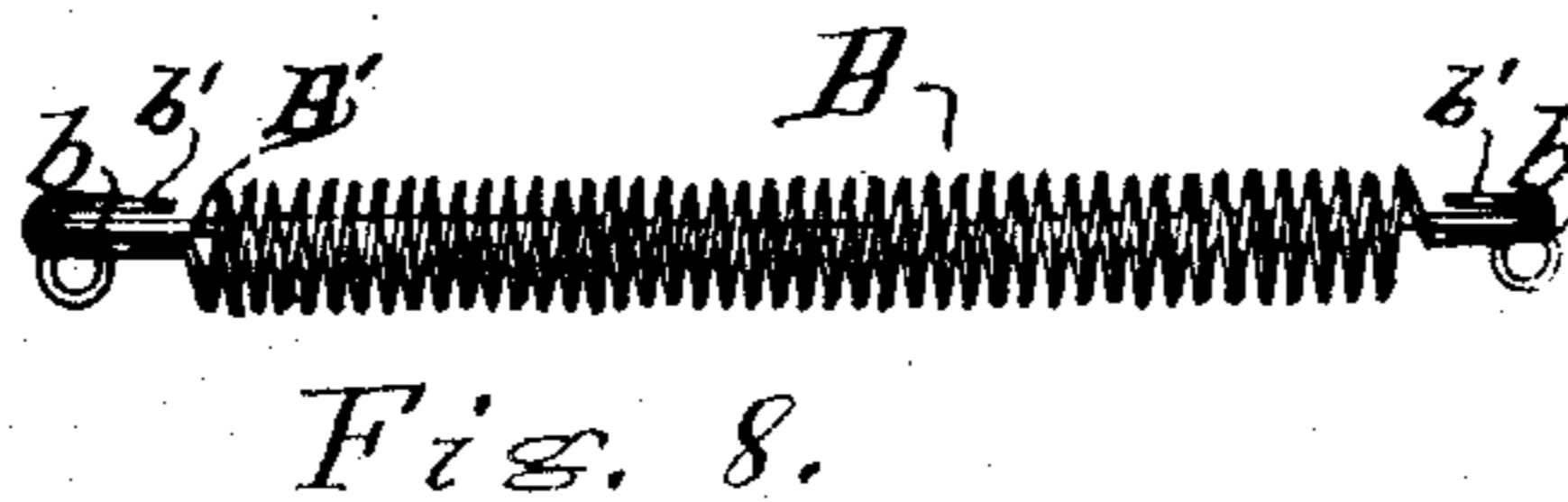
