

(No Model.)

2 Sheets—Sheet 1.

T. W. McFARLAND.
SAD IRON HEATER.

No. 376,782.

Patented Jan. 24, 1888.

Fig. 1.

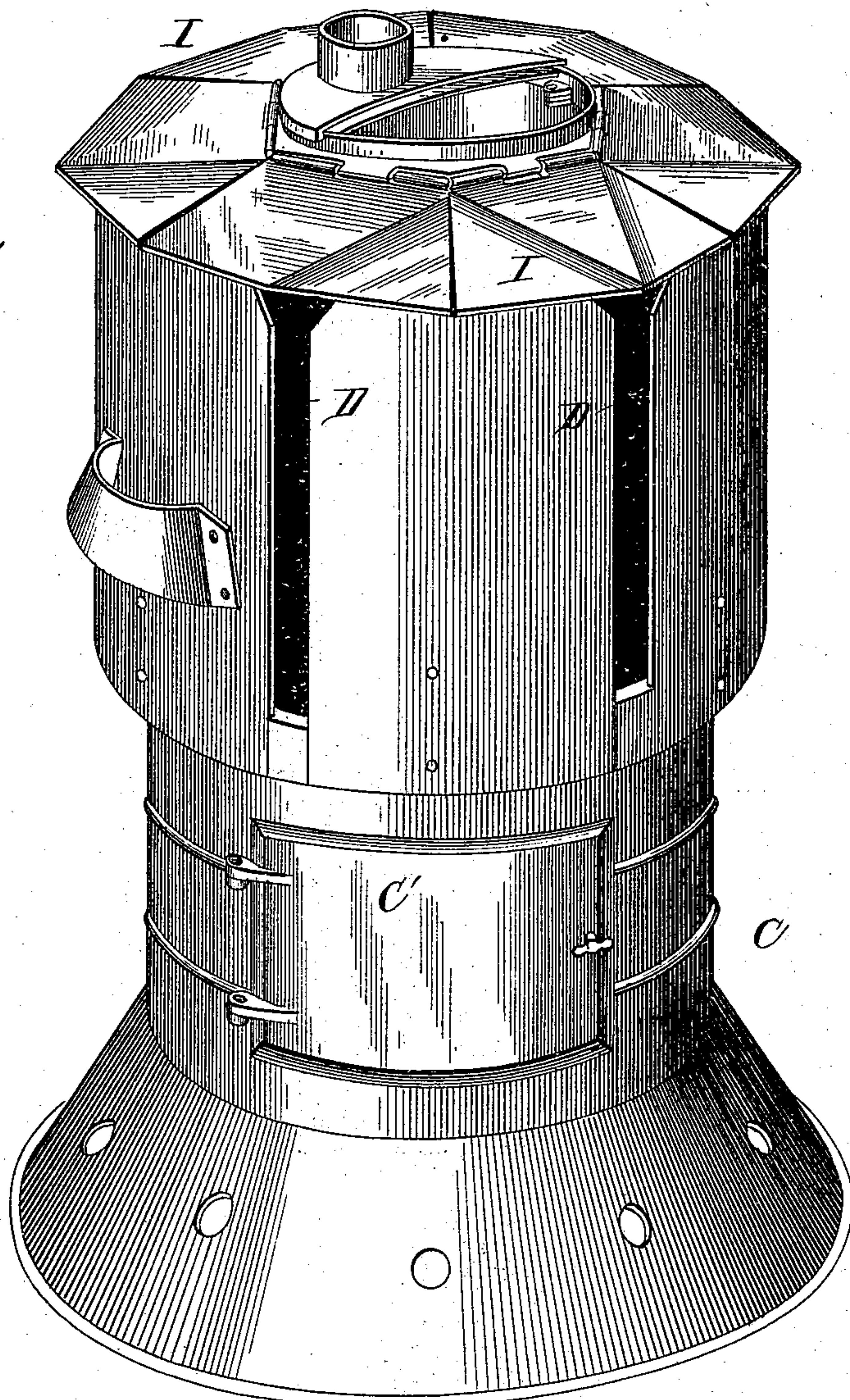
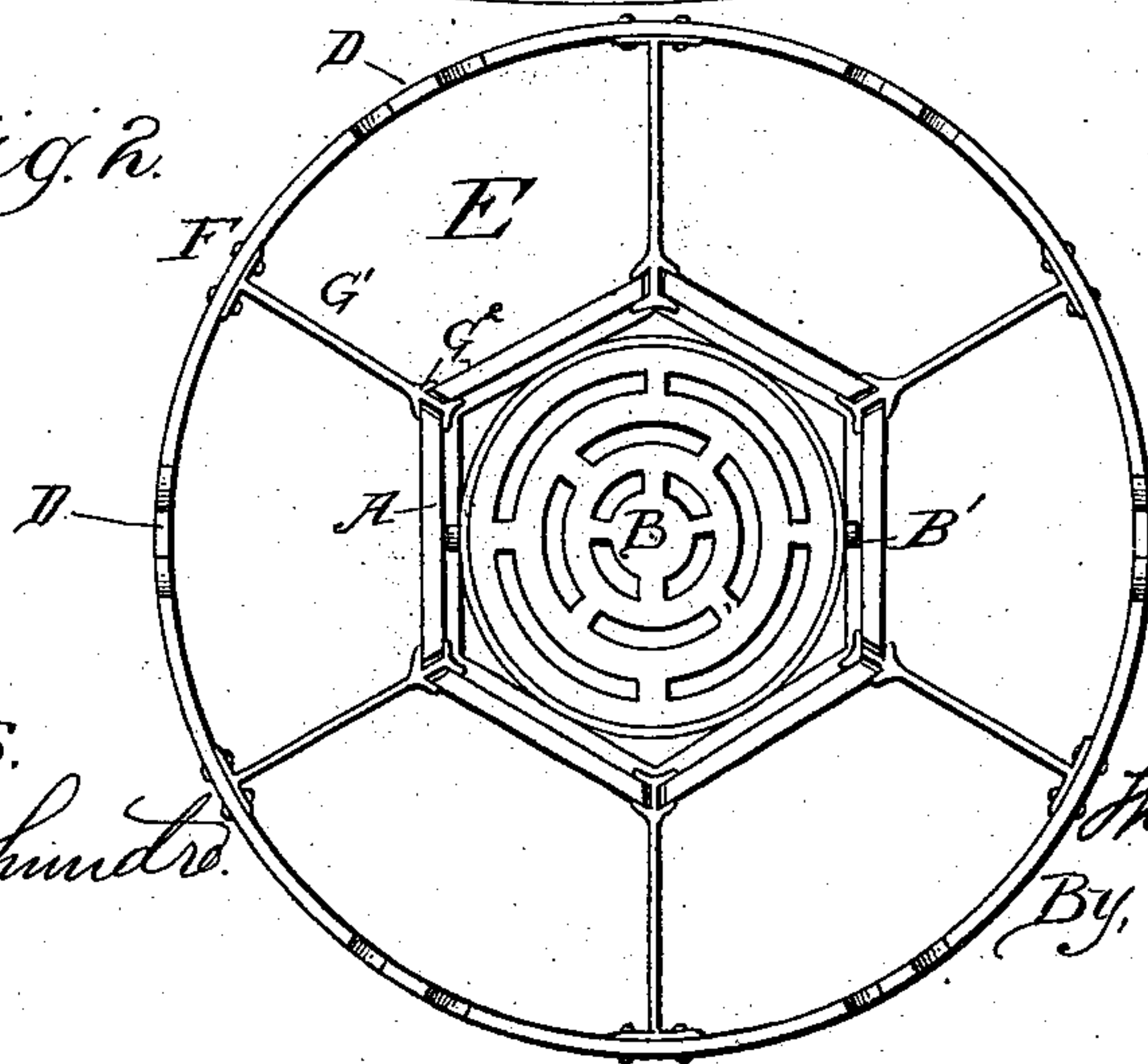


Fig. 2.



Witnesses.

