

(No Model.)

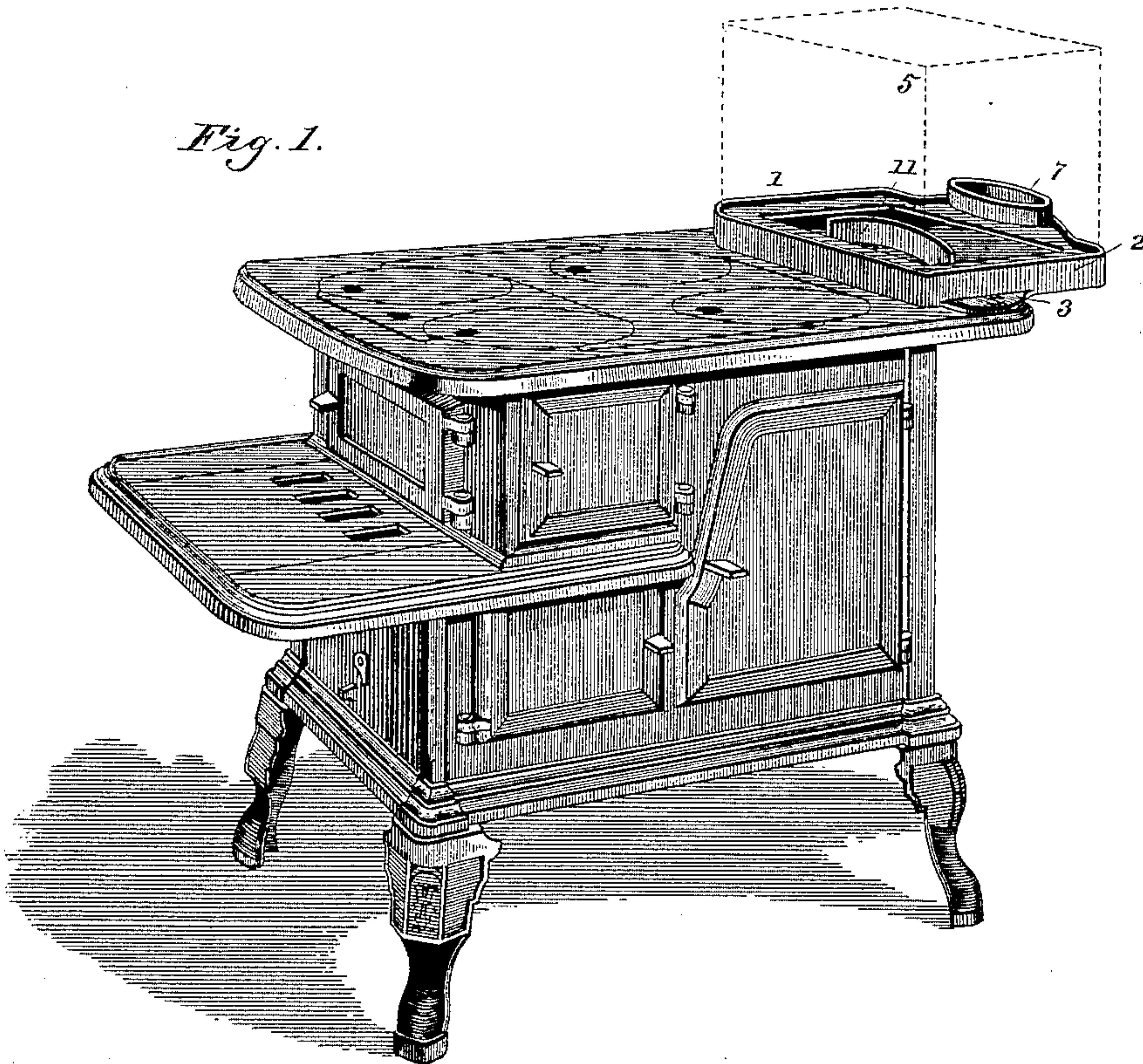
E. T. McCABE.

DETACHABLE HEATING DRUM FOR STOVES.

