

No. 652,321.

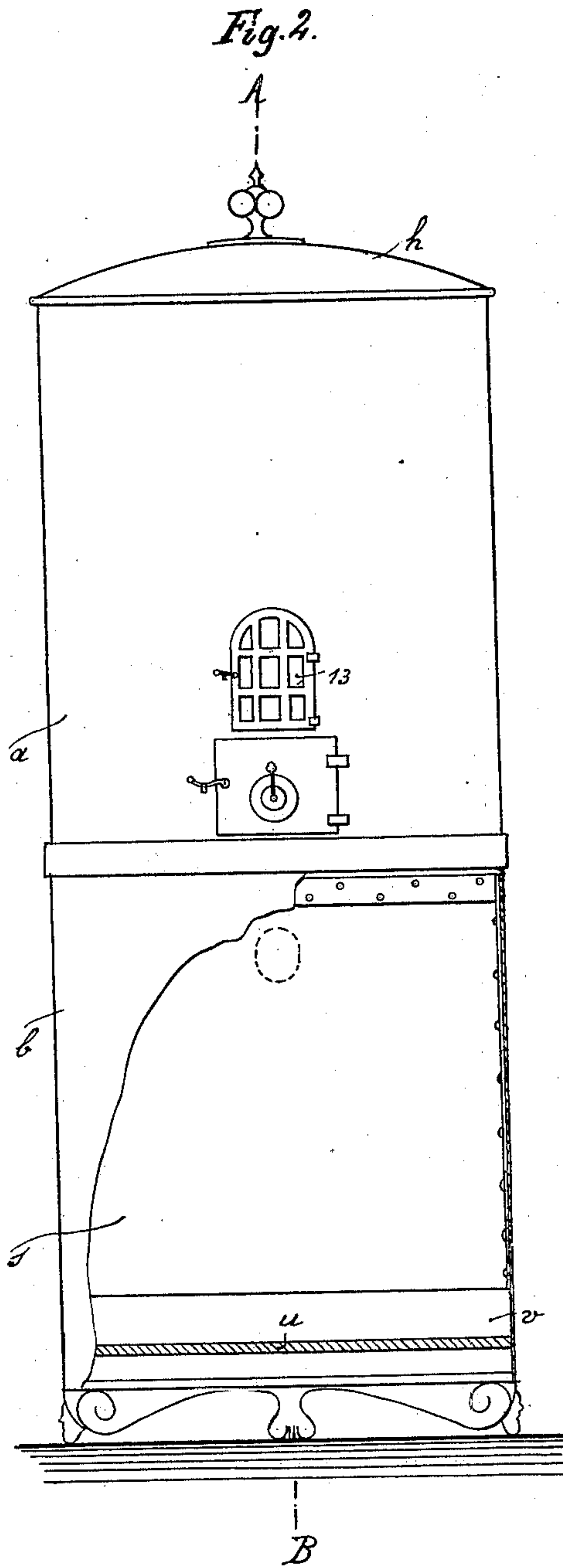
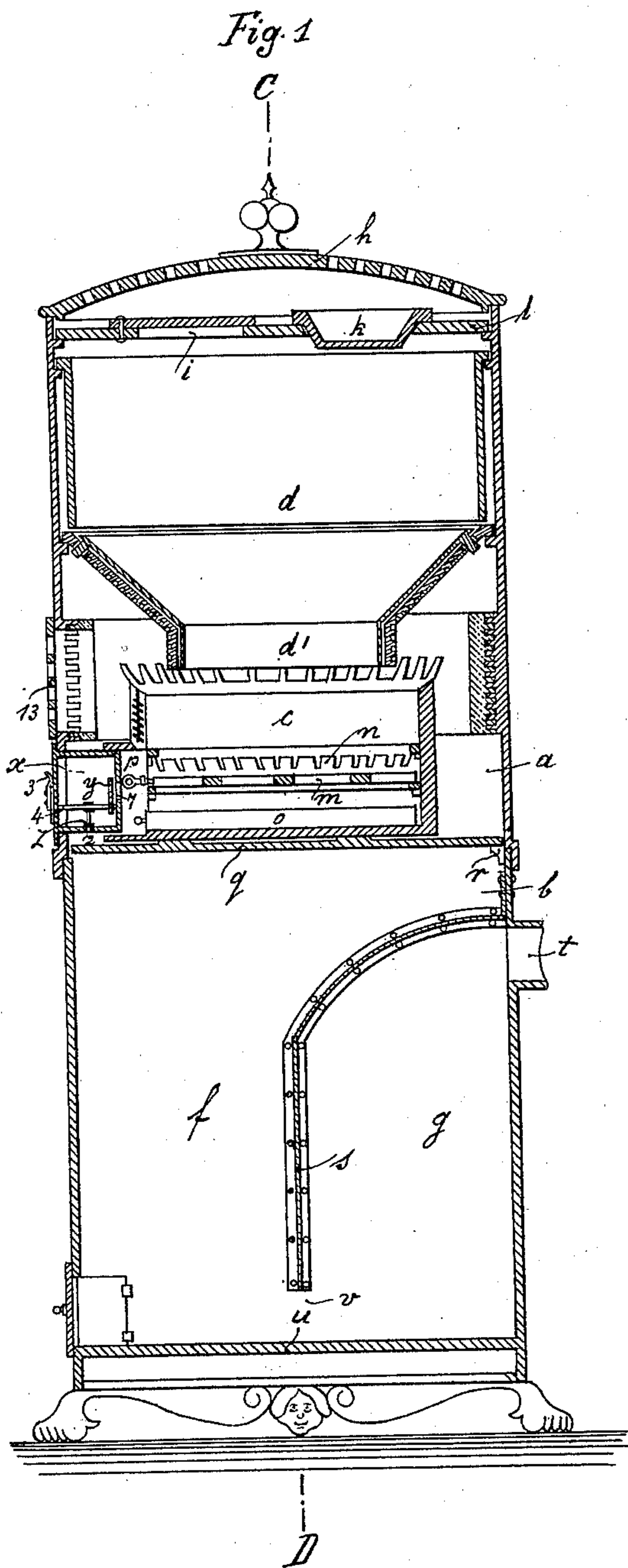
Patented June 26, 1900.

