

No. 629,782.

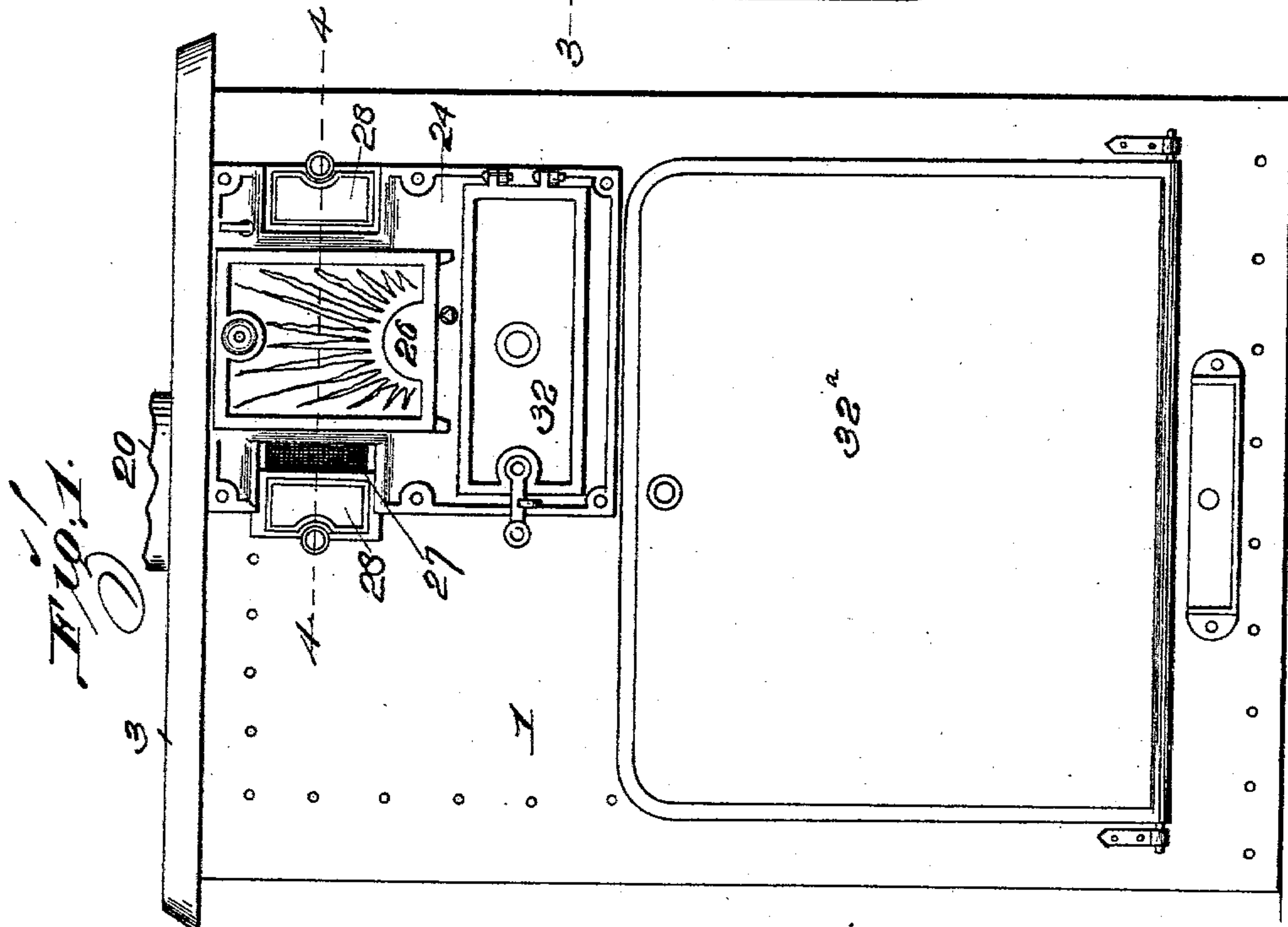