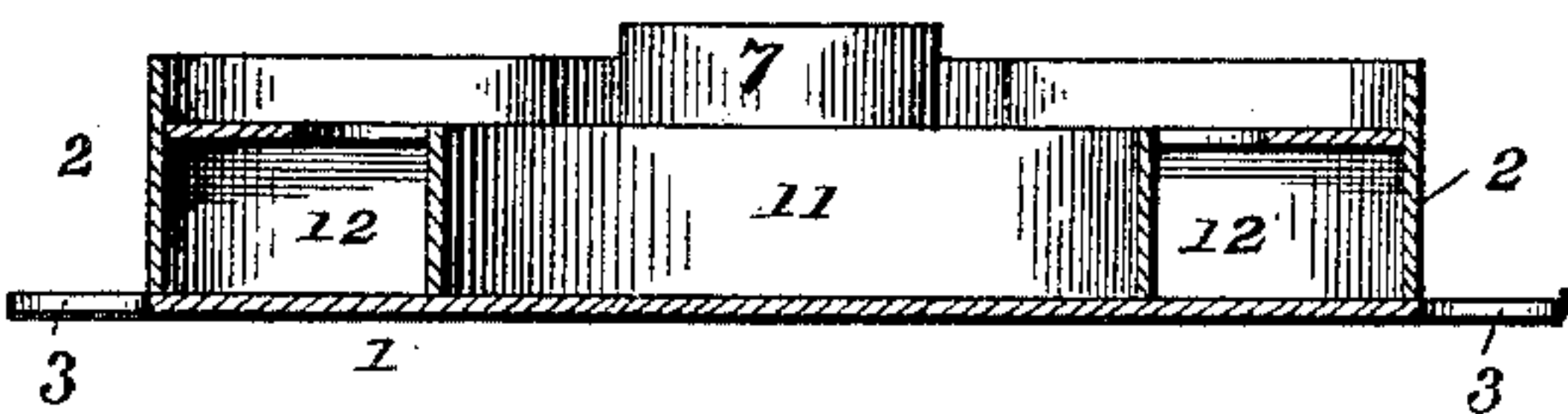
No. 450,635.

Patented Apr. 21, 1891.

