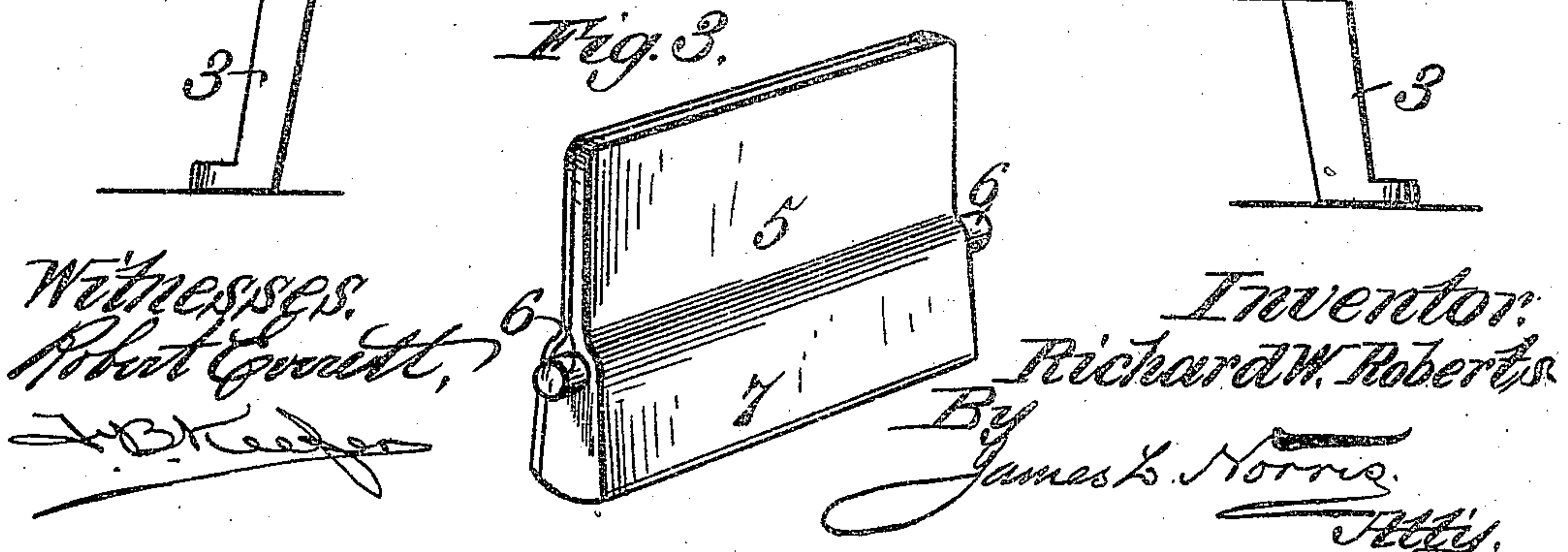
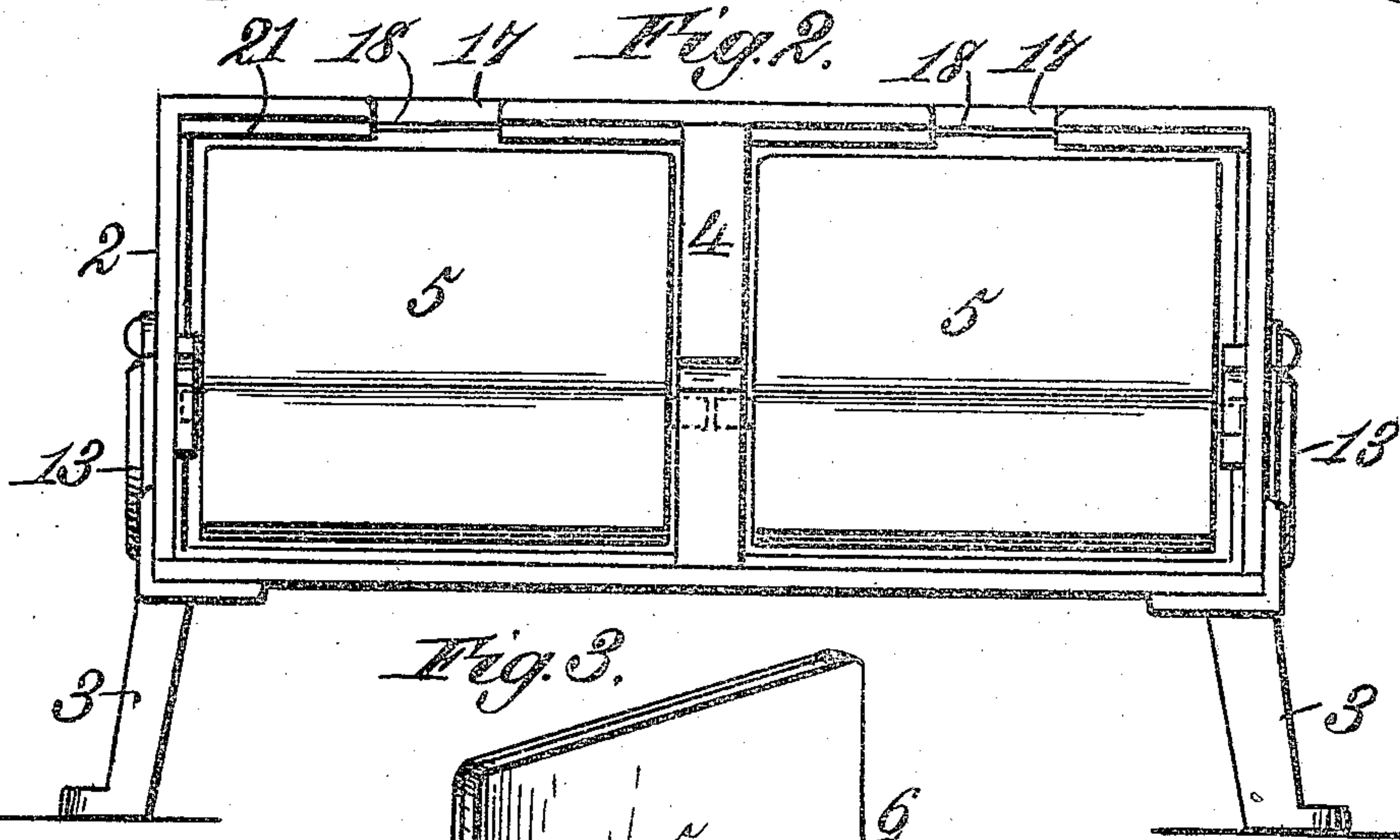