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Atty.

(No Model.)

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Fig. 3.

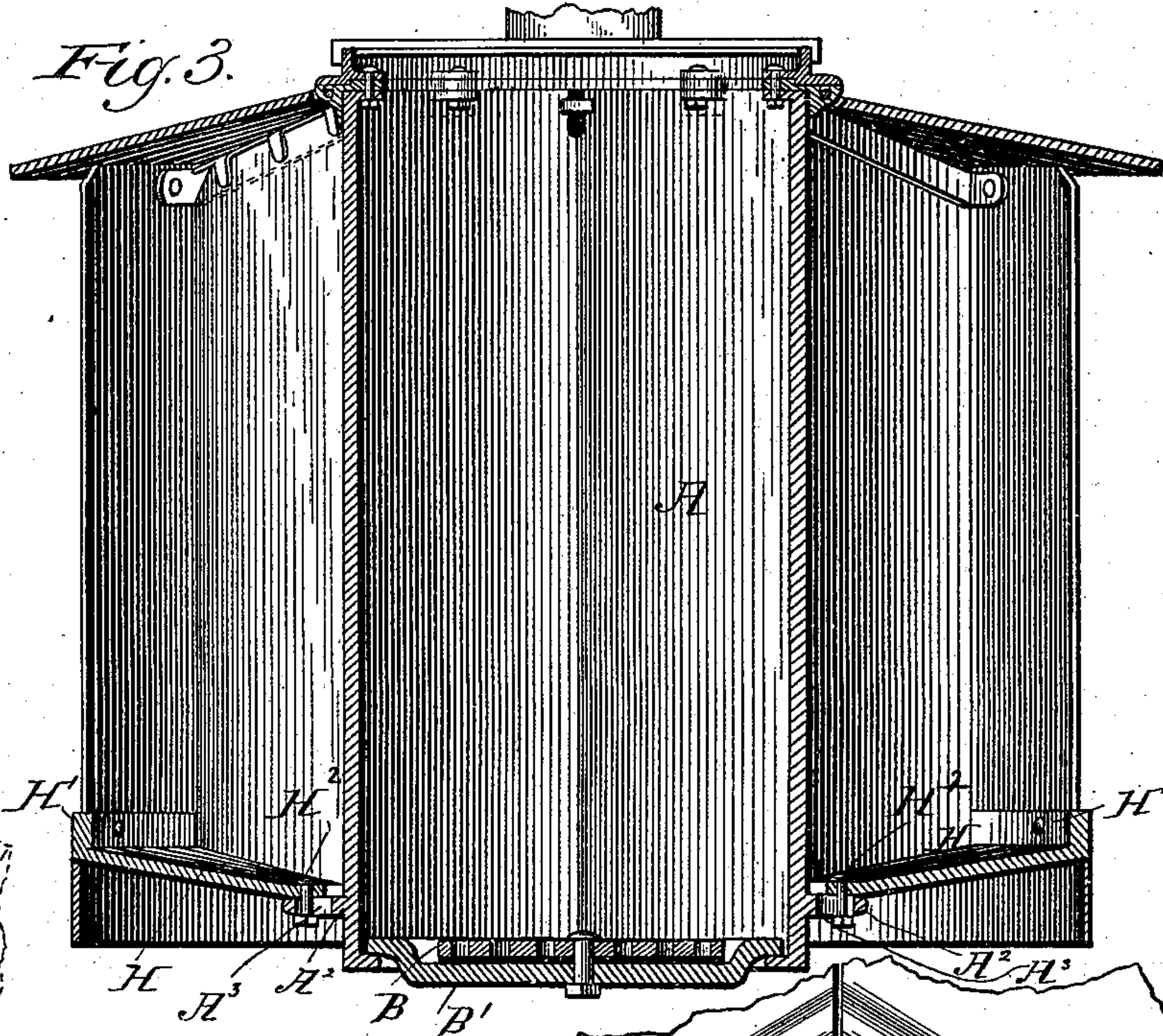


Fig. 4.

