(No Model.) 3 Sheets—Sheet 1.

J. McCONNELL.

OIL STOVE.

No. 276,187. Patented Apr. 24, 1883.

Fig. 1.

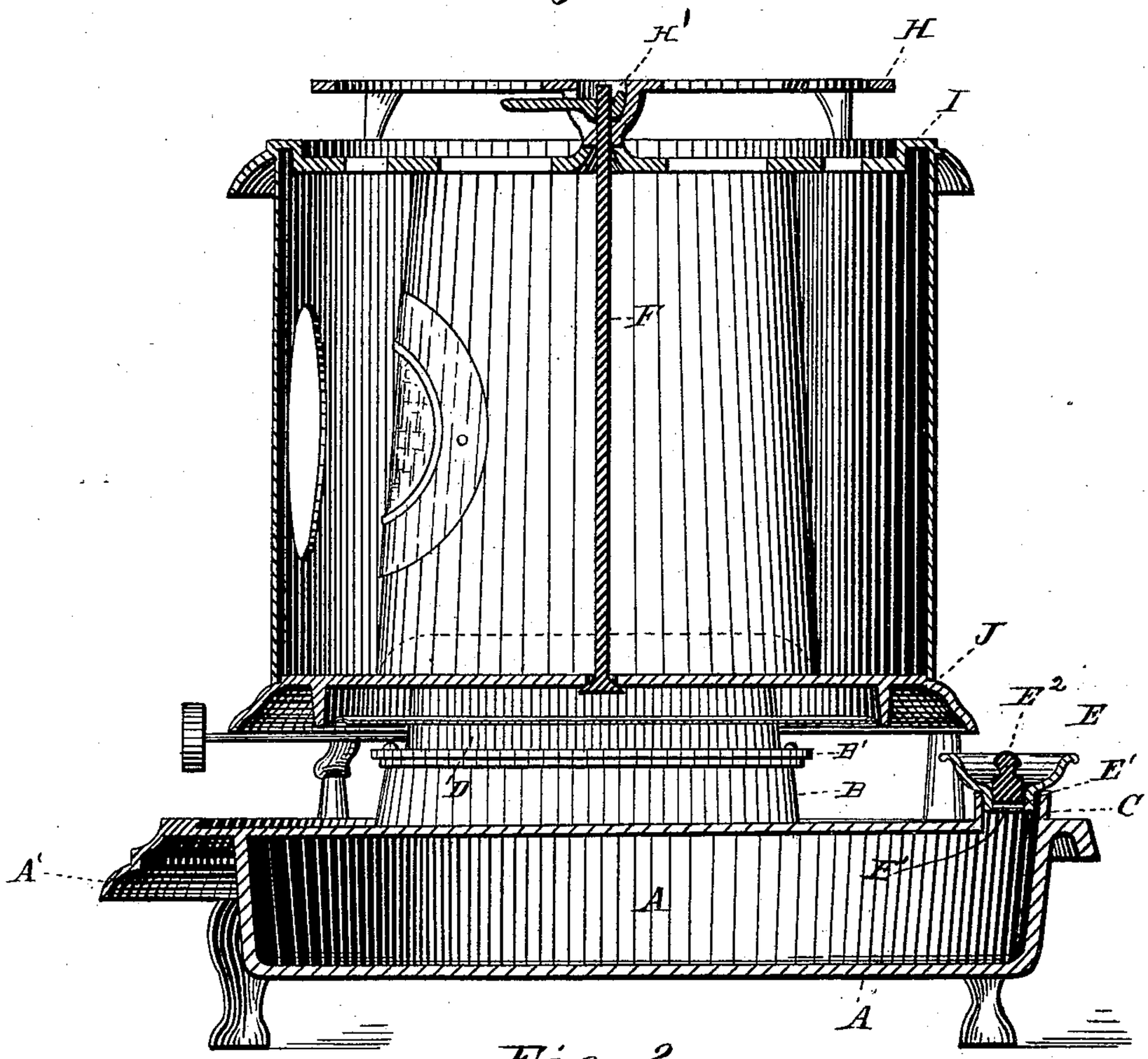
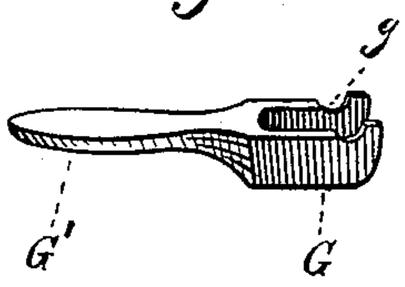


Fig. 2.

