

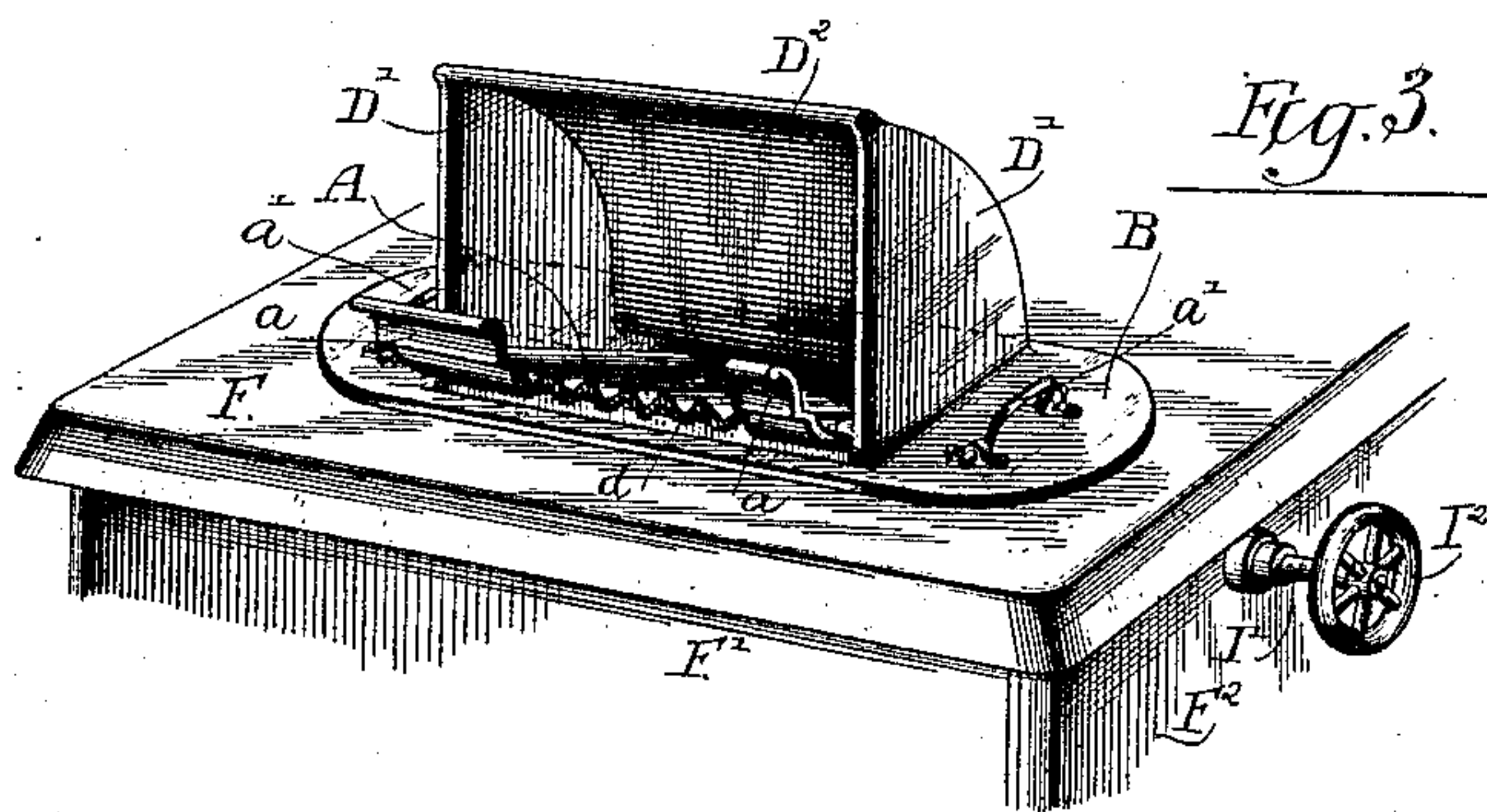
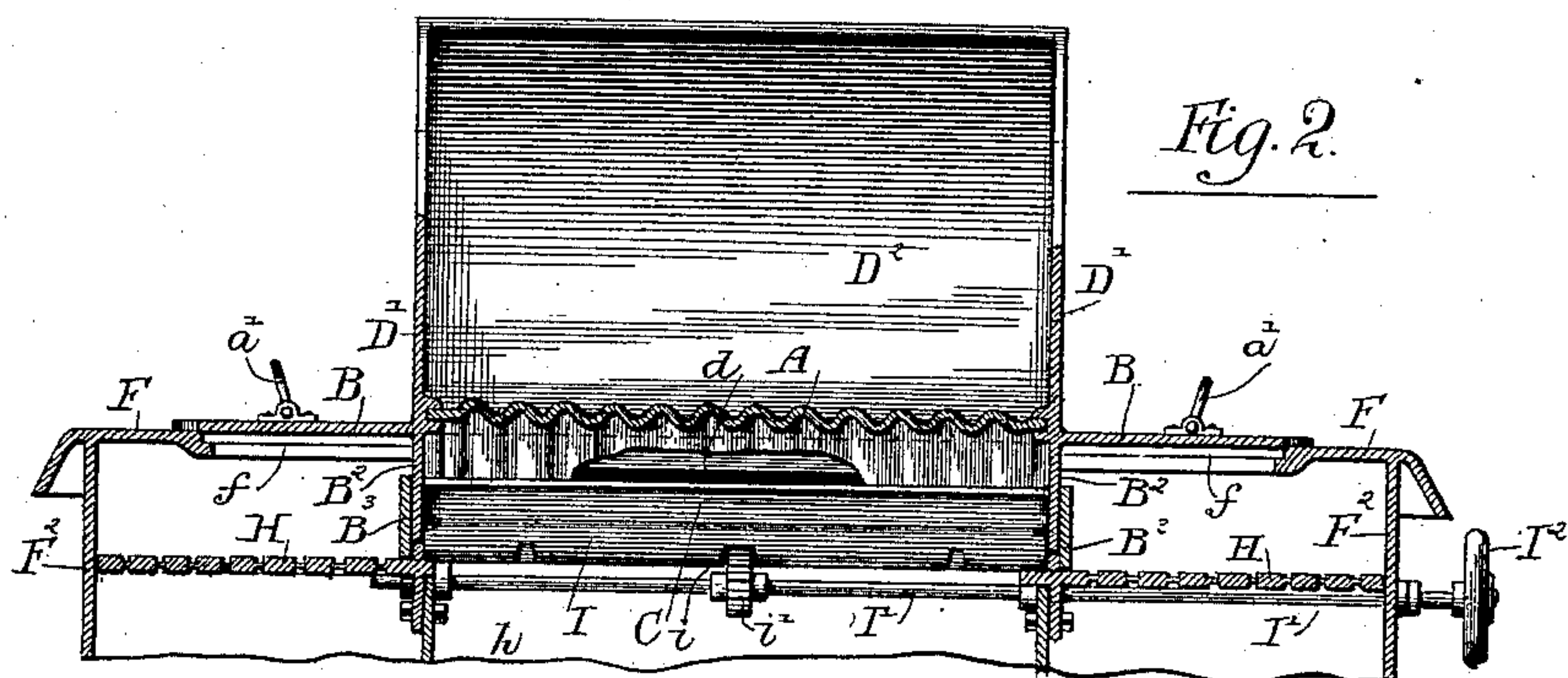