L. LORENZ.  
STOVE.

(Application filed July 15, 1899.)

(No Model.)

2 Sheets—Sheet 1.



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L. LORENZ.  
STOVE.

(Application filed July 15, 1899.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 3.

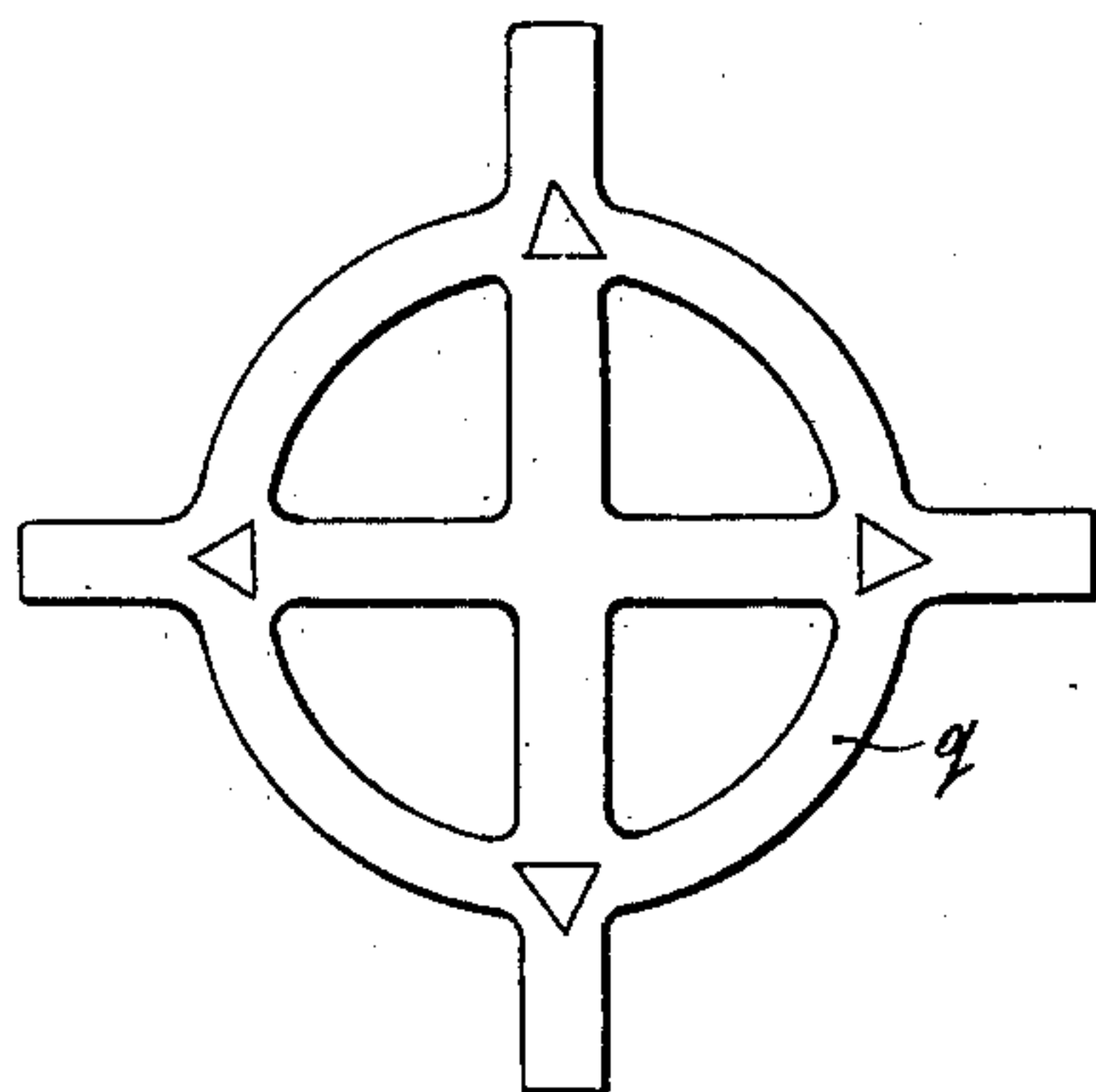


Fig. 5.

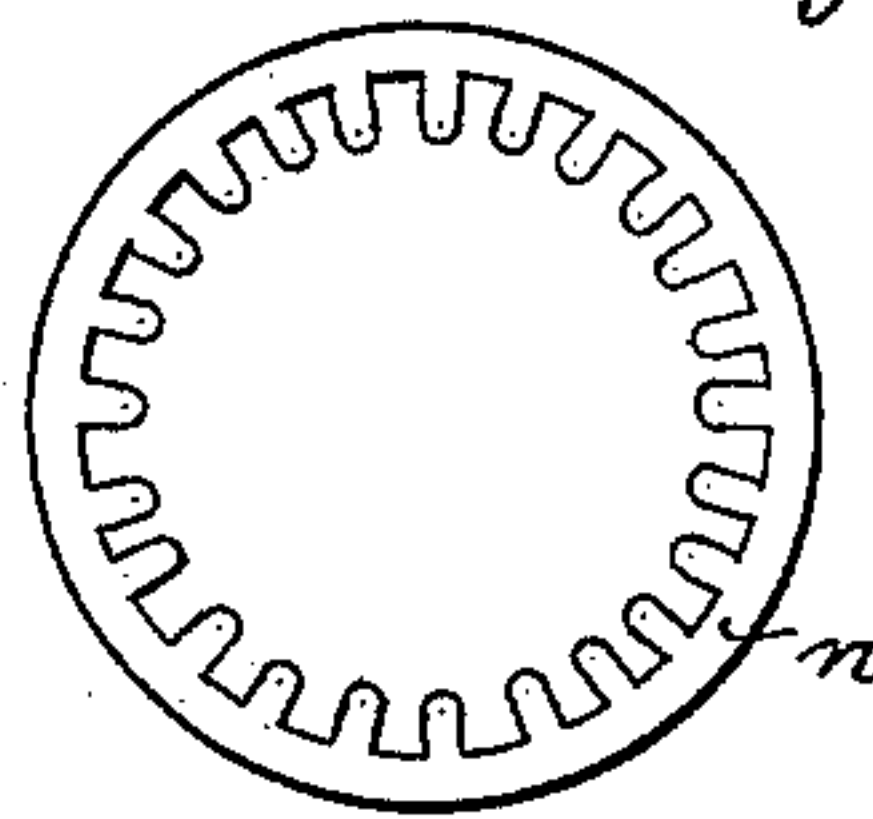


Fig. 4.