Fig. 3.



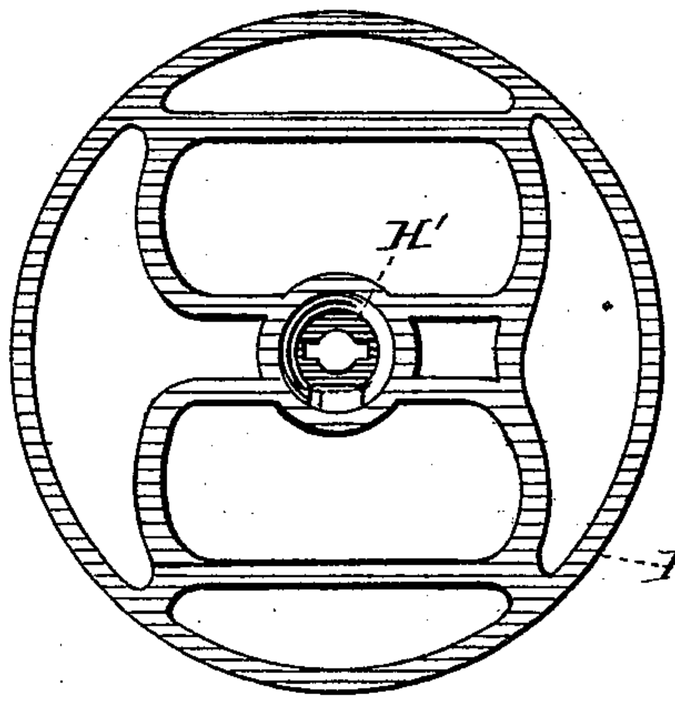
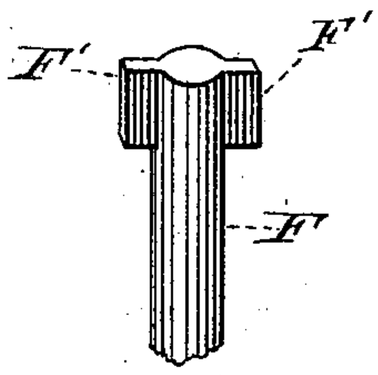


Fig. 4.



WITNESSES

W. Engel

Jno. Crowell Jr.

John McConnell INVENTOR

By Leggett & Leggett

ATTORNEYS

(No Model.) 3 Sheets—Sheet 2.

J. McCONNELL.

OIL STOVE.

No. 276,187. Patented Apr. 24, 1883.

Fig. 5.