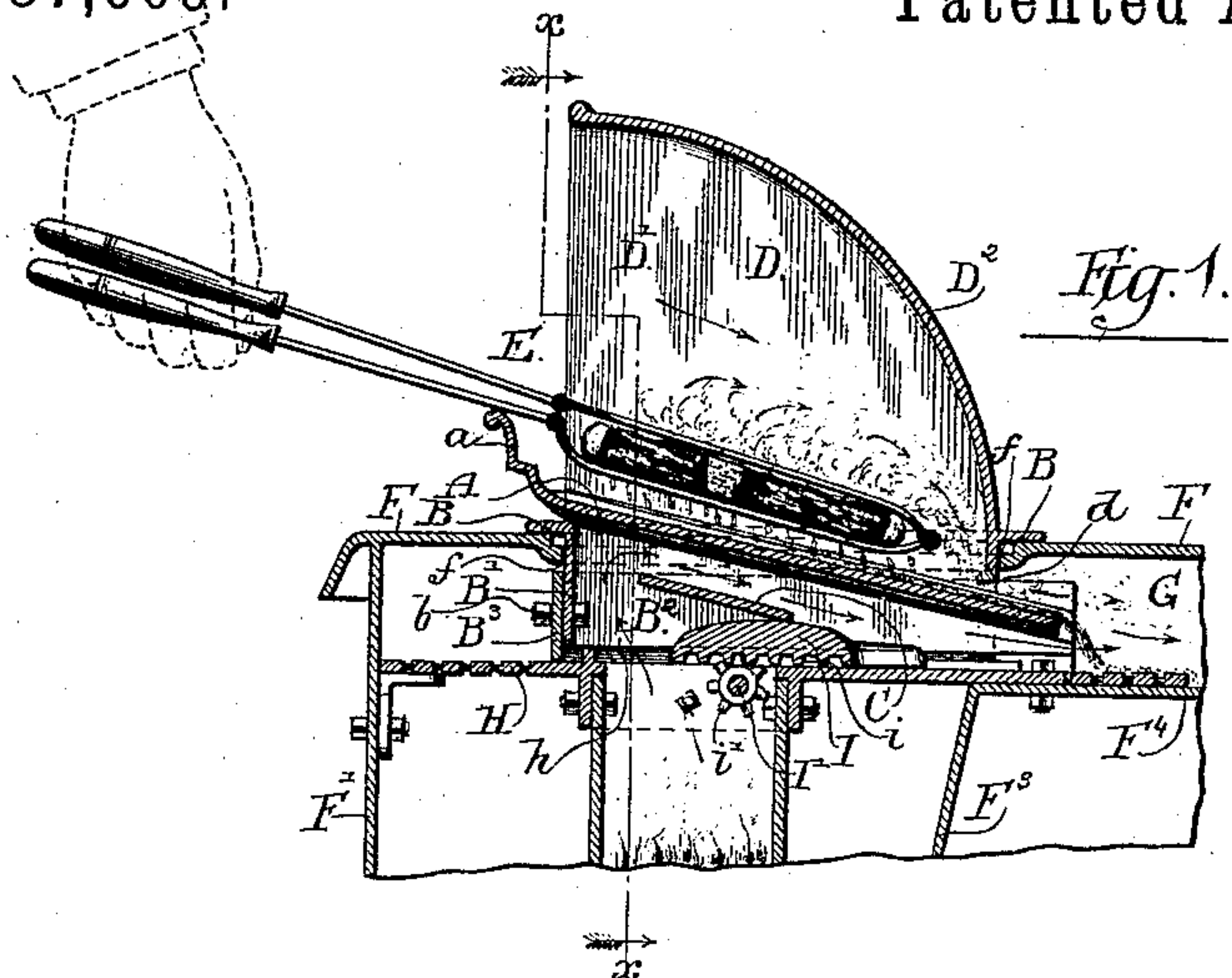
(No Model.)

