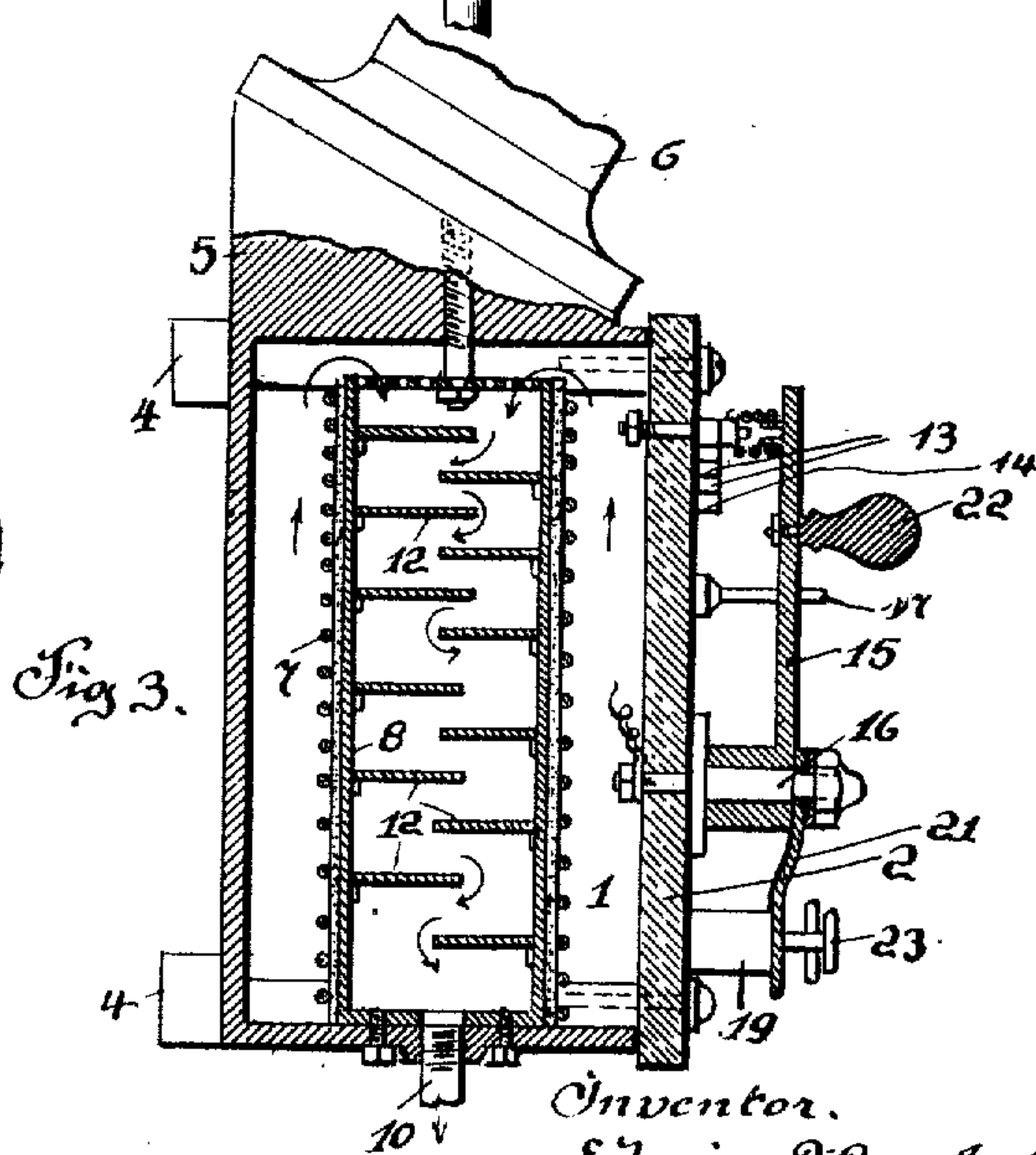
