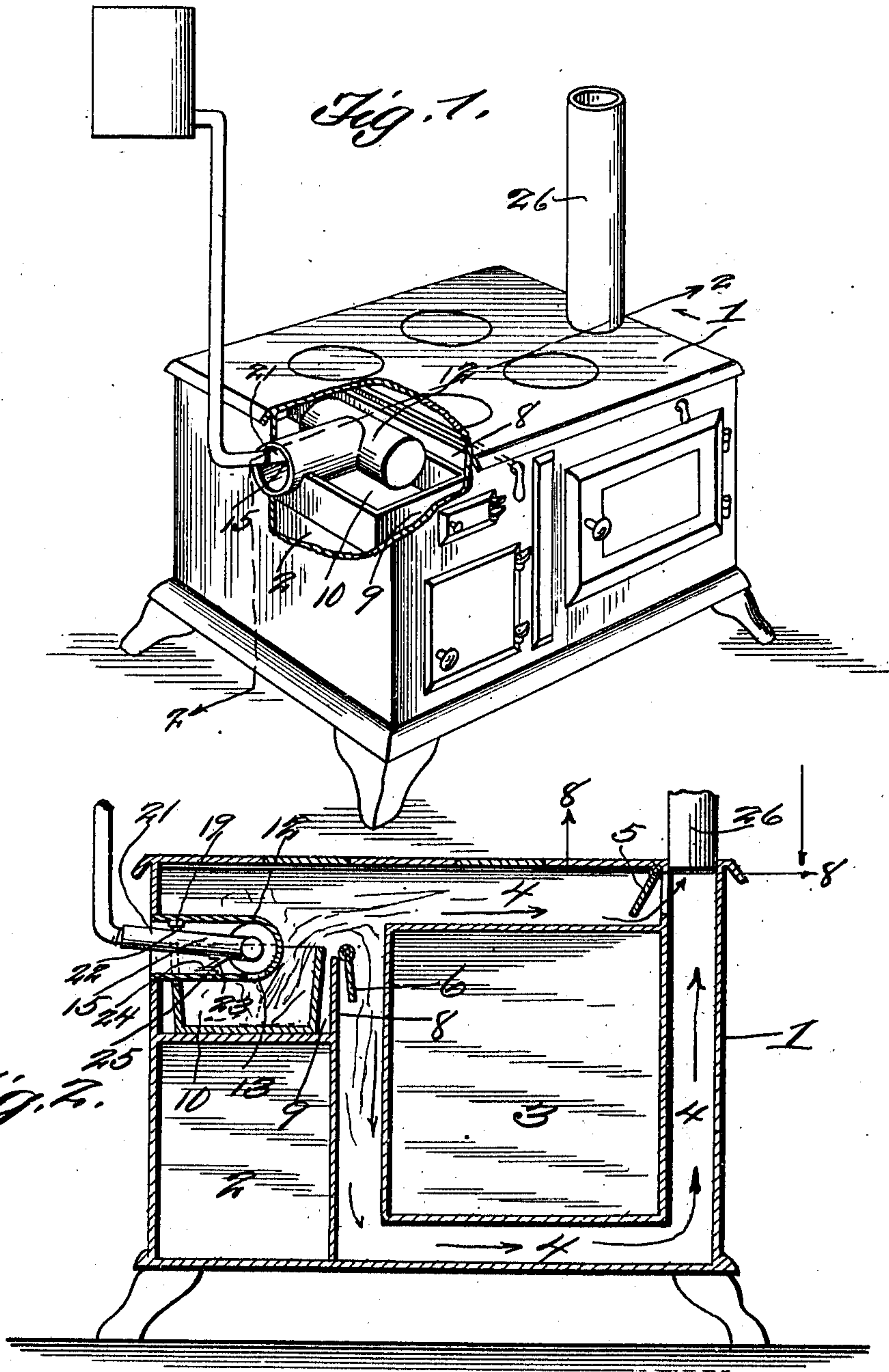


J. A. BABB & B. A. McDONALD.
COMBINATION BURNER AND STOVE.
APPLICATION FILED MAR. 2, 1910.

980,182.

Patented Jan. 3, 1911.

3 SHEETS-SHEET 1.



Witnesses

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3 SHEETS-SHEET 2.