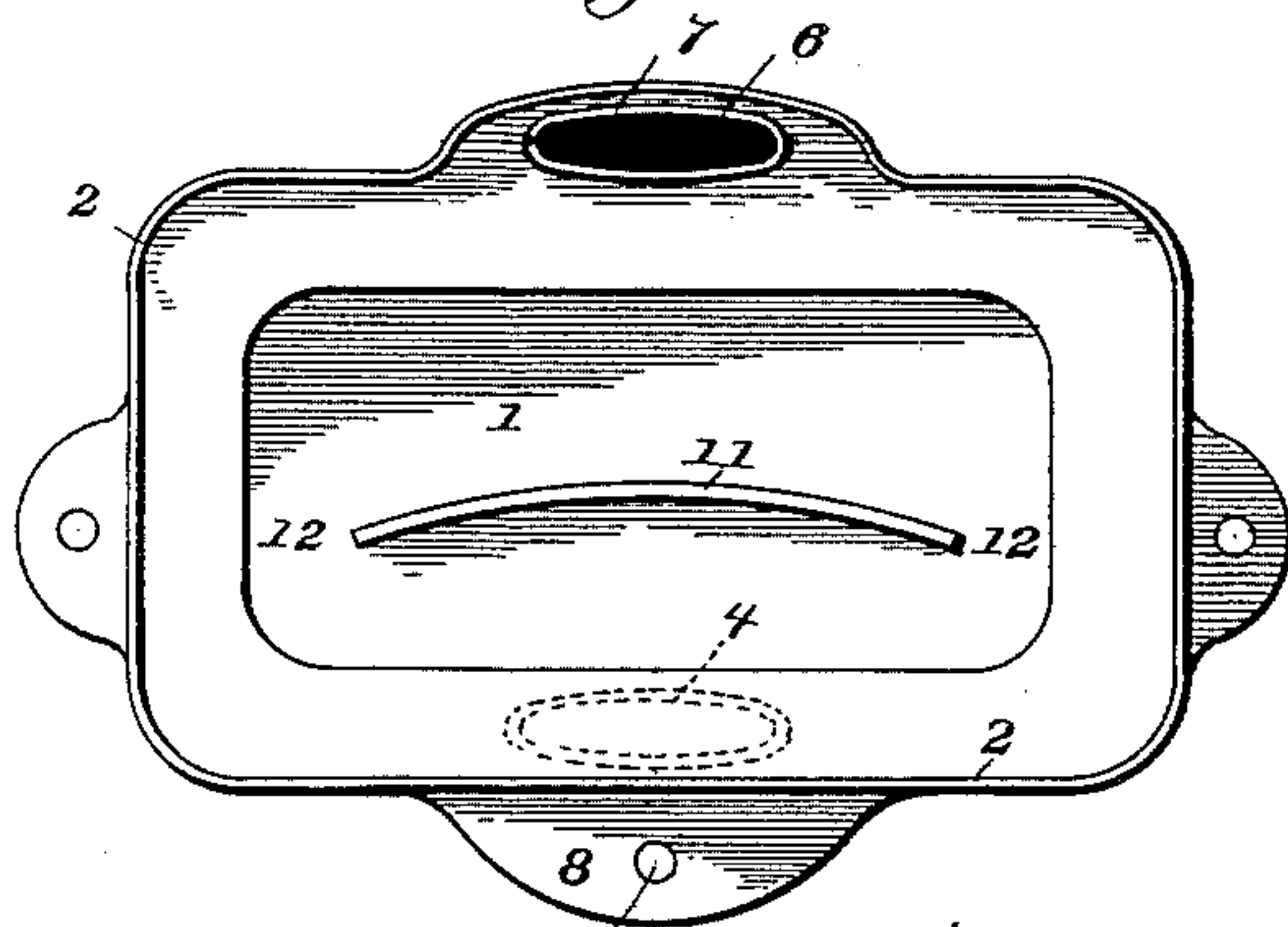
*Fig. 1.*



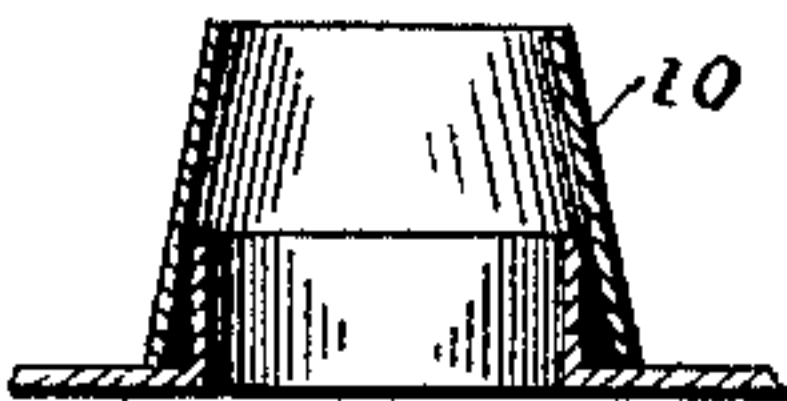
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

EDWARD T. McCABE, OF RICHMOND, VIRGINIA, ASSIGNOR OF TWO-THIRDS  
TO CANNON H. FLEMING AND WILLIAM J. LOTH, BOTH OF SAME PLACE.

## DETACHABLE HEATING-DRUM FOR STOVES.

SPECIFICATION forming part of Letters Patent No. 450,635, dated April 21, 1891.

Application filed May 2, 1890. Serial No. 350,361. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD T. McCABE, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Detachable Heating-Drums for Stoves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in heating-drums for cooking-stoves by which the waste heat or products of combustion which have performed their work in the stove proper may be utilized for various useful purposes, such as heating water, &c.

I am aware that it is not broadly new to provide a stove with a heating drum or attachment which is heated by the products of combustion from the stove, as such devices are in common use.

The object of my invention is to provide a novel construction of heating-drum which shall possess superior advantages with respect to economy, simplicity, and efficiency; and to such ends it consists in the novel construction and combination of parts hereinafter fully described, and specifically pointed out in the claim.