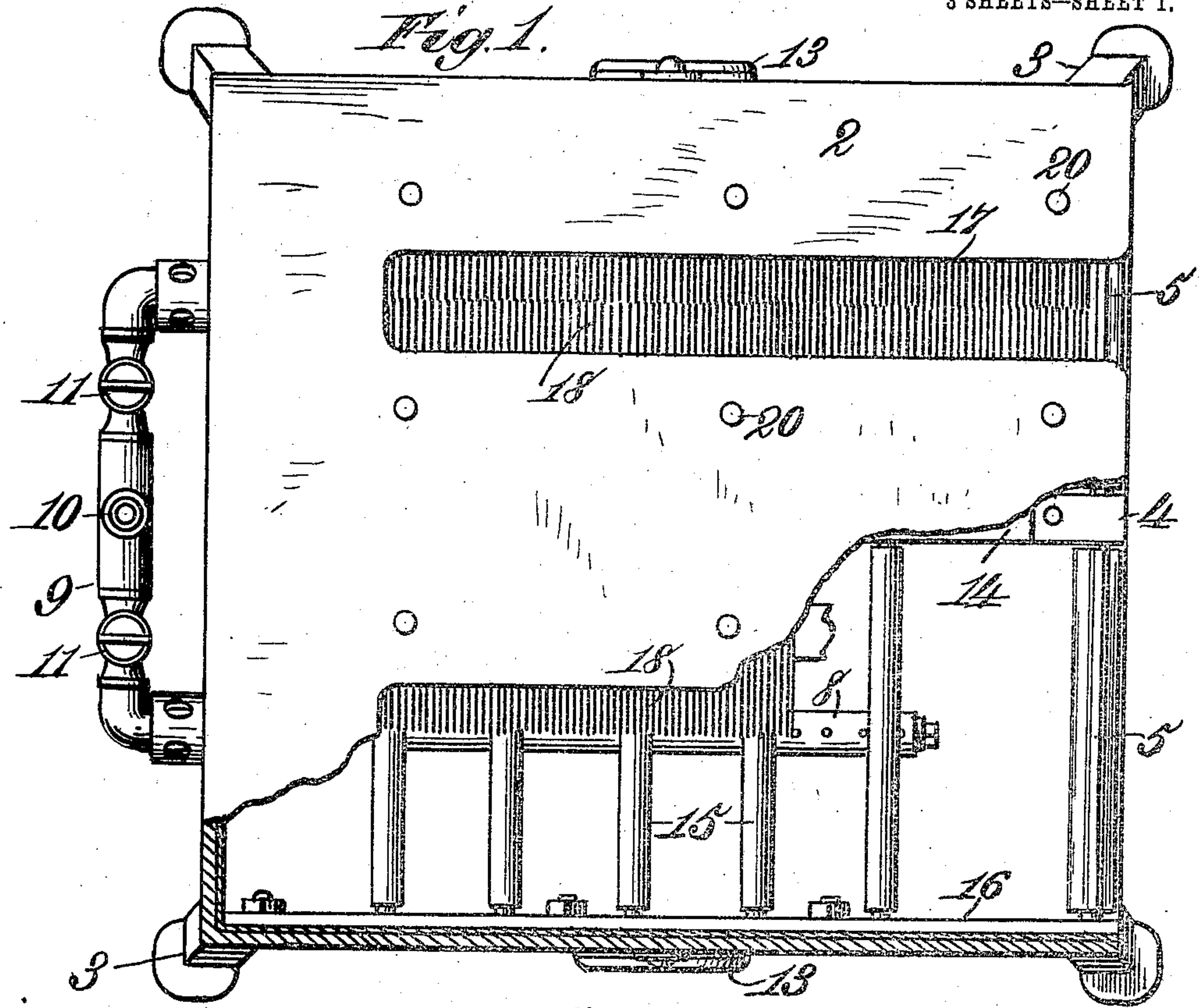


