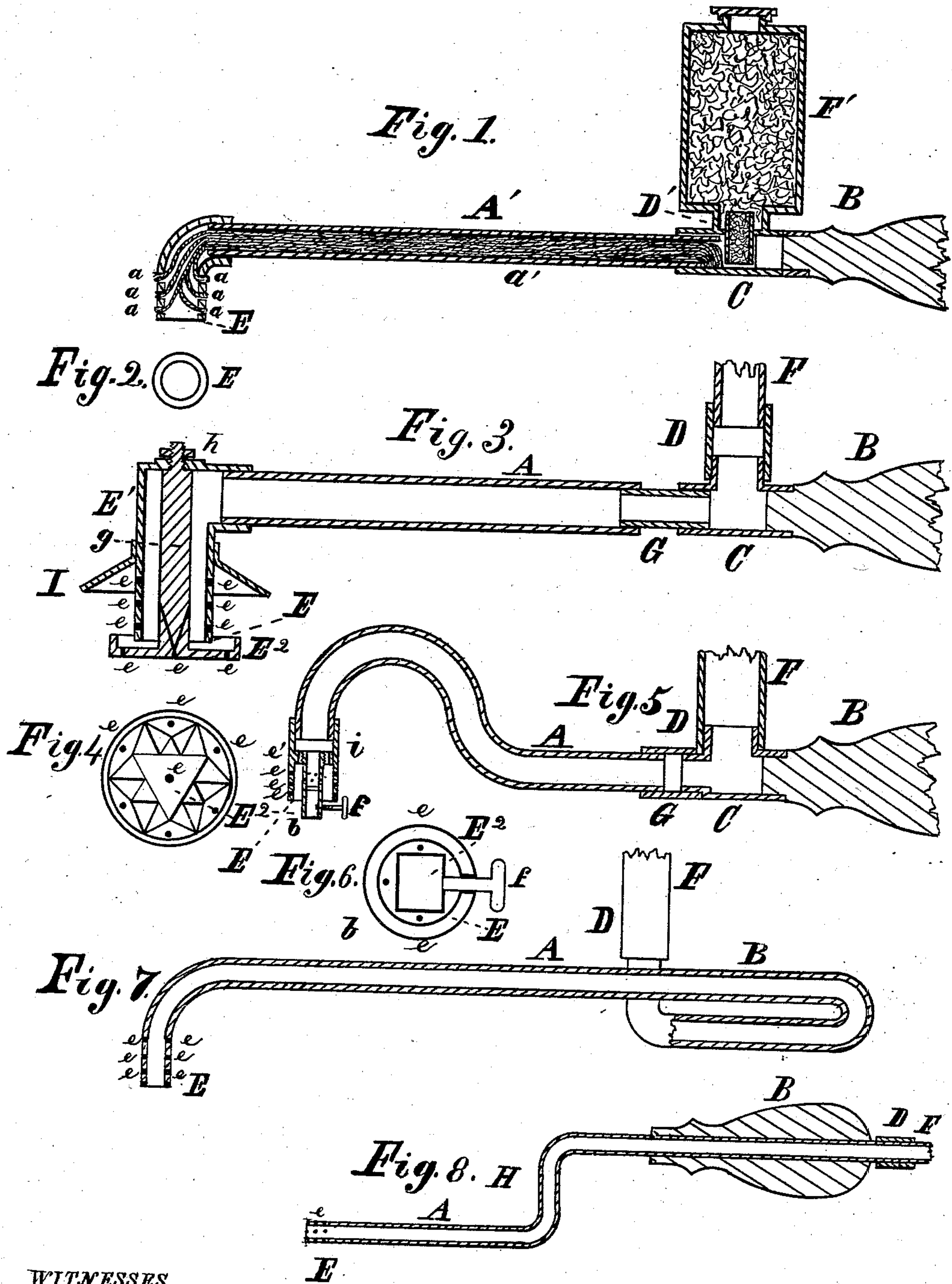


A. S. GEAR.  
Branding-Stamp.  
No. 223,902.  
Patented Jan. 27, 1880.