Fig. 3

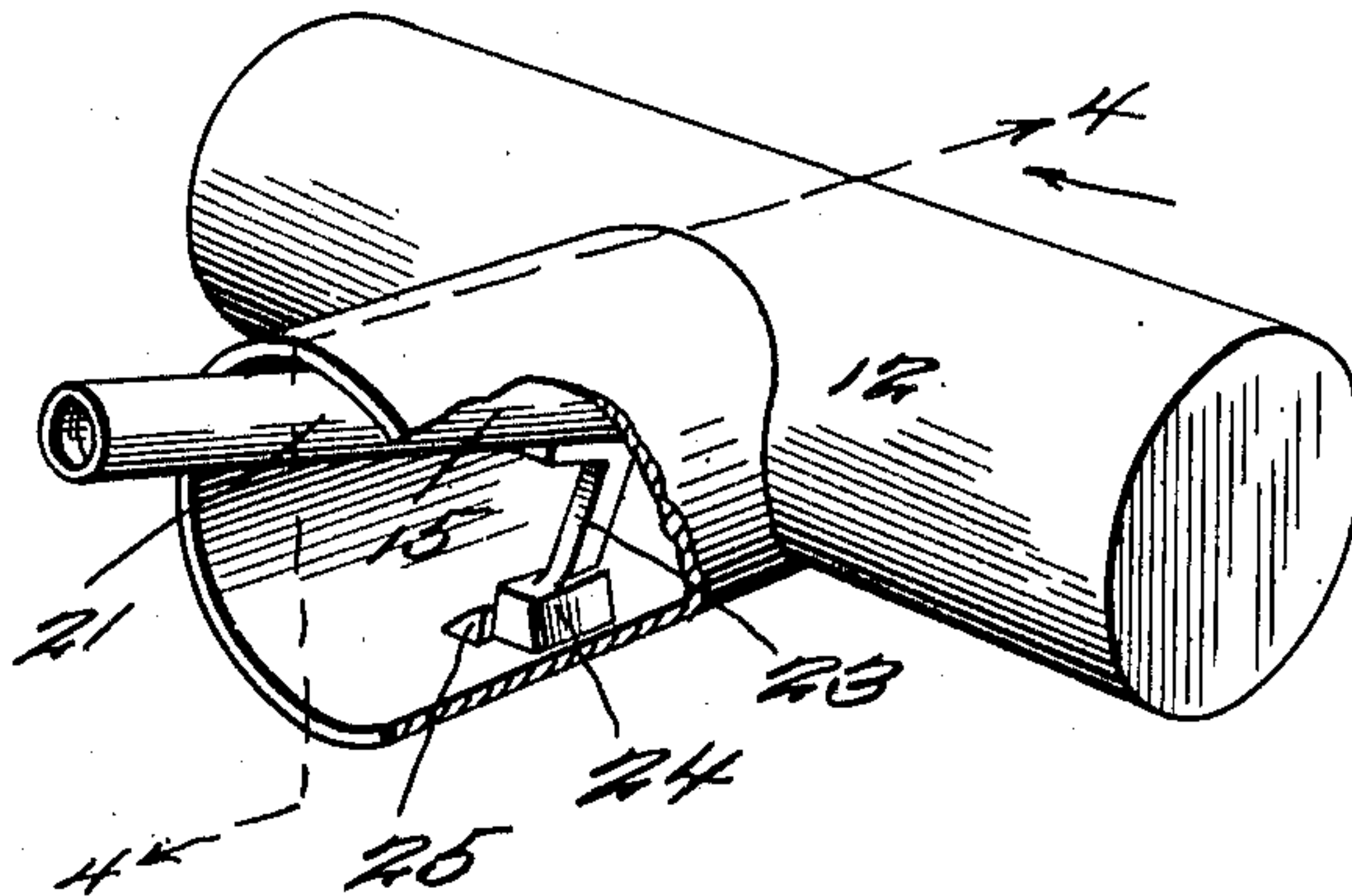


Fig. 4.