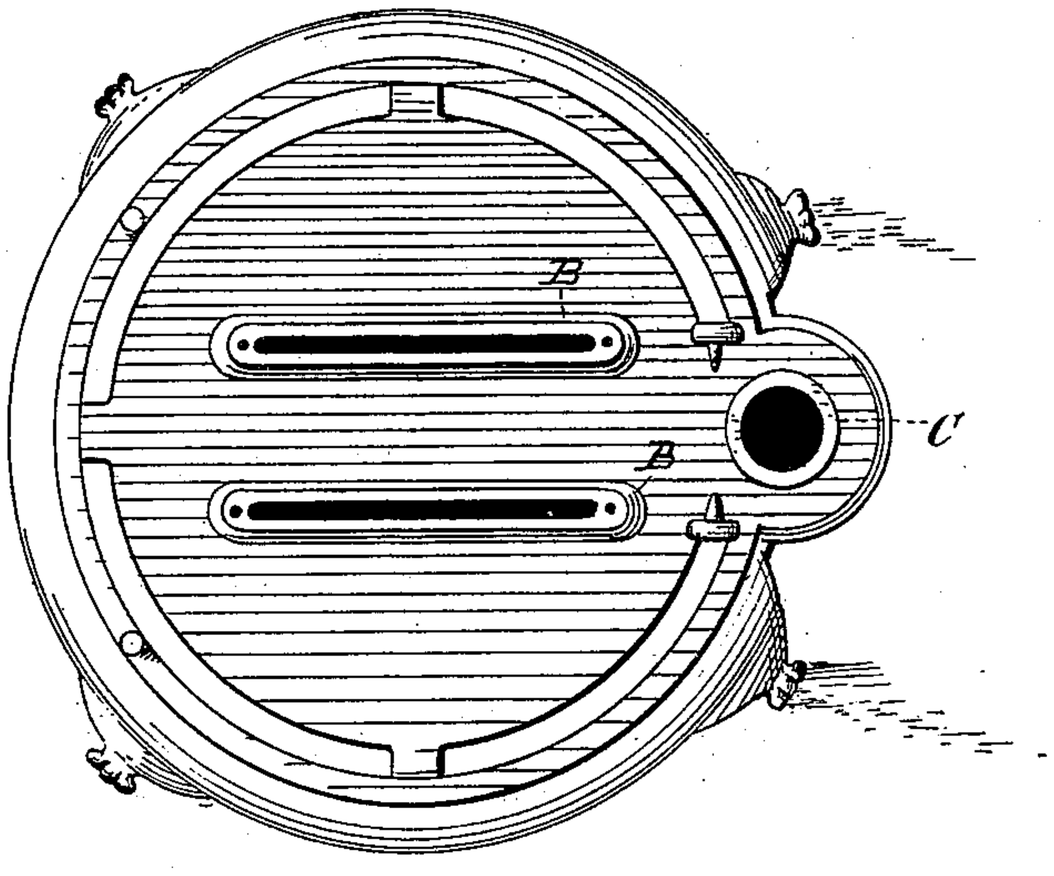


Fig. 6.

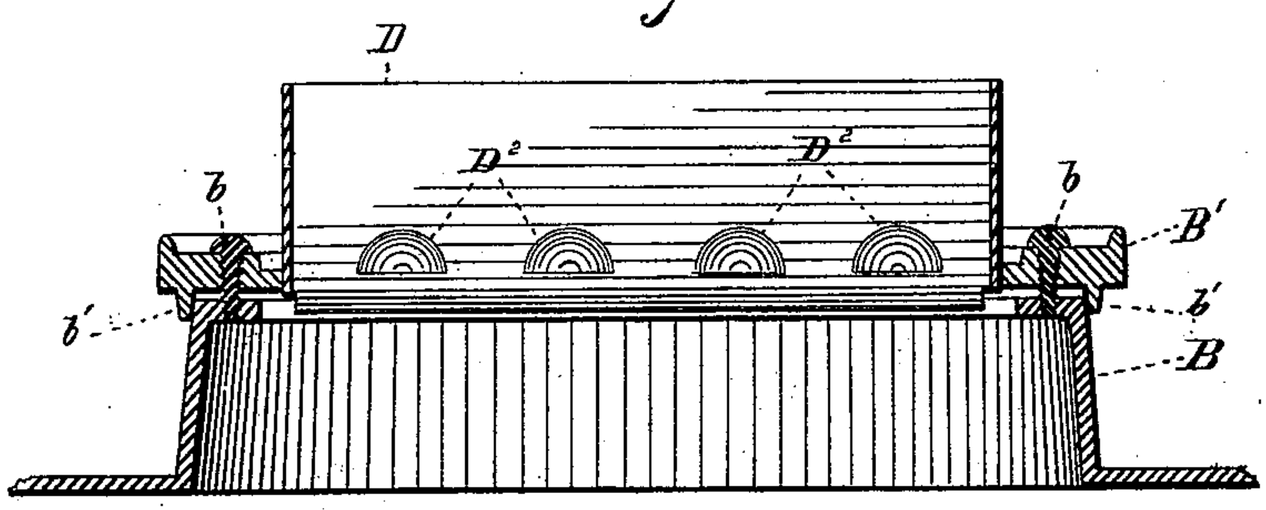
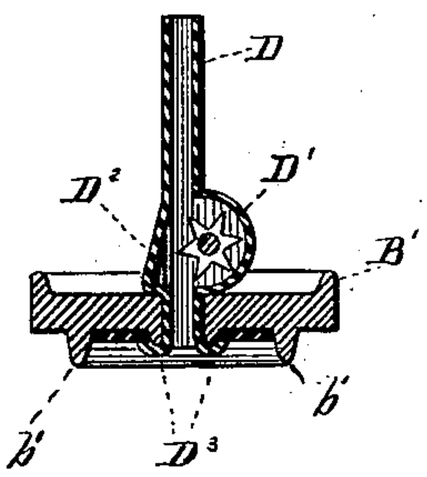


Fig. 7.