R. W. ROBERTS.
 FLAT IRON HEATER.
 APPLICATION FILED AUG. 20, 1907.

944,380.

Patented Dec. 28, 1909.

3 SHEETS—SHEET 1.



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3 SHEETS—SHEET 2.

Fig. 4.

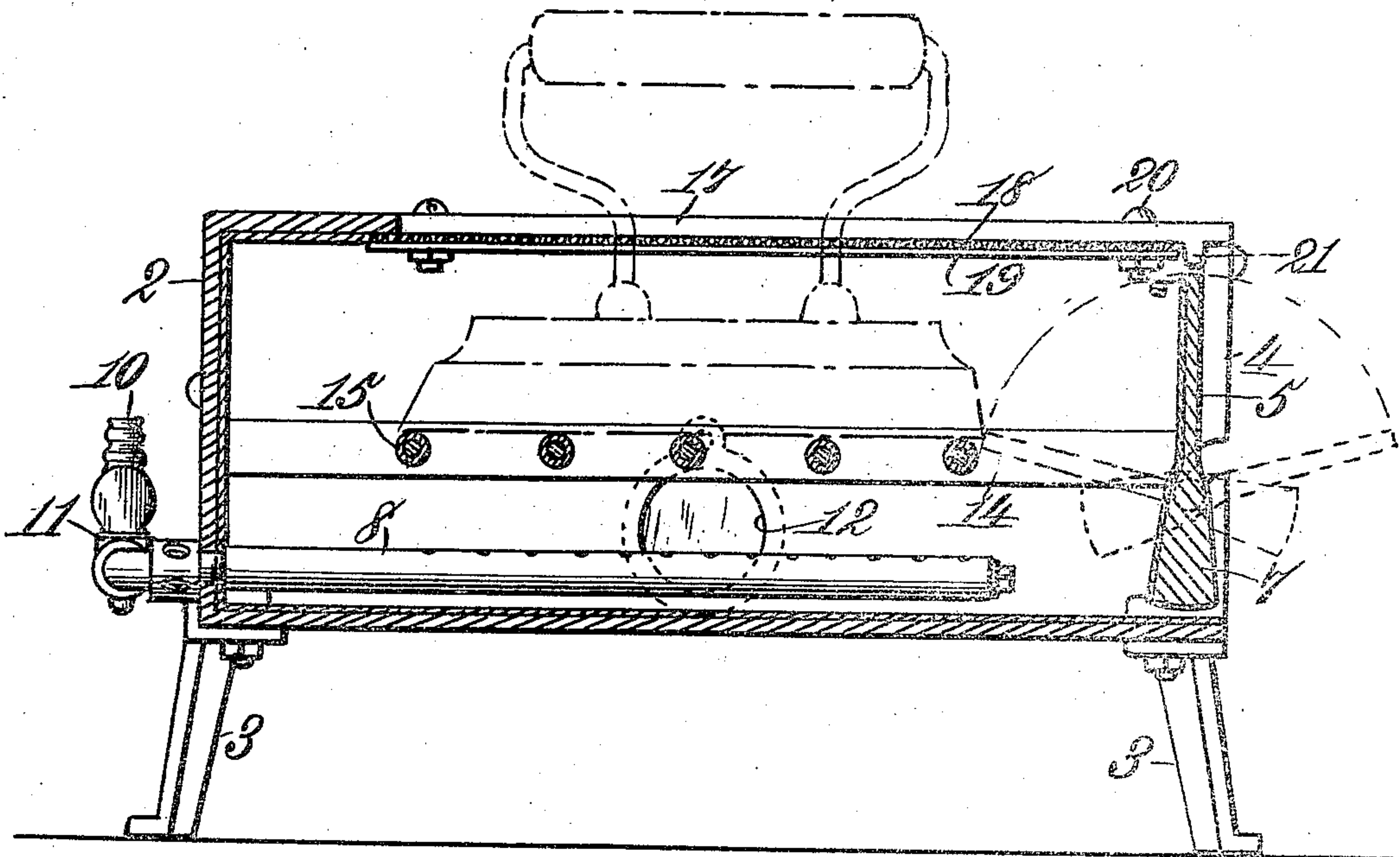
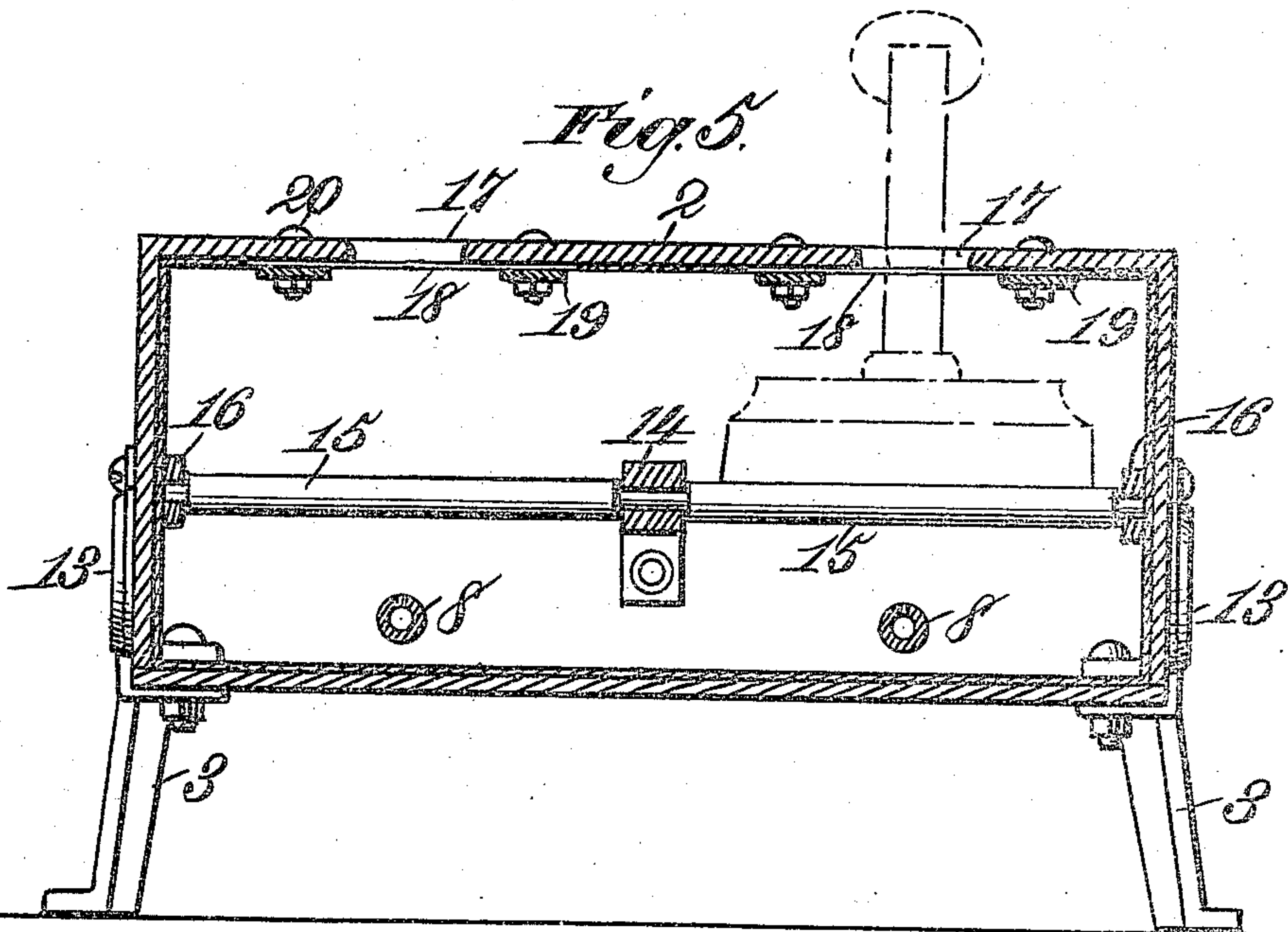