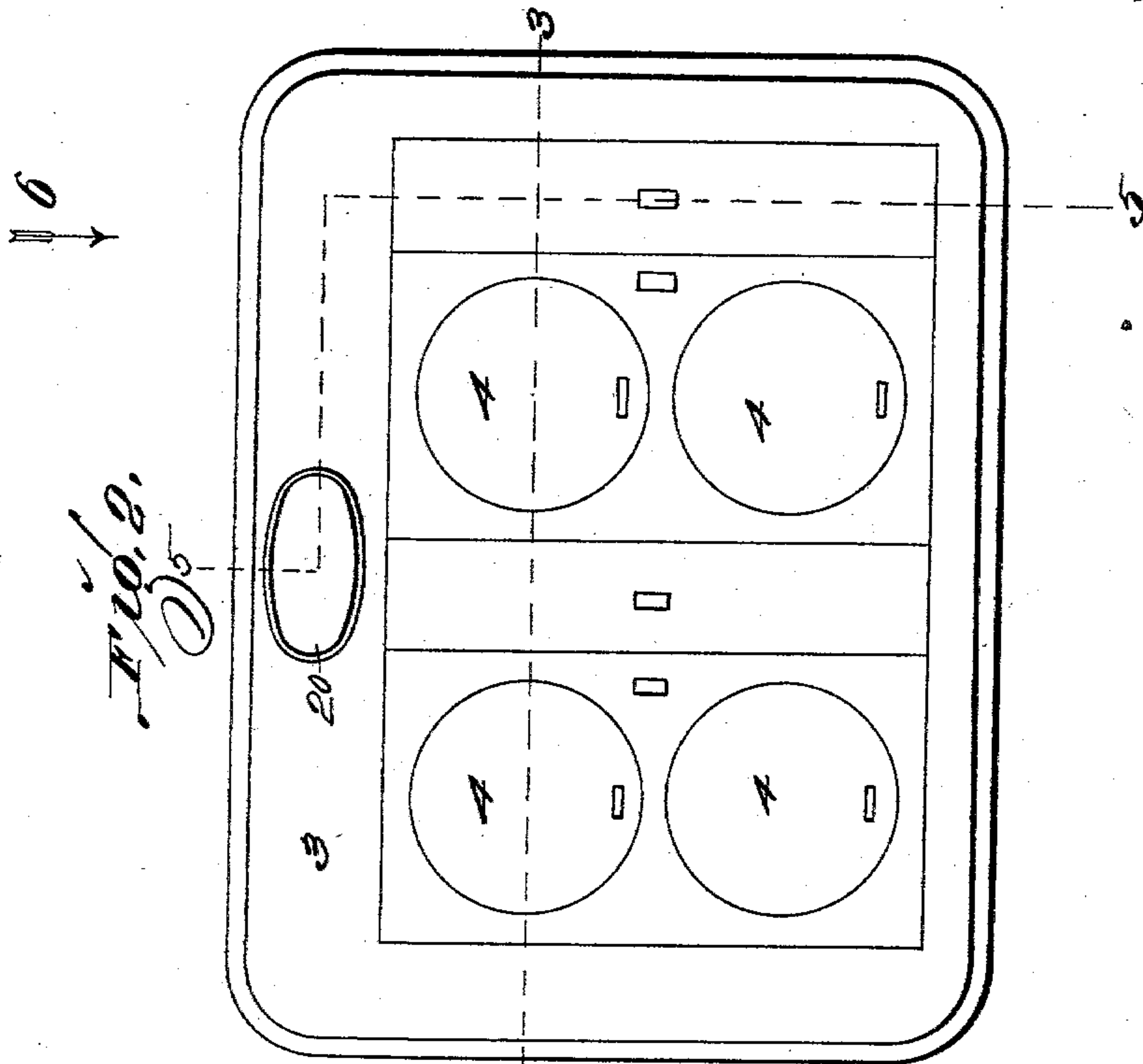
Patented Aug. 1, 1899.