WITNESSES

W. Engel

Jno. Crowell Jr.

Jno. McConnell INVENTOR

By Liggett & Liggett

ATTORNEYS

(No Model.) 3 Sheets—Sheet 3.

J. McCONNELL.

OIL STOVE.

No. 276,187. Patented Apr. 24, 1883.

Fig. 8.

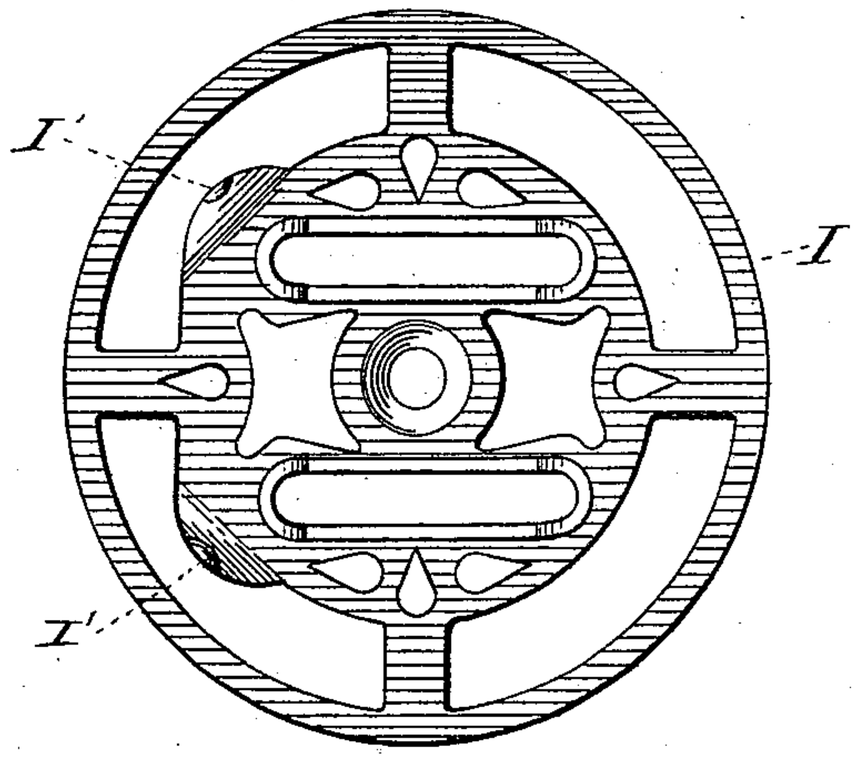


Fig. 9.

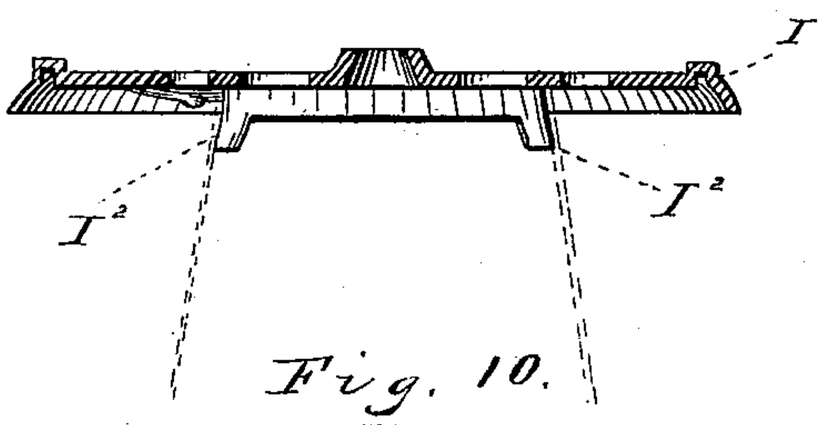
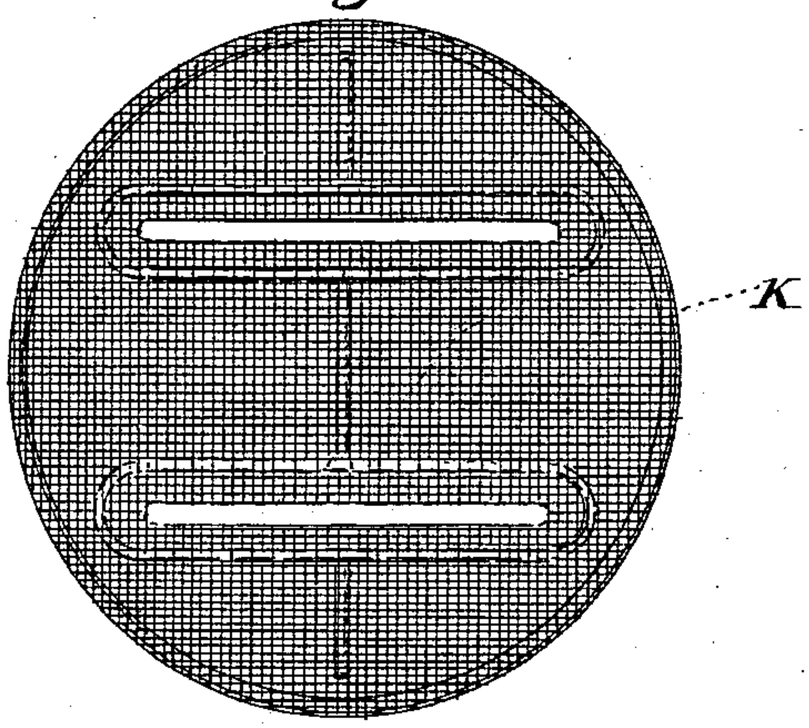