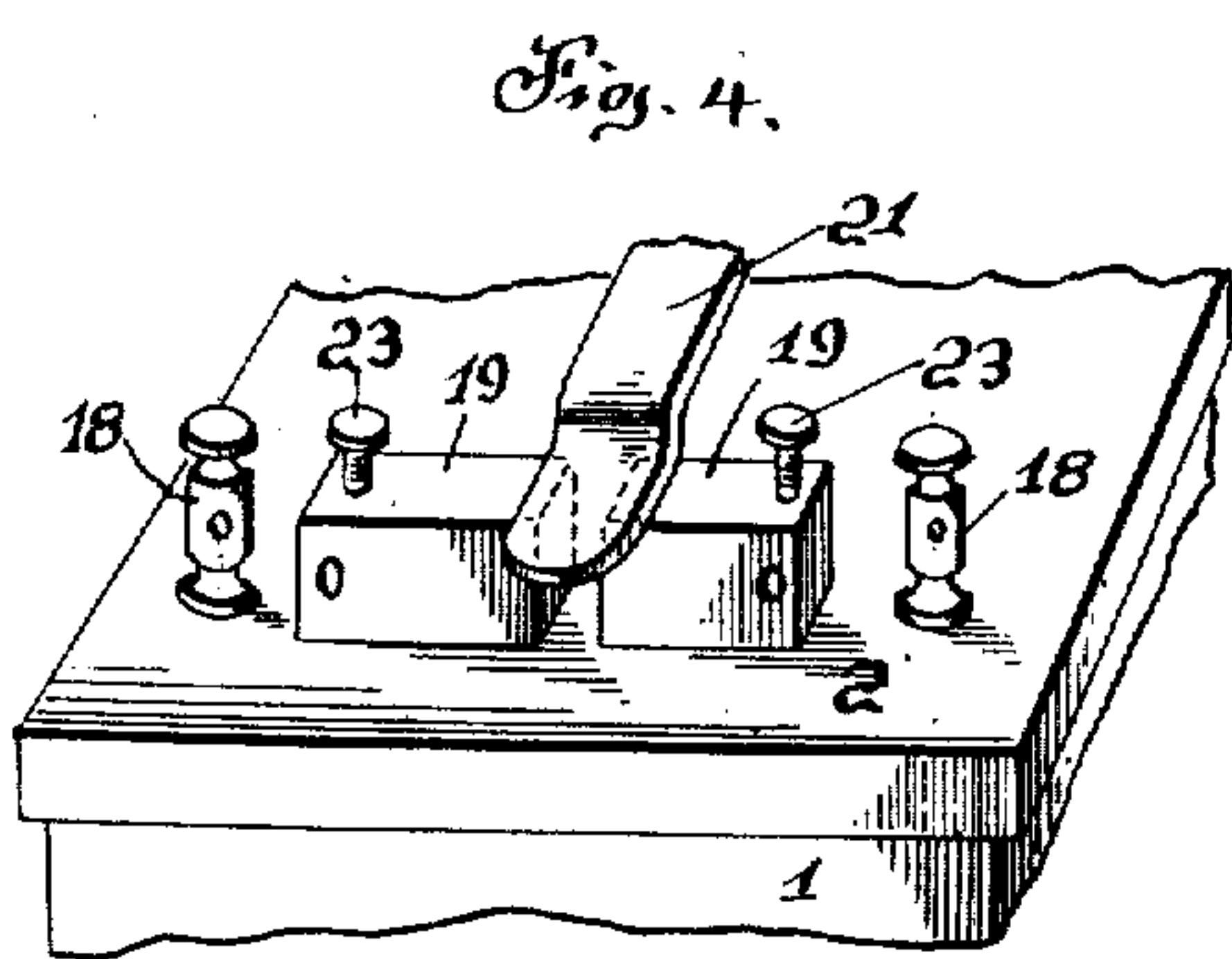
