

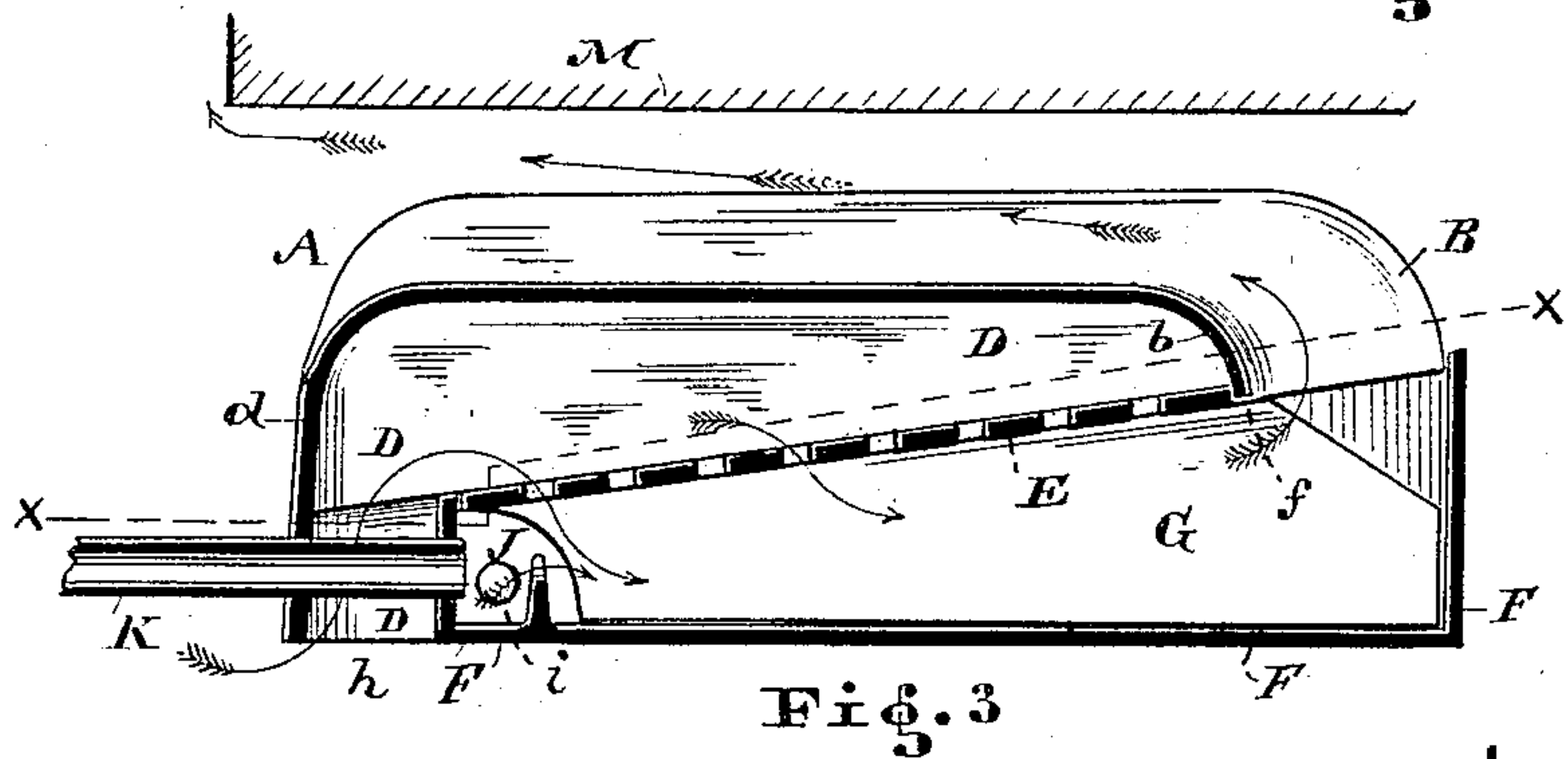
