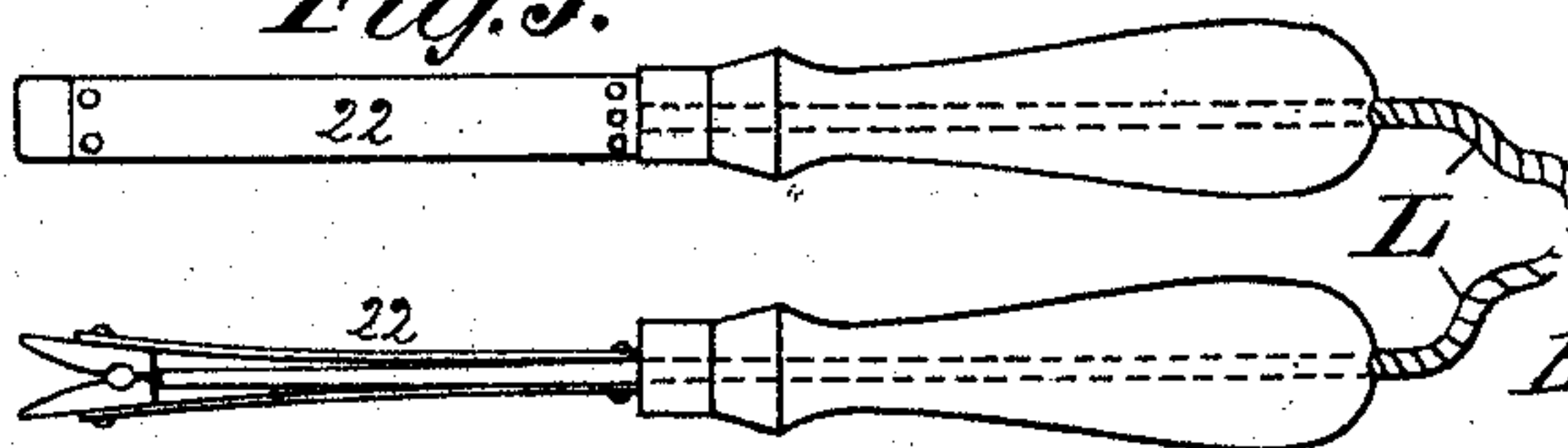


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

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ELECTRIC SWITCHBOARD.

SPECIFICATION forming part of Letters Patent No. 504,738, dated September 12, 1893.

Application filed April 5, 1893. Serial No. 469,222. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK W. MOUNT, of St. John, in the Province of New Brunswick, in the Dominion of Canada, have invented certain new and useful Improvements in Electric-Circuit Switchboards; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1, is an elevation of my improved switch-board. Fig. 2, is a section of the same on line X X to show the connectors. Fig. 3, is a plan or top view of one of the connectors enlarged. Fig. 4, is a side elevation of the same, and, Fig. 5, is a top and side view of the clips connected by a cable, forming a connector for cutting "in" or "out" a circuit.

My invention relates to a switch-board or frame for electric arc light stations, and has for its object to switch the terminals of the dynamo wires with the terminals of the circuit wires by means of crossed wires or rods offset at their intersection and connected at their intersection by a connector, whereby one dynamo may be connected to two circuits or one circuit to one dynamo or other relative adjustment, and my invention consists of a rectangular frame having vertical and horizontal rods offset at their intersections, the vertical or one set of rods connecting with the terminals of the circuits, and the horizontal or other set of rods connecting with the terminals from the dynamos, or vice versa, and a connector or clip to connect any two intersecting rods to make the circuit or circuits complete; also in a cable having clip terminals to connect two rods while the switch connection is being made.

Referring to the drawings—A, is a rectangular frame of wood or other suitable material, which frame if desired, may be strengthened at the corners by braces A'.

B, are metal rods or tubes passing through opposite sides of the frame A, and they are fastened at one end by nuts C, screwing on the ends against the outside of the frame, and by binding posts D, screwing on the opposite end, and the binding posts D, receive the terminals of the wires E, from the dynamos.

F, are metal rods or tubes offset about two

inches from the rods B, at right angles thereto and pass through opposite sides of the frame A, and fastened securely at one end by nuts G, screwing against the outside of said frame, and by binding posts H, screwing on the opposite end of the rods, and said posts H, receive the terminals or terminations of the wire circuits J.