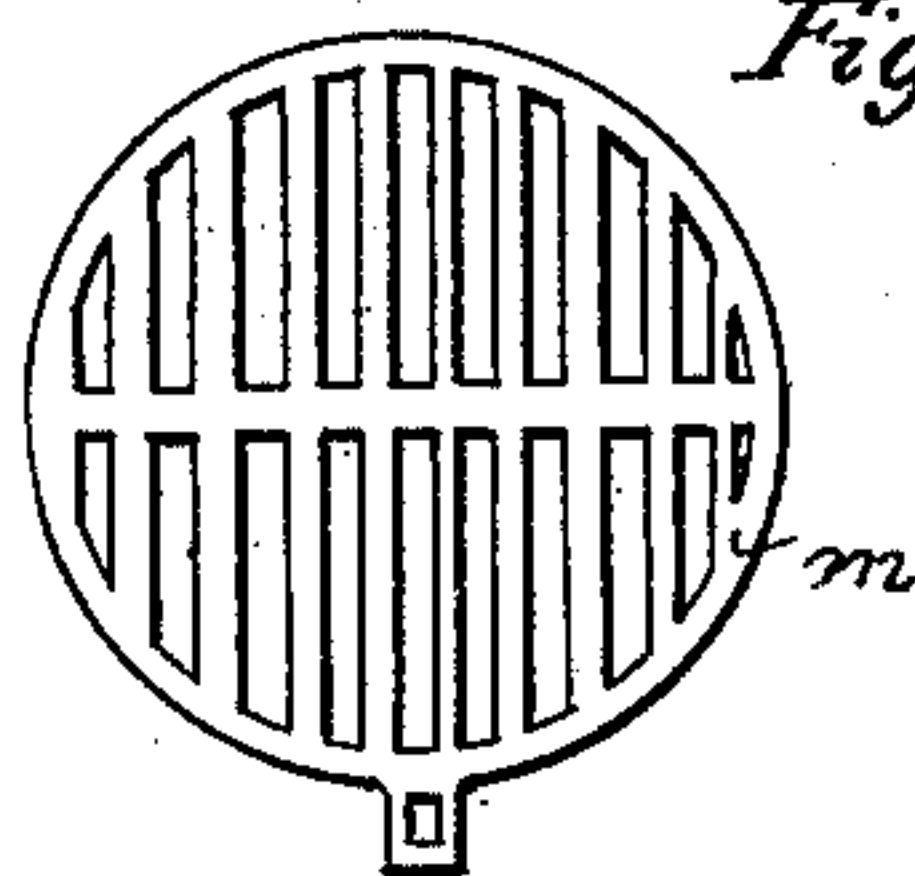


Fig. 7.