Fig. 5.



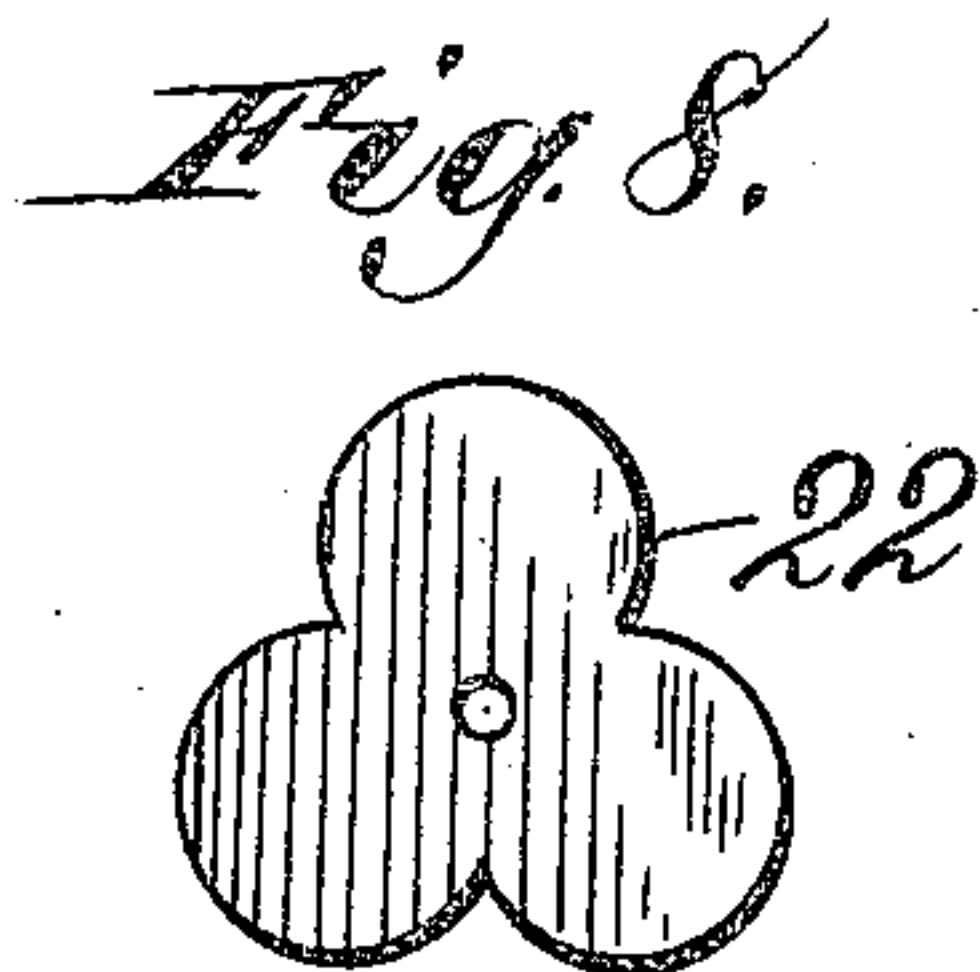
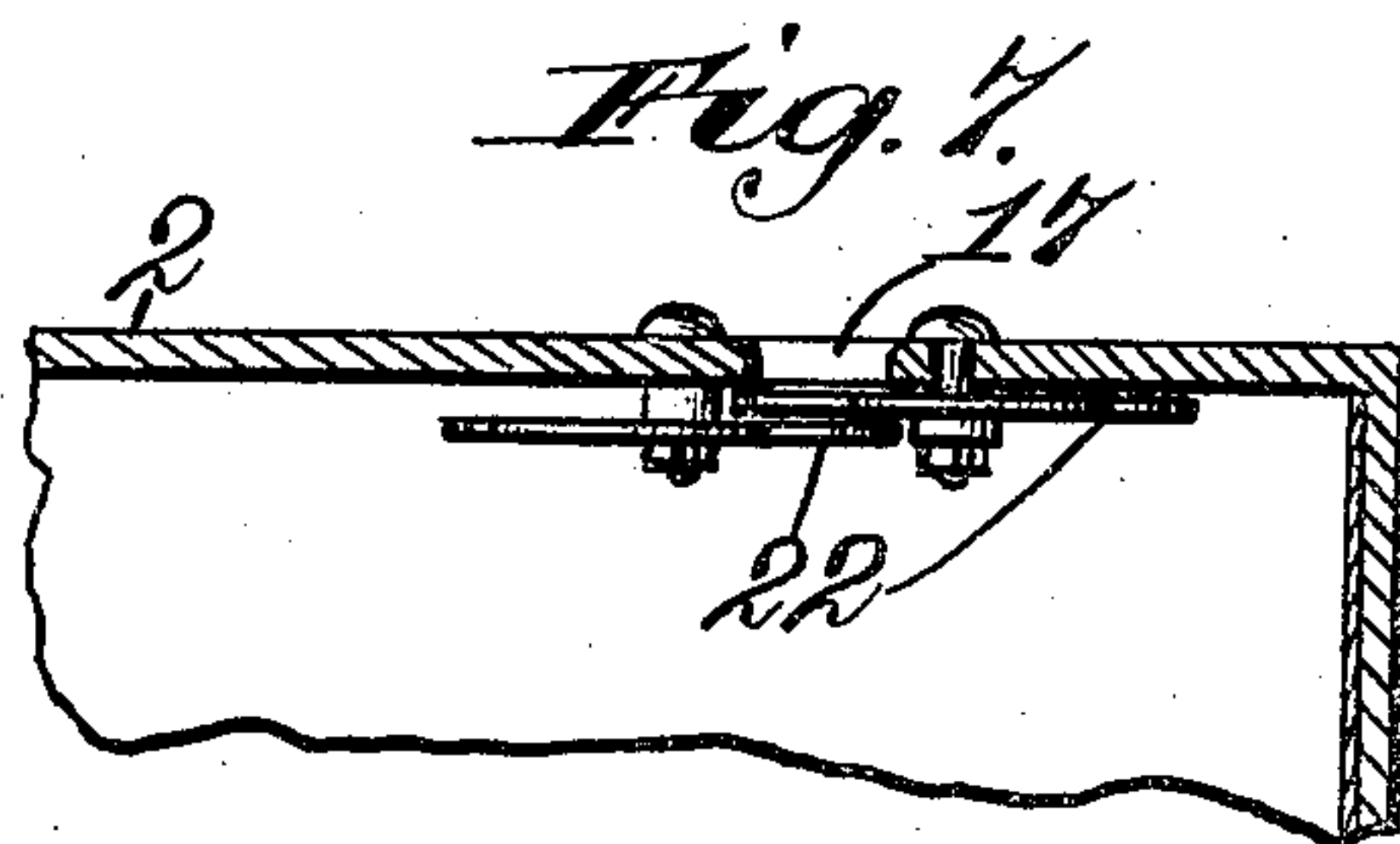