L. EDEL.  
RANGE.

(Application filed Oct. 3, 1898.)

(No Model.)

3 Sheets—Sheet 1.



Attest  
W. T. Smith  
Maude Griffin

Inventor:  
Lucas Edel:  
By Nigdon & Langan, attys.

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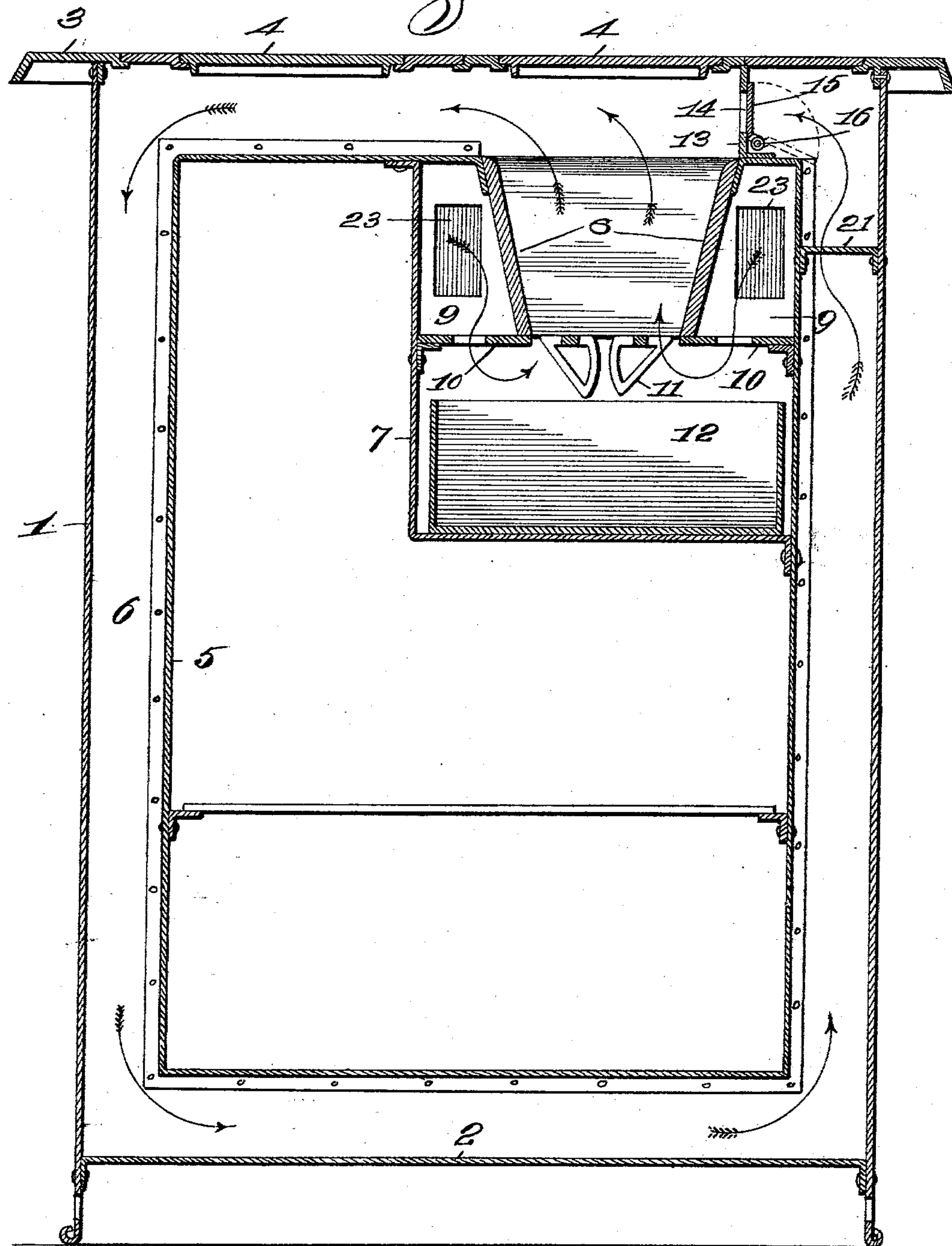
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3 Sheets—Sheet 2.

