F. GILBERT.

BRONZING APPARATUS.

APPLICATION FILED MAY 17, 1913.

1,105,508.

Patented July 28, 1914.

3 SHEETS—SHEET 1.

FIG. 1.

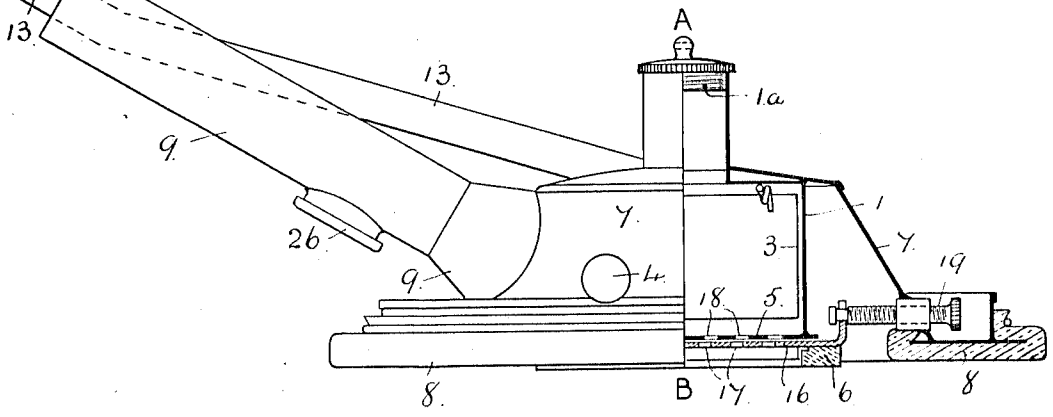
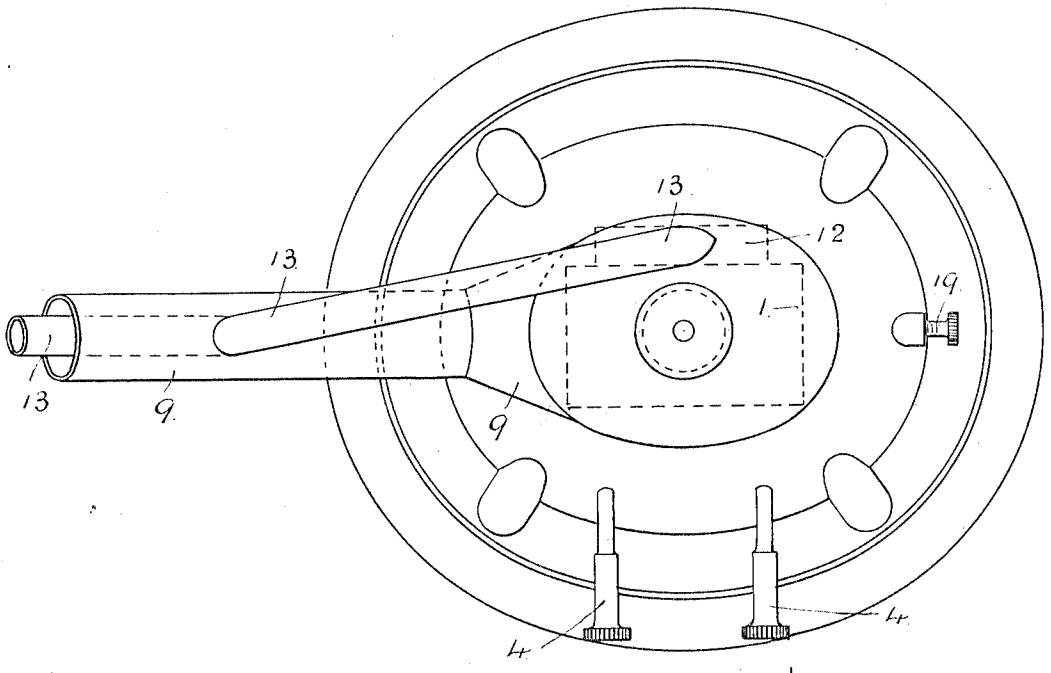


FIG. 2.



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3 SHEETS—SHEET 2.

FIG. 3.