The symbol + denotes the positive ends of the wires of the circuits and the symbol — the negative ends.

One end of the rods B, is connected by the binding posts to the negative and positive ends of the wires E, from the dynamos, and the rods F, are connected at one end by the binding posts H, to the negative and positive terminals of the circuit wires J, whereby two circuits can be connected to two dynamos, or two circuits to one dynamo, or a single circuit maintained with one, two or more dynamos by connection of the rods B, and F, at the proper intersections by a connector K.

The connections 1, 1, by the connectors K, indicate how connection is made between a single dynamo and a single circuit. The four connections 2, 2, 2, 2, indicate how connection is made from a dynamo to two different circuits, the positive end of the wire being connected by means of the connector K, to the positive end of the circuit wire, and the negative end of the dynamo wire being connected by the second connector K, to the negative end of the other circuit wire, the two remaining ends of the two circuits being finally united by the third and fourth connectors K, at 2, 2, and a spare rod N, or rod out of circuit, thus completing the circuit. Any of the rods B, F, not in actual use may be used as a spare rod to complete the circuit. The connectors K, when placed in the position indicated by the circles 3, 3, 3, 3, show how connection is made between two dynamos and a single circuit.

The foregoing three illustrations show the great number of combinations of connections possible with this switch frame, and which need not be referred to specifically, as they are obvious.

The connectors K, preferably consist of a U-shaped plate 11, having a stem entering a handle 10, insulated therefrom, and to each leg of said plate 11, top and bottom, is secured

one end of a flat spring 12, which projects beyond the ends of said legs, and said springs are provided with jaws 13, facing one another, which yield when forced against a rod to
 5 bring said rod into contact with the ends or legs of the plate 11, the inner end of the jaws then clipping the rod.

14, 14, are spring jaws opening parallel to the plate 11, or in a horizontal direction, to
 10 admit the vertical rods F, and said jaws are pivoted to the plate 11, near the handle 10, and said jaws are provided with cam or inclined faces 15, leading to a cavity 16, which receives the rod F. The distance between
 15 the cavity 16, and the end of plate 11, corresponds to the distance the rods B, and F, are apart.

17, is a post secured to plate 11, near the handle, and said plate holds a U-shaped spring
 20 18, which keeps the jaws 14, closed against a rod F, to make the circuit complete after the spring has yielded to admit the rod between the jaws.

When it is desired to "cut in," or "cut out,"
 25 different dynamos or circuits in readjusting the connectors K, connection is made with a connector L, Fig. 5, which consists of an insulated piece of cable provided at both ends with a clip 22, which clip is such as described
 30 for one leg of the connector K, said clips 22, catching on the rods B, F, intermediately of their intersections, as shown in Fig. 1.

To give a single illustration of the manner of using this connector L, supposing it is de-
 35 sired to "cut out" or disconnect the circuit marked 5, from the circuit marked 4, which

are connected together as shown in Fig. 1, one end of the connector L, is snapped on rod F, at a, and the other end snapped on the rod B, at b, which consequently short circuits or
 40 cuts out circuit 5, the electric current then passing through the cable as offering less resistance. This then permits the connectors K, at 2, 2, 2, 2, to be safely removed to any
 45 other desired position, and when the connectors K, have been so placed, the cable connector L, is removed.

I claim as my invention—

1. A switch-board or switch frame, having rods F, connected at one end to the terminals
 50 of a metallic circuit or circuits, rods B, connected at one end to the terminals of a dynamo or dynamos, said rods crossing the rods F, at a distance therefrom, spare rods N, corresponding to the rods B, and F, connectors K,
 55 gripping said rods B, F, and N, to complete a circuit, and circuit cut out L, consisting of a cable having clips at both ends to grip the rods B, F, while adjusting the connectors K, as set forth. 60

2. A connector K, comprising a bifurcated or U-shaped plate 11, having flat springs 12, provided with jaws 13, adapted to clip or grip a rod interveningly, and spring jaws 14, pivoted to said plate, and adapted to grip a rod
 65 offset from the rod gripped by said jaws 13, and provided with an insulated handle 10, substantially as set forth.

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Witnesses:

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