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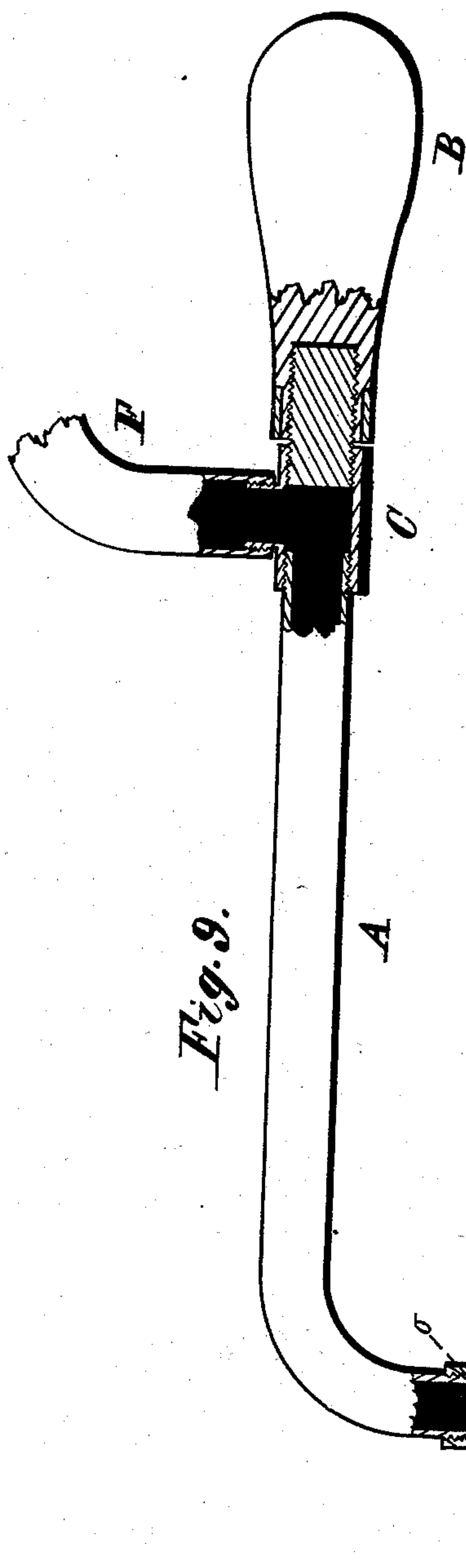


Fig. 9.