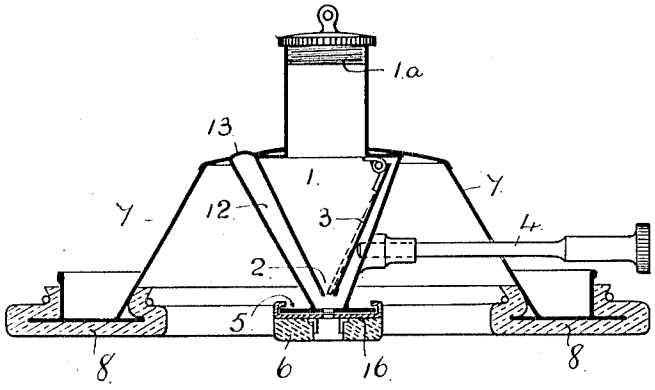
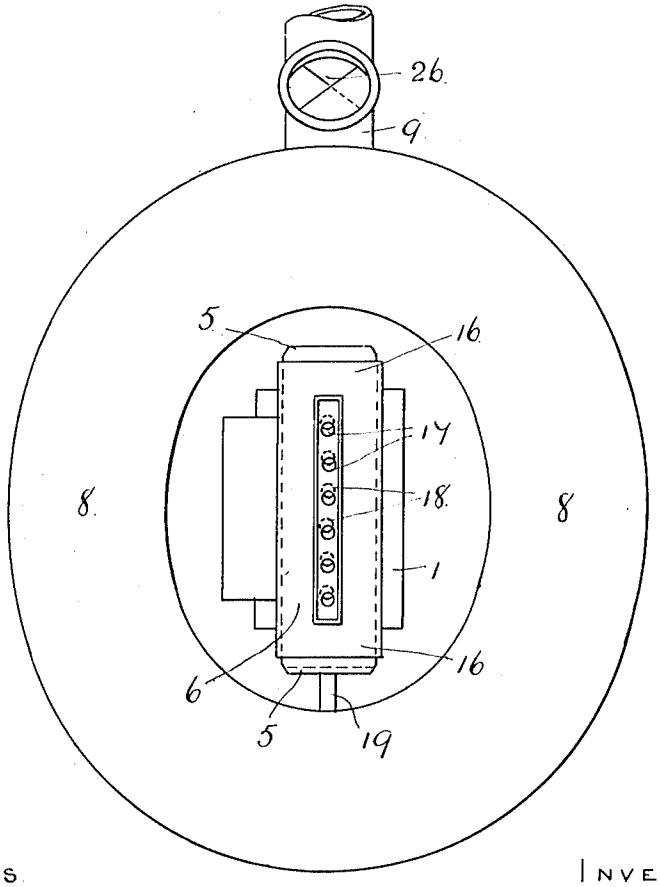


FIG. 4.



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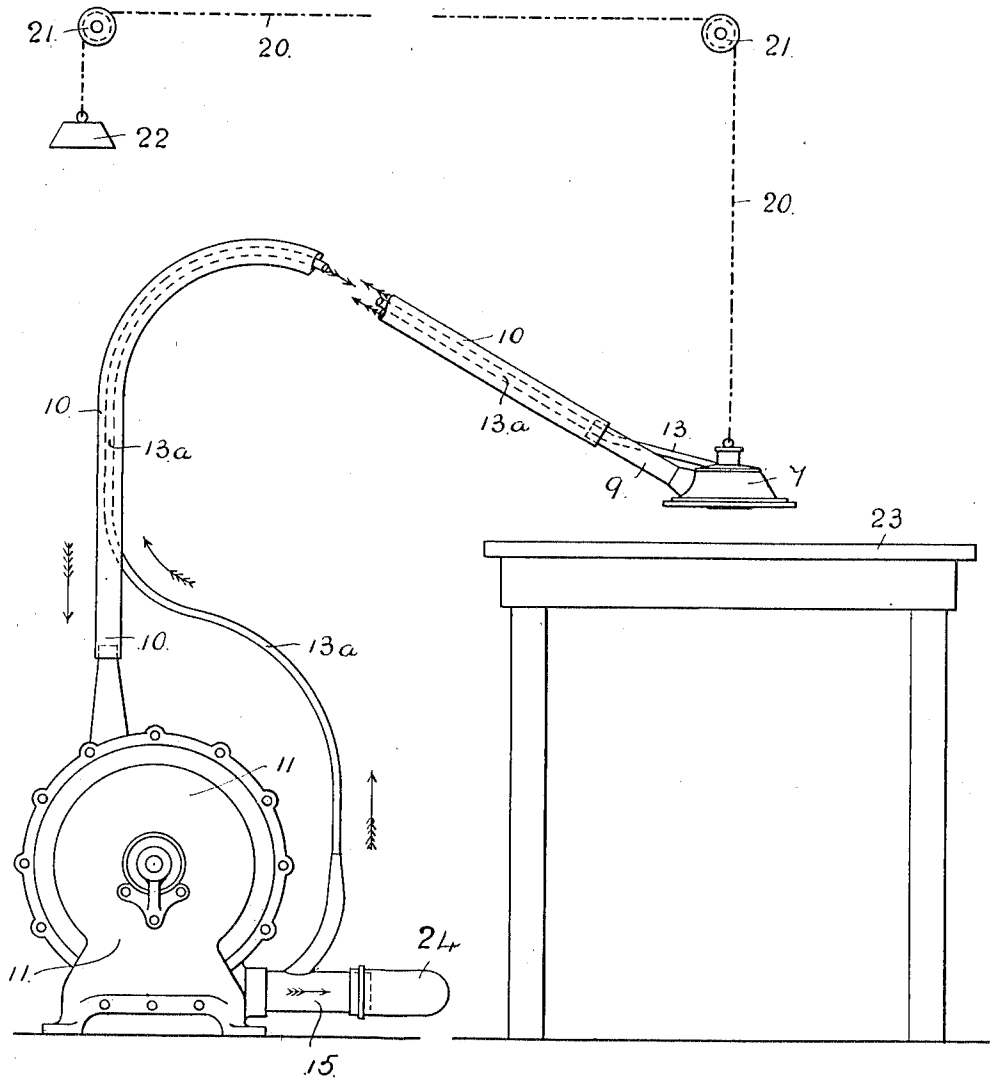
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3 SHEETS—SHEET 3.