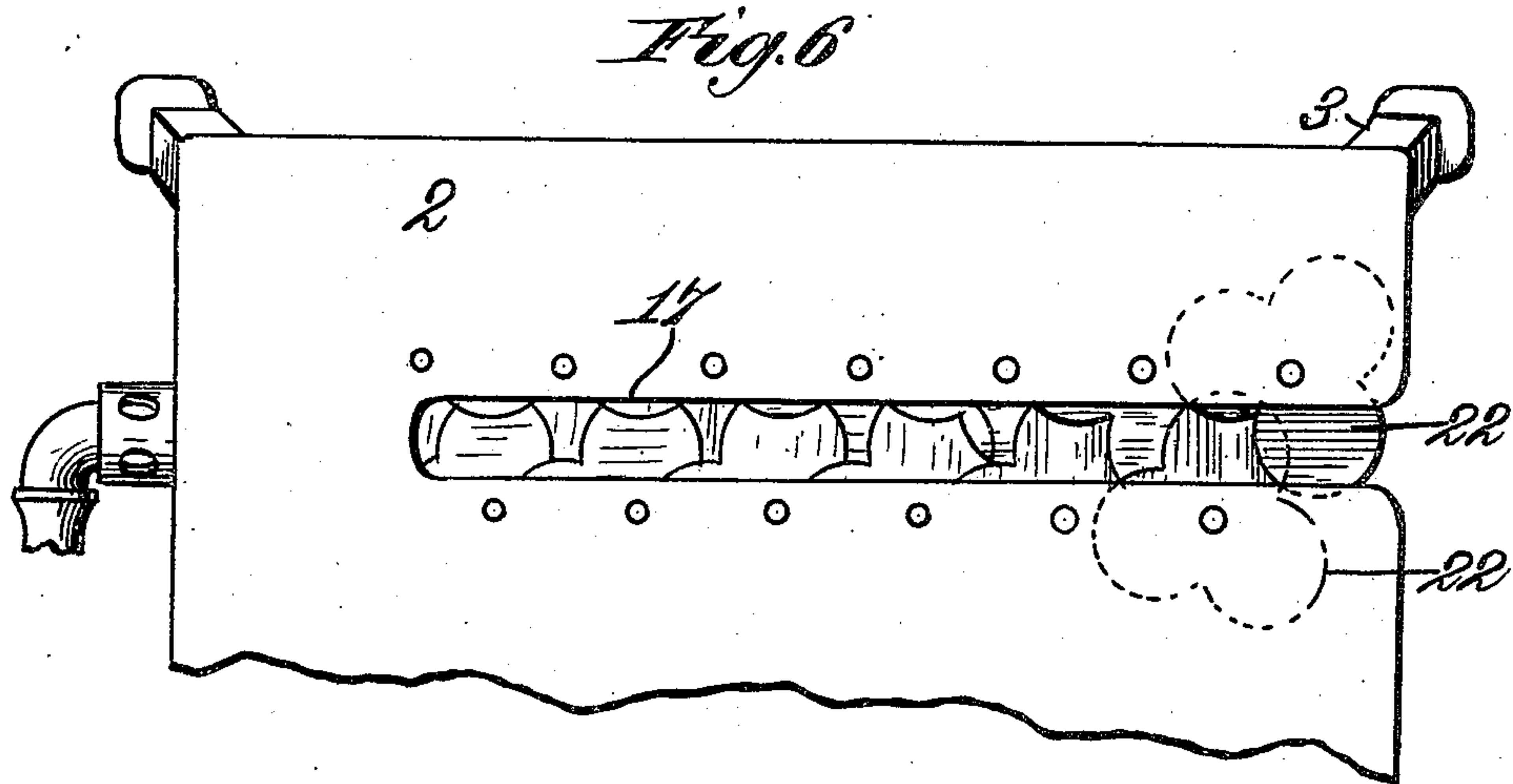
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J. B. Kedge