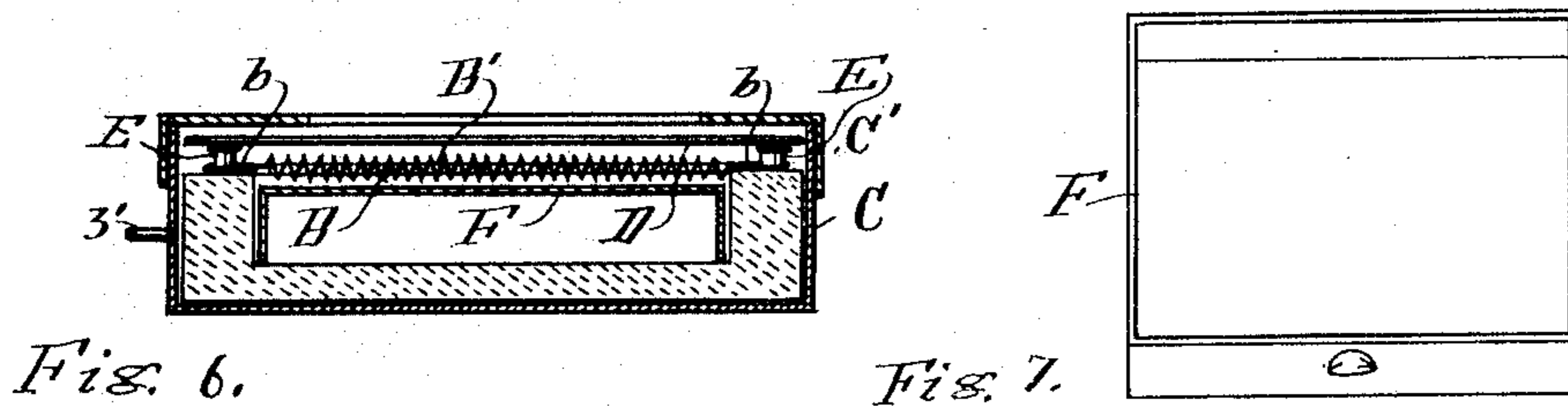
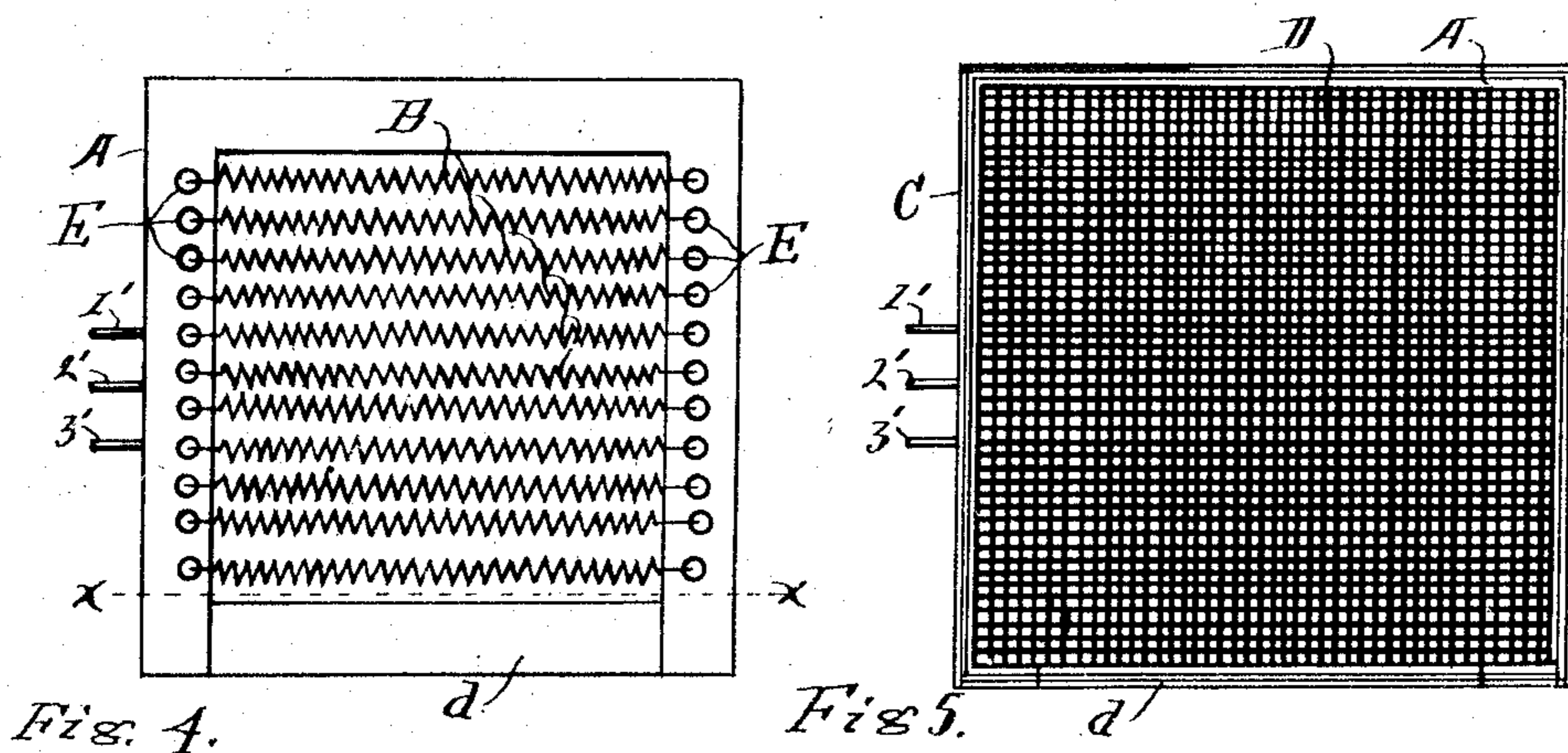
