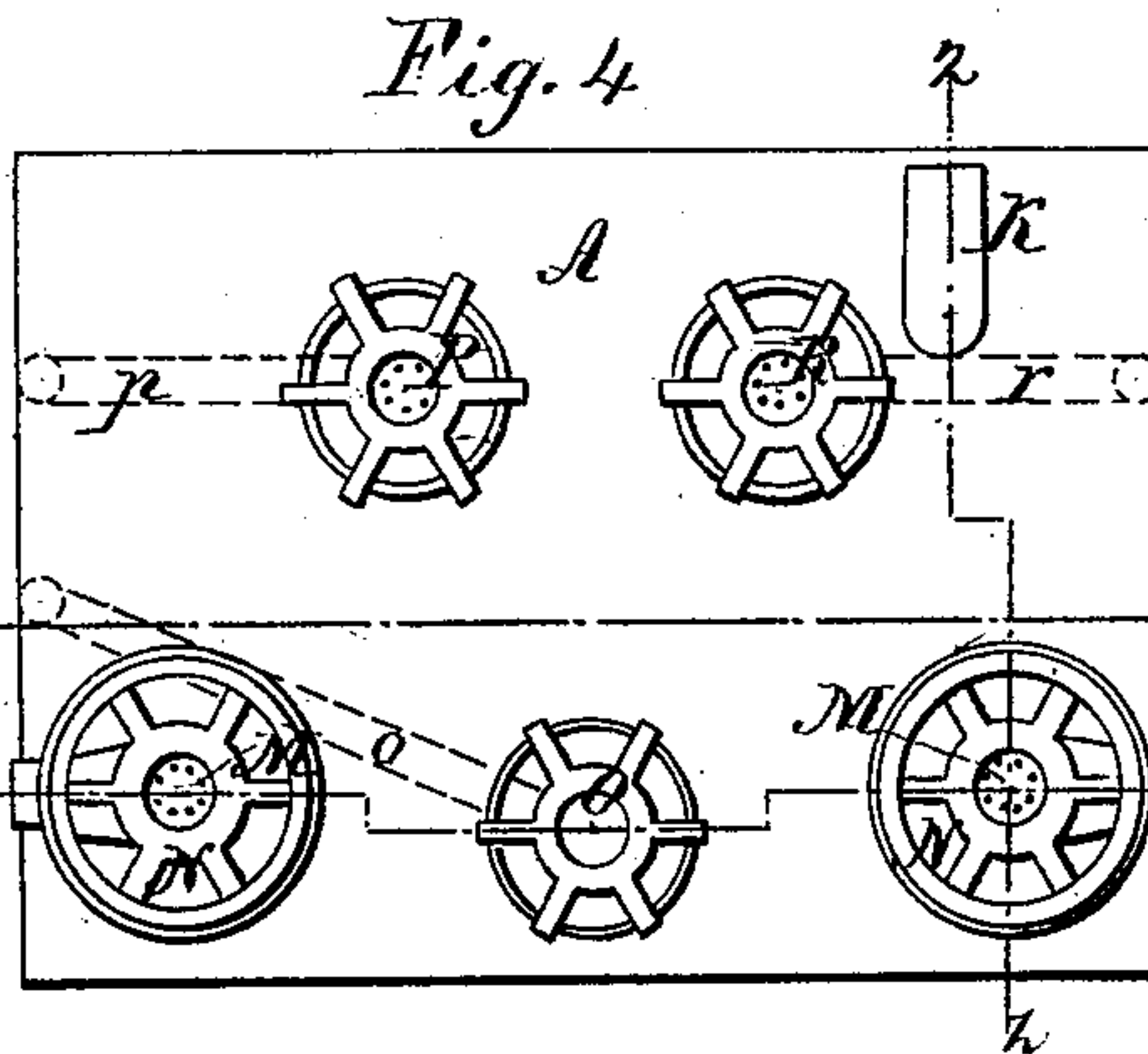