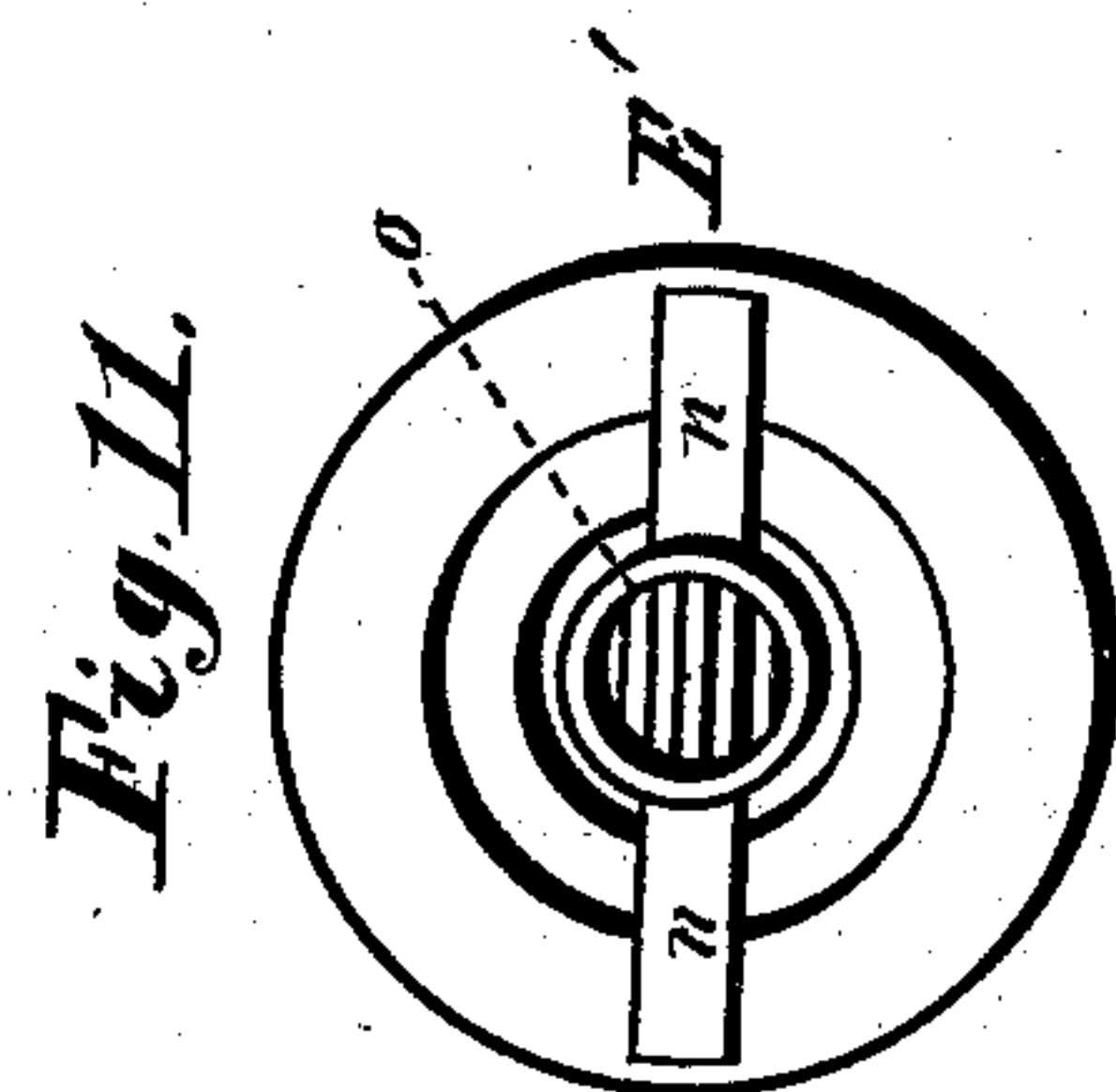


Fig. 11.