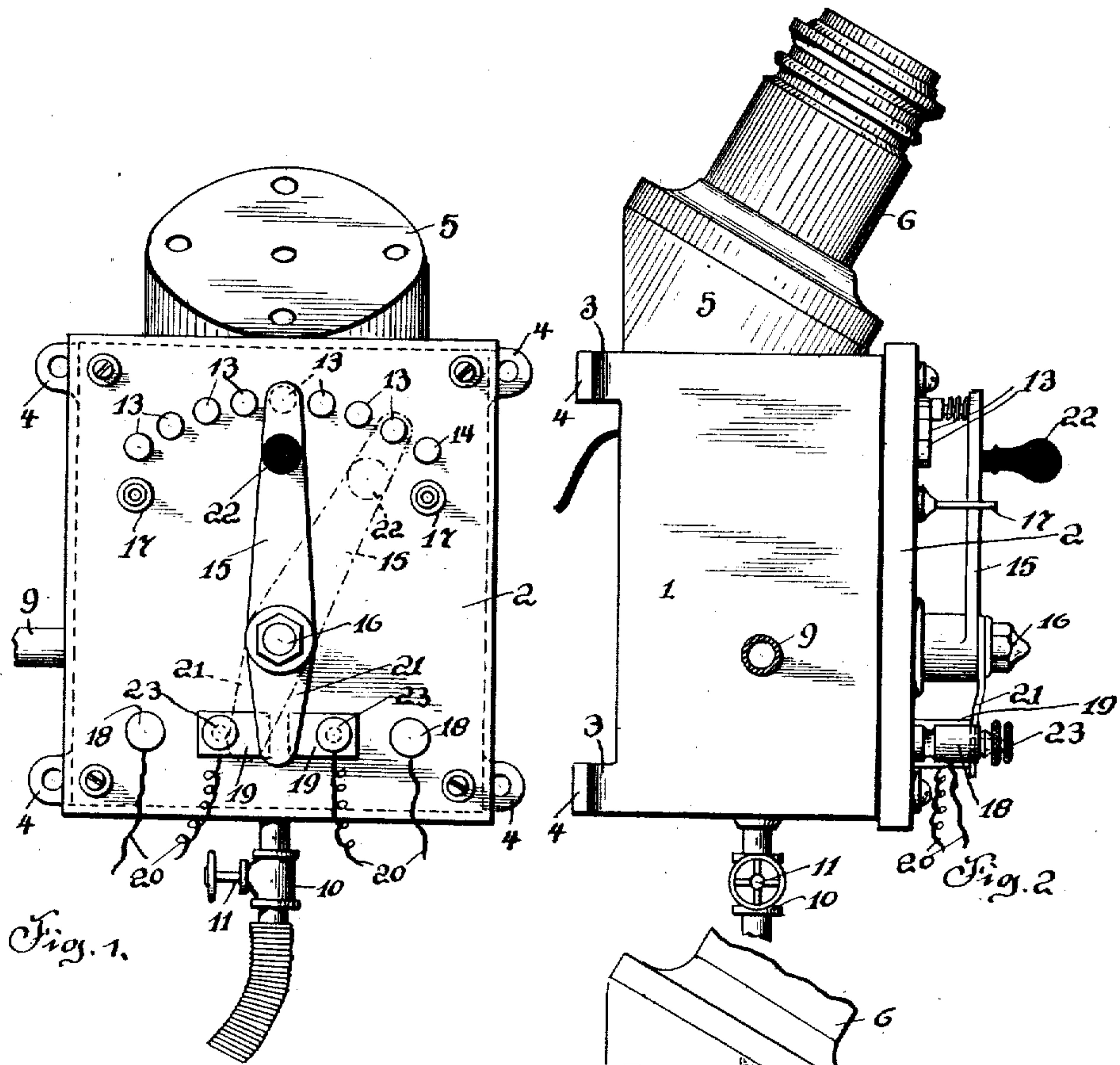