W. VOGEL.

## BROILER.

No. 387,609.

Patented Aug. 7, 1888.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

WILLIAM VOGEL, OF CHICAGO, ILLINOIS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE VOGEL PETROLEUM HEATING COMPANY, OF SAME PLACE.

## BROILER.

SPECIFICATION forming part of Letters Patent No. 387,609, dated August 7, 1888.

Application filed November 11, 1886. Serial No. 218,520. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM VOGEL, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful  
5 Improvements in Broilers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part  
10 of this specification.

This invention relates to a novel broiler or device for cooking meats or other articles of food by the direct action of radiated heat, such device being more especially adapted for  
15 use in connection with burners using liquid or gaseous fuel.

The invention consists in the matters hereinafter described, and pointed out in the appended claims.

20 The device herein illustrated as embodying my invention is shown as applied to a cooking-stove provided with a burner for liquid fuel, such as is illustrated in another application for Letters Patent, Serial No. 218,518,  
25 filed by me simultaneously herewith. Said broiler consists in its essential features of a plate or casting of thin metal, over or against one side of which the flame from a burner is caused to pass, the plate being held or sus-  
30 tained in a position convenient for the holding of an article to be broiled near its surface.

One form of the device herein illustrated is provided with a plate of relatively thin metal, which plate is supported in a frame which is  
35 provided with parts or plates forming a passage by which the flame and heated products of combustion from the burner are carried along and against the under surface of the said plate, whereby the latter may be retained at a  
40 temperature suitable for cooking by direct radiation.

