

No. 859,217.

PATENTED JULY 9, 1907.

J. H. HANSON.  
STOVE, FURNACE, OR DRUM.  
APPLICATION FILED JULY 16, 1906.

FIG. 1.

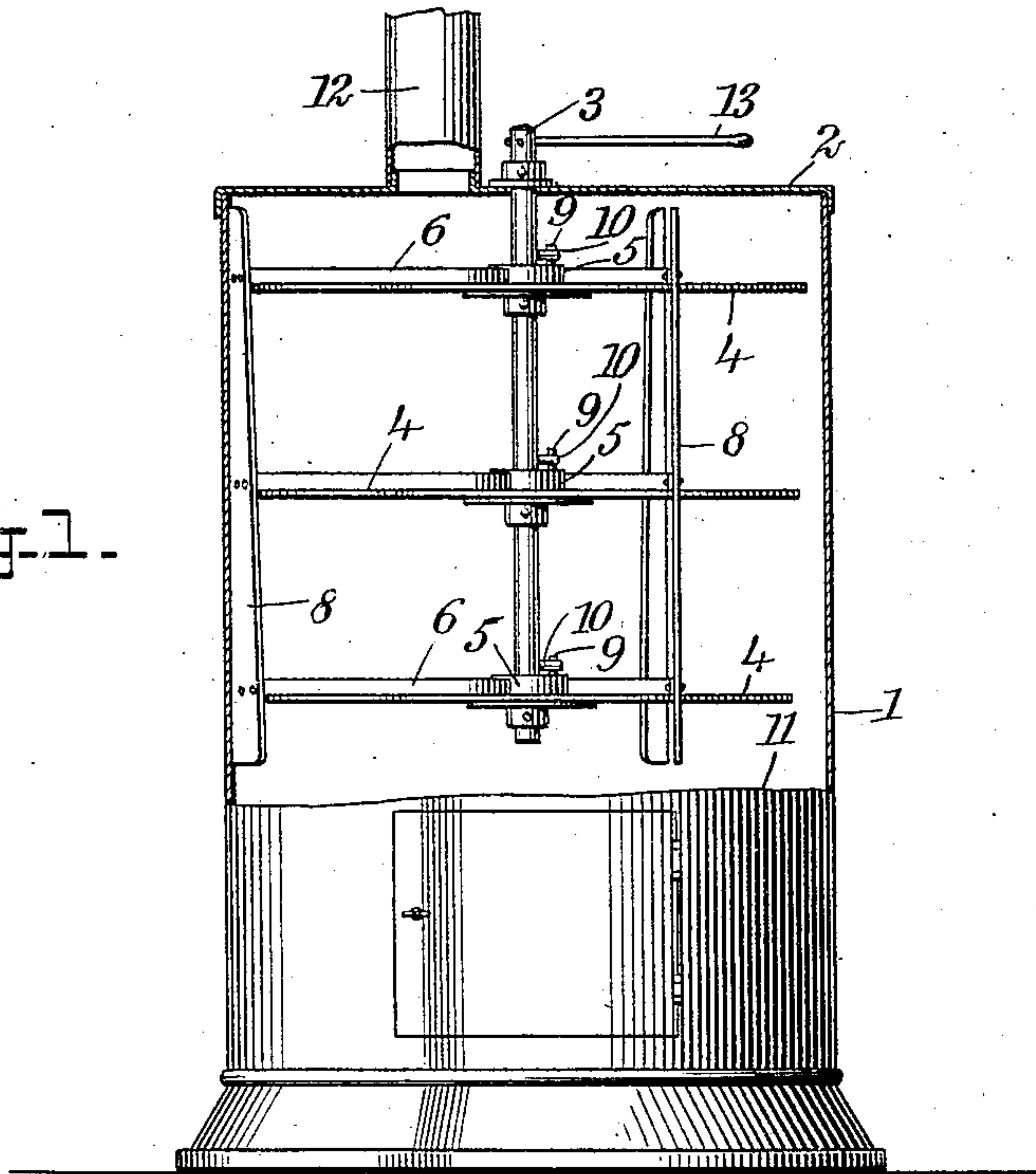
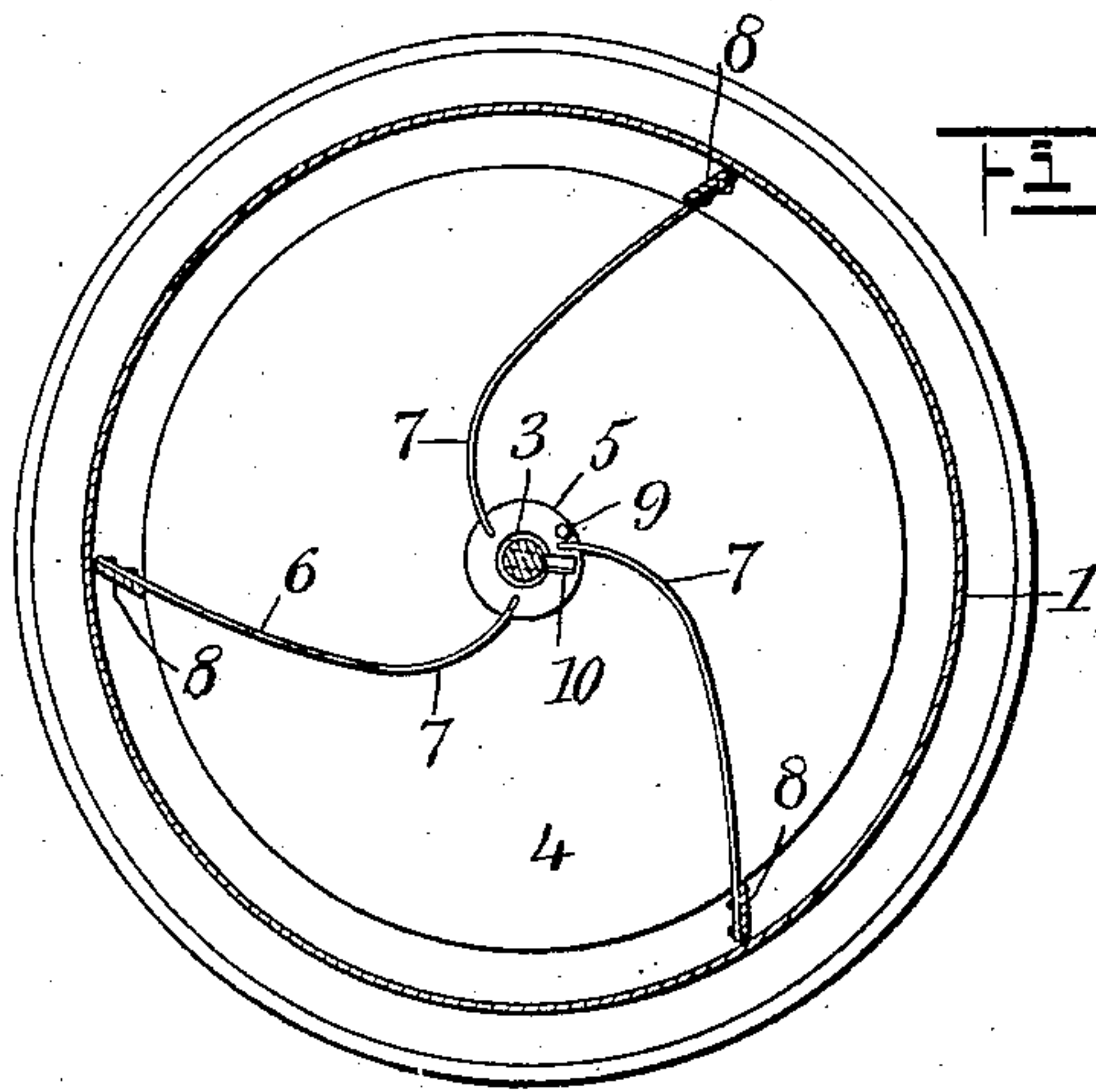