Inventor:
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By *James L. Norris*
Att'y.

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 FLAT IRON HEATER.
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 3 SHEETS—SHEET 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

RICHARD W. ROBERTS, OF WASHINGTON, DISTRICT OF COLUMBIA.

FLAT-IRON HEATER.

944,380.

Specification of Letters Patent.

Patented Dec. 28, 1909.

Application filed August 20, 1907. Serial No. 389,373.

To all whom it may concern:

Be it known that I, RICHARD W. ROBERTS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented new and useful Improvements in Flat-Iron Heaters, of which the following is a specification.

This invention relates to flat-iron heaters, and the primary objects of the same are to provide means for conveniently and economically heating flat irons and retaining the heat or caloric within the device without waste, to reduce the amount of heating agent necessary to maintain the heater at a practical temperature, and also to prevent the undesirable radiation and escape of heated currents into a room in which laundry work is being performed, particularly during hot weather.

The improved heater is comparatively simple in its construction and can be inexpensively manufactured.

With these and other objects and advantages in view, the invention consists in the construction and arrangement of the several parts which will be more fully hereinafter specified in preferred form of embodiment, but capable of such modification within the proportions, dimensions and minor details as may be found necessary to adapt the heater to general applications and within the scope of the invention.

In the drawings, Figure 1 is a top plan view of a flat-iron heater involving the invention and partially broken away. Fig. 2 is a front end elevation of the same. Fig. 3 is a detail view in perspective of a door forming part of the heater organization. Fig. 4 is a longitudinal section. Fig. 5 is a transverse section. Fig. 6 is a top plan view of a portion of the heater showing a modification in the construction. Fig. 7 is a transverse section through a part of the heater shown by Fig. 6 and taken in the plane of the line 6—6, Fig. 6. Fig. 8 is a detail view of one of the closing members or elements shown by Fig. 6.

Like characters of reference are employed to indicate corresponding parts in the views.

The heater involves a box or inclosure 2, which may be made of any suitable material, preferably metal, and lined with a heat non-radiating material, it having been found that sheet asbestos is

particularly advantageous for this purpose. The box or inclosure 2, as shown, is substantially oblong in shape, but its contour may be varied without departing from the practical service of the said box for the purpose for which it has been devised. Ordinarily, the box or inclosure will be provided with several depending legs 3, which will separate the same from the support or device on which it may be rested. The box or inclosure 2 has a forward open end, and extending from the top to the bottom of the box at this end is an upright or brace 4, which is located between doors 5 of similar construction and contour, which are preferably formed by casting, though other means may be adopted for producing these doors. Each door has oppositely disposed journals or gudgeons 6, supported by the sides of the box 2 and the upright 4, respectively. The doors 5, as will be understood from the foregoing explanation, swing about coincident horizontal axes, and they are adapted to tilt oppositely from a neutral or intermediate position, which, in the present case, and as shown by full lines in Fig. 4, is perpendicular. Fig. 4 illustrates one of the doors occupying its two shifted positions in dotted lines. Each door has associated therewith suitable means for normally holding it in its intermediate position, and while these means may be of any suitable character, it is preferred that each door be weighted, as at 7, the weighted portions 7 being below the axis of the movement of the doors. In other words, each door has a preponderance of weight below its center of oscillation, whereby it is caused to automatically assume a perpendicular position when at rest.

Two of the doors 5 are shown in the accompanying drawings, but it will be understood that the number may be increased in proportion to the modification of the remaining dimensions of the heater, or to accommodate the application of a greater number of flat-irons.

Within the interior of the box 2, and extending from the rear end to a point near the front end thereof, are two burners 8, which may be of any desirable construction and may be supplied with the necessary lighting fluid by branches of a pipe 9, said latter pipe having between its ends a nipple,

as at 10, for connection therewith of a rubber hose or some equivalent piping. At opposite sides of this nipple are two cocks 11, whereby the supply of necessary fluid to the burners 8 can be independently controlled. It will be understood, also, that the number of burners 8 may be increased in accordance with the intended capacity of the heater.

In the sides of the box or inclosure 2, openings 12 are provided and covered by suitable drop doors or closures 13, having transparent material thereover or associated therewith, and serving as peep means to inspect the interior of the heater. The doors or closures 13 may be moved or shifted to uncover the openings 12 to permit the insertion of a lighted match or other igniting means to flame the burners.