*Fig. 3.*



*attest*  
*W. P. Smith*  
*Notary Public*

*Inventor, Lucas Edel:—*  
*By Higdon & Longan attys.*



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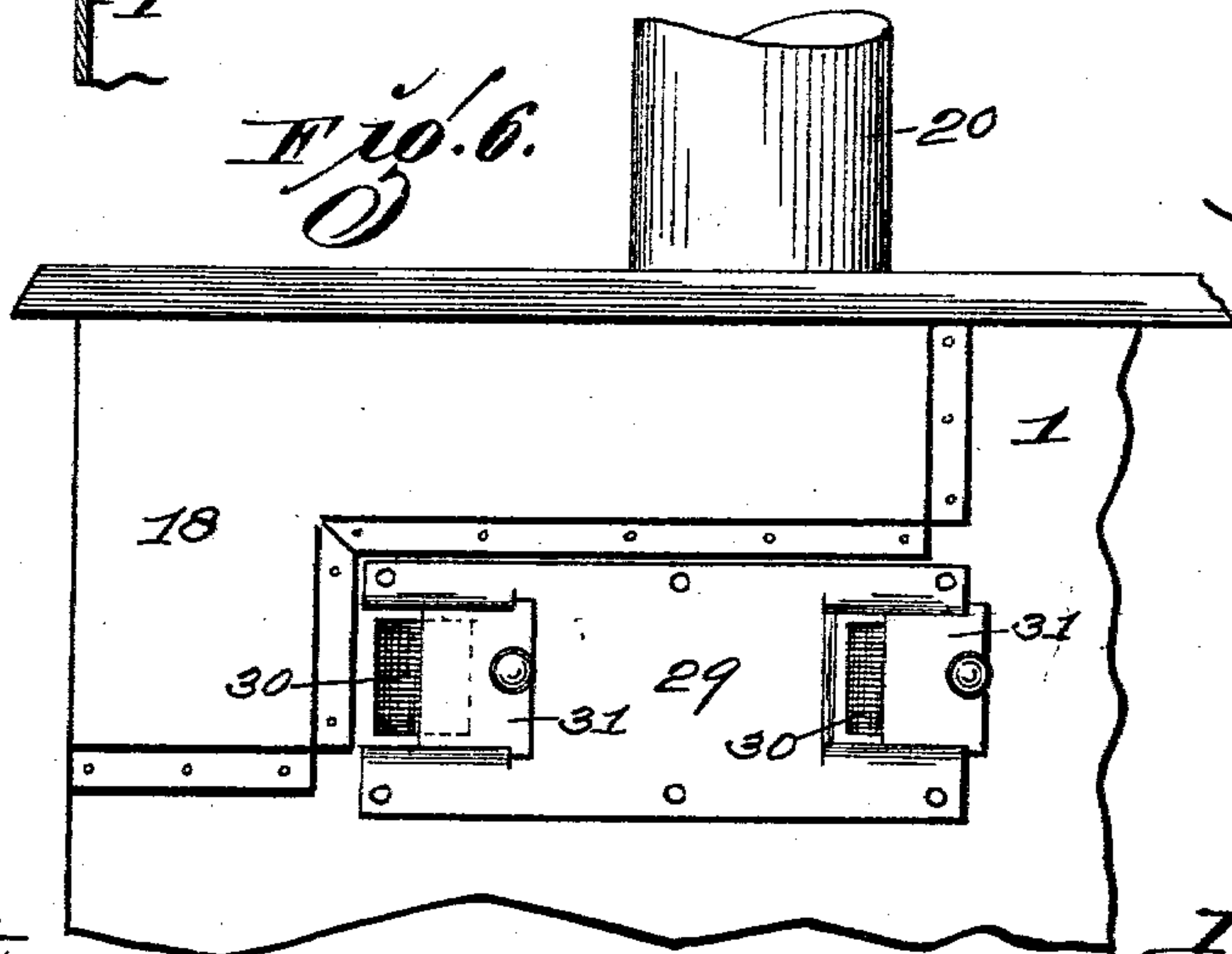
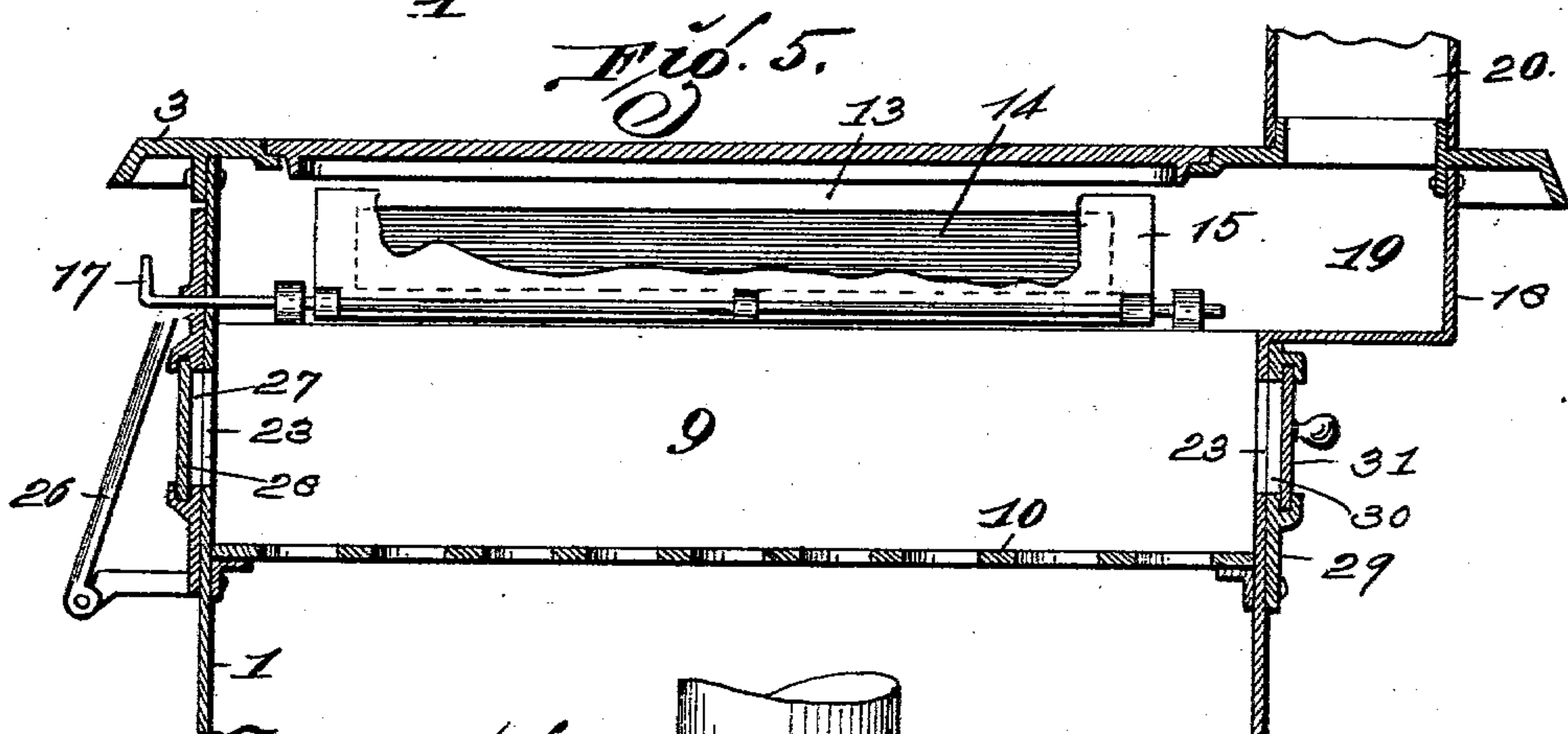