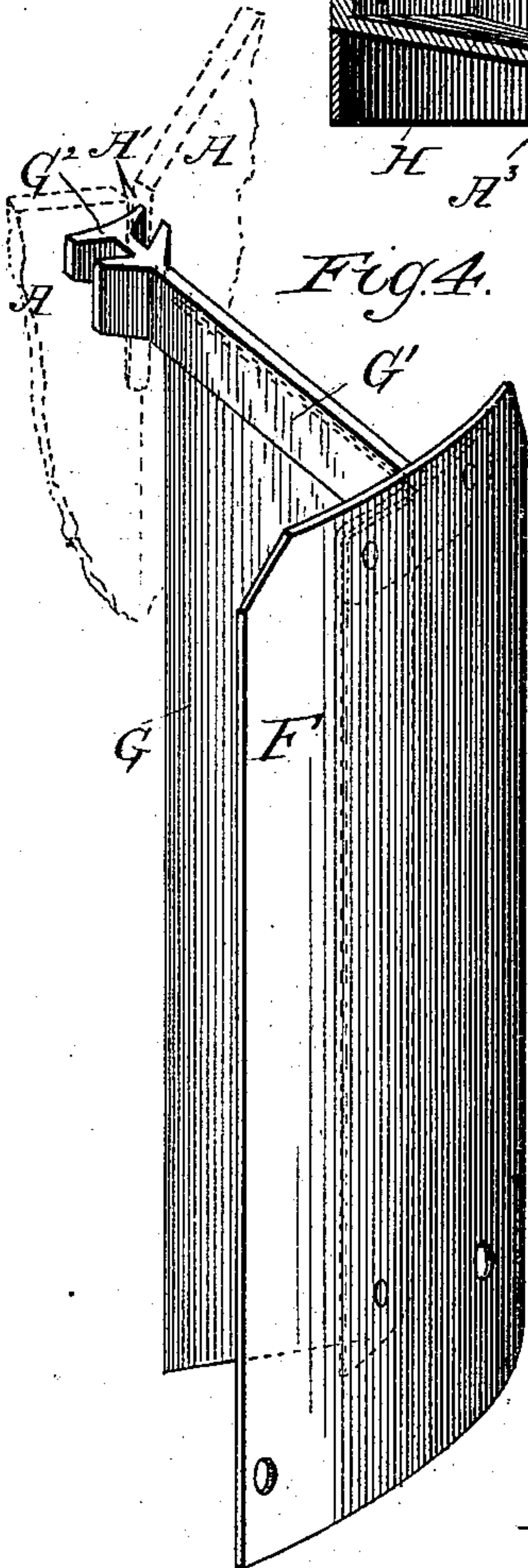


Fig. 5.