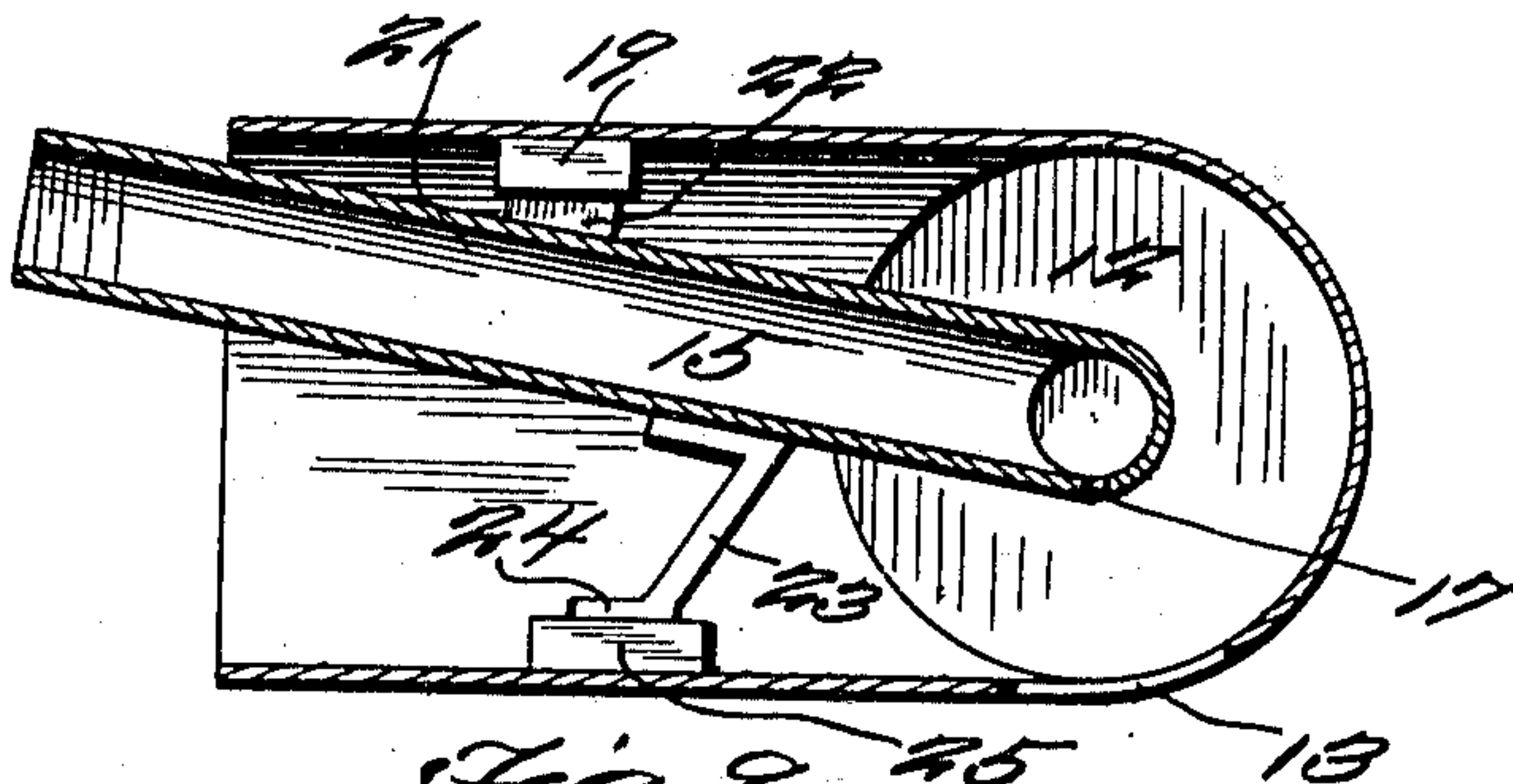
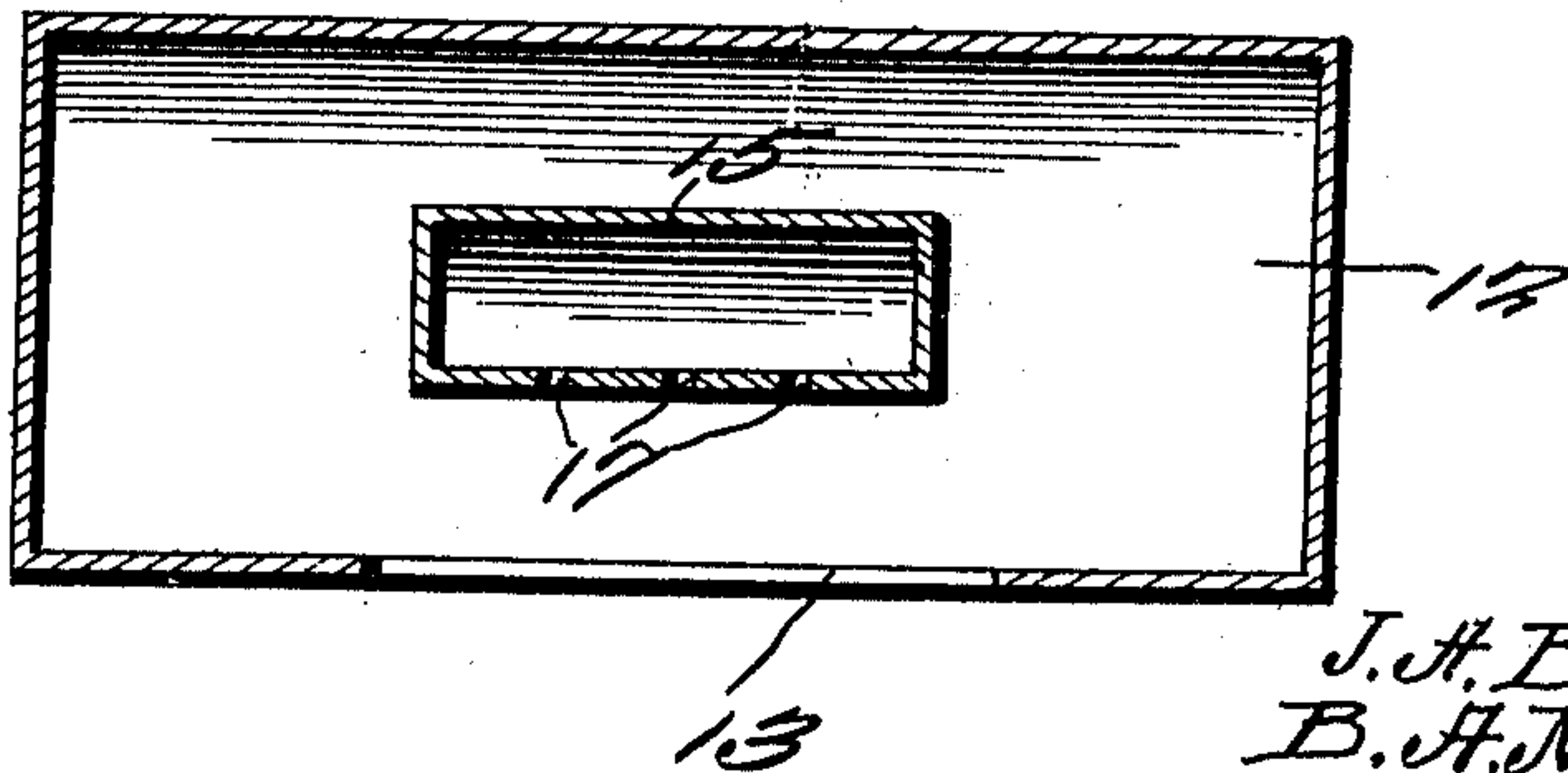