In the accompanying drawings, illustrating my invention, Figure 1 is a central vertical section of a broiling device embodying my in-  
45 vention, together with parts of a stove adjacent thereto. Fig. 2 is a vertical longitudinal section of the same, taken upon line *xx* of Fig. 1. Fig. 3 is a perspective view of the broiling device shown in Figs. 1 and 2.

50 The broiler shown in Figs. 1, 2, and 3 com-

prises as its main features a thin plate, A, which is heated for broiling, and a supporting plate or frame, B, constructed to rest at its margins upon the top of a stove or range in such manner as to cover the oblong hole formed  
55 by the removal of two adjacent stove-covers and the cross-bar or bridge between them. Said casting B is provided with a central opening, within which the plate A is held, and the casting is provided at the margin of said open-  
60 ing adjacent to the front of the stove with a depending plate or flange, B', and at each end of the opening with similar flanges, B<sup>2</sup>, said flanges being constructed to extend down-  
65 wardly through the hole at the top of the stove when the plate is resting thereon. The plate A is preferably arranged in an inclined position sloping from the front to the rear of the frame, and is attached at its ends to the  
70 flanges B<sup>2</sup> B<sup>2</sup>, and at its side adjacent to the front of the opening in the plate B is arranged to rest upon or against said plate B, the inclination of the plate A being sufficient to bring its rear edge considerably below the under surface of the plate B. Any flange upon  
75 the casting B corresponding with the flange B' is absent at the rear edge of said plate A, so as to leave a passage both above and below the rear margin of the said plate at this point. Beneath and parallel with the plate A is ar-  
80 ranged another plate, C, adapted to form with the said plate A a passage, through which products of combustion are caused to pass, and by which they are retained in contact with the under surface of said plate A.  
85

D is a hood extending over the plate A, formed by vertical end walls, D' D', and a curved plate, D<sup>2</sup>, extending from the rear part of the casting B upwardly and forwardly to a point  
90 over the front edge of the plate A, thereby forming a recess or chamber, open at its front side, into which the broiler or implement E, for holding the food to be cooked, may be in-  
95 serted. At the rear or inner side of the hood D a passage, *d*, is formed between the top of the plate A and the lower edge of the plate D<sup>2</sup>, through which all fumes or odors caused by the cooking are drawn, and from which they pass to the smoke-pipe of the stove. As herein  
100 illustrated, the walls D' D' and D<sup>2</sup>, forming the



hood D, are cast integral with the plate B and with each other; but the hood may be otherwise made as found convenient or desirable.

The stove herein shown is one of familiar form, and embraces a top plate, F, vertical front and side walls, F' F<sup>2</sup> F<sup>2</sup>, an inner wall, F<sup>3</sup>, dividing the fire-chamber from the oven, and an upper wall, F<sup>4</sup>, attached at its front margin to the wall F<sup>3</sup> and forming the top of the oven. The said wall F<sup>4</sup> and the top plate, F, of the stove form the horizontal passage G, through which the products of combustion pass from the fire to the exit or smoke pipe.

H is a horizontal plate, forming part of an oil-burner such as is shown in said prior application above referred to, said plate being provided with a central opening, h, through which pass products of combustion from a burner, as fully set forth in the said prior application.

I is a sliding damper, arranged to close the said opening h and provided with a rack, i, engaging a toothed pinion, i', upon the shaft I', arranged to extend at one end through the side wall of the stove and provided with a hand-wheel, I<sup>2</sup>, as also described in the said application above referred to.

The broiling device shown in Figs. 1, 2, and 3 is more particularly constructed and adapted for use in connection with a stove provided with a burner of the kind illustrated, the inclined plate C being adapted to meet at its lower or rear edge a part or projection upon the plate H, so as to prevent the passage of the heated products of combustion from the opening to the smoke-pipe of the stove otherwise than around the front edge of the said plate C and between the plates A and C in the manner indicated by the arrows in said Fig. 1. To prevent the said products of combustion escaping otherwise than through the passage between the said plates A and C, the depending flanges B' B<sup>2</sup> are provided at their lower edges with a vertically-movable plate, B<sup>3</sup>, which extends around the said flanges B' B<sup>2</sup> at the front and ends of the broiling device, and is adjustably held in place by bolts b b, passing through vertical slots in one or both of said parts, to enable the said plate B<sup>3</sup> to be vertically adjusted to bring its lower edge in contact with the plate H.