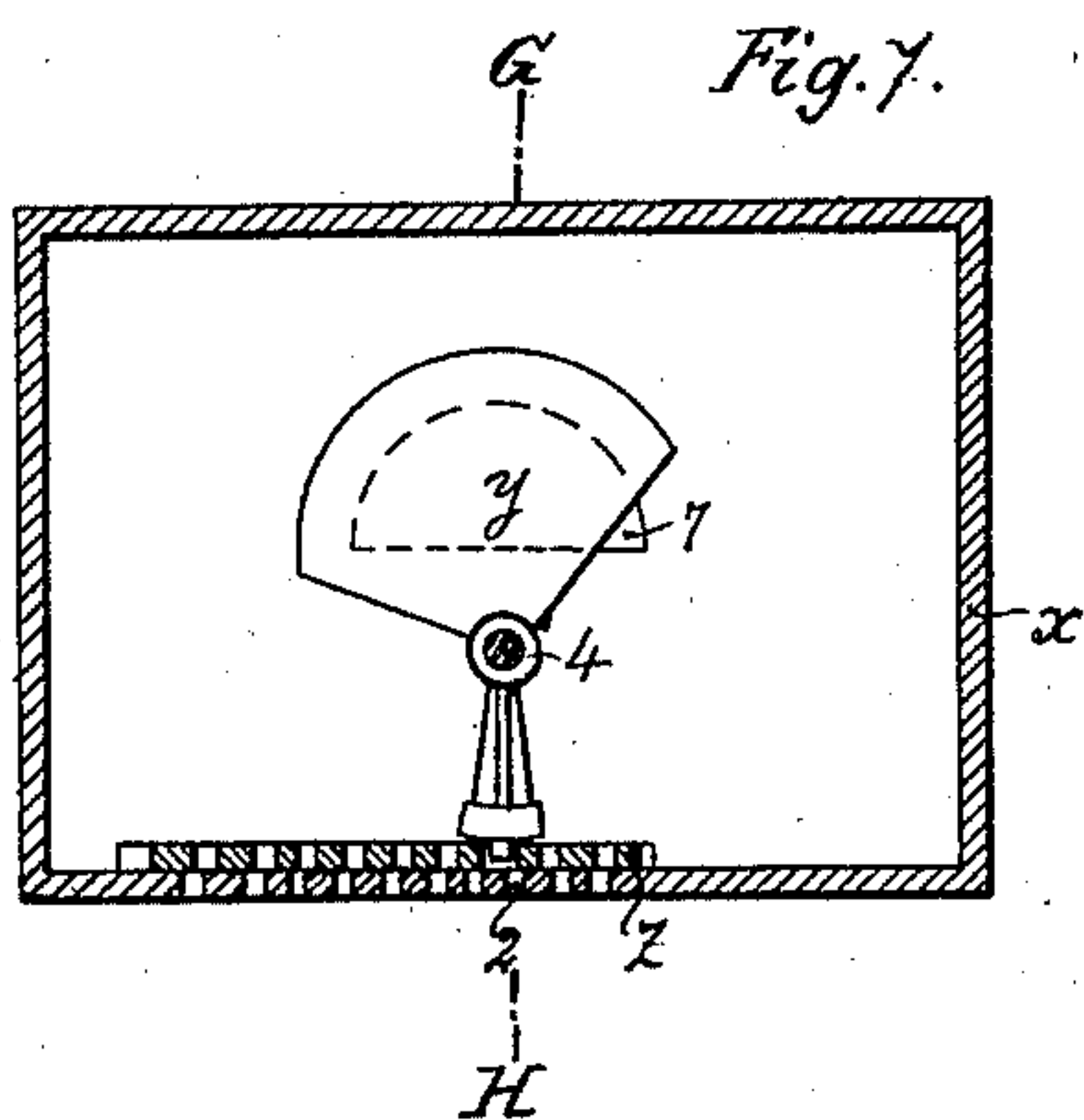


Fig. 6.