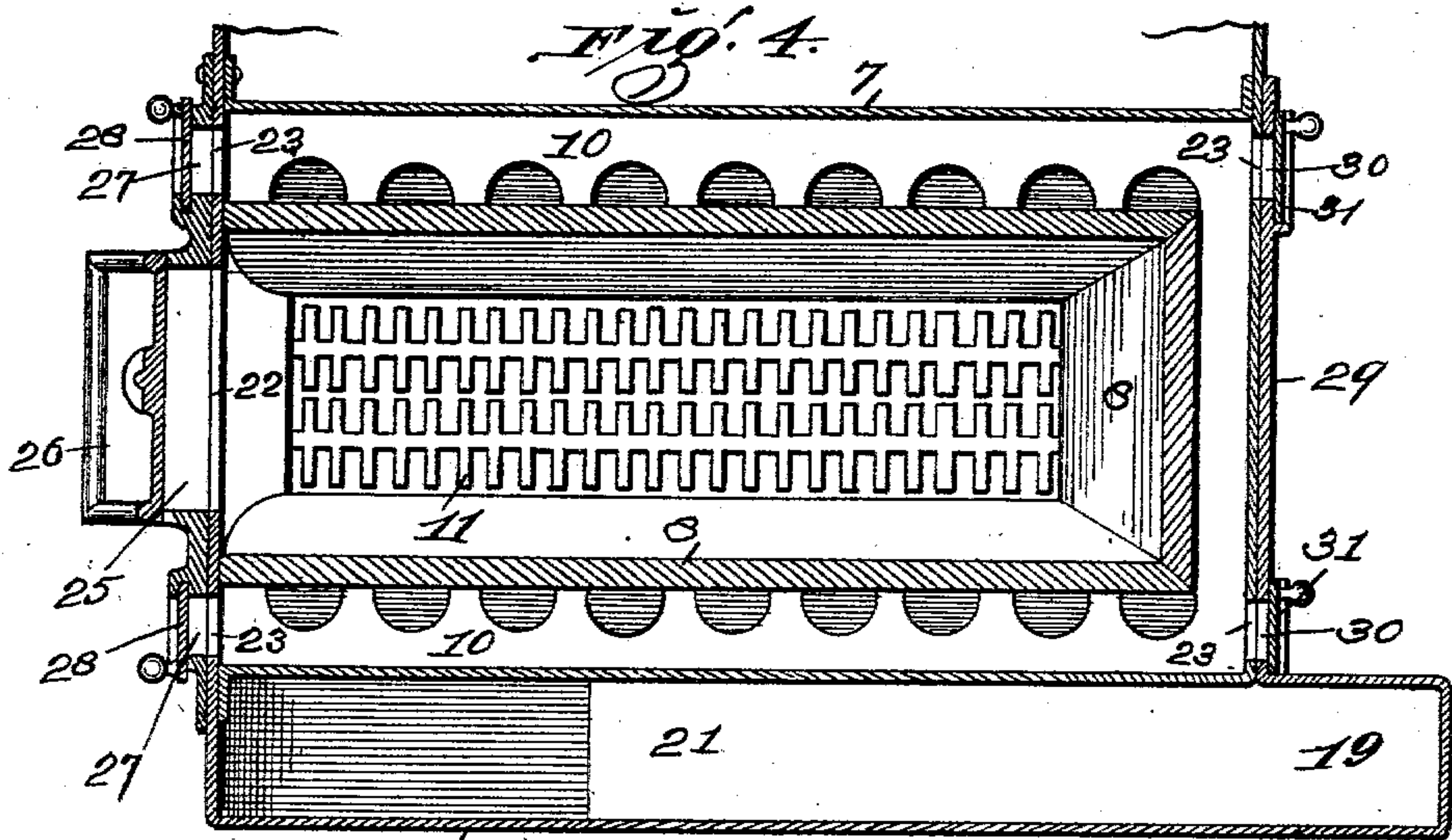
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Maudie Griffin