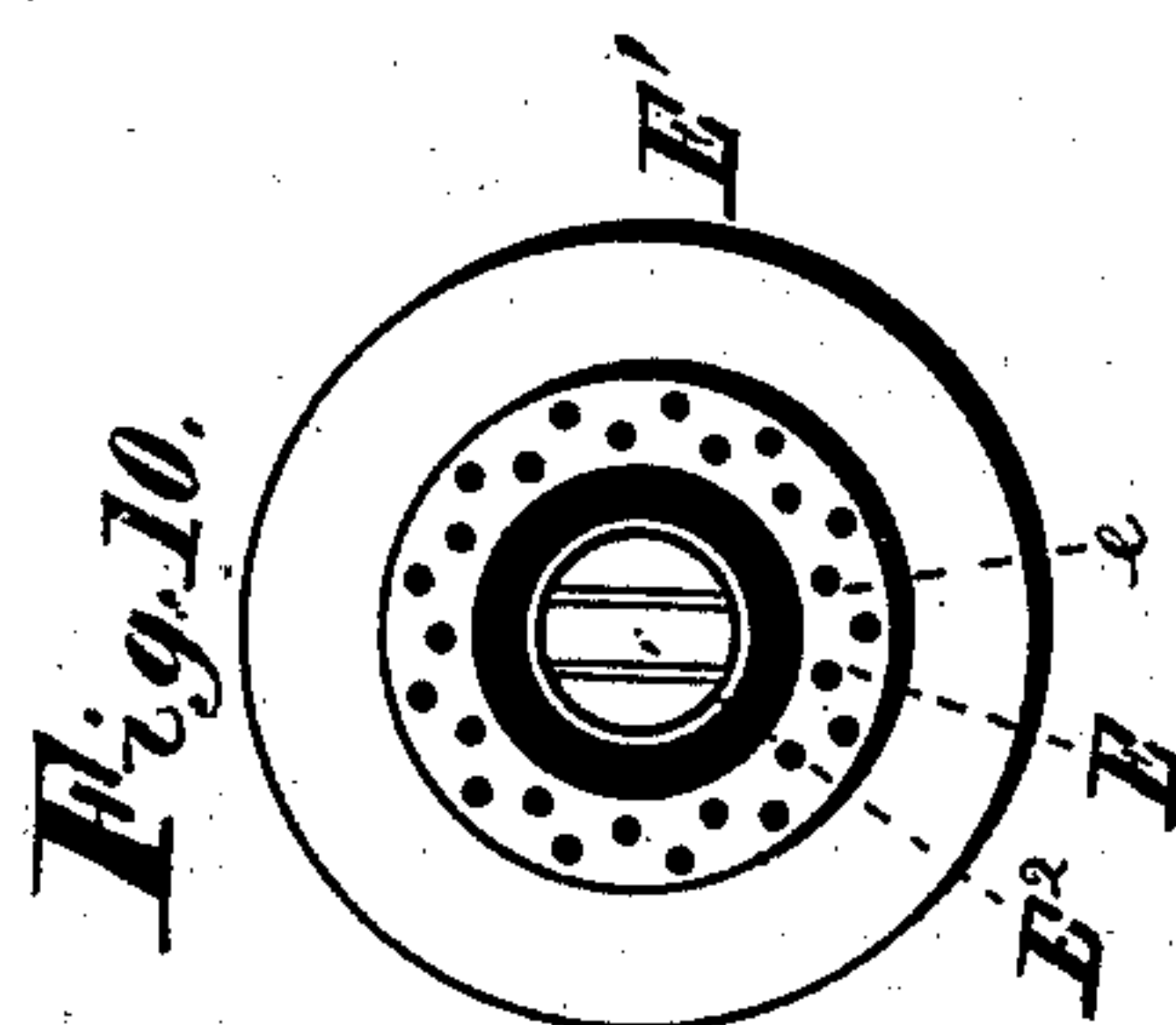


Fig. 10.

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# UNITED STATES PATENT OFFICE.

ALONZO S. GEAR, OF NEW YORK, N. Y.

## BRANDING-STAMP.

SPECIFICATION forming part of Letters Patent No. 223,902, dated January 27, 1880.

Application filed June 12, 1879.

*To all whom it may concern :*

Be it known that I, ALONZO S. GEAR, of the city, county, and State of New York, have invented a Thermo Canceling Die or Stamp; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

This invention relates to a system and means for applying heat for the cancellation of stamps and for other purposes.

The object of my invention is to provide a cheap, rapid, and effective means for the cancellation and destruction of postage and revenue stamps, and for other similar objects.

The invention consists in the method and arrangement of suitable mechanism by and through which heat is safely employed as an agent to effectually cancel postage and revenue stamps and other similar things, and also for the prevention of the obliteration, altering, or raising of impressions made by figures, words, and designs.

The means employed to effect these results consist of a pipe or tube, one end of which is the handle thereof, and also is provided with an attachable and flexible gas-pipe, which is attached at the end of said pipe, or to a nipple connected at any desired point between the ends. The opposite end of this pipe is perforated upon its sides and near the end for the purpose of emitting gas, which is burned upon the outside of said pipe, and for the purpose of heating said end of said pipe to a degree of heat sufficient to instantly burn or scorch an impression upon paper when in contact therewith. The end of this pipe, when left open, serves as the die, or a design may be attached to the same.