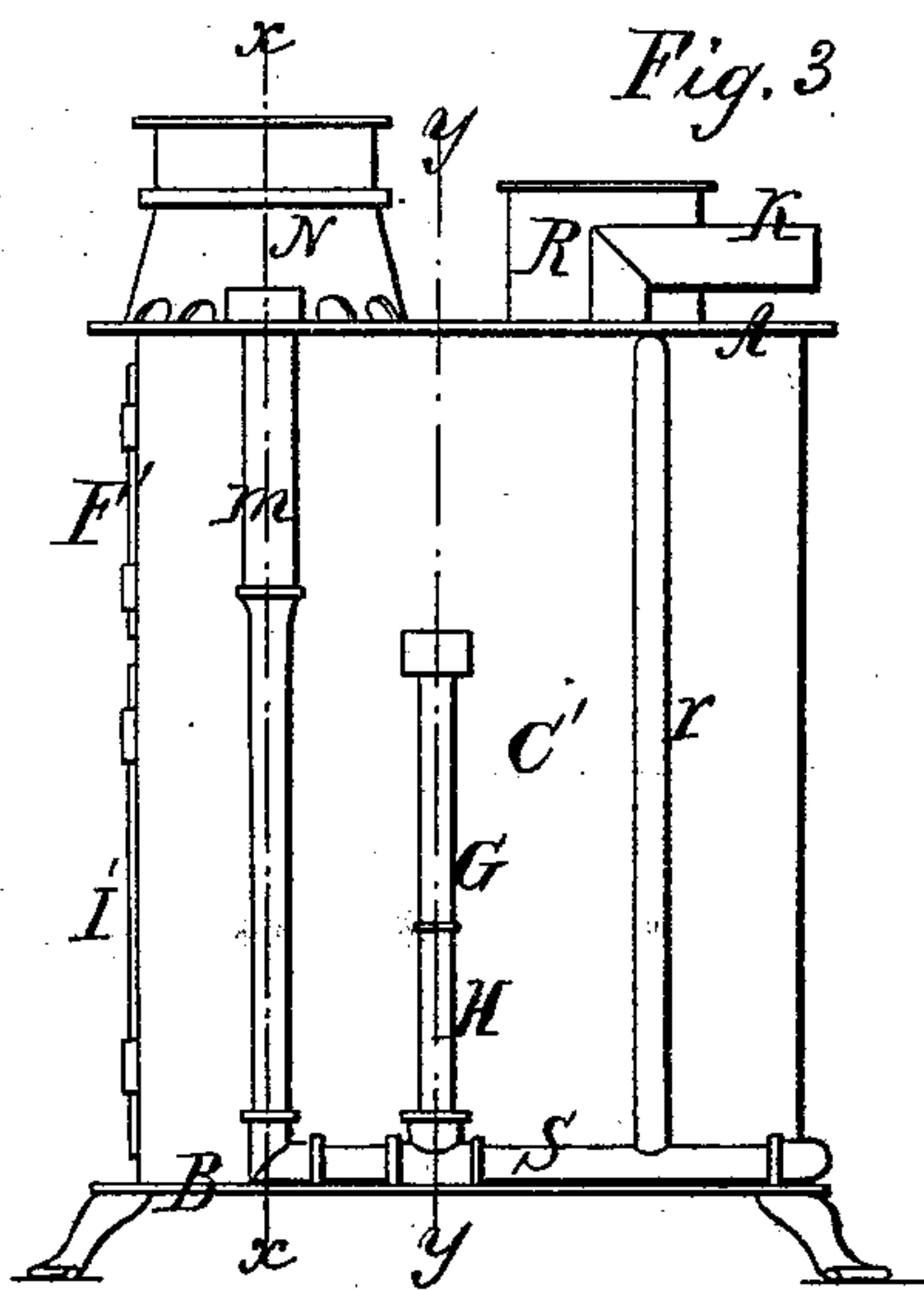
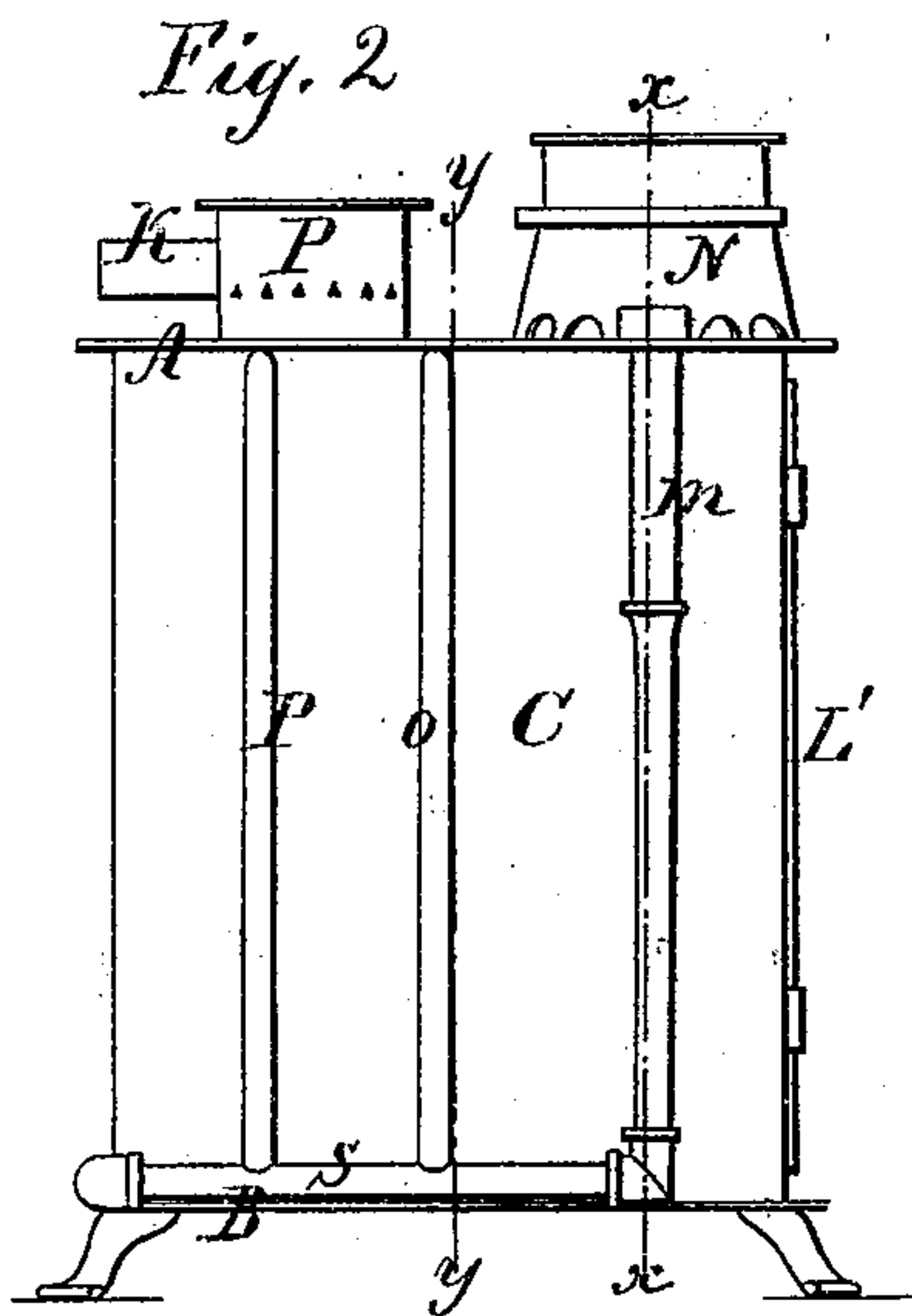