FIG. 5.



WITNESSES.

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UNITED STATES PATENT OFFICE.

FREDERICK GILBERT, OF EDGBASTON, BIRMINGHAM, ENGLAND.

BRONZING APPARATUS.

1,105,508. Specification of Letters Patent. Patented July 28, 1914.

Application filed May 17, 1913. Serial No. 768,312.

To all whom it may concern:

Be it known that I, FREDERICK GILBERT, a subject of the King of Great Britain and Ireland, residing at Arthur House, Wellington Road, Edgbaston, Birmingham, England, have invented certain new and useful Improvements in or Relating to Bronzing Apparatus, (for which I have applied for a patent in Great Britain, No. 12,097, bearing date May 22, 1912,) of which the following is a specification.

This invention relates to improvements in bronzing, and refers more particularly to apparatus intended for use by hand, and has for its object to provide a simple and cheap contrivance whereby bronze powder can be readily and effectively applied to surfaces of paper or like substances which have been printed or otherwise treated preparatory to bronzing; also to provide means whereby the surplus powder is collected from the work and thus prevented from escaping into the atmosphere.

It is well known that the common method of bronzing by hand is to employ a pad of cotton wool or other soft material which is first dipped in bronze powder and then dabbed on to the printed matter that is to be treated, the surplus powder being afterward dusted away. It has been proposed to employ a simple box-shaped receptacle for containing bronze powder, having at its underside a pad and adjustable outlets for the powder. With such method and devices the surplus bronze powder has to be dusted away, during which operation some of it gets into the atmosphere and is thus wasted, and further, it becomes a serious menace to the health of the operator.

For coating large articles, such as bedsteads and the like, it has been proposed to employ a receptacle for containing the article to be treated, a fan for effecting forced circulation of air through the receptacle, a piping which includes the fan and receptacle in serial relation to establish a closed local path or circuit for the circulating air, the powder being admitted to the flowing air through the piping. In such contrivance the air in the complete circuit is powder laden, and the article treated could therefore not be removed until the current was shut off and the powder allowed to subside.

According to the present invention I provide a portable bronzing head which includes a receptacle or container for the bronze powder, having at its underside adjustable openings or outlets and a pad of felt, plush, or other soft material. The said container is inclosed or surrounded by a hood or cover, the underside or rim of which is covered with felt, plush, or other suitable material, which serves as a burnishing pad and also constitutes an air inlet through which air is drawn by means of a fan or other suitable suction device, whereby the surplus powder is raised by suction and passed through a pipe into a trap, filter or other receptacle, and is thus prevented from escaping into the atmosphere. A portion of the said air under pressure is diverted through a suitable air passage to the lower part or underside of the container, to insure a steady even outflow and to drive or carry the bronze powder on to the work.

The complete apparatus is preferably suspended by counterweight or suitable springs, whereby it is adapted to normally stand a little above the table or platform on which the work for treatment is to be placed, and is further provided with a suitable handle or grip by which it may be brought down on to and moved over the work when in operation.

In order that the invention may be readily understood and carried into effect, I will describe same more fully with reference to the accompanying sheets of illustrative drawings in which:

Figure 1 shows a longitudinal part sectional elevation of one form of apparatus constructed in accordance with the present invention. Fig. 2 is a plan view of the arrangement shown in Fig. 1. Fig. 3 is a transverse sectional view taken on line A—B of Fig. 1. Fig. 4 is an inverted plan view. Fig. 5 shows the complete apparatus.

Like numerals of reference indicate the same parts or features throughout the several figures of the drawings.