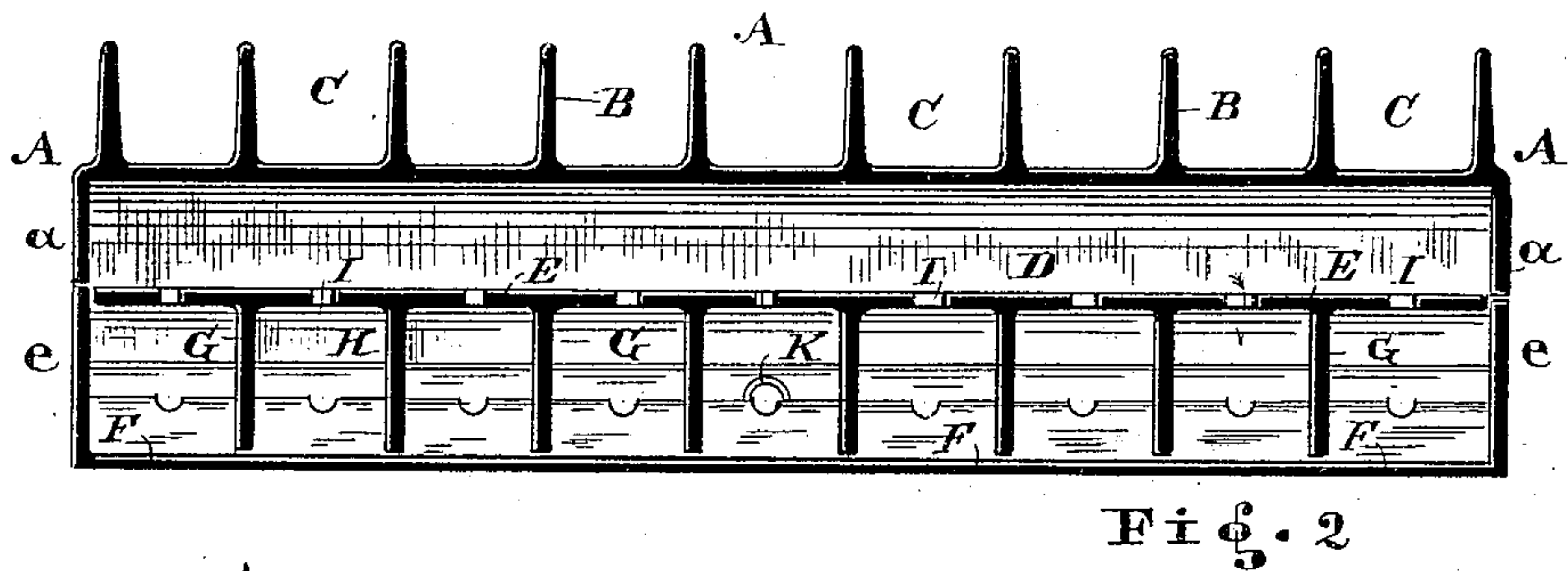