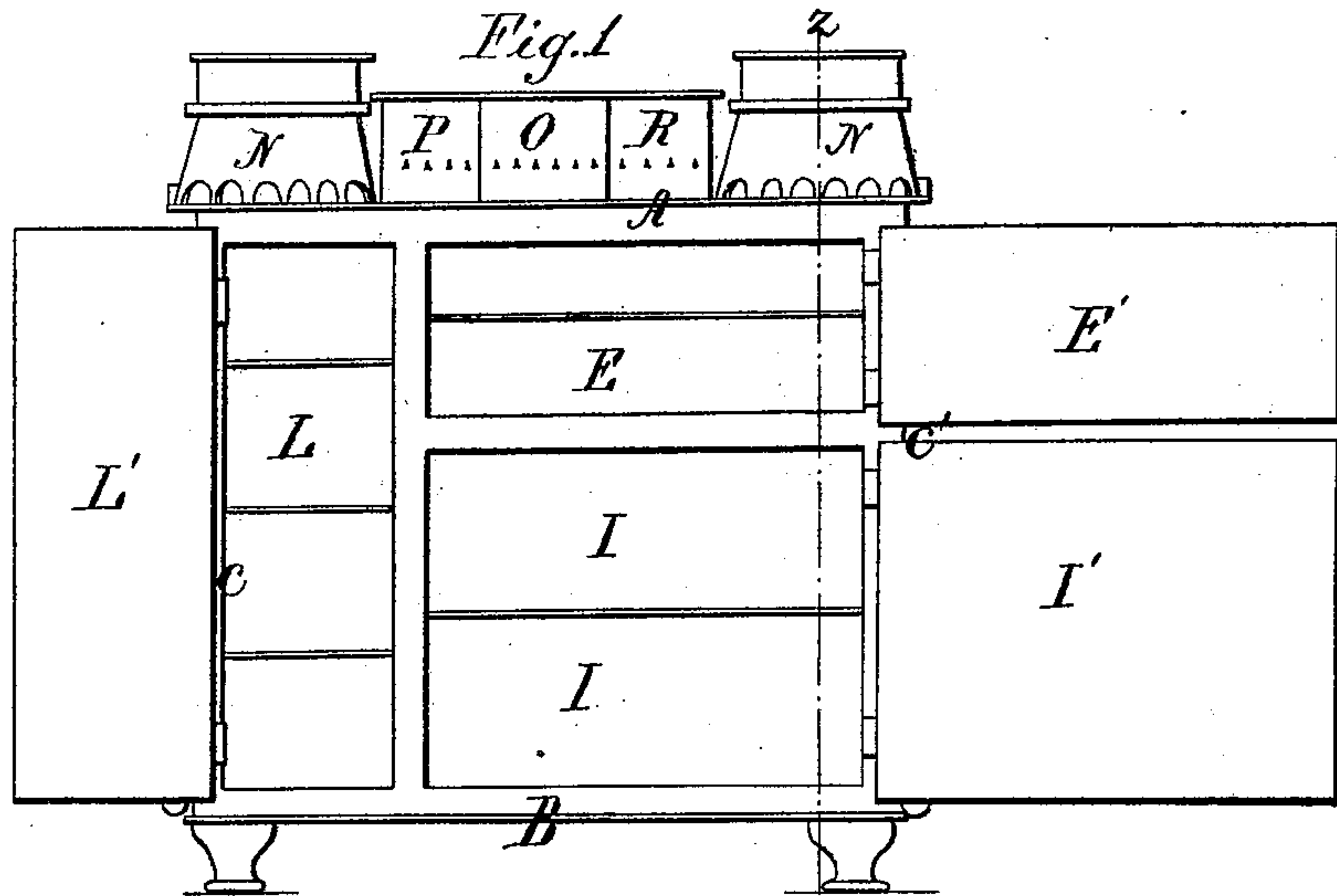