Inventor  
Lucas Edel:  
By Higdon & Longan attys.



# UNITED STATES PATENT OFFICE.

LUCAS EDEL, OF ST. LOUIS, MISSOURI.

## RANGE.

SPECIFICATION forming part of Letters Patent No. 629,782, dated August 1, 1899.

Application filed October 3, 1898. Serial No. 692,569. (No model.)

*To all whom it may concern:*

Be it known that I, LUCAS EDEL, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Ranges, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to ranges; and it consists of the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

Figure 1 is a front elevation of a range of my improved construction. Fig. 2 is a top plan view thereof. Fig. 3 is an enlarged vertical sectional view taken approximately on the line 3 3 of Fig. 2. Fig. 4 is a horizontal sectional view taken approximately on the line 4 4 of Fig. 1. Fig. 5 is a vertical sectional view taken approximately on the line 5 5 of Fig. 2. Fig. 6 is a rear elevation of the upper corner of the stove, said view being taken in the direction indicated by the arrow 6, Fig. 2.

In the construction of my improved range I employ a rectangular body 1, which is formed of suitable sheet metal, which body is closed at the lower end by the plate 2 and at its upper end by a cast top 3, in which top are formed the usual stove-openings 4. Located within the body 1 is a second rectangular sheet-metal body 5, the same being somewhat smaller than is the sheet-metal body 1, and the front and rear edges of this second body 5 are flanged and secured to the front and rear walls of the body 1. Thus a space or flue 6 is formed between the bodies 1 and 5. Located in the upper right-hand corner of this second sheet-metal body 5 and extending from the front wall of the body 1 to the rear wall thereof is an L-shaped sheet-metal plate 7, which, combined with a portion of the top and side wall of the sheet-metal body 5, forms a rectangular space, in the top of which are located the plates 8, forming the fire-box of my improved range. The side plates of the fire-box are some distance away from the upper end of the side wall of the body 5 and the upper end of the vertical portion of the L-shaped plate 7 in order to form the chambers 9. Horizontally-arranged perforated plates 10 are arranged immediately beneath

the lower ends of each of the side plates 8 of the fire-box, said perforated plates 10 extending from said plates 8 to the side wall of the body 5 and to the vertical portion of the plate 7. Grate-bars 11 are rotatably arranged immediately beneath the fire-box, and located in the space immediately beneath the plates 10 and the grate-bars is the ash-pan 12. Arranged between the upper end of the right-hand one of the side plates 8 of the fire-box and the top plate 3 of the range is a partition 13, in which is formed an opening 14, the same being normally closed by a damper 15. The shaft 16, upon which this damper hinges, extends outwardly through the front wall of the range and is there provided with an operating-handle 17.

An angular casing 18 is formed on or fixed to the upper rear corner of the body 1 immediately behind the fire-box, and said casing forms a chamber or passage 19, that leads from the upper right-hand corner of the passage or flue 6 to the pipe 20, that leads from the range to the chimney.

21 indicates a horizontally-arranged partition that is located between the right-hand side walls of the bodies 1 and 5 at a point on a line with the center of the fire-box, said partition extending from the lower end of the angular casing 18 toward the front of the stove and terminating a short distance from the front wall thereof.