Fig. 10.



WITNESSES

W. Engel

Jno. Cowell Jr.

Jno. McConnell. INVENTOR

By Liggett & Liggett

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN McCONNELL, OF CLEVELAND, OHIO.

OIL-STOVE.

SPECIFICATION forming part of Letters Patent No. 276,187, dated April 24, 1883.

Application filed November 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN MCCONNELL, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Oil-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 pertains to make and use the same.

My invention relates to oil-stoves; and it consists in construction and arrangement of parts that will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is a vertical sectional view of an oil-stove constructed according to my invention. Fig. 2 is a detached plan view of the vessel-support. Fig. 3 is a detached view of my improved key for locking and retaining the bolt which holds the parts of the drum together. Fig. 4 is a detached view of the upper end of the bolt, constructed to be operated in conjunction with the key shown in Fig. 3. Fig. 5 is a detached plan view of the reservoir portion of my improved stove. Fig. 6 is a detached vertical sectional view of a flange or collar cast integral with the reservoir and provided with a removable cap or cover, to which latter are secured the wick-tubes. Fig. 7 is a detached view, in cross-section, of the lower portion of the wick-tube and the cap or cover of the flange. Fig. 8 is a detached plan view of the top plate of the drum. Fig. 9 is a vertical sectional view of the same. Fig. 10 is a detached plan view of the perforated diaphragm of my stove.

In the said drawings, A represents the reservoir, which is cast integral with the depending flange A′ and the upright flanges B B. By this manner of construction leaky joints are wholly avoided, as there is no possibility of oil finding an outlet from the reservoir, except through openings at the filling-tube C and the vertical flanges B B.

To the vertical flanges B B, as shown in Figs. 5 and 6 of the drawings, are removably attached plates B′ by means of screws *b* passing through the plate and entering the vertical flanges B. In order to render this joint perfectly tight and also to serve the purpose of a non-conductor of heat, I introduce a washer between the plate B′ and the flange B. This plate B′ is cast with a recess or receptacle on its upper surface, adapted to catch and retain any oil that may be drawn up by capillary attraction through the wicks and overflow from the top of the wick-tube. In order to render the joint between the cap B′ and the flange B perfectly tight and rigid, I provide the cap B′ with a depending flange, *b′*, adapted to surround the flange B. A valuable feature of this construction of reservoir, wick-tubes, and cap is the fact that the interior of the reservoir is easily accessible, if desired. Another is that the wick-tubes can be easily detached and repaired or new ones substituted without sending the whole stove back to the factory for repairs, it only being necessary to detach the cap B′ by removing the screws *b b*.