No. 844,379.

PATENTED FEB. 19, 1907.

E. MARSHALL.
ELECTRIC CONTROLLER.
APPLICATION FILED MAY 29, 1906.



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EDWIN MARSHALL, OF WARRENSBURG, MISSOURI.

ELECTRIC CONTROLLER.

No. 844,379.

Specification of Letters Patent.

Patented Feb. 19, 1907.

Application filed May 29, 1906. Serial No. 319,289.

To all whom it may concern:

Be it known that I, EDWIN MARSHALL, a citizen of the United States of America, residing at Warrensburg, in the county of Johnston and State of Missouri, have invented certain new and useful Improvements in Electric Controllers, of which the following is a specification, reference being had therein to the accompanying drawings.

- 10 This invention relates to electric controllers, especially adapted for the use of dentists or physicians in the manipulation of various electrically-driven appliances or instruments required in their practice; and the primary object of the invention is to provide a simple, convenient, and compact controlling device adapted to be secured to a wall or other suitable support in position for the attachment thereto of different appliances.
- 20 A further object of the invention is to provide an electric controller of the character referred to with a combination binding-post and switch-contact, whereby either one or two electric circuits may be closed accordingly as the switch-lever used with the combination binding-post and switch-block is turned, thus permitting two independent instruments or tools to be actuated at the same time or only one, as may be desired.
- 30 A further object of the invention is to provide an electric controller, comprising a box or casing containing a resistance-coil, with a plurality of contact-buttons each having an independent connection with the coil and a single contact-button connected in series with a lamp-circuit, whereby through the manipulation of a switch-lever the strength of the current passing through the translating device or devices may be graduated and permitting the full strength of the lamp-current to be used when required.

40 A further object of the invention is to utilize the heat of the coil within the controller-casing to supply heated compressed air directly from the controller-casing.

50 A further object of the invention is to provide a wall-casing with a forwardly-inclined lamp-socket support to project an electric lamp away from the wall to avoid heating the latter.

55 With these several objects in view the invention consists in the improved construction and arrangement of parts, hereinafter fully described in connection with the accompanying drawings, which form a part of this specification, and defined in the appended claims.

In the drawings, Figure 1 is a front elevation of an electric controller embodying the invention. Fig. 2 is a side elevation of the same. Fig. 3 is a central vertical section of the device, and Fig. 4 is a detail perspective view of the lower portion of the controller.

The reference-numeral 1 designates a metallic casing closed at its top, bottom, sides, and back, all of which parts are preferably an integral casting. The front of the casing is closed by a plate 2, of insulating material, preferably of marble or like material, said plate having an air-tight connection with the casing by means of a packing interposed between the front edges of the casing and the plate. From each of the four corners of the back of the casing projects a lug 3, having an integral perforated ear 4 to facilitate the attachment of the casing to a wall or like support. From the top of the casing projects a forwardly-inclined boss 5, upon which is secured a lamp-socket 6. This construction projects the lamp-socket and the lamp to be applied thereto forward in an inclined position away from the wall to avoid undue heating of the wall.

Within the casing 1 is supported a resistance-coil 7, wound upon a hollow core 8, adapted to serve also as a conduit for compressed air. An inlet 9 admits the compressed air to the interior of the casing from any suitable source, and a discharge-nipple 10, located at the bottom of the casing below the core 8, serves as an outlet for the air. The nipple 10 is provided with a valve 11 and is threaded at its lower end for the attachment thereto of a suitable hose. The compressed air introduced into the casing first circulates around the outside of the coil and is thus partially heated. It then passes into the perforated upper end of the core and down through the core, a series of baffle-plates 12 arranged in staggered relation within the core preventing a too rapid circulation of the air, thus insuring its being heated sufficiently from the heat of the coil before its discharge through the outlet 10.

Across the upper portion of the front plate 2 are located a series of contact-buttons 13 and 14, said buttons being arranged, as shown, to describe an arc corresponding to the path of movement of a switch-lever 15, pivoted to the front plate 2 upon a pivot 16. Pins 17, projecting from the plate 2 at opposite sides of the lever 15, serve as stops for said lever.

I have shown nine contact-buttons 13 and 14, the first eight of which, reckoning from left to right, are designated by the numeral 13, while the ninth button is designated as 14. A greater or less number of these buttons 13 may be employed, and each of them has an independent electrical connection with the resistance-coil 7, wound in parallel, so that the strength of the current may be graduated as the switch-lever successively makes contact with said buttons. The wiring or electrical connections are not shown, as the windings for providing shunt-circuits of varying resistance will be readily understood by those skilled in the art to which the invention relates. The last contact-button 14 is in series with the circuit of the electric lamp to be used with the controller, so that when the switch-lever contacts with said button 14 the full strength of the lamp-current is supplied to the translating device through the means which will now be described.