Formed in the front wall of the body 1, immediately in front of the fire-box, is an opening 22, and formed in the front and rear walls of said body 1 at the ends of the chambers 9 are the rectangular openings 23.

A rectangular plate 24 is located upon the front of the body 1 immediately in front of the fire-box, in which plate 24 is formed an opening 25, that coincides with the opening 22, said opening 25 being normally closed by a door 26. Formed in this plate 24, on each side of the opening 25, are the openings 27, which coincide with the openings 23, said last-mentioned openings 27 being normally closed by slides 28. Located upon the rear wall of the body 1 and immediately behind the fire-box is a plate 29, in which are formed openings 30, that communicate with the openings 23, formed in the rear wall of the body 1, and said last-mentioned openings 30 are



normally closed by slides 31. A hinged door 32 is arranged upon the lower portion of the plate 24, which door closes an opening formed in the front of the body 1 immediately beneath the fire-box, through which opening is passed the ash-pan 12. The entire space in the lower portion of the body 5 is intended to be used as an oven, the door 32<sup>a</sup> for said oven being hinged to the front wall of the body 1.

The operation and use of my improved range are as follows: When the fire is first started in the fire-box of said range, the damper 15 is turned down, as indicated by dotted lines in Fig. 3, and the slides 28 and 31 are partially withdrawn. The draft to the fire within the fire-box will enter through the openings 23, pass through the chambers 9, downwardly through the perforations in the plates 10, and from thence upwardly through the grate-bars 11, through the fire within the fire-box, and from thence out through the opening 14 into the passage or flue 19, and from thence to the pipe that leads to the chimney. This may be termed the "direct draft" of the range. After the fire has become well started and it is desired to heat the oven of the range or to heat vessels located in the stove-holes in the range-top the damper 15 is swung upwardly, so as to close the opening 14, and the draft from the fire-box will pass along the under side of the range-top downwardly between the left-hand walls of the bodies 1 and 5, beneath the under side of the body 5, then upwardly between the right-hand walls of the bodies 1 and 5, through the opening in front of the horizontal partition 21, and from thence rearwardly through the chamber or passage 19 to the pipe that leads to the chimney. Thus all of the smoke and other products of combustion from the fire, together with most of the heat therefrom, will pass entirely around the oven, and said oven will thereby become very quickly heated. The cold air after entering the draft-openings 23 strikes against the side walls 8 of the fire-box, and thereby becomes thoroughly heated before passing downwardly through

the perforated plates 10 and into the fire. This is an important feature, inasmuch as there is a great advantage gained by delivering a hot draft to the fire instead of a cold draft. By providing draft-openings in both the front and rear walls of the range-body the draft to the fire can be very accurately regulated.

A range of my improved construction is economical in the consumption of fuel, provides a uniform heat to all parts of the oven, and said range possesses superior advantages in point of simplicity, durability, and general efficiency.

Owing to the fact that the draft of cold air strikes directly against the side walls of the fire-box said side walls will not burn out quickly or become warped from great heat, owing to the fact that their exterior or outer surfaces are constantly subjected to a draft of cold air.

I claim—

A range, constructed with a rectangular sheet-metal body, a second rectangular sheet-metal body arranged within the first-mentioned body in such a manner as to form a continuous passage between said bodies, an L-shaped plate arranged in the upper right-hand corner of the second-mentioned sheet-metal body, a fire-box located in the upper portion of the space formed by the location of the L-shaped plate, a vertically-arranged partition located between the upper end of the right-hand side of the fire-box and the range-top, in which partition is formed an opening, a damper normally closing said opening there being draft-openings formed in the front and rear wall of the range-body at each side of the fire-box, and sliding plates normally closing said draft-openings, substantially as specified.

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

LUCAS EDEL.

Witnesses:

M. P. SMITH,  
JOHN C. HIGDON.