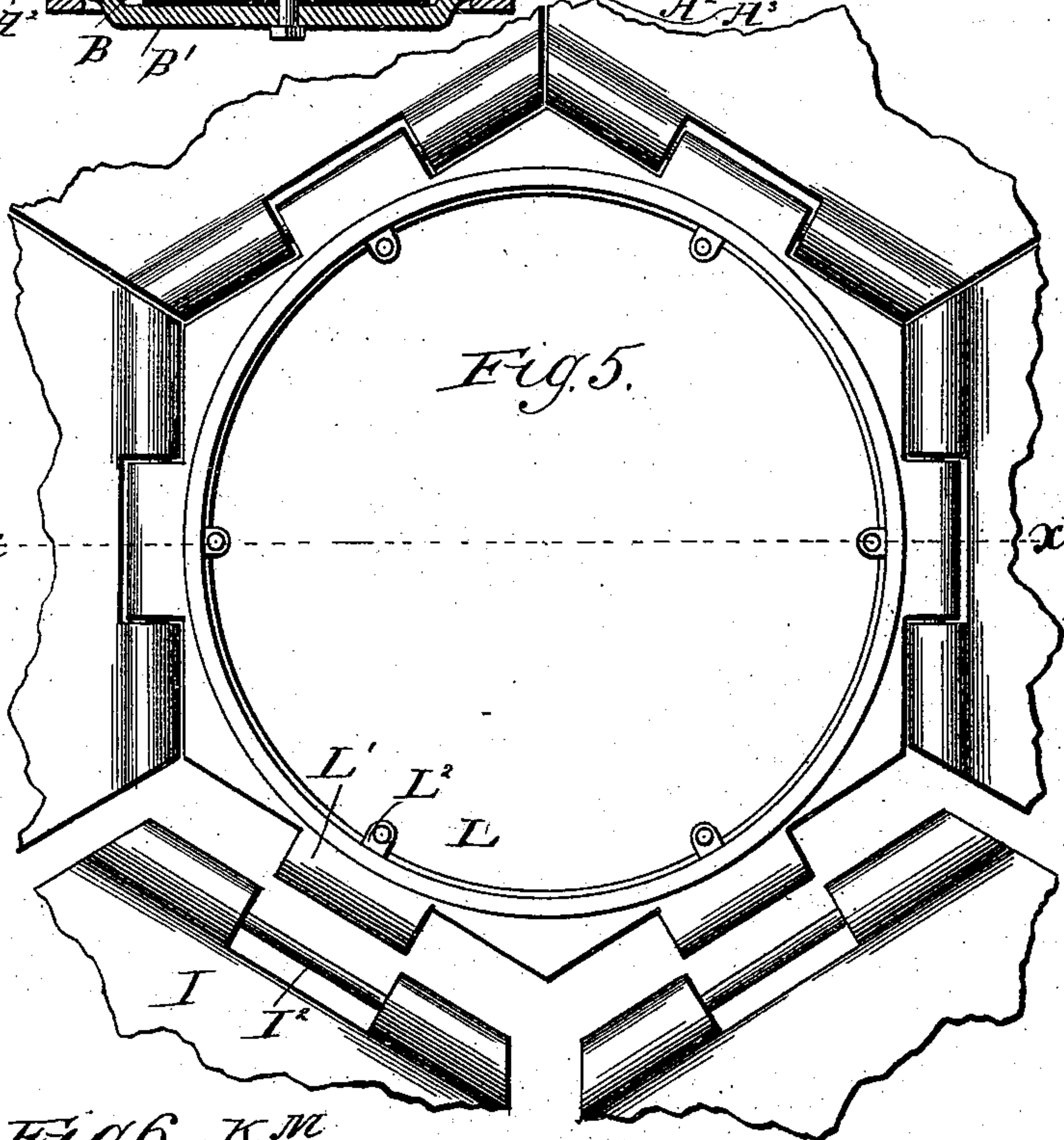
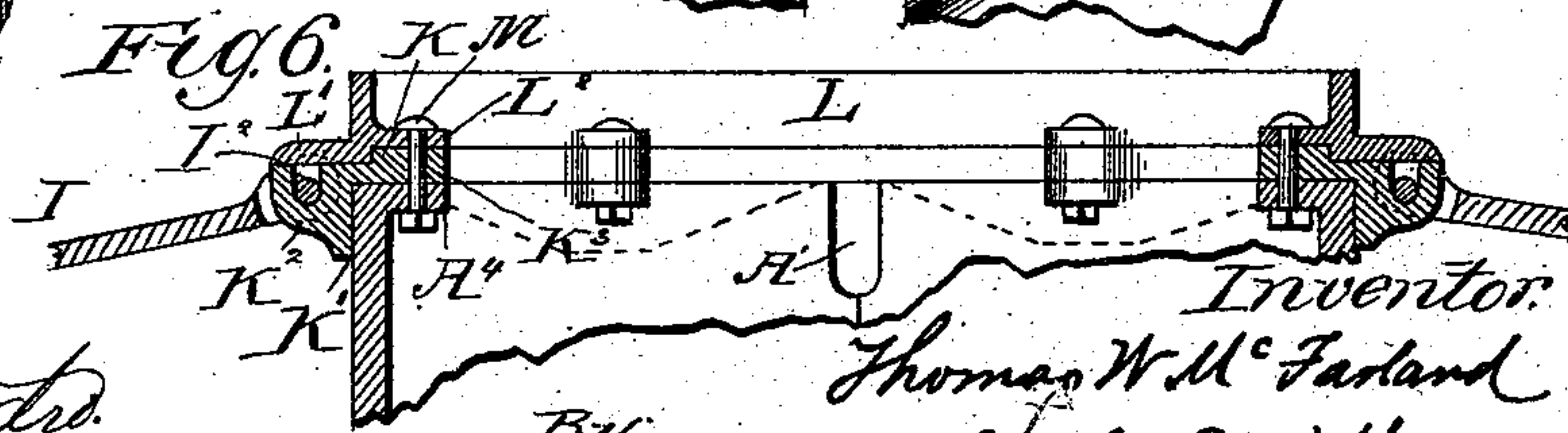