When the end of the pipe is used as the die, the gas and flame will be emitted from the open end of said pipe, and when the end of said pipe comes in contact with the substance to be canceled said flame would become extinguished were it not for the perforations through the sides of the tube, and through which the gas escapes, thus keeping it constantly ignited. This pipe may be used in a horizontal or vertical position. When used in a horizontal position the end used as a die, or to which a die is fastened, should be bent sufficiently to allow the handle part of the

pipe to remain in a horizontal position, and allow room for the hand of the operator between the handle and table while the die is in contact with the material operated upon. When the pipe is to be used in a vertical position it should contain an offset sufficiently great to enable the hand of the operator to escape the rising heat.

Another feature of my invention consists in employing a means for volatilizing and burning gas obtained from hydrocarbon oils and other volatile fluids when applied to the purpose of canceling stamps.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 represents a sectional view of my method of employing and converting volatile fluid into a gas for the purpose of heating dies and designs. Fig. 2 is an end view of the die shown in Fig. 1. Fig. 3 is a sectional view of my method of constructing a means for heating dies and designs with coal-gas, Fig. 4 being a face of a die or design. Fig. 5 is a similar view to Fig. 3, showing a removable die which is kept in its position by a set-screw. Fig. 6 is an enlarged end view of the end to be heated, showing the removable die or design and the set-screw for holding the same. Fig. 7 is a sectional view of a device for heating dies or designs, (the gas-pipe is bent so as to form a handle for the operator.) Fig. 8 is a view showing how a pipe may be bent so as to form an offset, said offset being for the purpose of avoiding the ascending heat when used in a vertical position by the operator. Fig. 9 is a sectional view of a device for heating dies, designs, &c., Fig. 10 being a face view of the type, die, or design. Fig. 11 is a top view of the burner.

In the several figures, A represents a section of pipe or tube. In Fig. 1 the section of tube is represented as being filled with wicking *a'*. The several wicks are shown terminating in the orifices *a a*, which are just above the die E. These wicks may be all woven together, forming one piece, and nearly fill the pipe, and not terminate at the orifices *a a*.

C is a T-connection, connecting handle B with pipe A'. To the outlet of said T the body of a lamp, F', is affixed, which is filled with suitable absorbing material for retaining volatile fluid. This reservoir communicates with the interior of the T-connection by the



short nipple D', and is filled with absorbing material. The volatile fluid descends through said nipple and comes in contact with the wicking in tube A', and, by absorption, is conducted to the points *a a*, where it arrives in a volatilized state, or nearly so.

It is not necessary that the reservoir F' should be in the position shown, for the handle B can be so constructed as to contain the absorbing material and volatile fluid, thus securing a double purpose.

In Fig. 3, A represents a tube, one end of which is connected to a handle, B, by the connection C and G.

To the outlet in T-connection C a flexible gas-tube, F, is attached by the connecting-joint D.

On the opposite end of pipe A a burner, E', for heating the die E is attached. *eee* are perforations in said burner for emitting gases and flame, which impinge upon the die E and cause it to become sufficiently heated to produce impressions in a continuous and rapid manner.

It will be observed that the end of the burner E' is left open, and that the die E forms an inverted cup, the sides of which extend above the bottom of the burner, thus causing the flaming gases to impinge upon the upper surface of the die, whereby heat is imparted and transmitted through said die in a constant and rapid manner.

The die E is provided with a stem, *g*, which extends up through the burner, and is secured at the top by a screw and nut, as shown, or may be screwed to pipe or burner.

The die is preferably perforated, as shown at *e*, for the purpose of emitting a portion of the flame beneath the face of said die.

E in Fig. 4 represents the face of a die or design, which can be made in any form desired.