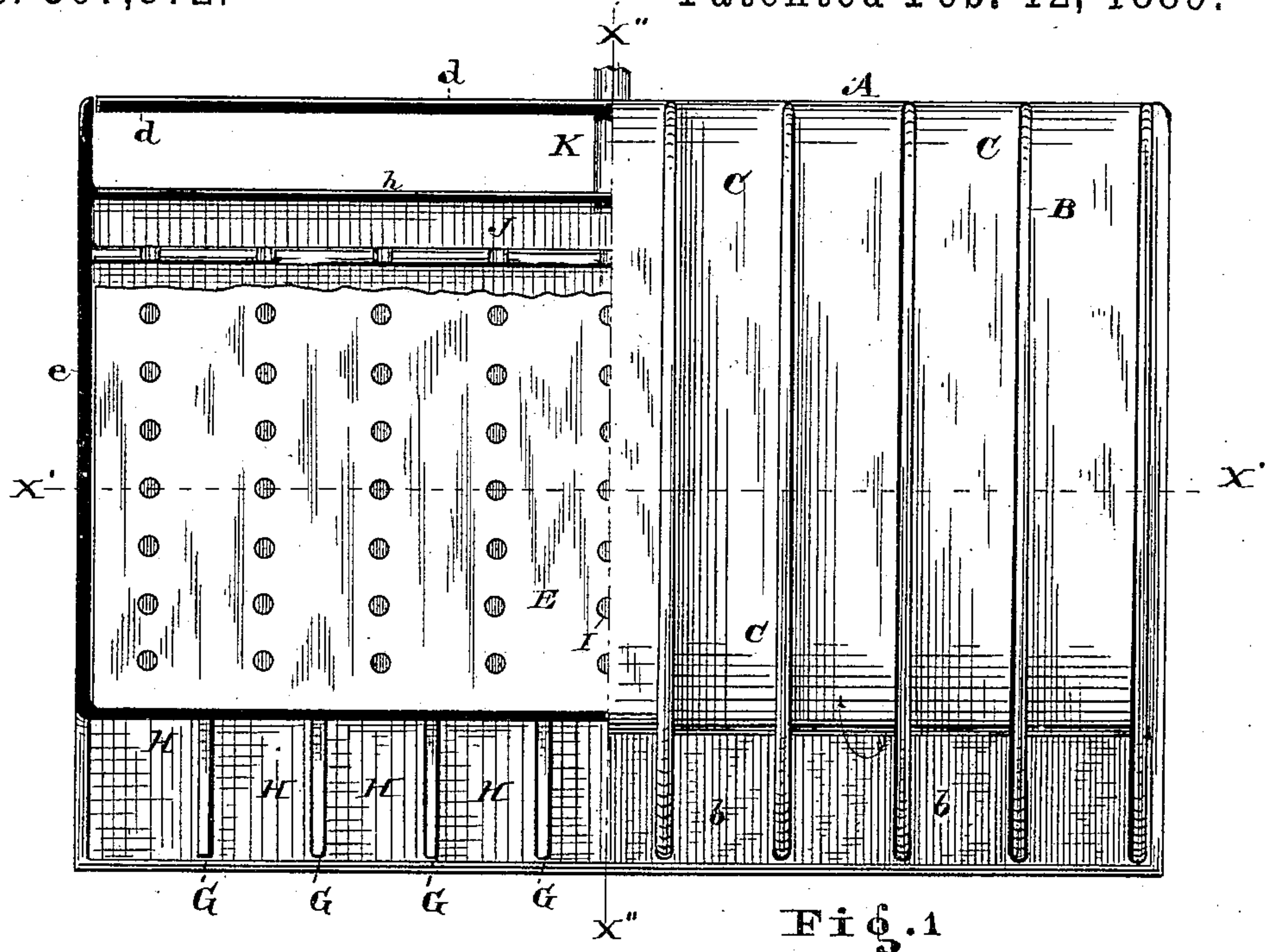
(No Model.)