From the front end of the inclosure or box 2, to the upright or brace 4, there extends an intermediate strip 14, which is suitably connected to the said box end and upright and disposed approximately in the same horizontal plane are side strips 16 attached to the inner portions of the sides of the said box, the strips 14 and 16 constituting convenient supporting means for rollers 15 extending transversely across the interior of the inclosure or box 2 above the burners 8. Two sets of the rollers 15 are shown in the present instance, but it will be understood that their number may be increased in accordance with the dimensions and capacity of the heater, and all of the rollers occupy a common horizontal plane slightly above the axis of movement of the swinging doors 5. The rollers 15 provide antifrictional supporting means for the bodies of the irons, which may be inserted in and inclosed by the box 2. To accommodate the handles of the irons, the top of the box or inclosure 2 has slots or apertures 17 open at their front or outer ends, and when an iron is inserted or moved into the box the handle thereof will enter and pass along one of the apertures 17, leaving the grip portion of the iron handle outside the heater so as to be readily accessible for effecting the removal of the iron when it has been heated to the requisite degree.

It is obvious that some means should be provided for closing the slots or apertures 17 in order to render the heater more effective in its operation. Various devices might be employed for this purpose, and one form is particularly shown by Figs. 1, 2 and 5, and consists of yieldable strips 18 extending across each aperture or slot, and having the ends loose at about the longitudinal center of the slot and slightly overlapped. The strips 18 may consist of wire with their shanks or butts clamped or secured to the underside of the top of the box or inclosure

2 by clamping strips, as 19, held in place in any preferred manner, for example, by bolts or analogous fastenings 20. The strips or wire pieces 18 provide automatically operating closures for the apertures or slots 17, and with the doors 5, effectively confine the heat within the box or inclosure. The yieldable nature of the wires or strips 18 permits them to recede when encountered by the handle of an iron during movement thereof into one of the apertures or slots 17, and to close the said aperture or slot when the iron handle is in a state of rest and also closely encircle the connecting portions or standards of the iron handle.

On the underside of the top of the box or inclosure 2, near the front end of the latter, is a transversely disposed flange 21, to which the upper ends of the doors 5 are contiguous when said doors are shut, and by means of which these doors during their swinging motion either inwardly or outwardly are prevented from interfering with or affecting the strips, wires, or yielding closing means 18.

Another form of yielding closing means for the apertures or slots 17 is shown by Figs. 6, 7 and 8, and consists of a plurality of revolving trifoliate members 22, pivotally applied against the underside of the top of the box or inclosure 2 adjacent to the apertures or slots 17, and having an overlapping assemblage, as shown, so as to be free or yielding and operate to automatically close each aperture or slot during the movement of an iron handle thereinto or outwardly therefrom. Other analogous means might be used for closing the apertures or slots 17, and by illustrating two different forms it is intended to be understood that the invention in this particular is not necessarily confined to a specific structure, but, on the contrary, contemplates the use of any automatically operating closing means having the function of automatically closing each aperture or slot through the medium of the iron handle moving into and outwardly from the said aperture or slot. The revolving trifoliate members 22 are centrally pivoted and overlap to such extent that they will not obstruct the ready insertion of the iron handle into the aperture or slot or have any tendency whatever to become locked or jammed.

It will be assumed that the burners 8 have been lighted and the doors 5 occupy their normal positions. With this relation present, the body of a flat iron may be easily introduced into the box or inclosure 2. To accomplish this introduction of the iron body, it will be projected against the upper portion of the door 5 and the pressure exerted on the door will cause the upper portion of the latter to swing toward the left, as shown by Fig. 4, and the bottom or face

of the iron will then engage and move over the several rollers 15 until the iron body is fully inclosed within the heater, and at which time the operated door 5 will immediately close. During the introduction of the iron within the heater the handle will have been coöperating with the automatic closing means for the aperture or slot 17 through which said handle has been moving, and after the iron body has been inclosed within the box 2, the latter will be rendered practically heat-tight, or the escape of heat currents from the interior of the box will be reduced to a minimum with obvious benefits in confining the heat about the iron body and economy in the use of heating fuel. When an iron is inserted within the box or inclosure 2, the body thereof will rest on all of the rollers 15, and the latter provide a skeleton supporting floor for the iron so as to derive the best effect from the heat radiating from the burner flame, and also to facilitate the insertion and withdrawal of flat irons. When an iron is fully inserted within the box it will be disposed squarely over each burner, there being no means intercepting the heating effect of the flame of the burner with respect to the bottom of the iron except the rollers 15, and these only at intervals, and therefore do not obstruct a thorough heating of the iron body. When an iron has been heated it may be easily withdrawn from the box or inclosure 2, and the movement of the contiguous door 5, as well as the automatic closing means for the aperture or slot 17, will be reversed to that ensuing when the iron is inserted in the box.

From the foregoing it will be seen that an iron may be easily inserted in and withdrawn from the heater, expeditiously and economically heated, and that the several parts are strong and durable, and have such simple operation as not to become readily worn or impaired by continual use.

The heater has been particularly described and adapted for heating flat irons, usually employed for laundry purposes, but it will be understood, however, that the heater may be used for other purposes, or that any other device may be inserted therein in a manner similar to the operation pursued in heating a flat-iron.

Having thus described the invention, what is claimed, is:

1. In a heater of the class specified, a box closed at its sides, ends and bottom and having a closed flat top provided with a slot extending partially thereacross and opening out through one side, the slot adapted to receive the handle of a flat iron, means having automatic closing movement when opened by the handle of the flat iron and projecting across the slot in the top of the box for closing the latter, and means gravitatingly

mounted in one side of the box adjacent to the said slot and opened by engagement therewith of the body of a flat iron and having a self closing movement to permit the flat iron body to be introduced into and withdrawn from the box.

2. In a heater of the class specified, a box closed at its sides, ends and bottom and having a slot in the top opening out through one side thereof, the slot adapted to receive the handle of a flat iron, and means having automatic closing movements when engaged by the handle of the flat iron and fully projecting across the slot in the top of the box for closing the latter.