According to the embodiment of this invention as illustrated in the drawings, the receptacle or container 1, for the bronze powder, is preferably rectangular in shape at its upper side, and two opposite sides are inclined inward thus forming at the bottom a longitudinal opening or outlet 2 for the

bronze powder, which said outlet is adapted to be restricted or closed by a hinged flap 3 which is springwise pressed outward or open, and moved inward, or to closed position, by adjusting screws 4. The container 1 is provided at its upper side with a stopper or cap 1ª to permit of its being filled or replenished with powder.

The central base or frame 5 is of an open rectangular formation and to its underside is secured a pad 6 of soft felt, plush, or other suitable material.

The container 1 is completely surrounded by a hood or cover 7 to the underside or rim of which is detachably secured a pad 8 of soft felt, plush or other suitable material, and in the one side of the said hood or cover 7 is fitted an outlet or suction pipe 9, connected by a flexible pipe 10 with a fan 11, or other suitable suction apparatus.

At one side of the container 1 is formed an air passage or duct 12, communicating with an air pipe 13 which is preferably arranged to pass into and through the suction pipe 9, and is connected to the exhaust side of the fan 11 by means of the flexible inner pipe or tube 13ª carried in the flexible suction pipe 10, by which means a part of the air passing out through the exhaust pipe 15 of the fan 11, is directed through the said air pipes 13ª and 13, and the air duct 12, which latter directs the stream of air on to the outflowing powder whereby it is blown on to and evenly distributed over the work to be treated.

The outflow of the powder and air may be controlled by an adjustable plate 16 which is slidably mounted on the central base part 5, in which said plate are formed a series of holes 17 corresponding in disposition to the holes 18 in the central base part 5. Upon sliding the plate 16 along the base part 5, by means of the adjusting screw 19 or other suitable arrangement, the outlet holes 18 in the base part 5 are partly or completely closed, as will be seen on reference to Fig. 4 of the drawings.

The apparatus is preferably suspended by a chain or cord 20 carried over pulleys 21 and having attached to its end a counterweight 22, or other suitable arrangement such as a spring, whereby it is held normally a little above the table or platform 23 on which the work for treatment is placed. The suction pipe 9 of the apparatus constitutes a suitable handle or grip part by which it can be brought down and moved over the work. When in operation, all surplus powder is drawn up the annular space between the hood 7 and the container 1, through the suction pipes and the fan 11, and passes out through the exhaust pipe 15 into the trap or bag 24 which is formed of linen or other suitable material, and is detachably secured to the outer end of the exhaust pipe 15. To control or regulate the suction, an adjustable plate or valve 26 is fitted to the suction pipe 9 of the apparatus or to the suction pipe 10, which valve when open reduces or partly destroys the air suction.

In Fig. 5 of the drawings, only one of my improved bronzing apparatus is shown in connection with the fan or suction device 11, but it will be readily understood that if desired several may be connected thereto by means of branch pipes or arms from the main duplex suction and air pipes 10 and 13ª, in which case such branch pipes or arms may be provided with valves whereby those not in use may be cut out or closed.

It will be obvious that my new or improved hand bronzing apparatus lends itself to further modifications in details of construction and arrangement without departing from the nature or scope of the invention.

Having fully described my invention, what I desire to claim and secure by Letters Patent is:

1. A portable bronzing head comprising a receptacle having at its under side outlets and a pad and having combined therewith an air duct through which a current of air may be directed upon the powder escaping through said outlets, and a hood arranged in surrounding relation to said receptacle and also provided on its underside with a pad, said hood providing a space which opens at the under side of the head and through which air may be drawn by suction.

2. In a bronzing apparatus, a portable bronzing head having a container provided at its under side with outlets and a pad and having also a hood or cover in spaced surrounding relation to said container and opening to the under side of said head, a suction fan, a pipe connecting said fan and said hood or cover to provide for a suction current of air through said hood, the container having combined therewith an air duct through which a current of air may be directed on the material escaping through said outlets, and a pipe connecting said air duct and the exhaust side of the fan.

3. A portable bronzing head having spaced pads on its under face and an opening in one of said pads and including a container arranged to discharge powdered material through said opening, a hood surrounding the container and communicating with the space between the pads, an air conductor through which a current of air may be discharged upon the material escaping from the container and a suction pipe connected to the hood.

4. A portable bronzing head having spaced pads on its under face and an opening in one of said pads and including a container arranged to discharge powdered material through said opening, a hood surrounding

the container and communicating with the space between the pads, an air conductor through which a current of air may be discharged upon the material escaping from the container and a suction pipe connected to the hood and arranged to form a handle for said head.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FRED GILBERT.

Witnesses:
WM. BISHTON,
R. STANLEY.