Fig. 6.



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UNITED STATES PATENT OFFICE.

THOMAS W. McFARLAND, OF CHICAGO, ILLINOIS.

SAD-IRON HEATER.

SPECIFICATION forming part of Letters Patent No. 376,782, dated January 24, 1888.

Application filed September 12, 1884. Serial No. 142,873. (No model.)

To all whom it may concern:

Be it known that I, THOMAS W. McFARLAND, a citizen of the United States, residing in Chicago, county of Cook, and State of Illinois, have invented a certain new and useful Improvement in Sad-Iron Heaters, of which the following is a specification.

This invention relates to an improvement in sad-iron heaters of that class in which the heating apparatus has consisted of a stove or heater constructed with a central polygonal drum, a surrounding jacket provided with slots extending downwardly from its top to form passages for the handles of the irons, which are introduced between the drum and the jacket when it is desired to heat them, and a series of lids hinged to the top of the structure and provided for respectively covering a series of compartments into which the annular space between the drum and its surrounding jacket is divided, so as to form a separate heating-chamber for each sad-iron.

The objects of my invention are to improve the construction of a heater of such character in several particulars, so as to render it easier of manufacture, more readily taken apart and put together, stronger, more durable, and more efficient than heretofore, and to provide certain self-adjusting or yielding joints between certain of its members, in order to compensate for the unequal degrees of lateral or diametrical and longitudinal expansion and contraction between the heating-drum and the walls of its surrounding chambers, it being found that in heaters of such character as heretofore constructed with rigid and unyielding joints the unequal degrees of expansion between its members break and tear the parts at the joints, thus necessitating the removal of the injured parts and their replacement by others, which obviously is troublesome, as well as an expensive affair. These objects I attain by the devices illustrated in the annexed drawings, in which—

Figure 1 represents a perspective of a sad-iron heater embodying my invention; Fig. 2, a top plan view of the same with the top covering and pyramidal base removed; Fig. 3, a vertical section of the same on the line *x x*, Fig. 5; Fig. 4, a detail perspective of one of the sections of the jackets, partitions, and

coupling-bars joined together, the dotted lines indicating the drum and illustrating the manner of coupling together the jacket and said drums; Fig. 5, an enlarged detail plan view illustrating the connection of the compartment-covers with the two-part ring; Fig. 6, an enlarged detail vertical section on the line *x x*, Fig. 5, for more clearly illustrating the configuration of the two-part ring and its connection with drum and covers.

Referring by letter to the several figures of the annexed drawings, in which like letters denote like parts, A indicates a vertically-arranged drum within which the fire is to be made. This drum is provided at its base with a grate, B, the construction of which is, by preference, that of a rotary grate arranged to turn on a supporting-bar, B', which is upheld at its ends by means of a flange or lugs formed with the base end of the drum.

The base-support C for the drum is of any construction suitable for upholding the drum and for providing an ash-pit, to which access can be had by opening a door, C', with which the base-support is furnished. The polygonal drum is surrounded by a jacket, so as to form a space between the two for the sad-irons which are to be heated, and a series of vertical slots, D, are formed in this jacket, commencing at the top and extending down to a point near the base thereof, in order to provide passages for the handles of the sad-irons when the latter are introduced at the upper portion of the space between the jacket and the drum, so that they can be let down with their faces against the sides of the drum.