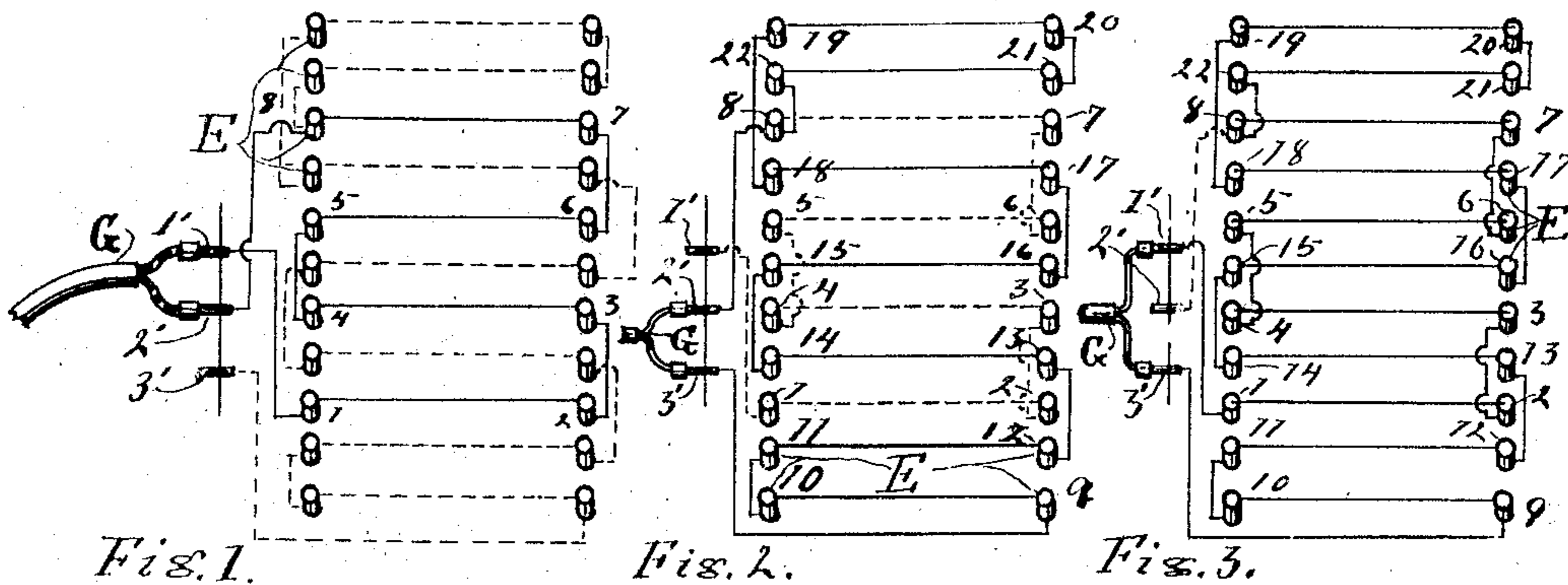