In Fig. 5 the crook-neck pipe A is attached to a handle, B, by a coupling and T-joint. The outlet of said T-joint is provided with a flexible tube for conducting gases to the opposite end of the pipe, when it is discharged through apertures *eee* and burned. The flexible tube-connection is for the purpose of enabling the operator to more readily make fair impressions, and may or may not be used. The burner in this case is attached to the end of the pipe, as shown, and is provided with a partition, *i*. In this partition an interior tube or die-holder is secured by screwing said die-holder *b* into said partition. Orifices *i* are drilled through the partition for the purpose of conducting gases to the end of the burner. The type or dies are inserted into the end of the die-holder *b*, and held in position by the screw *f*.

Fig. 6 is an enlarged view of the face of the die.

In Fig. 7, A is a tube with one of its ends bent in the form of a handle, as shown at B, with its end projecting at right angles with said handle. To this end a flexible tube is attached, for the purpose of conducting gases to the oppo-

site end of tube A, where they escape through the open end, and through perforations in the sides of said tube, near the end thereof, where the gases are consumed, thus affording sufficient heat to continue rapidly the cancellation of postage and revenue stamps, and for other similar purposes. When tube A is of sufficient thickness, letters, figures, and designs can be cut thereon.

In Fig. 8 tube A is provided with an offset, H, at or near its center. The extending parts beyond the offset are parallel to each other. The offset being at right angles to both, one end of the offset pipe A is provided with a handle, B, through which the tube projects to form a connection with a flexible tube, which conducts gases to the opposite end of the tube, said end being open and the sides of the tube near said end being perforated, all for the purpose of educting gases therefrom which are consumed, whereby a sufficient amount of heat is generated to keep up a continuous and rapid transmission of heat for the purpose of imparting a burned or scorched impression to the paper when the die is used.

In Fig. 9, A is a bent tube, which is connected to a handle, B, by a T-connection, C. To the outlet of this connection a flexible pipe is attached for conducting gases to a burner which is secured to the opposite end of the tube at *o*. The socket *o* is attached and provided with hollow projecting arms *n*, which connect with and support an annular recessed burner, E'. *m* represents the recess. The inner wall of said burner, at a suitable part thereof, is perforated for the purpose of discharging gases from the annular recess *m* into the interior chamber, K, where it burns the same as in a closed furnace. The air for supporting said combustion is admitted through the annular space formed by and between the interior die, E<sup>2</sup>, and the exterior annular die, E. The products of combustion escape through the open spaces between the arms *n* at the top of the burner. The interior die, E<sup>2</sup>, is provided with a stem, *g*, which screws into a socket, *o'*. The die-holder *b* is provided with a recess for the reception and exchange of letters, figures, designs, &c., which are held in position by a set-screw, *f*.

In Fig. 10, E represents an annular die, which constitutes the bottom of burner E'. Upon the face of said die letters, figures, and designs can be engraved. Between each letter, figure, and at other points, I preferably perforate, for the purpose of emitting gases to be burned beneath the face of said die; and, also, I prefer to perforate the edge of holder *b*, for the purpose of conducting more readily heat into and around the letters, figures, and designs.

E<sup>2</sup> represents the interior holder, letters, and figures, *f* being a set-screw for holding said letters, &c., in position.

In Fig. 11, E' represents a top view of my annular burner, with arms *n* connected thereto, and projecting toward the center, where they join a socket, *o*. These are made hollow for



the purpose of conducting gases from said socket *o* to the annular space *m* in said burner *E'*.

The operation of my invention is as follows:

5 My thermo-die stamp is connected to a gas-supply by means of a flexible or jointed pipe, said pipe being for the purpose of conducting gas to the burner of said thermo-die stamp when said stamp is to be used. The flexible-  
10 ness of the tube, when of sufficient length, allows free use of the stamp when in the hand of the operator. I adopt two styles or forms of my thermo-die stamp, which I denominate as the "horizontal" and "vertical" stamp. In  
15 the horizontal form the impression is made by bringing the thermo-die stamp down in contact with the substance to be stamped or canceled with a hammer stroke.

One great advantage in the horizontal device is, that the ascending heat generated at the burner is so far removed from the hand of the operator that the said operator experiences no inconvenience therefrom.