In the accompanying drawings, Figure 1 is a perspective view of my improved heating-drum, the base, which is secured to the stove, being shown in full lines, while the superimposed casing is shown in dotted lines. Fig. 2 is a central longitudinal section of the device. Fig. 3 is a plan view of a modified construction of the base. Fig. 4 is a detail sectional view showing means for producing a close joint between the base of the drum and the stove-pipe hole in the stove when the latter is smaller than the corresponding opening in the base.

In the said drawings, the reference-numeral 1 designates the base of the drum or heater, preferably consisting of a rectangular cast-iron base having upwardly-projecting walls 2 and with outwardly-projecting lugs 3 at its front end, having openings therein, which register with corresponding openings in the

stove, for the passage of rivets or bolts by which the base may be secured to the stove.

The numeral 4 designates an opening in the base, which fits over the stove-pipe opening in the stove.

Superimposed upon the base 1 is a rectangularly-shaped casing 5, the lower edges of which fit snugly within the walls 2, so as to form an air-tight joint therewith. This casing is preferably formed of sheet-iron, and its bottom is open, so that when placed in position on the base it forms a chamber for the reception of the products of combustion escaping from the stove through the opening 4. The top of the casing near its rear end is provided with an opening 6, with a short upwardly-projecting sleeve 7 to receive the end of an ordinary stove-pipe.

For the purpose of more securely holding the base to the stove, I provide the construction shown in Fig. 3, in which the front edge of the bottom of the base projects outwardly, forming a double-inclined flange 8 with a hole or opening 9 at the center to receive a rivet or fastening-bolt.

It may sometimes happen that when the device is applied to a stove the escape-opening thereof is larger than the corresponding opening in the base. For the purpose of making a tight joint and preventing the escape of the products of combustion into the room, I provide a short sleeve 10 of a shape and size corresponding with the opening in the base and securely attach it to the stove, as seen in Fig. 4. By these means a tight joint is provided which will effectually prevent the escape of smoke, gases, &c.

For the purpose of preventing a too rapid flow of the products of combustion through the base, I provide the bottom thereof with an upwardly-extending curved plate 11, which forms a heat-retarder. This plate is located intermediate of the stove-opening and the smoke-opening in the base, with passage-ways 12 between its ends and the inner sides of the casing.

The top of the casing may be solid, or it may be provided with an opening to receive the vessel containing the water to be heated, in which latter case a suitable cover should



be provided for closing the opening when the vessel is removed.

The operation will be readily understood. The base is securely fixed to the stove by means of rivets or bolts passing through the lugs and through the rear top edge of the stove. The casing is then placed on said base with its lower edges resting within the upright walls 2, and with the opening in the top connected with an ordinary stove-pipe. The products of combustion, after performing their work in the stove, will escape into the casing, being retarded in their flow by the heat-retarder and will heat the casing and vessel placed thereon and finally escape through the stove-pipe.

The invention is designed, principally, for heating water which is contained in vessels or receptacles placed upon the top of the casing. It is obvious, however, that it may be used for various other useful purposes.

The casing being detachable from the base, it can be readily removed for the purpose of cleaning or repairing, and the whole structure can be readily detached from the stove.

In most heating-drums as ordinarily constructed the stove-pipe itself passes through the casing, so that the latter is heated by the heat radiated from the pipe. This is a very

ineffective manner of heating the drum, as most of the heat and products of combustion are wasted as they pass through the pipe without parting with their caloric. By my invention, however, the drum is heated directly by the products of combustion from the stove, whereby a great saving is effected by a more thorough utilization of the waste heat.

Having thus described my invention, what I claim is—

A detachable heating-drum for stoves, consisting of a suitable base having an upright surrounding wall to form a heat-chamber and an inner projecting flange at the upper edge of said wall for supporting a vessel or reservoir, the said chamber having an opening to communicate with the flue-opening of a stove and a similar opening for receiving a stove-pipe and having in its bottom a deflector for causing the products of combustion from the stove to be spread throughout the chamber, substantially as described.

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

EDWARD T. McCABE.

Witnesses:

F. P. LOTH,  
WM. WEBB.