In Fig. 7 is shown my manner of securing the wick-tube D to the plate B′. This consists in adapting the projection or housing D, which contains the spur-wheels for raising or lowering the wick, to rest upon the top of the plate, thus forming a support upon that side. Upon the opposite side of the wick-tube are formed projections D^2, which rest upon the plate, the housing and the projections D^2 forming a rigid support for the opposite sides of the wick-tube. The wick-tubes are then secured to the plate by bending the edges against the bottom, as shown at D^3, Fig. 7. If oil should gather in the recesses of the plate B′, the joints about the flanges D^2 with the plate are sufficiently open to permit its free passage to the reservoir below.

I use in connection with this stove a filler, which consists of a removable funnel, E, (shown in Fig. 1,) adapted to rest in the flange C of the reservoir. This funnel is preferably provided with corrugations upon its outer surface to permit the escape of gas from the reservoir and permit its fitting closely in the flange C. To the bottom of this funnel is permanently secured a strainer, E′, consisting of perforated sheet metal or wire-gauze, to prevent the passage of any foreign matter to the reservoir during the process of filling. This funnel may also be provided with a suitable plug or stopper, E^2.

Another of the improvements in my stove consists in the devices for attaching the upper and lower plates of the drum. Heretofore it has been customary to unite these portions of an oil-stove by means of an ordinary screw

tie-rod having its lower end connected to the bottom plate and its upper end screw-threaded and extending through the top plate to receive a nut above said plate. After a stove constructed in this manner has been used for any length of time the bolt becomes rusty, and it is almost impossible to remove it and open the stove for the purpose of cleaning its interior. By means of our device the drum can be readily taken apart at any time. This improvement consists in providing the bolt F with the flanges F′ F′, as shown in Fig. 4, and also using in connection therewith a key, G, (shown in Fig. 3,) which consists of a bifurcated cam provided with recesses *g*, in which the flanges F′ of the bolt F may rest. It is also provided with any suitable handle, G′, for manipulating it.

The operation of this portion of my device is to pass the bolt through the drum, and, if desired, through the vessel-support H. When used in connection with the vessel-support we cast a recess, H′, in the vessel-support, adapted to receive the end of a bolt, F, and the key G, so that the bolt or key will not project beyond the upper surface of the vessel-support, the wall of the recess having a suitable aperture formed therein for the insertion of the key. If, on the other hand, it is preferred to lock the upper and lower plates, I and J, of the drum together independently of the vessel-support, the key may rest directly upon the top plate of the drum, the flanges F′ being properly arranged to engage said key. In this arrangement the vessel-support will not have a recess and depending portion.

Another feature of my improved stove is the construction of the upper plate, I, of the drum. In cooking over an ordinary oil-stove provided with the usual drum, when the food being cooked overflows for any reason, it is liable to fall at once in and about the wick-tubes, which interferes seriously with the correct working of the stove; and to avoid this we provide on this upper plate, I, lips I′, which are in the nature of conduits to conduct liquid away from the chimneys and wick-tubes and permit it to drop outside of the same, but within the drum, as shown in Fig. 8 of the drawings. Another improved feature of this plate I is the downwardly-projecting flanges I^2. In the ordinary construction of stoves of this character there is a depending flange from the upper plate. When the plate is lifted from the drum the chimneys at once separate from the plate. The object of this portion of my invention is to present a bearing sufficiently extended to sustain the chimney without its being readily separated, and this is accomplished by flaring the flange I^2 outwardly, so that when the upper end of the chimney is compressed about this flange it will be firmly attached thereto, the object of this portion of my invention being that, when it is desired to take the drum apart for the purpose of cleaning, the chimneys will be sustained by and remain connected with the upper plate, and when being put together the chimneys may first be placed in position over the flanges on the upper plate and subsequently handled without danger of their becoming separated therefrom. The perforated diaphragm of oil-stoves of this class is strengthened materially by means of corrugations, as shown in Fig. 10 of the drawings. This strengthening consists in surrounding the opening through which the wick-tubes pass with one or more corrugations, and also extending a corrugation through the center of the same.

What I claim is—

1. In an oil-stove provided with a drum, the combination, with the top and bottom plates of the drum, of the bolt-rod F, having flanges F′, and the bifurcated key G, having its prongs arranged to engage under said flanges, substantially as described, and for the purpose set forth.

2. The combination, with the top plate of the drum and the chimney, of the outwardly-flaring depending flange I^2, embraced by the top of the chimney, substantially as and for the purpose set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 14th day of November, 1882.

JOHN McCONNELL.

Witnesses:
JNO. CROWELL, Jr.,
ALBERT E. LYNCH.