I find it highly advantageous and even necessary to confine and retain the heat as near as possible to the die or stamp, in order to make rapid impressions; and in order to make rapid impressions I also find it advantageous to use a very thin metal in the construction of  
30 my burners and dies, or special parts thereof, and also to make the special combined parts of the die and design, which consists of the dates, &c., and the holder thereof, as open as possible for the rapid circulation of heat in and around the parts above enumerated, where-  
35 by the parts from which the impressions are derived become rapidly heated, and said heat is rapidly transmitted from the flame through the metal to the substance stamped or canceled.

40 I also find it advantageous to perforate the dies, as shown in the plan views, Figs. 4 and 10, at *e e*. The gases are emitted from these apertures and burn beneath the face of said die. The heat generated at this point keeps  
45 the cold air from coming in contact with the face of the die, and assists very materially in keeping the face of said die at a proper degree of heat necessary to produce thermo impressions from said die in a very rapid and  
50 effective manner.

The deflector *I* (shown in Figs. 3 and 12) assists very materially in concentrating heat about the die. This concentration of heat about the thermo-die is of the utmost importance. Without it said die would be impractical when applied to the cancellation and destruction of postage-stamps, revenue-stamps, and other similar matter.

It will be observed that in Figs. 3, 5, and 9  
60 a compound thermo-die is shown. In Fig. 3 the end of the pipe or burner *E'* is covered by the die *E<sup>2</sup>*, said die having upon its face letters, words, figures, and designs, as circumstances require; but when only a circular or dotted or dashed circular form, with or without letters, figures, and designs, is required,  
65 it is only necessary to remove die *E<sup>2</sup>* and sub-

stitute the end of the burner *E*, which has been previously prepared, for the purpose set forth; and, still further, dies of various pat-  
70 terns, with letters, figures, and designs, can be engraved or otherwise affixed thereon or therein, said die being removed from and replaced or affixed to the burner, as circumstances require; and, also, burners of a variety  
75 of forms can be made and attached to the conducting-pipe *A* for various purposes.

The system of dies above enumerated is designed for complex work; but where only simplicity is required a thermo-die, as shown in  
80 Figs. 1, 3, 5, 7, 8, and 10, can be employed.

The advantages of my system of cancellation over all others now in use is, that the work is done with greater celerity and certainty, and when applied to postage and revenue stamps, and other similar purposes, it becomes a complete and effective barrier to fraud,  
85 for wherever my thermo-die produces an impression a positive destruction occurs to the part impressed. Consequently no subsequent  
90 erasing or mending can efface the indelible scorched impression, which can be imparted only by a thermo-die.

Another important advantage which I claim for my horizontal thermo-die stamp over all  
95 other stamping devices in use is, that while holding the handle the operator, when canceling and destroying stamps, can, while manipulating the envelopes or other articles to be canceled, see where to strike as unerringly as  
100 the carpenter can the nail which he is driving into his work.

I am aware that branding-stamps of various designs have been patented, to be used for various purposes, said stamps being heated in furnaces, and then continued to be laid  
105 onto the articles to be stamped until the heat is reduced below the scorching degree of temperature.

What I desire to secure by Letters Patent  
110 is—

1. A horizontal pipe one end of which is provided with a perforated canceling-die burner, the face of which is parallel, or nearly so, with said horizontal pipe, in combination with  
115 a flexible tube for conducting gases to and through said horizontal pipe and die-burner thereon.

2. A thermo-die canceling-burner provided with an annular compartment, the inner wall  
120 and annular face of which are perforated for the eduction of gases within and beneath the face of said burner, where said gases are burned, in combination with pipe *A* and flexible gas-pipe *E*.  
125

3. In combination with a thermo-die burner provided with a pipe and flexible tube for conducting gases to said burner, an interchangeable-perforated die-holder with type or designs therein.

ALONZO S. GEAR.

Witnesses:

WM. F. BROWNE,  
H. J. ENNIS.