The annular space between the jacket and the drum is also divided into a number of compartments, E, corresponding to the number of sides of the polygonal drum, each compartment being designed for the reception of a single iron.

The jacket is composed of a number of sections, F, which are arranged to form a continuous jacket around the drum. The slots or passages D for the handles of the sad-irons occur between the opposing edges of these sections of which the jacket is composed, and as a convenient way of forming the said slots alternate sections are provided with oblong notches along their side edges, whereby

when all of the sections are fitted together passages will be formed between the notched edges of said alternate sections and the vertical edges of the intervening sections.

5 The several sections of the jacket are secured to and supported by the partitions G, which are provided for dividing the annular space between the jacket and the drum into the several compartments for the sad-irons.

10 As a convenient way of securing together the jacket-sections and the partitions, each section is bolted or riveted to a flange, F, formed along the outer vertical edge of a partition, as illustrated in dotted lines, Fig. 4.

15 The partitions which are thus connected with the jacket-sections are detachably connected with the drum by means of sliding or yielding joints, which serve to admit of different degrees of longitudinal expansion of the drum and of the partitions without endangering the breakage of the connections between them, it being evident that the end or longitudinal expansion and subsequent contraction of the drum will be far in excess of that of the surrounding partitions and jacket-sections. To

25 such end each partition is secured at its top edge to a bar, G', having an outer T-shaped end secured to the partition, and having its inner end adapted to form a coupling, G², extending back from the inner vertical edge of the partition.

30 The inner coupling ends of the bars G' are adapted to fit in vertical slots A' in the top end portion of the drum and to embrace both the inner and outer sides of the latter, for which purpose the coupling is in the nature of two pairs of flanges or ears formed at an end of a flat bar and adapted to the configuration of the drum.

40 The slots or notches A' are formed in the upper ends of the drum at the angles thereof, and the couplings are connected with the drum by passing down into the notches or slots in the drum, the middle or neck portions of the couplings formed between the pairs of ears or lateral projections at the inner ends of the bars, as illustrated in Fig. 4, in which a portion of the drum and one of the slots thereof is shown in dotted lines. The couplings are thus free

50 to move up and down in the slots, so as to be susceptible of a self-adjustment in case of any variation in the degree of longitudinal or vertical expansion or contraction between the drum and any or all of the partitions between the drum and any one of the partitions and the jacket-section attached to the latter. In this way I provide a yielding connection which will serve to compensate for any difference in the degrees of end or vertical expansion between the main elements composing the body portion of the heater, thereby avoiding breakage, and that it will also admit of the parts being readily taken apart or fitted together.

65 The rest H for the sad-irons, when the latter are placed within the chambers in order to be

heated, consists of an annular disk, constituting a bottom for the several compartments around the drum. This annular disk is provided along its outer edge with a flange, H', which is bolted to the inner sides of the jacket-sections. The partitions simply rest at their lower ends upon this annular disk, which slopes downwardly toward the center, so as to adapt it to conform to the several angular ends of a sad-iron. The annular disk, which is thus provided as a support or rest for the sad-irons and as a bottom for the heating-chambers, has at its inner edge a sliding or yielding connection with the drum, whereby the diametrical or lateral expansion and contraction of the drum in excess of that of the surrounding members shall be permitted to take place without injury to its connection with the latter. To such end the drum is provided near its base end with an external seat, A², which is provided with slots A³ radial to the drum, and preferably made in the nature of a ledge extending continuously around the drum.

The inner edge portion of the annular disk H rests upon this seat A², and is provided with bolts H', passing through the slots in the seat, thereby affording a yielding connection between the drum and the bottom of the compartments to which the jacket sections are connected.

It will be obvious that this bolt-and-slot joint between the disk and the drum could be attained by slotting the disk in place of slotting the ledge, as herein shown.