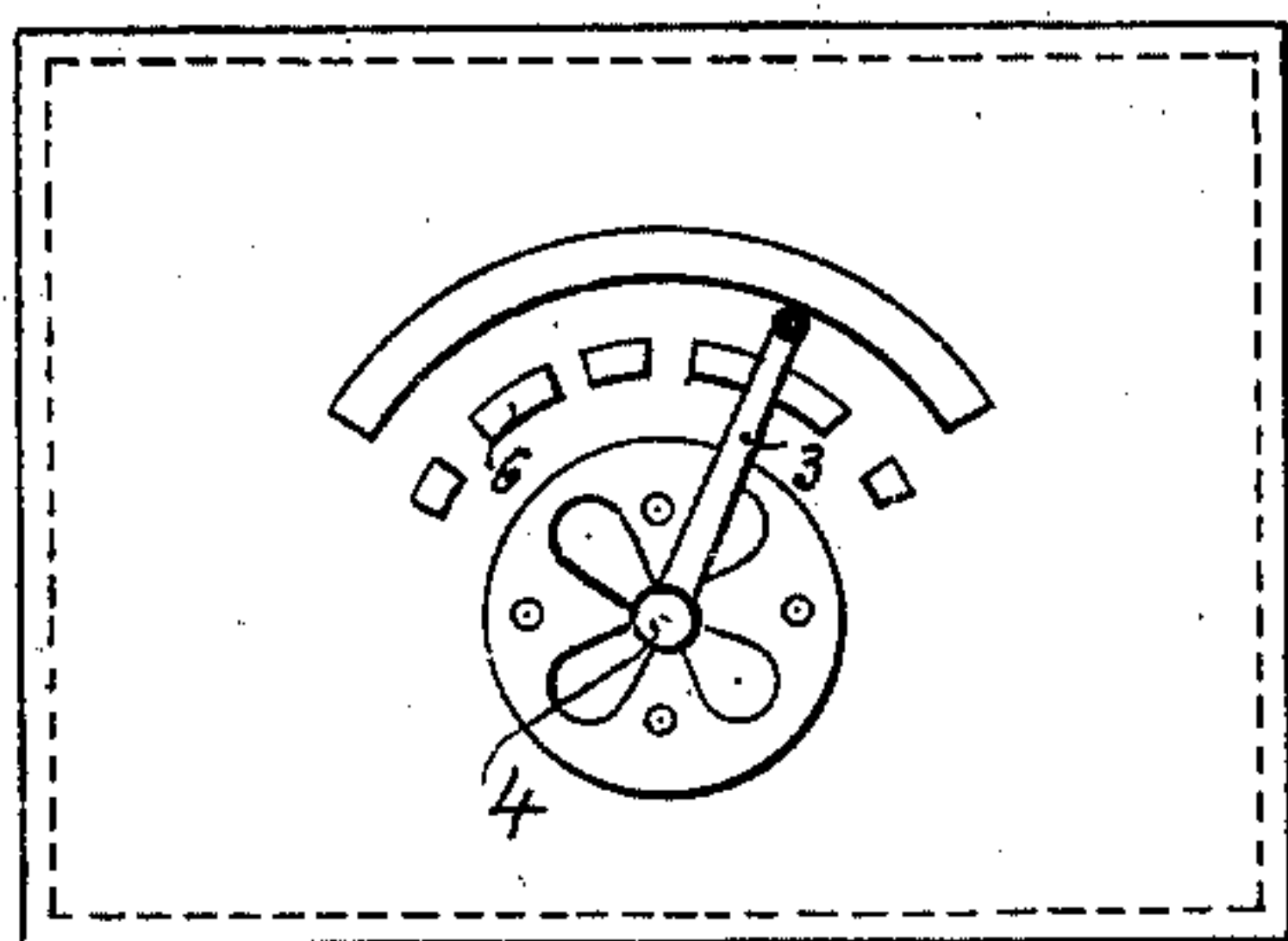