A. L. Bogart.

Gas Range.

Nº 96,666.

Patented Nov. 9, 1869.



Witnesses
Chas H Poole
H. M. Lowry

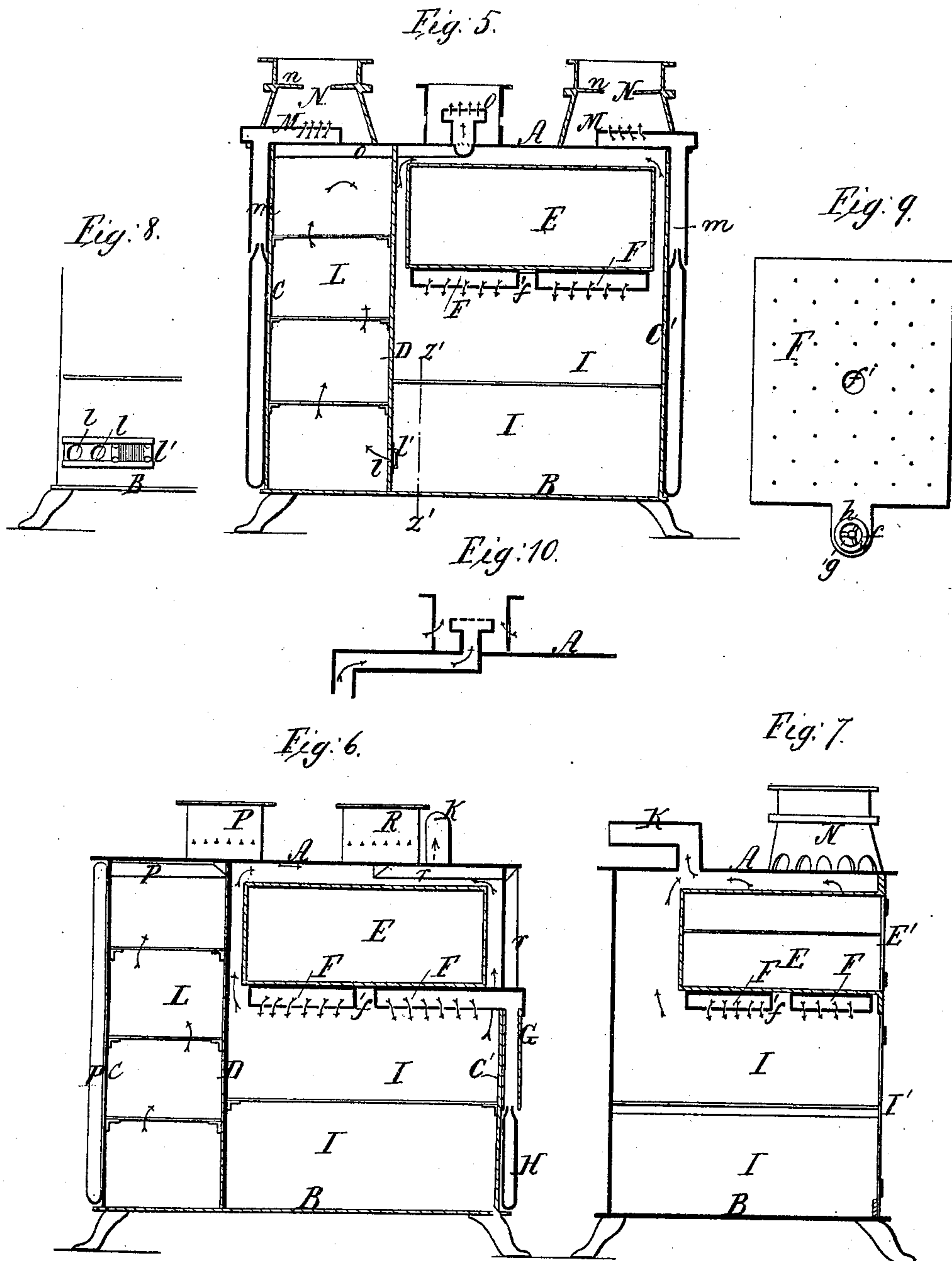
Inventor
A. L. Bogart
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attys.