FIG. 2.



WITNESSES

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# UNITED STATES PATENT OFFICE.

JOHN H. HANSON, OF AITKIN, MINNESOTA.

## STOVE, FURNACE, OR DRUM.

No. 859,217.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed July 16, 1906. Serial No. 326,356.

*To all whom it may concern:*

Be it known that I, JOHN H. HANSON, a citizen of the United States, and a resident of Aitkin, in the county of Aitkin and State of Minnesota, have invented a new and Improved Stove, Furnace, or Drum, of which the following is a full, clear, and exact description.

This invention relates to stoves, furnaces or drums, and the object of the invention is to produce a construction which will be an efficient heater while consuming a small amount of fuel.

The invention consists in the construction and combination of parts, to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters, of reference indicate corresponding parts in both figures.

Figure 1 is a front elevation of a stove constructed according to my invention, the upper portion of the stove being represented in section; and Fig. 2 is a horizontal cross section through the stove constructed as shown in Fig. 1.

Referring more particularly to the parts, 1 represents the body of the stove, which is preferably of cylindrical form as shown. On the cover plate 2 of this stove there is rotatably mounted a vertical spindle 3 which projects downwardly into the interior of the stove and on the central axis thereof. Upon this spindle I attach a plurality of disks or baffle plates 4 which are of slightly less diameter than the interior of the cylinder 1. There may be three of these disks or baffle plates as shown, disposed an equal distance apart. On the face of each disk there is mounted loosely on the spindle 3 a hub 5, and these hubs are provided each with a plurality of substantially radially extending arms 6. These arms, near their extremities which attach to the hubs, are curved as shown at 7, while their outer extremities are substantially straight and incline in the same general direction with respect to a radius of the disks. To the extremities of these arms scrapers 8 are attached, which scrapers are disposed in a vertical position and lie against the inner face of the cylinder of the stove as shown. It will be seen that these scrapers consist simply of elongated plates or strips, the inner edges whereof lie adjacent to the edges of the disks. Upon each of the hubs 5 I provide a pin 9, and in the same horizontal plane with each of these pins the aforesaid spindle 3 is provided with an outwardly projecting finger 10, there being one of these fingers to correspond with each of the pins 9.

The lower portion of the cylinder 1 constitutes a fire box or fire pot 11. The gases of combustion pass

upwardly through the cylinder in the annular spaces 55 between the edges of the disks 4 and the cylinder, the said gases escaping through a pipe 12 passing through the cover as shown. The upper extremity of the spindle 3 which projects above the cover 2 is provided with a handle 13 which enables the spindle 60 to be rotated when desired.

With a stove of this construction, the hot gases are brought into close contact with the outer wall of the stove so as to give ample opportunity for the wall of the stove to absorb the heat from them. Furthermore, the arrangement of the disks 4 tends to choke the flow to a certain extent so as to give time for this heat absorption. However, there is no danger of an actual choking of the draft, for the reason that the area of the annular spaces surrounding the disks 70 through which the gases pass, is always equal to or more than equal to the area of the stove pipe.

Provision is made for the reduction in volume of the gases as they pass upwardly through the stove, which reduction in volume results from the absorption of heat which takes place. This provision consists simply in making the upper disks of larger diameter than the lower disks, so that the annular spaces through which the gases pass becomes reduced.

While I have referred to the vertical strips 8 as the scrapers, it should be understood that the scrapers really include the arms 6 which scrape across the faces of the disks in a manner which will be described presently.

When it is desired to clean the interior of the stove, 85 by rotating the spindle 3 by means of the handle 13 in a left hand direction, as viewed in Fig. 2, the fingers 10 will eventually come in contact with the pins 9 carried by the hubs 5. The arms 6 will then be rotated and the strips 8 will scrape the soot or other deposit from the wall of the cylinder. By rotating the spindle 3 in the opposite direction, there is a relative rotation between the arms 6 and the disks, so that the arms will scrape across the faces of the disks in a direction which tends to throw the soot into the annular 95 spaces surrounding the disks. For this reason the arms 6 are inclined as shown toward their outer extremities. The inner edges of the strips 8 scrape along the edges of the disks so that these parts may also be kept clean. The width of the annular spaces 100 surrounding the disks preferably decreases in a regular manner upwardly, so that I am enabled to use scraper strips 8 which taper regularly as shown, diminishing in width toward their upward extremities.

Having thus described my invention, I claim as 105 new and desire to secure by Letters Patent:

1. In a stove or furnace, in combination, a body of substantially cylindrical form, a vertical spindle rotatably



mounted in said body in a substantially central position, a plurality of baffle plates mounted on said spindle and obstructing the upward flow of gases from the interior portion of said body, a plurality of scrapers adapted to scrape the inner face of the wall of said body and the faces of said baffle plates, and means for actuating said scrapers by rotating said spindle.

2. In a stove or furnace, in combination, a substantially cylindrical body, a vertical spindle rotatably mounted therein in a substantially central position, a plurality of substantially circular baffle plates carried rigidly by said spindle, scrapers having hubs loosely mounted on said spindle, arms attached to said hubs and lying upon the upper faces of said baffle plates, scraper strips attached to said arms and engaging the wall of said body, and means for rotating said hubs by rotating said spindle.

3. In a stove or furnace, in combination, a body, a plurality of baffle plates, a rotatable spindle carrying the

same, scrapers carried by said spindle, and means whereby said scrapers may have a limited angular movement with respect to said baffle plates.

4. In a stove or furnace, in combination, a substantially cylindrical body, a spindle rotatably mounted therein, a plurality of substantially circular baffle plates carried by said spindle, scrapers having hubs loosely mounted on said spindle, arms extending from said hubs and lying on said baffle plates, scraper strips attached to said arms and adapted to scrape the edges of said baffle plates and the inner face of the wall of said body, and projections carried by said spindle and said hubs for rotating said scrapers.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN H. HANSON.

Witnesses:

LOUIS HALLUM,

E. E. REYNOLDS.