Fig. 5.



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Fig. 5.

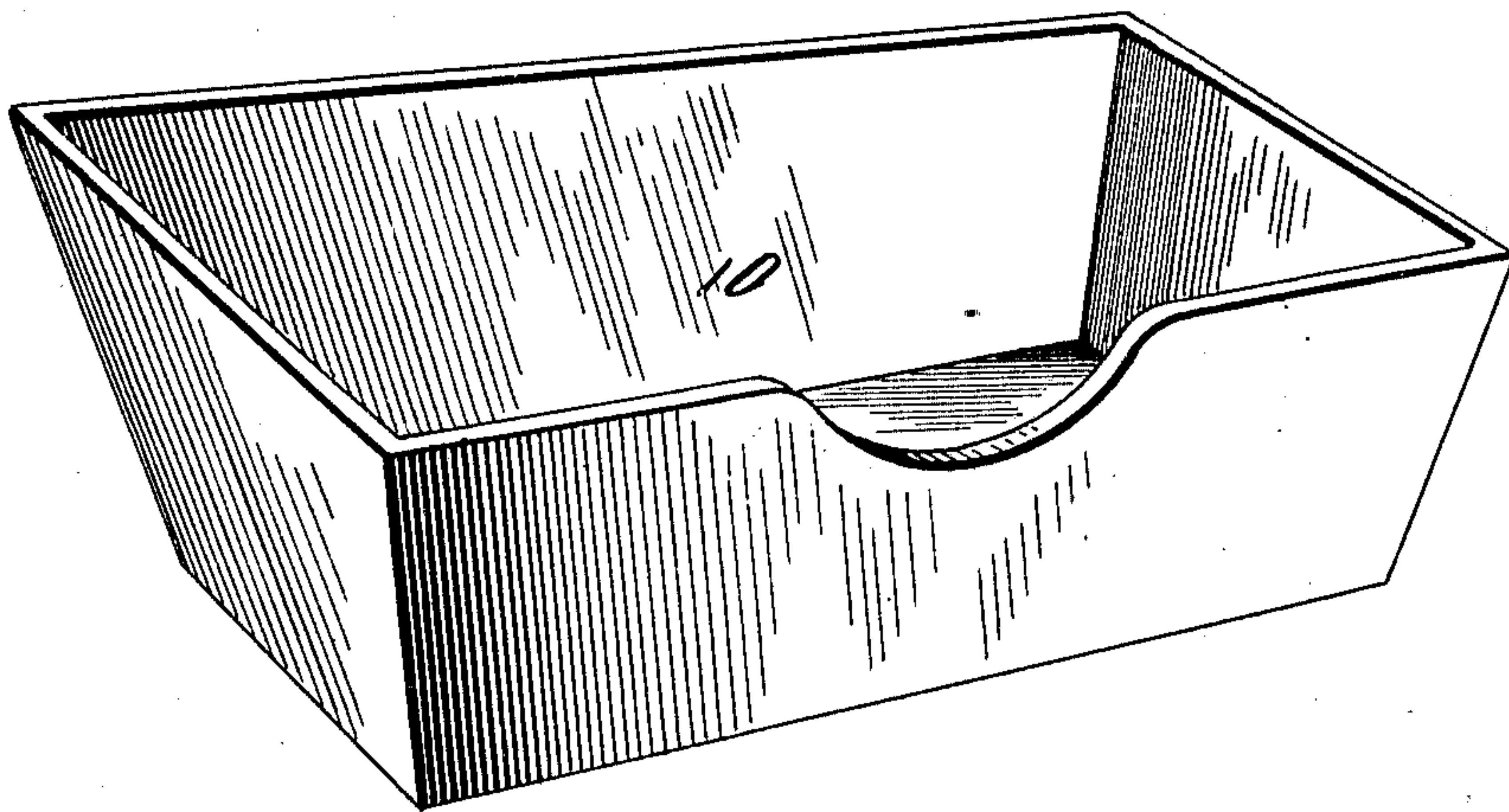


Fig. 6.

