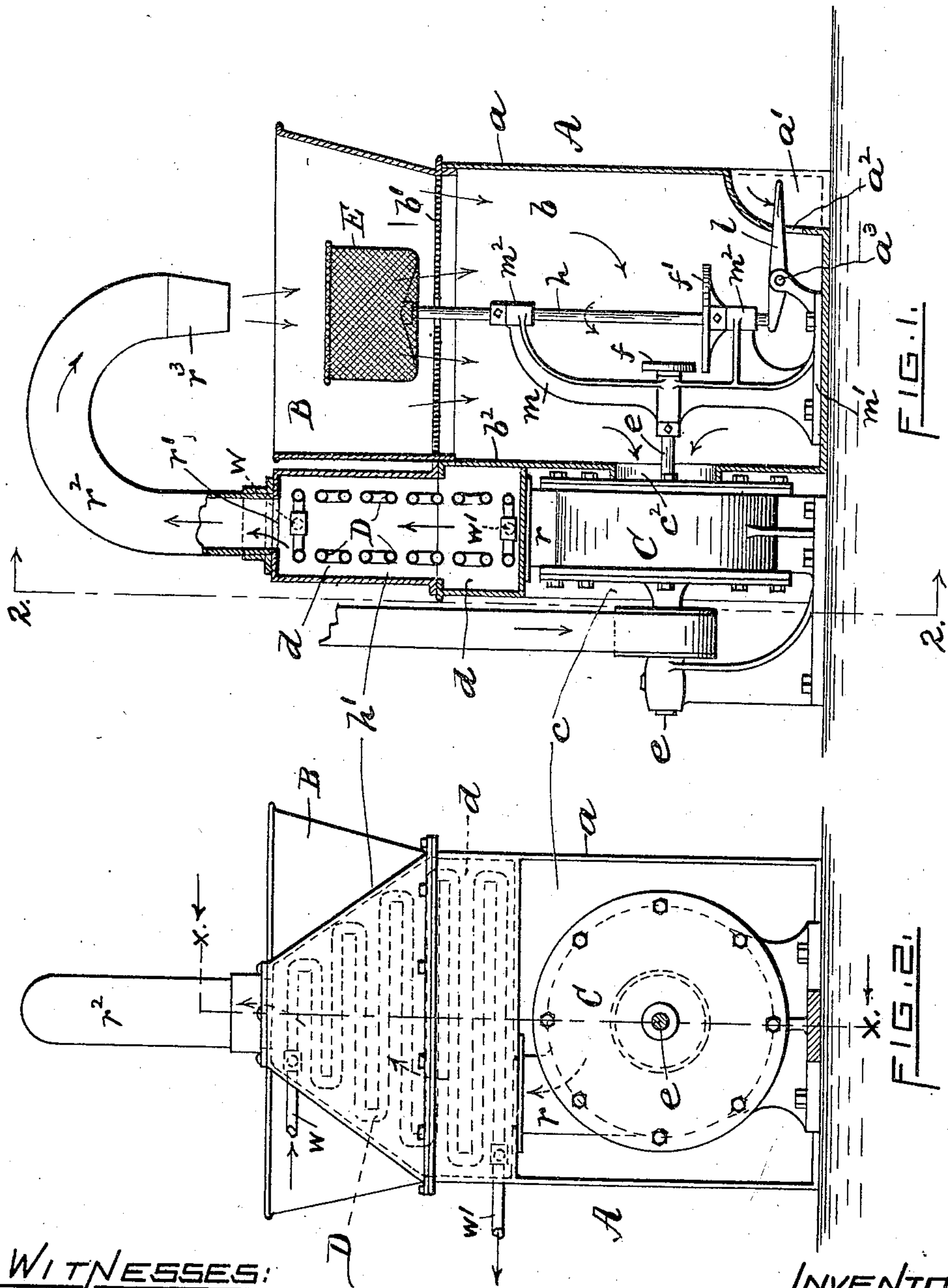


F. P. BOLAND.
MACHINE FOR DRYING JEWELRY, &c.
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969,453.

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WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANCIS P. BOLAND, OF PROVIDENCE, RHODE ISLAND.

MACHINE FOR DRYING JEWELRY, &c.

969,453.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANCIS P. BOLAND, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Machines for Drying Jewelry, &c., of which the following is a specification.

The invention forming the subject of this application for Letters Patent relates to improvements in continuous hot-blast drying-machines of the class more particularly adapted for drying articles of jewelry, etc., and it consists in the novel construction and arrangement of parts, all as more fully hereinafter set forth and claimed.

The object of the invention is to produce a self-contained drying-machine of the character referred to, in which the several operative parts or elements thereof are disposed so as to be readily and conveniently accessible, while at the same time being more compact and possessing greater efficiency than machines of this general type heretofore devised.

In the accompanying sheet of drawings. Figure 1 represents a central longitudinal sectional view of my improved hot-blast drying-machine, some of the parts being in elevation, the section being taken substantially on line $x-x$ of Fig. 2; and Fig. 2 is a corresponding end view, in partial section, the latter being taken on line 2-2 of Fig. 1.