In the particular construction herein shown, embracing a sliding plate or damper, I, for closing the exit-opening h of the burner, the plate C is constructed to engage the top surface of the said damper near the middle of the latter, so that the said damper forms a continuation of the plate C. In applying the broiler embracing said plate C to other forms of burners, however, a suitable connection between the plate C and the plate H, or part corresponding therewith, will be otherwise made, as found convenient or desirable.

The plate A is preferably corrugated or provided with grooves or channels running from front to rear, so that fluid dropping from the article being cooked will run off at the rear edge of the plate. The said plate A is also

desirably provided at its front edge with an apertured part or flange, a, affording a rest for the handle of the implement E, as clearly indicated in Fig. 1.

a' a' indicate handles, which may be conveniently attached at the end portion of the plate B, to enable the entire device to be readily removed from the stove when desired.

In the operation of the broiler made as above described and shown the flames and heated products of combustion passing from the burner upwardly through the exit-aperture h thereof will pass around the forward edge of the plate C, and then back along the lower surface of the plate B, and will make their exit through the passage G to the smoke pipe of the stove or range. The said plate B will be made of relatively thin metal, so that it may become quickly heated by the contact of the flame therewith to a degree sufficient to cook meat or other articles of food held over it, the plate being heated to redness in case this amount of heat is found desirable or necessary.

I have herein shown a device embracing my invention as applied to an oil-burning device; but it is entirely obvious that a broiling apparatus similarly constructed may be employed in connection with a gas-burner, or that any other burner or heating device affording a flame which will pass along or in contact with the plate B, so as to heat the latter to a degree sufficient for cooking or broiling by the direct radiation of heat therefrom, may be used.

In the particular construction of the broiler herein illustrated the passage for confining the flames from the burner along the under side of the plate A is formed partially by the plate C and partially by the movable plate L and the top plate, H, of the burner. In carrying out the main features of my invention, however, the flames and products of combustion may be held in contact with the bottom of the plate A by means of parts or plates constructed and supported otherwise than in the particular manner shown—as, for instance, the plate C may extend to or nearly to the rear edge of the plate A.

I claim as my invention—

1. The combination, with an oil-burner, of a broiler comprising a thin imperforate metal plate, a frame or casting supporting said plate and forming a closed chamber located over the burner, and a deflecting wall or walls located beneath the said plate and forming therewith a shallow passage beneath the said plate, said passage having an inlet-opening for the products of combustion at one side of the plate and an exit-opening at the other side of the said plate, whereby the heated products of combustion are confined adjacent to and caused to pass over the under surface of said plate in close contact therewith, substantially as described.

2. The combination, with a stove comprising a top plate, F, provided with a hole, f, for cooking utensils, and a burner comprising a horizontal plate, H, provided with an open-



ing, *h*, forming the exit-passage of the burner, of a broiler comprising a centrally-apertured plate, *B*, fitted to rest at its edges upon the top plate, *F*, of the stove, and provided with depending flanges *B'* *B*<sup>2</sup>, engaging the top surface of the said plate *H*, an inclined plate, *A*, located in the central opening of the said plate *B*, and a plate, *C*, sustained below the said plate *A*, substantially as described.

10 3. The combination, with the plate *B*, provided with the depending flanges *B'* *B*<sup>2</sup>, and the inclined plate *A*, of the movable plates or flanges *B*<sup>3</sup>, adjustably attached to said flanges *B'* *B*<sup>2</sup>, substantially as described.

15 4. The combination, with a stove having an opening, *f*, in its top for cooking utensils, and an oil-burner within the stove, of a broiler comprising a thin imperforate plate, *A*, a frame or casting surrounding and supporting  
20 said plate *A*, said frame or casting being pro-

vided with depending walls or flanges, forming, with the parts of the burner, a closed chamber receiving the products of combustion from the burner, and a hood, *D*, extending over the plate *A*, and provided at its lower rear side with an opening, *d*, communicating with the smoke-exit pipe of the stove, substantially as described.

5. The combination, with the plate *A* of a broiler and walls directing the flame from a burner against the lower surface of said plate, of an upturned flange, *a*, at the forward edge of the plate, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

WILLIAM VOGEL.

Witnesses:

C. CLARENCE POOLE,  
CHARLES T. LORING.