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Chas H Poole
H. M. Lowry

Inventor;
A. L. Bogart.
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United States Patent Office.

A. L. BOGART, OF NEW YORK, N. Y.

Letters Patent No. 96,666, dated November 9, 1869.

GAS-RANGE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, A. L. BOGART, of New York city, in the county of New York, and in the State of New York, have invented certain new and useful Improvements in Gas-Ranges; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1 is a front elevation of my improved range.

Figures 2 and 3 are end elevations of the same.

Figure 4 is a plan view of the upper side.

Figures 5 and 6 are vertical longitudinal sections on the lines *x x* and *y y*, respectively, of figs. 2, 3, and 4.

Figure 7 is a vertical cross-section on the line *z z* of figs. 1 and 4.

Figure 8 is a broken vertical cross-section on the line *z' z'* of fig. 5.

Figure 9 is a plan view of the lower side of the burner for heating the oven, and

Figure 10 is a detached central section of one of the upward burners.

Letters of like name and kind refer to like parts in each of the figures.

My invention is an improvement upon gas cooking-ranges; and

It consists, principally, in the general construction and arrangement of the various parts of the range, whereby they are so adapted to each other, as that, when combined, a most convenient, effective, and economical device is produced, capable of performing, in a superior manner, all of the offices usually required.

It also consists in the general form and construction of the burner for heating the ovens, in combination with the mixing-chamber connected therewith, as is hereinafter fully set forth.

In the annexed drawing—

A represents the top, B, the bottom, and C and C', the ends of the range, constructed of sheet-iron, in the general form shown by the drawings.

The interior of the space thus formed is divided longitudinally, by means of a vertical partition, D, placed about one-third the distance between the ends, and in the largest space is suspended, in the usual manner, an oven, E, the front of which is open, and extends to the front of the range, while between its ends, rear, and top, and the corresponding contiguous portions of said range, is left a suitable flue for the upward passage of the heated air from the burner F, situated immediately beneath said oven.

As shown in figs. 6 and 9, the burner F consists of an oblong hollow metal box, corresponding in size with the bottom of the oven, and provided, at one end, with an outward-projecting neck, *f*, which extends through the end of the range, and has connected thereto the

upper end of a short pipe, G, forming the mixing-chamber.

The lower surface of the burner is provided with perforations for the escape of the mixed gas and air, while, at its centre, is a circular opening, *f'*, which extends through said burner, but does not communicate with its interior, the object of which will hereinafter be explained.

The lower end of the mixing-chamber G is open, and has attached thereto a ring, *g*, having secured in its centre, radially, a nipple, *h*, by means of two or more fins or webs connected to both ring and nipple.