100 For each heating-compartment E, I provide a hinged lid, I, to allow the compartment to be opened or closed, as may be required. These lids, constituting an annular series at the top of the heater, are hinged to a two-part ring which is seated upon and bolted to the top edge of the drum. The lower half, K, of the said ring is seated upon the top edge of the drum and upon perforated lugs or ears A⁴, formed at intervals along the top edge of the drum, and said part of the ring is also provided with an annular flange, K', which fits against the outer side of the drum. This outer flanged portion of the lower half of the two-part ring is provided at intervals with bearings K² for the pintles I² of the lids. These bearings are covered after the pintles have been seated therein by lips L', formed at intervals around the upper section, L, of the two-part ring, which said lips fit and rest on the bearings K². The top section of the two-part ring is also provided at intervals with inwardly-projecting perforated ears L², arranged to register with similar ears, K³, with which the lower section of the two-part ring is provided. The bolts M pass through these perforated ears and through the lugs or ears A⁴ of the drum, thereby securely connecting together the two sections of the two-part ring, and also securing the latter upon the top of the drum.

130 The annular sections of the ring are preferably provided on their opposing faces with

annular corresponding shoulders, so as to adapt the parts to be more effectively fitted together, as in Figs. 3 and 6.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, in a sad-iron heater, of the central drum and a surrounding jacket with a vertically-yielding coupling connecting said drum and jacket, to compensate for the unequal degrees of longitudinal expansion between the drum and the jacket, substantially as described.

2. The drum, in combination with a surrounding sectional jacket and a vertically-yielding coupling connecting each section with the drum, to compensate for the unequal degree of longitudinal expansion between the drum and the sections of the jacket, substantially as described.

3. The drum, in combination with a surrounding jacket connected at its base with the drum by a connection adapted to yield laterally with respect to the length of the drum, to compensate for the difference between the radial expansion of the drum and of the jacket, substantially as described.

4. The drum, in combination with a surrounding sectional jacket, the several sections of which are connected with the drum by a connection adapted to yield laterally with respect to the length of the drum, to compensate for the difference between the radial expansion of the drum and of the jacket, substantially as described.

5. The drum, in combination with a surrounding jacket, a series of partitions dividing the space between the drum and the jacket into compartments, and a sliding coupling and bolt connection between the drum and jacket, substantially as described.

6. The drum, in combination with a sectional jacket and a series of partitions dividing the annular space between the drum and the jacket into compartments, the jacket sections being secured to the partitions, and the latter being connected with the drum by a sliding connection, substantially as described.

7. The drum, in combination with a surrounding jacket composed of sections and a series of partitions dividing the space between the drum and the jacket into compartments, the jacket-sections being secured to the partitions, and the latter being connected with the drum, substantially as described.

8. The drum provided at its top with a series of notches, in combination with a series of partitions, G, surrounding the drum and connected with the latter by couplings G², and a sectional jacket, the sections of which are secured to the said partitions, substantially as described.

9. The drum and its surrounding jacket, in combination with a rest for the sad-irons secured to the jacket and connected with the drum by a laterally-sliding connection, substantially as described.

10. The drum and the surrounding jacket composed of sections separated from each other to form openings through which to project the irons, in combination with the bottom H and a slot-and-bolt connection between said sections and the drum, substantially as described.

11. The drum and the surrounding jacket, in combination with the bottom H for the heating-compartments, secured to the jacket and connected with the drum by slot-and-bolt connections, substantially as described.

12. The drum and its surrounding heating-compartments, in combination with the two-part ring seated upon the drum and provided with hinged lids, substantially as described.

13. The two-part ring seated on the drum and provided with hinged lids for closing the heating-compartments around the drum, the lower part of the ring being provided with lugs constituting bearings for the pintles of the lids, substantially as described.

14. The two-part ring seated on the drum and provided with hinged lids for closing the heating-compartments, said parts of the ring being bolted together by bolts serving to bolt the ring to the lugs at the top of the drum, substantially as described.

15. In a sad-iron heater, a central drum, in combination with a surrounding jacket composed of several independent sections separated from each other, whereby a passage is formed between the sections through which the sad-iron handle may project, substantially as shown and described.

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Witnesses:

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