3. In a heater of the class specified, a box provided with interior heating means and fully closed on all sides and ends and having a top with a slot extending thereover and opening out through one side to receive and permit the handle of an iron to project above the said top and to inclose the body of the iron within the box, and means normally projecting across the slot and located wholly below the top surface of the box and movable when the handle of the iron is inserted in and withdrawn from the slot to automatically close the latter to prevent the escape of the heat from the interior of the box.

4. In a heater of the class specified, a box provided with heating means and having a slot in the top opening out through one side to receive the handle of an iron, and movable means in the end of the box through which the slot opens and coöperating with the slot and wholly located below the top of the box and respectively operative by the body and handle of the iron to open the one end of the box and the slot when the iron is inserted in and withdrawn from the box.

5. In a heater of the class specified, a box provided with interior heating means and a support above said means, the box having a slot in the top to receive the handle of a flat iron, and a plurality of movable members located wholly below the top of the box and extending across the slot from opposite walls of the latter, the free ends of the respective members having an overlapping assemblage and separated by the handle of a flat iron as the latter is inserted into or withdrawn from the box and automatically closed when the flat iron handle is at rest in the slot.

6. In a heater of the class specified, a closed box having a slot in the top opening out through one side, a burner in the box, means for supporting a flat iron body over the burner, means for automatically closing the end of the box through which the slot opens and controlled by contact of the body of the iron therewith, and automatically operating closing members located wholly below the top of the box and extending in opposite directions transversely across the slot

and movable by the insertion and withdrawal of the handle of the flat iron into and from the said slot, the said movable means automatically closing when the iron is at rest in the heater.

7. In a heater of the class specified, a box provided with heating means and an interior support, the top of the box being apertured to receive the handle of an iron, and a plurality of centrally pivoted trifoliate members having portions normally extending across the aperture from opposite walls and pivotally held against the underside of the top of the box.

8. In a heater of the class specified, a box provided with heating means and an interior support, the box being apertured to receive the handle of a flat iron, and a plurality of centrally pivoted trifoliate members attached to the box top and located wholly below the top surface of the box, the trifoliate members extending partially across the aperture from the opposite walls of the latter and having their free portions in loose overlapping cooperation.

9. In a heater of the class specified, a box provided with heating means and an interior support, the box having a top aperture to receive the handle of a flat iron, and a plurality of centrally pivoted trifoliate members operating to automatically close the aperture and below the top of the box and extending partially across the aperture from opposite side walls, the free portions of the respective members having a normal loose overlapping cooperation.

10. In a heater of the class specified, a box having an aperture through the top thereof for the projection of a portion of the handle of a flat iron and provided with a self-closing means, a burner in the box, and a skeleton supporting means extending across the burner between the latter and the top of the box and having antifrictional devices for engagement with the bottom of the body of a flat iron.

11. In a heater of the class specified, a box having an opening in the top for the projection therethrough of the handle of a flat iron and provided with a self-closing means, a burner in the box, and a plurality of rollers supported in the box and extending fully across the burner between the latter and the top of the box for engaging and antifrictionally supporting the body of a flat iron, the rollers extending fully across the box and equally engaging the face of the flat iron in contact therewith.

12. In a heater of the class specified, a box, heating means within the box, one end of the box being open, a swinging freely gravitating door mounted in upright position in the open end of the box, the said door being opened by engagement with the upper portion thereof of the body of a flat

iron and automatically closing after the body of the iron is within the box, and means within the box for supporting the iron above the heating means.

13. In a heater of the class specified, a box provided with heating means and having an open end, and a swinging door gravitatingly disposed in the said open end of the box and having a lower weighted portion, the upper part of the door being free for engagement with the body of a flat iron, the door being opened by contact of the flat iron body with the upper part thereof and against the resistance of the lower weighted portion of the same.

14. In a heater of the class specified, a box provided with heating means and having an open end, and a swinging door mounted in said open end and having an upper portion free for contact with the body of a flat iron, the door being opened by contact of the body of the flat iron with the upper portion thereof, the door automatically closing after the body of the flat iron has passed over the same.

15. In a heater of the class specified, a box provided with heating means and having an open end, and a swinging door intermediately fulcrumed at opposite extremities in said open end and having a preponderance of weight below its center of movement, the door being opened by contact with the part thereof above the center of movement of the body of a flat iron.

16. In a heater of the class specified, a box provided with heating means and having an open end, flat iron supporting means located within the box, and a swinging door mounted in the open end of the box and having a preponderance of weight below its center of movement, the fulcrum devices for the door being located at intermediate points on opposite ends of the door and the flat iron supporting means situated above the plane of the said fulcrum devices or the center of movement of the door, the door being opened by contact with the upper part thereof of the body of the flat iron.

17. In a heater of the class specified, an inclosure having an opening in the top and one end, the openings being normally closed by automatically operating devices and opened by contact therewith of a portion of the handle and body of a flat iron either when inserting the flat iron in or withdrawing it from the inclosure and whereby a portion of the handle of the flat iron is exteriorly exposed for ready grasping operations, and heating means within the inclosure.

18. In a heater of the class specified, a box provided with heating means and having an aperture in the top for insertion of the handle of an iron therein, the box being open at one end, means within the box for

supporting an iron over the heating means,
an automatically operative door movable
and intermediately supported in the open
end of the box, and automatically operating
5 means for closing the handle receiving aper-
ture in the box.

In testimony whereof I have hereunto set

my hand in presence of two subscribing wit-
nesses.

RICHARD W. ROBERTS.

Witnesses:

THOMAS E. GRIFFITH,

P. L. GLADMON.