C. H. PRENTISS.

HYDROCARBON OIL BURNER FOR STOVES, &c.

No. 397,872.

Patented Feb. 12, 1889.



WITNESSES

H. B. Weil
Frank Higley

INVENTOR

C. H. Prentiss
W. H. Burridge
Atty.

UNITED STATES PATENT OFFICE.

CHARLES H. PRENTISS, OF CLEVELAND, OHIO.

HYDROCARBON-OIL BURNER FOR STOVES, &c.

SPECIFICATION forming part of Letters Patent No. 397,872, dated February 12, 1889.

Application filed January 3, 1888. Serial No. 259,731. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. PRENTISS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Hydrocarbon-Oil Burner for Stoves, &c.; and I do hereby declare that the following is a full, clear, and complete description thereof.

The nature of my invention relates to an improved hydrocarbon-oil burner for stoves, the construction and operation of which will be more fully understood on reference to the following specification and annexed drawings, making part of the same.

Figure 1 is a half plan and horizontal section in the line $x x$, Fig. 3. Fig. 2 is a longitudinal section in the line $x' x'$, Fig. 1; and Fig. 3 is a transverse section in the line $x'' x''$, Fig. 1.

Like letters of reference refer to like parts in the drawings and specification.

The invention is designed more especially for cooking stoves and ranges; but it is applicable for other heating purposes, as herein-after described.

In the drawings, A represents a top plate or section having a series of ribs, B, and channels C between the ribs, Figs. 1 and 2. An air-flue, D, is formed between the top plate, A, and the central plate, E, Figs. 2 and 3. This flue is made by the end flanges, $a a$, the curved side b , and flange d . The flanges $a a$ rest upon the flanged ends $e e$ of the lower section or plate, F. The curved side b is in contact with the edge of the central plate, E, as seen at f , and the flange d extends down over the rear ends of the central plate and lower section, F, but at a certain distance therefrom. By the said construction is formed an air-induction flue, D, and its external terminal at h , Fig. 3, is formed between the flange d and rear ends of the central plate, E, and lower section, F. Through this flue from the exterior the air passes to the combustion-flues. In passing through this flue and the openings in the plate E the air becomes heated to such a degree on commingling with the inflamed oil as to insure the greatest amount of heat from the combustible properties of the oil and heated air.

Extending down from the central plate in contact with the lower section are one or

more partitions, G, with corresponding combustion-flues between them.

In the central plate are openings I for air admission from the exterior through the flue D into the combustion-flues. These flues divide the inflamed oil and vapor into small currents, which quietly burn in passing through, avoiding the noise and puffing of burning liquid fuel in an open combustion draft-chamber.

Oil is conveyed into the trough J, Figs. 1 and 3, by means of the pipe K, which is connected with an oil-tank in any suitable way. (Not shown.) This liquid fuel in the trough may be ignited through an opening, i , in the end, Fig. 3, or otherwise. The flames of the ignited fuel pass from the trough into the combustion-flues H, as indicated by the arrows 1. In passing through said flues it commingles with the air from the exterior, which has been inducted into the combustion-flues through the flue D and openings I. From the flues H the heat goes up into the channels C, which distribute it over and about the oven, boiler, or other object in the position indicated at M to be heated.

It is preferable to make the apparatus in sections, as shown, that the parts may be readily separated for the cleaning out of any deposit or residuum of the burned oil, and also for convenience in repairing. It requires no special construction of a cooking stove or range for said invention, as it is applicable to all having a fire-place of the usual form and arrangement.

It may be placed in such fire-place without any material change or alterations for practical use, and the gases from the fuel escape through the stove-pipe.

The apparatus is also applicable and can be arranged for heating-stoves of various kinds not used in cooking, at the same time retaining the essential features of the invention.

It is found no special formation of a stove or range is required for the use of this invention. The respective proportions of the different parts of this burner are adapted to the size of the stove or range in connection with which this burner is to be used, and if these proportions are properly taken then this burner will operate in a heating-stove equally as well as in a cooking stove or range. The position or

location of the burner within a stove or fireplace, respectively, is such that the heat and flames of the burning oil will come in contact with the articles to be heated in the same manner as in stoves using ordinary fuel.

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

1. In an oil-burner, the top plate, A, central perforated plate, E, the two forming an air-passage, D, said plate E having one or more partitions, G, forming flues H, in combination with the lower plate, F, having the trough J extending up therefrom, and an oil-supply pipe, substantially as described and shown.

2. In an oil-burner, the combination of the top plate, A, central plate, E, and bottom plate, F, said top plate provided with ribs B and flanges *a a* and *d*, forming a conduit, D, between A and E, said central plate perforated

to form an open relation between said conduit D and an oil-trough at the inner front side of plate F, arranged substantially as and for the purpose set forth.

3. In an oil-burner, the top plate, A, central plate, E, having a series of partitions forming combustion-flues, and openings I, formed in said plate E, arranged as described, in combination with the lower plate, F, having the trough J extending up therefrom, in the manner and for the purpose substantially as set forth.

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

CHARLES H. PRENTISS.

Witnesses:

W. H. BURRIDGE,
B. F. EIBLER.