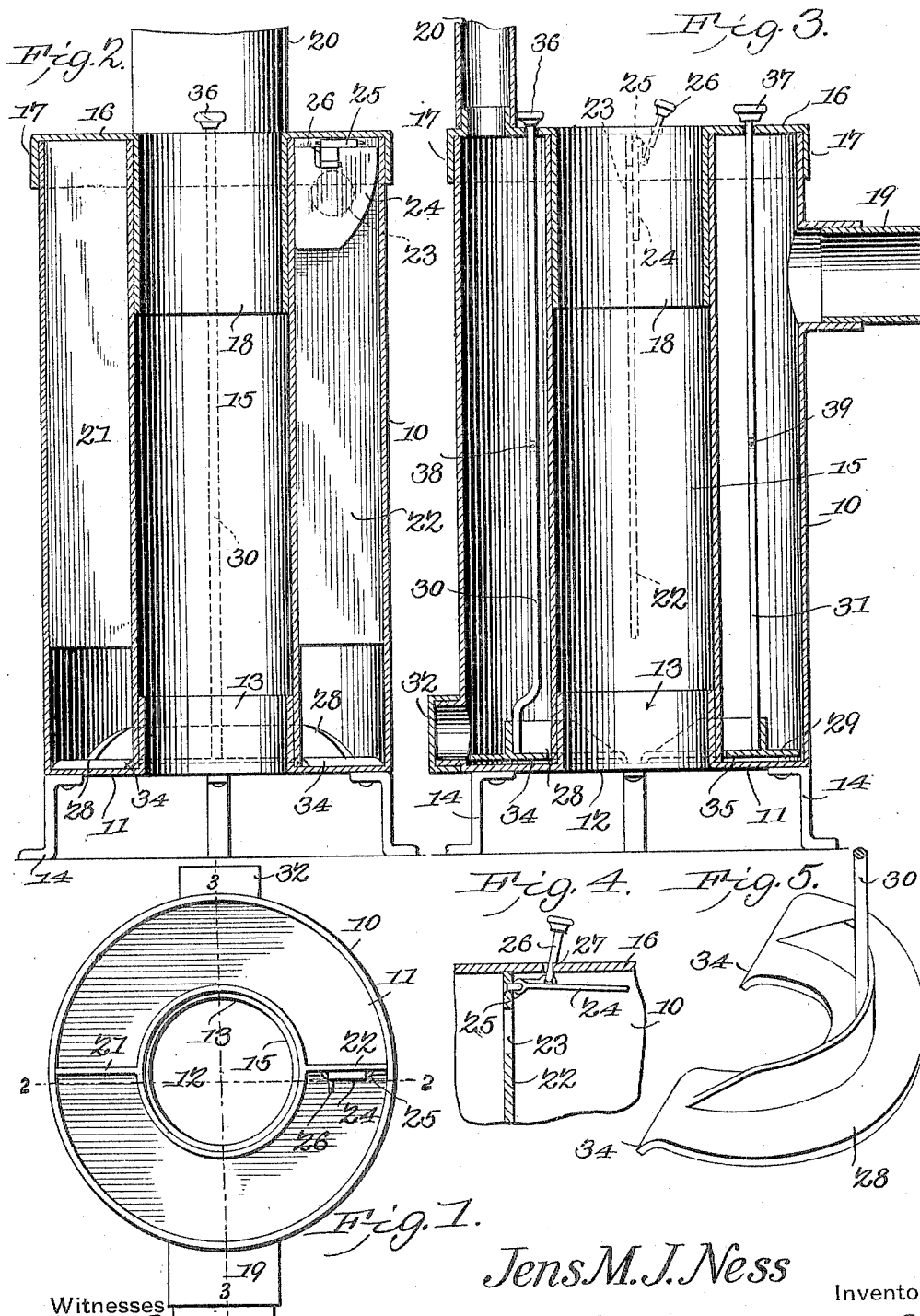


No. 817,185.

PATENTED APR. 10, 1906.

J. M. J. NESS.  
HEATING DRUM.

APPLICATION FILED APR. 29, 1905.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JENS M. J. NESS, OF MADDOCK, NORTH DAKOTA.

## HEATING-DRUM.

No. 817,185.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed April 29, 1905. Serial No. 258,077.

*To all whom it may concern:*

Be it known that I, JENS M. J. NESS, a citizen of the United States, residing at Maddock, in the county of Benson and State of North Dakota, have invented a new and useful Heating-Drum, of which the following is a specification.

This invention relates to heating-drums, more particularly of the class associated with stoves of various kinds, whereby the otherwise waste heat passing through the smoke-flues from the same is utilized for heating the air passing through and around the drum.

In the drawings thus employed, Figure 1 is a top plan view of the improved device with the cover portion removed. Fig. 2 is a longitudinal section on the line 2 2 of Fig. 1. Fig. 3 is a similar view on the line 3 3 of Fig. 1. Fig. 4 is an enlarged detail illustrating the construction and manner of operating the damper. Fig. 5 is a perspective view of one of the scraper members detached.