The following is a more detailed description of the machine, including the manner of its operation:

A in the drawings, designates my improved hot-blast drying-machine complete. It is provided with a suitably shaped hollow casing or body part a , having an apertured vertical partition b^2 disposed therein and forming a wall of the enlarged main or air-receiving chamber b . The casing is extended at the left, as drawn, to provide the open chamber or recess c , in which latter a suitable, power-driven rotary blower C is mounted. The top end of chamber b is open and adapted to receive and support the removably fitted pan or work-holding receptacle B, having comparatively deep walls and a perforated or screen-like bottom b^1 , as represented in Fig. 1. The relatively cold or exhaust air is sucked or drawn into the blower from the chamber b , via the enlarged, continuously open central aperture

c^2 formed in partition b^2 , and is discharged under pressure from the blower through the latter's outlet-nozzle r (Fig. 2) directly into a heating chamber d disposed thereabove. The lower portion of this chamber may be formed in an extension of the body a , its upper or complementary portion being in open communication with the interior of a hood h^1 , registering with the said extension. If desired, the hood member may be detachably secured to the adjacent part of the body a . A suitably devised steam-heating coil, as D, is mounted in said chamber d , w indicating the intake end and w^1 the discharge or return end of the coil. The coil is adapted to receive steam from any suitable or convenient source of supply, the radiant heat being utilized to increase the temperature of the air discharged from the blower during its (the air's) passage through the chamber.

A swinging pipe or goose-neck connection r^2 extends upwardly from and is in continuous communication with the opening r^1 formed in the upper end of the hood, and terminates in an outlet-nozzle r^3 , adapted to discharge the heated air downward into the said receptacle B.

My improved hot-blast drying-machine is further provided with means, adapted to be actuated by the blower, for rotating a holder or wire basket, constructed to temporarily contain articles of jewelry while they are being subjected to the hot air blast discharged from the nozzle r^3 . The blower-shaft e extends into the relatively cool air chamber b and is revolvably mounted in a standard or bracket m , having a foot m^1 secured to the base of the casing. The member m is also provided with upper and lower alining bearings m^2 m^2 , having an endwise movable, revoluble vertical shaft h mounted therein, its upper end extending through the said screen base b^1 , and is surmounted by a wire basket or analogous container E, having perforated walls and being detachably secured to the shaft. A friction wheel f is fixed to the inner end of the blower-shaft e , the same being adapted to rotate shaft h through the medium of a companion wheel f^1 , fixed to the last-named shaft. The lower end of shaft h normally rests upon a treadle-lever l , fulcrumed at x^3 . The outer portion of the lever extends through a slotted opening a^2 formed in the casing's

wall. The latter may be provided with a recess or pocket a^1 , into which the free end of the lever extends.

Now, assuming the blower to be running, the manner of operation is as follows: The work or articles of jewelry are first placed in the holder or basket E; the heated air discharged from nozzle r^3 , as well as outer air, passes downward through the basket and partition b^1 into the relatively cool air-chamber b and is then drawn or sucked through opening c^2 direct into the blower. The action of the blower forces said cool air through its discharge-nozzle r into the chamber d , where it (the air) is heated, while at the same time any vapor or moisture present is evaporated from it. The thus heated air passes freely through the opening r^1 at the top of the chamber into the bent tube r^2 and is discharged from the outlet-nozzle r^3 , thus completing the air circulation. In case it is deemed desirable to revolve the container E while its contents are being subjected to the heated air-blast, the attendant simply presses the lever l downward (see arrow direction), thereby moving shaft h upward until its disk f^1 is frictionally engaged by the continuously revoluble smaller driving-wheel or disk f , thus actuating the container and causing it to rotate at a correspondingly reduced speed. Upon removing pressure from the lever l , the shaft h , etc., drop to the normal stationary position.

While the construction herein described and illustrated is the preferred one, it is obvious that various changes in the form, proportions, size and minor details of the machine may be made therein without departing from the spirit of or eliminating any of the advantages of the invention.

I claim as my invention:

1. A drying-machine of the general character described, the same including in its construction the combination of a hollow body member or casing provided with a work container or holder and a chamber therebelow in open communication with it, an air-heating compartment located contiguous to but separated from said chamber, means for heating the air in said compartment, means interposed between the com-

partment and said chamber for drawing or sucking air from the latter and forcing it into the heating compartment, and means for conducting heated air from the latter and discharging it into the said container.

2. In a drying-machine of the character described, the combination of a main casing or body provided at the top with a container or work holder, a spent-air chamber located below and communicating with the container, an air-heating compartment adjoining said chamber arranged to discharge heated air into the container, a recess formed in one side of the casing, its walls or partitions separating it from the spent-air and heating chambers, and a power blower located in said recess and being in communication with both the said chambers.

3. In a drying-machine of the character described, a hollow body member having an air-receiving chamber, and a power-blower communicating with said chamber, in combination with means for conducting air under pressure from the blower and discharging it into said chamber, a revolubly mounted work-holding element or container located with respect to the discharge end of said air-conducting means and air-chamber, and mechanism actuated by the blower for rotating the said work-holding element.

4. In a drying-machine of the character described, a hollow body member having an air-receiving chamber, an air-heating chamber, and a power-blower communicating with said chambers, in combination with a revolubly mounted receptacle adapted for holding the work or articles to be treated or dried, mechanism actuated by the blower for rotating the work-holder, manually actuated means for controlling the movements of the holder, and a pipe for conducting air from said heating-chamber and discharging it into the work-holder and air-receiving chamber.

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

FRANCIS P. BOLAND.

Witnesses:

GEO. H. REMINGTON,
CALVIN H. BROWN.