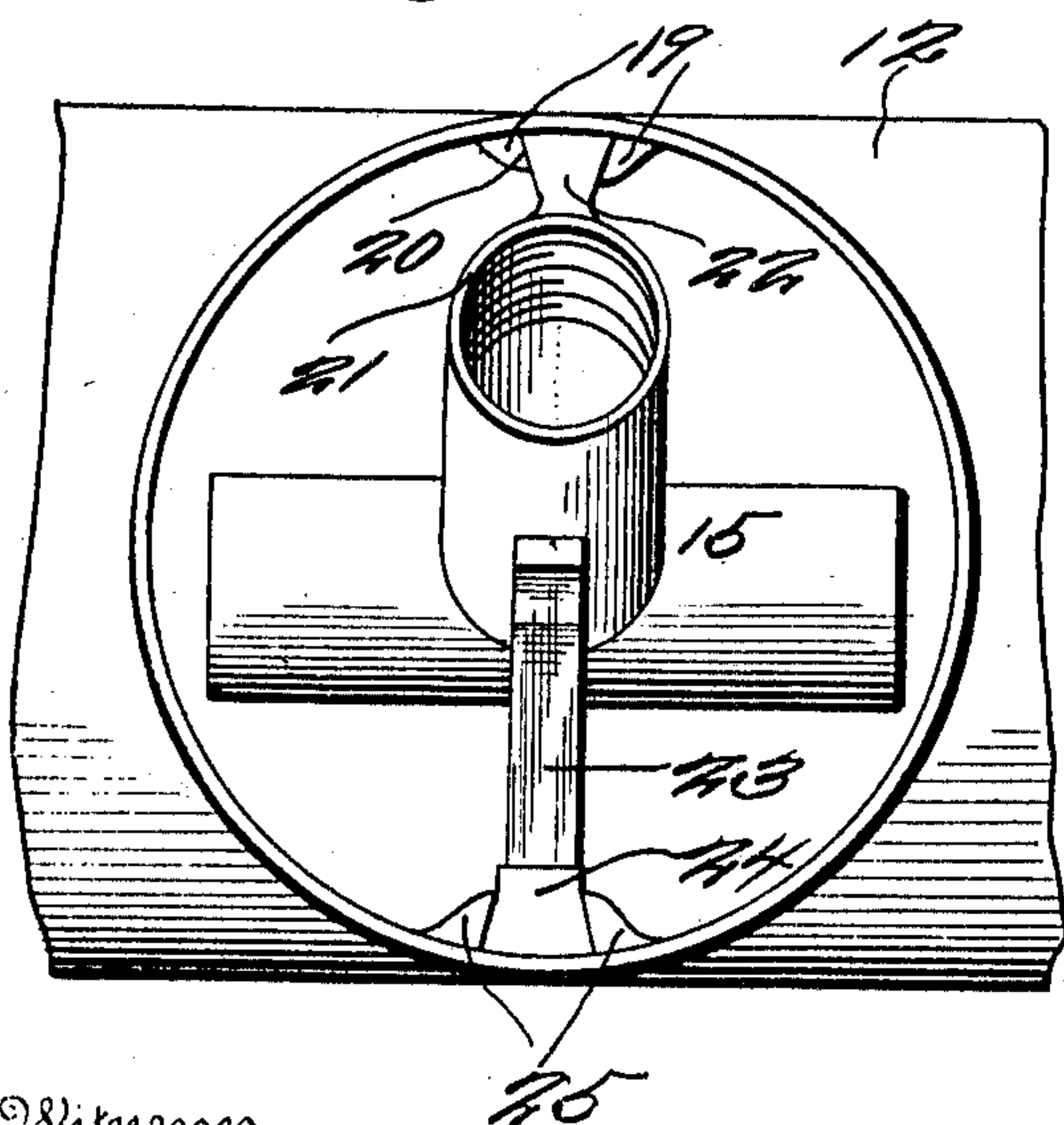


Fig. 8.