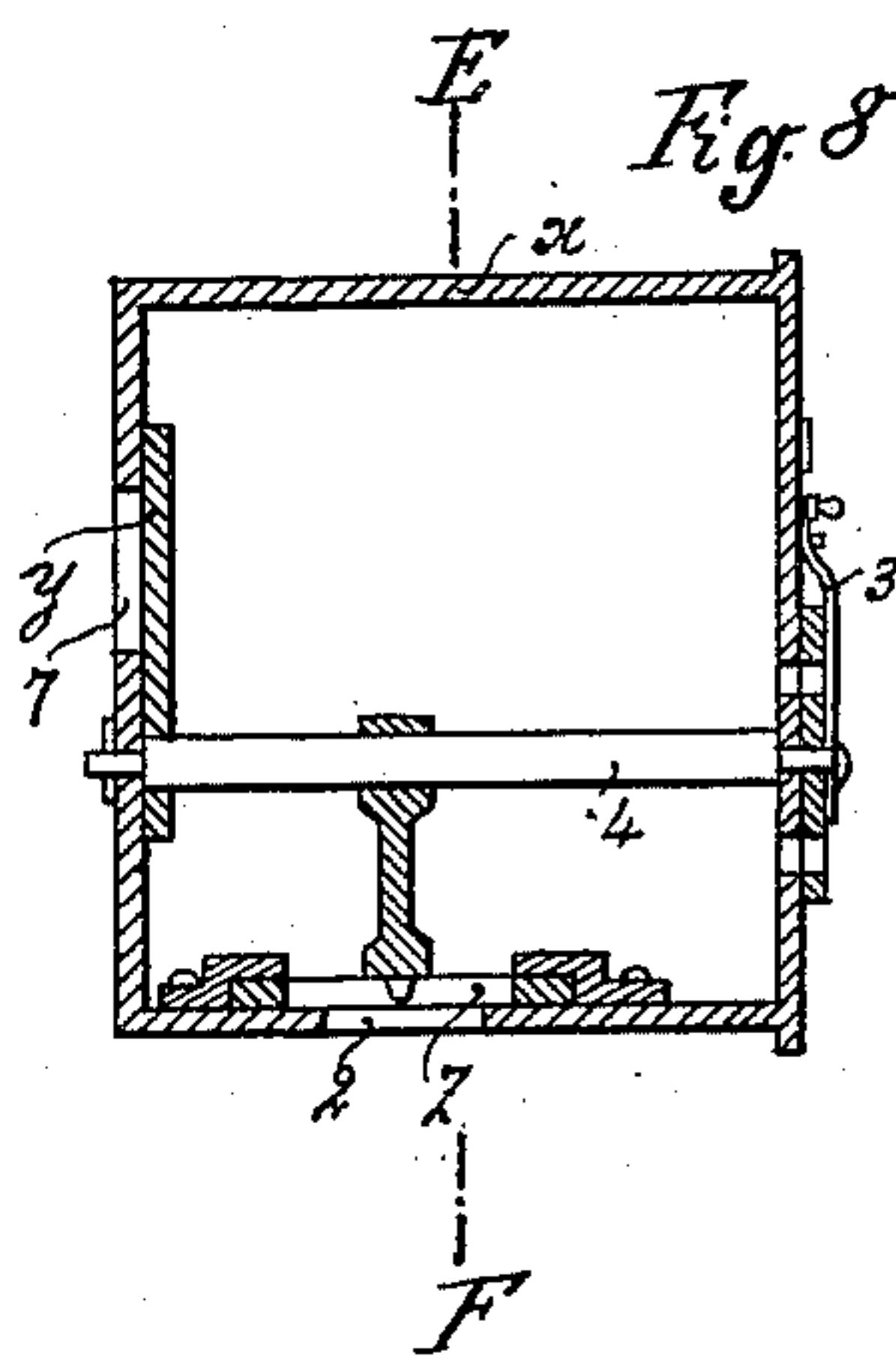