Adjacent to the lower end of the front plate 2 are provided two pairs of binding-posts, each pair consisting of an outer post 18 and an inner post 19, the latter being preferably in the form of rectangular metallic blocks to adapt them to serve the double purpose of binding-posts for securing the conductor-wires 20 of a translating device and of switch contact-blocks for a switch lever or plate 21, pivoted at its upper end upon the pivot 16 of the switch-lever 15. The lever 15 is provided with a knob 22 to facilitate its being turned upon its pivotal support. The binding-screws 23 of the blocks 19 serve as stops for the switch-plate 21.

The utility and operation of the device constructed as above described will be readily understood. The pivot of the switch-lever 15 is electrically connected to one terminal of an electric circuit, the other being represented by the contact-buttons 13 and 14. It will be apparent that by placing the switch-lever 15 in contact with the first pin 13 a current of the minimum strength will be directed through a circuit, including said button, the switch-lever 15, the switch-plate 21, and through one pair or both pairs of the binding-posts 18 19, according to the position of the switch-plate 21. If said plate is in contact with both of the blocks 19, as shown by the full lines in Figs. 1 and 4, the current will pass through both pairs of binding-post conductors to actuate two independent translating devices; but if the switch-plate is turned to the position shown by the dotted lines in Fig. 1 one pair of conductors 20 is cut out. By moving the switch-lever to the next button 13 the current is increased, and so on, a gradual increase of current following the successive contacts of the switch with the buttons 13 until the last button 14 is reached, when the full lamp-current will pass to the translating

device or devices as said last button 14, as above explained, is connected in series with the lamp-circuit.

It will be apparent that the improvement provides a convenient and compact controlling device, requiring little space and few and simple parts, and that it permits of the use of two independent implements at the same time, thus greatly facilitating dental or like professional work.

The relative arrangement of the two switch-levers 15 and 21 permits them to be secured by a single pivotal connection, and the double function of the blocks 19 (they serving as both binding-post and switch-contacts) materially simplifies the device and reduces the cost of manufacture. Again, the utilization of the heat of the resistance-coil to heat compressed air is an important characteristic of the invention, as it adapts the controller to serve this additional useful purpose and obviates the necessity of employing a special and separate air-heating device in dentists' offices.

I would have it understood that the invention includes all such modifications and variations in the minor details of construction as may be resorted to without departing from the scope of the following claims.

What I claim, and desire to secure by Letters Patent, is—

1. In an electric controller, the combination with a casing, and a resistance-coil supported therein, of a series of contact-buttons adapted to be connected to said coil independently to provide electric circuits of varying conducting capacity, a switch-lever pivotally supported upon the casing and adapted to contact with said buttons, and two pairs of binding-posts, one of the posts of each pair serving as a switch contact-block, and a switch-plate electrically connected to said lever, and adapted to contact with one or both of said switch contact-blocks.

2. In an electric controller, the combination with a casing, a resistance-coil located therein, and a series of contact-buttons adapted to be electrically connected to said coil, of a switch-lever adapted to contact with said buttons, two pairs of binding-posts on said casing, one of the posts of each pair serving as a switch contact-block, and a switch-plate secured upon the pivotal support of said lever, and adapted to contact with one or both of said blocks.

3. In an electric controller, two pairs of binding-posts, one post of each pair being a combination binding-post and switch-contact, in combination with a pivoted switch-plate adapted to contact with one or both of said combination binding-post and switch-contacts, and binding-screws on said switch-contacts serving as stops for said switch-plate.

4. In an electric controller, the combination with a metallic casing, a resistance-coil

therein, and a lamp-socket carried by the casing, of a series of contact-buttons adapted to be electrically connected to said coil, and a contact-button for said lamp-socket, a
5 switch-lever adapted to contact with said button, stops for said switch projecting from the front of the casing, and a switch-plate pivotally secured upon the pivot of the switch-lever, and switch-contacts below said

plate with which the latter is adapted to contact.

In testimony whereof I affix my signature in the presence of two witnesses.

EDWIN MARSHALL.

Witnesses:

MAX H. SROLOVITZ,
F. O. McCLEARY.