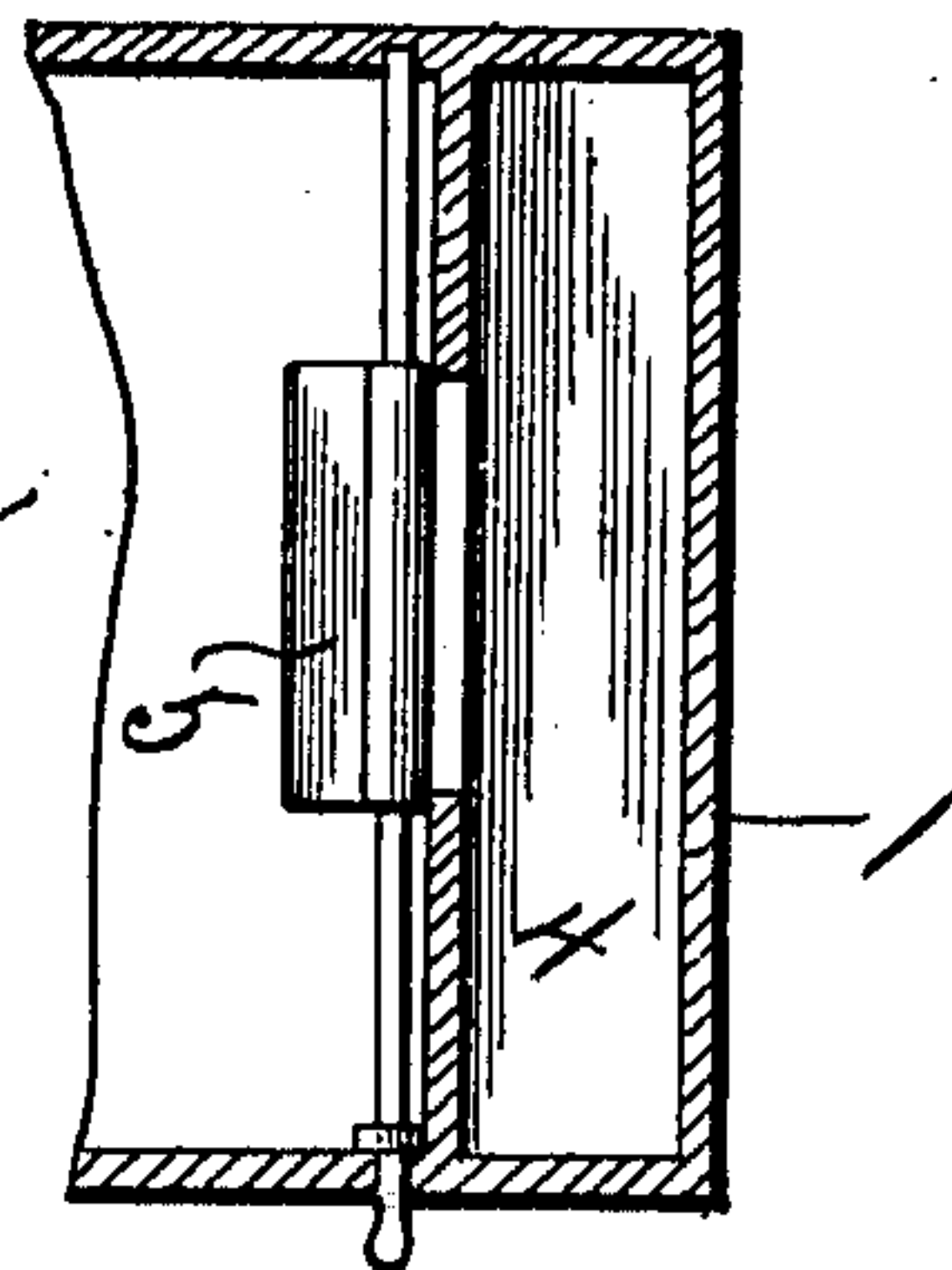
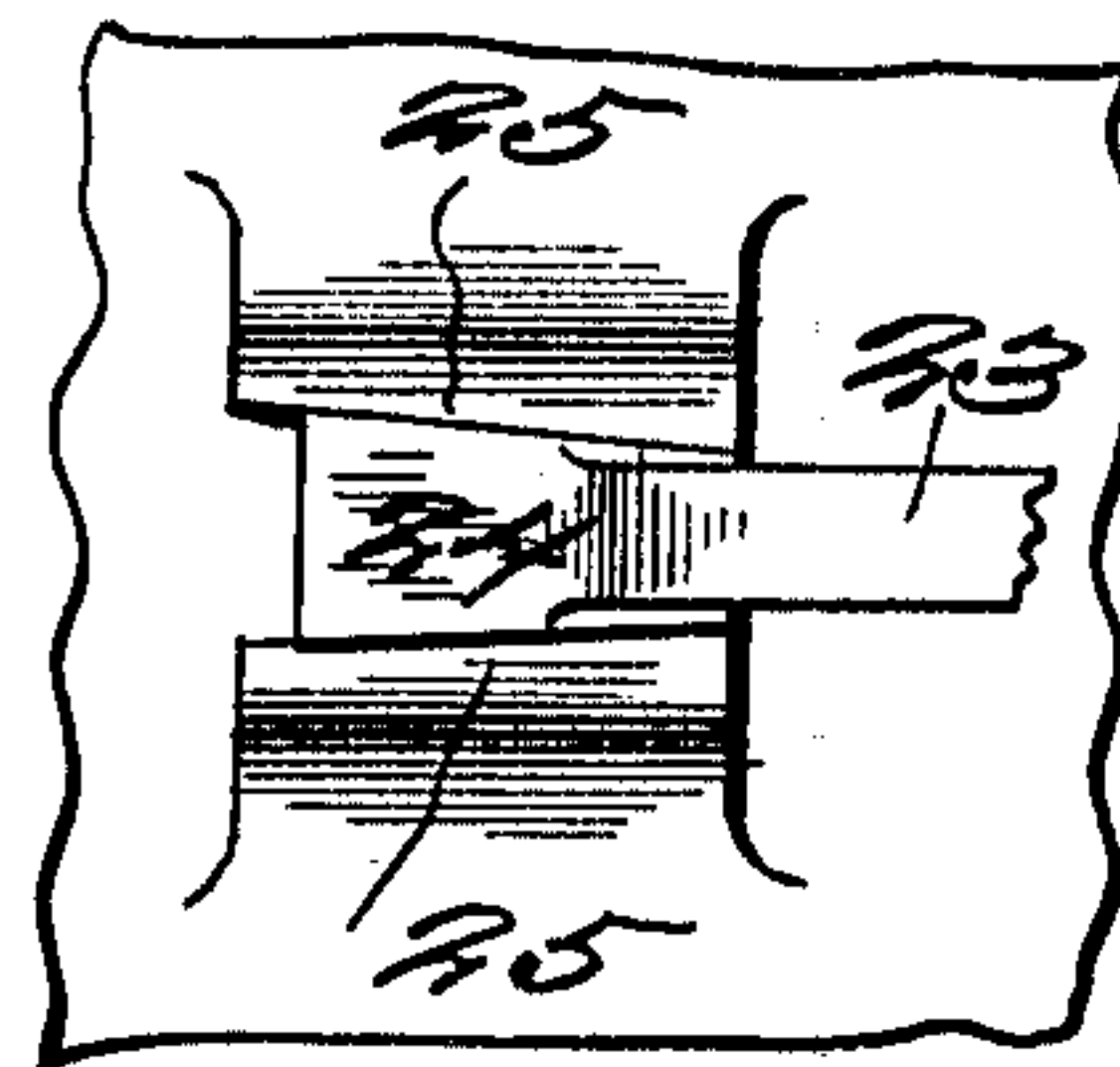