The improved device comprises an outer shell 10, having a closed bottom 11, with a central aperture 12, surrounded by an upwardly-extending flange 13 and supported upon legs 14. Bearing over the flange 13 is an inner shell 15, and supported upon the upper ends of the two shells is an annular closure 16, having an outer flange 17 bearing over the outer shell 10 and an inner flange 18 bearing within the inner shell 15, the whole forming an annular chamber closed at the ends and with a central opening throughout. The intake-flue 19 enters the outer shell at one side near the top, and the discharge-flue 20 rises from the closure member 16 at the opposite side.

Disposed between the shells 10 15 and also between the intake-flue 19 and discharge-flue 20 are deflector-wings 21 22, extending downwardly from the closure member 16 and entirely closing the space between the shells at the upper part, but stopping short of the bottom 11, as shown, so that the products of the combustion will be caused to pass downwardly at one side of the wings and upwardly at the other side before they can escape by the flue 20. The deflecting-wing 22 is provided with an aperture 23 near the closure 16, and a damper 24 is hinged at 25 to the wing for covering and uncovering this aperture, the function of the damper being to provide a direct draft between the flues 19 and 20, as will be obvious. A rod 26 extends from the damper 24 through an aperture in

the closure 16 to provide means for operating the same, and the rod is provided with a recess 27 to engage the edge of the aperture and hold the damper in open position when required.

Disposed between the shells 10 and 15 are segmental scraper members 28 29, provided, respectively, with operating-rods 30 31, extending through the closure 16 to enable the soot, ashes, and other sediment to be detached from the walls of the shells and removed through a "clean-out" at 32. A combined rotary and oscillatory movement of the rods 30 31 will tilt the segmental scrapers and cause them to slide rotatively about the inner shell 15, providing thereby means whereby every part of the interior may be reached and scraped by the various reciprocatory, oscillatory, and rotary movements in connection with the downturned ends 34. The terminals 34 35 of the scraper members are bent downwardly, as shown, so that as the scrapers are manipulated by the rods 30 31 the adhering matter will be carried around the inner shell beneath the lower ends of the wings in position to be reached by a suitable implement inserted through the clean-out. The apertures in the closure 16, through which the rods 30 31 pass, will be sufficiently large to permit some lateral play to the same to enable the scraper members to have a corresponding lateral and rotative movement to reach all parts of the interior of the shells, and thus effectually remove all adhering soot or ashes.

The rods 30 31 will be provided with relatively large terminal knobs 36 37 to not only provide means for operating the rods, but also to cover the apertures through which they pass when not in use, and thus prevent the escape of smoke or gas and for rotating the rods 30 31 and the scrapers.

The rods 30 31 may be jointed, as at 38 39, to enable them to be folded when the device is erected in rooms with low ceilings or in other localities where obstructions may occur above the drum.

The construction of the device as herein shown and described enables the same to be readily dismembered when required, so that all the parts are readily accessible for renewal or repairs.

The device may be of any required size or of any required material.

Having fully described the invention, what is claimed is—

1. A heating-drum comprising an outer and inner shell spaced apart and with the outer shell closed at the ends and with an intake-flue at one side and a discharge-flue at the other side of the outer shell near the top, deflector-wings within said outer shell and extending from the closed top downwardly, segmental scrapers disposed within said outer shell at opposite sides of said wings and normally upon the bottom of the shell, and rods connected to said scraper members and extending through the closed top of said outer shell.

2. A heating-drum comprising an outer and inner shell spaced apart and with the outer shell closed at the ends and with an intake-flue at one side and a discharge-flue at the other side of the outer shell near the top, deflector-wings within said outer shell and extending from the closed top downwardly, segmental scrapers disposed within said outer shell at opposite sides of said wings with their terminals bent downwardly, and rods connected to said scraper members and extending through the closed top of said outer shell.

3. A heating-drum comprising an outer and inner shell spaced apart and with the outer shell closed at the ends and with an intake-flue at one side and a discharge-flue at the other side of the outer shell near the top, deflector-wings within said outer shell and

extending from the closed top downwardly, segmental scrapers disposed within and normally at the bottom of said outer shell at opposite sides of said wings, and rods connected to said scraper members and extending through the closed top of said outer shell and jointed intermediately.

4. A heating-drum comprising an outer and inner shell spaced apart and with the outer shell closed at the ends and with an intake-flue at one side and a discharge-flue at the other side of the outer shell near the top and with a "clean-out" flue leading through the wall of said outer shell at the bottom, deflector-wings within said outer shell and extending from the closed top downwardly, segmental scrapers disposed within and normally substantially at the bottom of said outer shell at opposite sides of said wings, rods connected to said wings and extending through said upper closure member with knobs upon the upper ends, the apertures for said rods being relatively large and covered by the knobs when the scraper members are not in use.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JENS M. J. NESS.

Witnesses:

ALECK HARALDSON,  
COR. SYVERSON.