The supply-pipe H being suitably connected to the lower end of said nipple, the gas passing upward from the latter produces a partial vacuum in the lower end of the mixing-chamber, into which the air rushes, and, uniting with the ascending current of gas, forms a mixture, that escaping downward through the openings in the burner, is consumed with a blue, inodorous flame.

The heat thrown downward from the burner F is sufficient to roast any article placed beneath in the oven I, and from the ease with which the flow of gas, and, consequently, the degree of heat, can be regulated, this usually most difficult operation becomes a pleasant task.

The heated air from the roasting-oven passes upward through the flues *d*, around the baking-oven, and finally escapes through the pipe K, extending upward and rearward from the top plate, by means of which the necessary quantity of heat is communicated to said oven, to enable the baking therein of any desired articles.

The space L, to the left of the vertical partition, forms a warming-closet, a sufficient amount of heat being radiated through said partition to warm such articles of food as may be placed therein.

In order that a greater amount of heat may be admitted within the closet, when desired, than would be radiated through the partition, a number of openings, *l*, are made through the latter, which openings are closed, and the admission of the heated air regulated by means of a slide, *l'*.

It being very difficult to construct the doors to the ovens and warming-closet with such accuracy as to entirely exclude the outer air, it is found that a sufficient quantity is admitted to the roasting-oven, around its door I', to supply the requirements of the burner F, and also to furnish the necessary upward current for heating the upper oven; but in case that such means should prove insufficient, suitable openings might be provided in the door, bottom, or sides of said oven I, to admit the required supply.

The upper side of the burner F is placed in contact with the bottom of the oven E, and the heat thereby

communicated to the bottom of said oven is found to be sufficient, but, if desired, a flue, corresponding with that upon the sides of said oven, may be provided beneath the same, and the heated air admitted thereto by means of the circular opening *f*, at the centre of said burner.

In order that the ordinary operations of cooking may be performed, a number of upward burners are provided upon the top of the range, those near the front corners *M* (the general shape of which is shown in figs. 4 and 5) having been secured to me by Letters Patent, No. 92,931.

The burners *M* are provided with mixing-chambers *m*, similar to that connected to the burner *F*, and have placed over each a cylindrical casting or crown, *N*, the upper end of which corresponds in interior diameter with the size of the utensils to be employed thereon.

A ledge, *n*, extending around the interior of each crown, a short distance below its upper end, contracts the size of the opening, and causes the heated air and flame to pass upward at the centre only.

O, *P*, and *R*, represent three burners, of the shape shown in fig. 10, which are placed in front and near the rear, upon the top of the range, and receive a supply of gas and air through the pipes *o*, *p*, and *r*, respectively, which pipes extend outward and downward, and are connected with the main supply-pipe *S*, extending horizontally around the ends and rear of said range. Suitable crown-castings being placed over said burners, the range is complete.

The special advantages claimed for this device, are—

First, it is the only gas-range ever constructed, in which an admixture of gas and air (formed before entering the burners) has been used, and as the flame from said mixture is perfectly inodorous, and, consequently, does not render the air of a room impure, one of the greatest objections to the use of gas for heating or cooking-purposes is removed.

Second, the downward burner is the only one ever employed which does not produce a sufficient quantity of soot to render its use entirely impracticable, and, therefore, this range is the first in which a practicable roasting-oven has been possible.

Third, the general construction and arrangement of the several parts of the device are such as to insure great convenience, without rendering the range at all bulky, and as it can be entirely constructed from sheet-iron, with the exception of the burners, its cost will be much below that of ordinary ranges.

Having thus fully set forth the nature and merits of my invention,

What I claim as new, and desire to secure by Letters Patent, is—

The within-described range, provided with the ovens *E* and *I*, the warming-closet *L*, the burner *F* provided with the mixing-chamber *G*, and the upward burners, *M*, *O*, *P*, and *R*, (or either separately,) all constructed and arranged to operate substantially as and for the purpose specified.

Also, the employment of the openings and slide, *l* and *l'*, respectively, within and upon the partition *D*, substantially as and for the purpose described.

Also, in combination with the ovens *E* and *I*, and closet *L*, connected by means of the openings *l* and slide *l'*, the downward burner *F*, (either with or without the central opening *f*), provided with the mixing-chamber *G*, substantially as herein described, and for the purpose specified.

In testimony that I claim the foregoing, I have hereunto set my hand, this 20th day of September, 1869.

A. L. BOGART.

Witnesses:

WM. H. RIBLET,
D. ALLEN.