Fig. 8.



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# UNITED STATES PATENT OFFICE.

LOUIS LORENZ, OF BERLIN, GERMANY.

## STOVE.

SPECIFICATION forming part of Letters Patent No. 652,321, dated June 26, 1900.

Application filed July 15, 1899. Serial No. 723,993. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS LORENZ, engineer, a subject of the King of Prussia, German Emperor, residing at 10<sup>a</sup> Kurassierstrasse, Berlin, in the Kingdom of Prussia, Germany, have invented certain new and useful Improvements in Stoves, (for which I have applied for a patent in Germany, dated September 20, 1898, and for design patents, dated March 27, 1899, and March 30, 1899, and for a patent in France, dated December 1, 1898; in Austria, dated March 16, 1899; in Hungary, dated March 18, 1899, and in England, dated June 21, 1899,) of which the following is a specification.

The subject-matter of this invention is an independent stove with descending and re-ascending fire-gas current or stove insertion to be fitted into tiled stoves and which is provided with two heating-chambers placed side by side and communicating with each other by a narrow slot only in the lower part and in which in both forms of execution after the complete suppression of the fire the egress of any combustion-gases which may still be present or may be subsequently formed in the stove is rendered possible by an arrangement which is at the same time brought into action on the draft being shut off. In the annexed drawings this construction of stove is shown.

Figure 1 is a vertical section along the line A B. Fig. 2 is a front elevation and partial vertical section along line C D, while Fig. 3 shows the fire-basket carrier; Fig. 4, the grate of the fire-basket; Fig. 5, a toothed protecting-ring above it; Fig. 6, the draft-regulating arrangement in front elevation; Fig. 7, the draft-regulating arrangement in vertical section along line E F; Fig. 8, the same line along G H.