Fig. 7.



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UNITED STATES PATENT OFFICE.

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COMBINATION BURNER AND STOVE.

980,182.

Specification of Letters Patent.

Patented Jan. 3, 1911.

Application filed March 2, 1910. Serial No. 546,875.

To all whom it may concern:

Be it known that we, JOHN A. BABB and BRANSFORD A. McDONALD, citizens of the United States, residing at Frederick, in the county of Tillman and State of Oklahoma, have invented a new and useful Combination Burner and Stove; and we 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.

This invention appertains to a combination crude oil burner and a stove structure.

The principle of the invention is the application of a novel hydrocarbon burner to a novel structure of stove, in such wise as to direct all of the flames from the burner entirely beneath or above the oven, or to entirely surround the oven with the flames, so that the heat therein may be decreased or increased as desired.

A further feature of the invention consists in the provision of a T-shaped casing or inclosure, the T portion thereof being provided with an elongated aperture, which is positioned approximately between the ends of said T-portion, and in its lower circumference. Fixed in such wise as to be readily removed, and within the T-shaped casing or inclosure, is the burner member proper, which is also T-shaped in contour, with its T-portion positioned immediately above the elongated opening, so that the crude oil or petroleum will readily exit therefrom and through the said elongated opening or aperture, so as to deposit the asphalt, carbon and tar in the burner pan or receptacle, where it is readily consumed. As the fuel strikes the burner pan, the same is broken into small particles, so as to readily become combustible gases. As the asphalt, carbon and tar is consumed, the burner pan is left comparatively clean.

A further and an essential feature of the invention is to provide means for supporting the burner proper, especially the T-portion of the burner, so as to hold the T-portion of the burner directly above the said elongated opening or aperture. By the application of this form of hydrocarbon burner to a stove structure as shown in the drawings, a more effective and efficient draft is insured, so as to cause a ready consumption of the fuel.

The drawings display a special form of

combination hydrocarbon burner and stove, but the applicants in no way restrict themselves to the particular structure thereof. We reserve the right to make changes and alterations, if such become necessary, during a reduction to practice, provided that such changes and alterations fall within the scope of the appended claims.

Further features and parts will be hereinafter set forth and pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a stove of the usual structure, partly broken away, in order to illustrate the application of the hydrocarbon burner. Fig. 2 is a sectional view on line 2—2 of Fig. 1, taken vertically through the stove, so as to more clearly illustrate the structure of the stove and the burner proper, showing the direction of the flames about the oven of the stove, and further illustrating how the flames may be controlled. Fig. 3 is an enlarged detail perspective view of the hydrocarbon burner removed from the stove. Fig. 4 is a sectional view on line 4—4 of Fig. 3, showing the position of the inner burner proper with regard to the elongated opening or aperture of the outer casing of the burner. Fig. 5 is a detail perspective view of the burner pan or receptacle. Figs. 6 and 7 are detail views of the means for supporting and securing the inner portion of the burner. Fig. 8 is a detail view, partly in section, showing the damper 5. Fig. 9 is a longitudinal sectional view through the casing 12.