H. L. MILLSPAUGH & F. S. VINCENT.
ELECTRIC STOVE.

APPLICATION FILED JULY 12, 1909.

946,643.

Patented Jan. 18, 1910.



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UNITED STATES PATENT OFFICE.

HERMAN L. MILLSPAUGH AND FRANK S. VINCENT, OF REED CITY, MICHIGAN, AS-
SIGNORS OF ONE-THIRD TO GEORGE D. WESTOVER, OF CADILLAC, MICHIGAN.

ELECTRIC STOVE.

946,643.

Specification of Letters Patent.

Patented Jan. 18, 1910.

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To all whom it may concern:

Be it known that we, HERMAN L. MILLSPAUGH and FRANK S. VINCENT, citizens of the United States, residing at Reed City, in the county of Osceola and State of Michigan, have invented certain new and useful Improvements in Electric Stoves, of which the following is a specification.

Our invention relates to improvements in electric stoves, heaters, &c., and its objects are: first: to provide a means whereby extreme variations in the degree of heat may be produced without material alteration of parts; second, to provide a means whereby the same production of heat may be greatly varied by reflection, as, for instance, to so arrange it that water above the coils may be readily heated while little heat is radiated downward, or the heat may be utilized to toast bread, bake potatoes, &c. while heating articles above, and, third, to provide a means whereby the resistance coils may be readily removed and replaced, singly or in groups. We attain these objects by the mechanism illustrated in the accompanying drawing, in which—

Figures 1, 2 and 3 are plans of the posts and wires detached to show the several lines of wiring. Fig. 4 is a plan of the cooker with the case and cover removed. Fig. 5 is the same with the case and cover in place and covering the frame and wiring. Fig. 6 is a vertical section on the line $x-x$ of Fig. 4. Fig. 7 is a perspective of the pan, and Fig. 8 is an enlarged view of the resistance coil detached.

Similar letters and figures refer to similar parts throughout the several views.

In the construction of this stove the frame A is made up of plaster of paris, or other quickly drying and hardening substance that will firmly hold the posts E and other electrical conductors and at the same time will restrict the passage of the electric current to the metallic lines. This core is protected by being placed in a case C having a cover C' that may be readily removed. The posts E are firmly embedded in the frame A and are made to project a short distance above it so that the loops $b\ b$ at the ends of the resistance coils B may be readily placed upon or removed from them. B', in Fig. 6, represents a narrow sheet of mica, or other non-conducting element placed edgewise in

the resistance coil to assist its support between the posts. The core A is made open from the top and one side, for the reception of the pan F which is made of bright metal and will readily reflect heat that may be radiated from the coils B to its surface. When it is desired to radiate the heat upward to heat articles placed above the coils, the pan F is placed in the frame bottom upward, as indicated in Fig. 6, so that the bottom of the pan will be near the coils and will reflect the heat upward, but when utilizing the heat for cooking articles below the coils, as in baking potatoes, making toast, &c., the pan is placed right side upward, as in Fig. 7, so that whatever is to be cooked may be placed in the pan under the coils, and the pan may be inserted or removed at pleasure. The upper portion of the cover C' is made open, as indicated in Fig. 6, and a wire screen, as D, may be placed upon the tops of the posts E, in which case the upper ends of the posts must be insulated as shown, or this screen may be placed upon or made a part of the cover C, for the purpose of producing an even distribution of heat.

In Figs. 1, 2, and 3, we have represented the several lines of electrical distribution by plain lines, to render the tracing of the circuit more convenient than coils would be, 1', 2', and 3' are contact poles and G is the main conductor from the source of supply to the poles.

In Fig. 1 we have shown the line of distribution, or circuit, for producing the maximum of heat. The electric current entering at 1' passes to post 1 and traverses the several wires 2, 3, 4, 5, 6, 7, 8 and back to 2', completing the circuit at the source of supply. In this a short electric circuit is used and, consequently, a greater degree of efficiency produced. For a moderate heat production we use the distribution shown in Fig. 2, where the current entering at 2' traverses the line to 8, to 22, 21, 20, 19, 18, 17, 16, 15, 14, 13, 12, 11, 10, 9 and back to 3', and thence to the source of supply, and when a less degree of heat is desired the electric current is made to enter the circuit at 1' and, after traversing every cross wire and resistance coil, to 3' and to the source of supply; which, by reason of the great resistance offered, reduces the heat radiation to the minimum.

The dotted lines in Figs. 1, 2, and 3, indicate the lines of wire not in use when either of the several circuits are active.

In Fig. 8, *b'* represents a small hook at each end of the resistance coil for receiving and holding the mica support *B'*.

What we claim as new, and desire to secure by Letters Patent of the United States, is:

10 1. In an electric stove, a frame made of a nonconductor of electricity, posts supported in the frame and electrically connected in sets, connecting poles arranged in the line of electric connection with said posts, the
15 frame made open for the reception of a pan, a reversible pan in said opening, resistance coils looped over the posts connecting them in pairs, and loops for immediately attaching the coils to, or removing them
20 from the posts.

2. In electric stove construction, a frame having an opening from the top for the reception of a pan, posts and contact poles supported in said frame and electrically connected to produce various degrees of heat, a reversible pan in the opening in the frame, a case inclosing the frame and having a removable cover, a grating over the wiring of the stove, resistance coils connecting the posts in pairs, and means for readily removing and replacing the electric coils. 25 30

Signed in Reed City, Michigan, June 30, 1909.

HERMAN L. MILLSPAUGH.
FRANK S. VINCENT.

In presence of—

HARRY GERBER,
JACOB B. GINGRICH.