The outer casing of the stove, which may either be made of round or polygonal section, may preferably consist of two superposed halves *a* and *b*, of which the upper one receives the fire-basket *c* and the fuel-chamber *d*, while the lower one, which by a vertical partition *s* is divided into two separate chambers *f g*, (which, however, communicate with each other in the lower part,) serves to receive the products of combustion and conduct them to the chimney-flue along a channel which first descends and then ascends. The upper

half of the stove-casing is provided with a convex and perforated cover *h*, underneath which the closing-plate *l* is firmly seated, which is provided with an aperture *i*, serving for the introduction of fuel, (and which can be closed,) and with a water vessel *k*. The fuel-chamber *d*, arranged underneath this plate, consists of a cylindrical and a conical part, the cylindric extension *d* of which terminates above the first basket *c* at a convenient distance from its grate *m*. The fire-basket, which is closed in all around and is only open above toward the fuel-hopper orifice, comprises, besides the grate, a toothed protecting-ring *n*, arranged above it, which is to prevent excessive accumulation of coal on the grate, and besides this an ash-box *o* is arranged underneath, the contents of which can be removed as required through a horizontal nozzle *p*, of rectangular section, arranged in the side of the fire-basket. The upper margin of the opening of the fire-basket is provided with flat lobes turned toward the outside in order to prevent any coal from dropping into the annular space between its outer side and the stove-casing. The inner surfaces of this space, through which the fire-gases pass after their generation in the grate on their way to the anterior heating-chamber *f*, are provided with longitudinal and transverse grooves or notches, so as to afford a hold for fireproof material, with which they will require to be lined in order to resist the great heat existing in this part. This inner circular space is accessible through a door *l*. The fire-basket is held in position by a ring *q*, which rests on three or more projections on brackets or supports *r*, which are arranged on the inner side of the upper margin of the lower part of the stove-casing *b*.

By means of the partition *s*, which is first placed vertically and then extends toward the side, terminating above the pipe-nozzle *t*, (arranged in this part for the purpose of carrying off the fire-gases,) this lower part of the stove-casing is divided into two separate halves, which, however, communicate with each other by a slot *v* immediately above the bottom *u*.

Into an opening arranged in the upper part of the stove-casing, on a level with the fire-basket, a box *x*, closed on all sides, is ar-



ranged so as to fit hermetically into this opening, so that its outer side comes nearly flush with the margins of the opening, while its hindmost half is inserted into the rectangular nozzle *p*, (provided for the removal of ashes in the side of the fire-basket *c*,) so as to fit tightly into it. This box is fitted with two slides, one of which, *y*, slides along the vertical wall at the back in front of an opening 7, arranged in it, for the purpose of regulating the admission of air to the grate of the fire-basket, while the other, *z*, serves to open the slots 2 in the bottom plate (leading into the anterior heating-chamber *f*) whenever the opening 7, controlled by the fire-basket slide, is wholly or nearly closed. Both slides *y* and *z* are worked simultaneously by means of a horizontal spindle 4, which is provided outside the perforated front face of the box with an adjusting-lever 3, the first-mentioned slide being acted upon direct and the second by means of a lever, so that slide *z* will always be open whenever *y* is wholly or partially closed. By this combination a draft through the stove is established, even when the fire has been extinguished, by shutting off the supply of air to the grate.

The front face of box *x*, which projects just outside the stove-casing, is provided with a projecting segment-strip 6, into the notches of which the adjustable spring-lever 3 can be

fixed, so as to regulate the intensity of heating to the desired degree by more or less opening the orifice 7, through which air is admitted to the grate.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

In a stove, the combination of the lower section *b*, provided with the smoke-outlet *t*, the upper section *a* superimposed on said lower section, the fire-basket *c* supported on said upper section, and provided with the opening *p*, the box *x* fitted into the upper section adjacent to said fire-basket and communicating by means of apertures through its walls with the fire-basket *c*, the outside air, and the lower section *b*, slides *y* and *z* controlling the openings leading into the fire-basket, and the lower section respectively, and a common operating means for said slides, the relative arrangement of the slides being such that when the opening leading to the fire-basket is closed, the opening leading to the lower section is open, for the purpose set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

LOUIS LORENZ.

Witnesses:

HENRY HASPER,  
 WOLDEMAR HAUPT.