Relative to the annexed drawings, 1 represents the usual form of stove or range, divided into two compartments 2 and 3, one being used as a warming oven while the other is used for a baking oven. Surrounding the baking oven is a flue or draft space 4, there being a damper 5 located adjacent the outlet of the flue or draft space, in order to assist in controlling the direction of the flames. At the mouth of the portion of the flue or space which extends beneath the baking oven, or between the warming oven and the baking oven, a damper 6 is located, which further assists in controlling the flames. The natural tendency of the flames is to rise, therefore, if the damper 5 is but slightly open, and the damper 6 is considerably open, but not entirely, the baking oven will be entirely surrounded by flames, which will cause a great heat therein. If it is de-

sired, all the flame may be directed below and about two sides of the baking oven, for instance by closing the damper 5 and entirely opening the damper 6, or the flames may be directed entirely above the baking oven by opening the damper 5 and entirely closing the damper 6.

In the sectional view, shown in Fig. 2 of the drawing, a flange 8 projects upwardly from the upper right hand corner of the warming oven, and to which the damper 6 is pivoted. By the provision of this flange, an additional compartment 9 is afforded in the upper left hand portion of the stove structure. Positioned within this compartment 9 is the usual form of burner pan or receptacle 10, in which the fuel, consisting of crude oil or petroleum, is dropped, where it is consumed. Projecting from the inner portion of the stove structure and into the compartment 9, above the burner pan or receptacle, is a T-shaped casing or inclosure 12. The lower circumference or portion of the T of this casing or inclosure is provided with an elongated opening or aperture 13, through which the fuel is dropped. Positioned within and centrally of this casing or inclosure is the burner tube or member 15, which is approximately the same contour as the casing or inclosure. The under surface or circumference, or the lower wall of the T of the burner tube or member, is provided with a plurality of apertures or openings 17, consisting of three in number. One is positioned in line with that portion of the burner tube or member which is secured to and supported within the larger casing or inclosure, while the other two are positioned adjacent either end of the said T-portion. The said T-portion of the burner tube or member proper is positioned centrally of the T-portion of the casing or inclosure, as shown clearly in the sectional view of the drawing, and immediately above the elongated opening or aperture. By positioning the burner tube or member proper in this position, the crude oil or petroleum will readily pass through the elongated opening or aperture, in order to be broken or severed into infinitesimal parts, when striking the bottom of the burner pan or receptacle, in order to be readily consumed.

To secure the burner tube or member proper within the casing or inclosure, the said casing or inclosure is provided with a pair of flanges 19, between which a V-shaped opening 20 is formed. The portion 21 of the burner tube or member is provided with a lug 22 which is received or dove-tailed between the flanges of the casing or inclosure, as shown clearly in Fig. 6. Projecting rearwardly and downwardly from the under portion of the portion 21 of the burner tube or member is an extension 23, which is provided with a V-shaped lug 24 upon its ex-

treme lower end. This lug 24 is received or dove-tailed between flanges 25, similar to the flanges 19. By these connections for securing the burner tube or member proper in position, a ready removal thereof will be attained.

The stove is provided with the usual flue 26, communicating with the flue or draft space, in order to convey the products of combustion to the atmosphere.

As the fuel flows through the burner tube or member, and is dropped upon the burner pan or receptacle, the same is consumed, for instance, after the first charge has been ignited. After the burner pan has become well heated, the further charges of fuel are fired. After each charge, the bottom of the burner pan or receptacle is left comparatively clean.

The invention having been set forth, what is claimed as new and useful is:—

1. In a hydrocarbon burner, the combination with a range of a T-shaped casing or inclosure projecting inwardly of the range, and a burner tube or member proper secured centrally of the casing or inclosure, said casing or inclosure having an elongated opening or aperture, said burner tube or member having a T-portion provided with fuel exit openings positioned above said elongated aperture or opening, said burner tube or member having dove-tail connection with the said casing or inclosure.

2. In a hydrocarbon burner, the combination with a range of a T-shaped casing or inclosure projecting inwardly of the range, a burner tube or member proper secured centrally of the casing or inclosure, and dove-tail connections between the burner tube or member proper and the casing or inclosure for securing the burner tube in position and to allow its ready removal.

3. In a hydrocarbon burner, the combination with a range of a T-shaped casing or inclosure projecting inwardly of the range, and a burner tube or member proper secured centrally of the casing or inclosure, said casing or inclosure having upon its inner circumference, above and below, flanges having V-shaped openings between them, said burner tube or member proper having upon its upper portion a V-shaped lug to be received by the upper V-shaped opening and provided with a projection upon its lower portion, said projection having a V-shaped lug to be received by the V-shaped opening of the lower flanges.

4. In a hydrocarbon burner, the combination with a range of a T-shaped casing or inclosure projecting inwardly of the range, and a burner tube or member proper secured centrally of the casing or inclosure, said casing or inclosure having an elongated opening or aperture, said burner tube or member having a T-portion provided with fuel

exit openings positioned above said elongated aperture or opening, said casing or inclosure having upon its inner circumference, above and below, flanges having V-shaped openings between them, said burner tube or member proper having upon its upper portion a V-shaped lug to be received by the upper V-shaped opening and provided with a projection upon its lower portion, said projection having a V-shaped lug to be

received by the V-shaped opening of the lower flanges.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

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BRANSFORD A. McDONALD.

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