

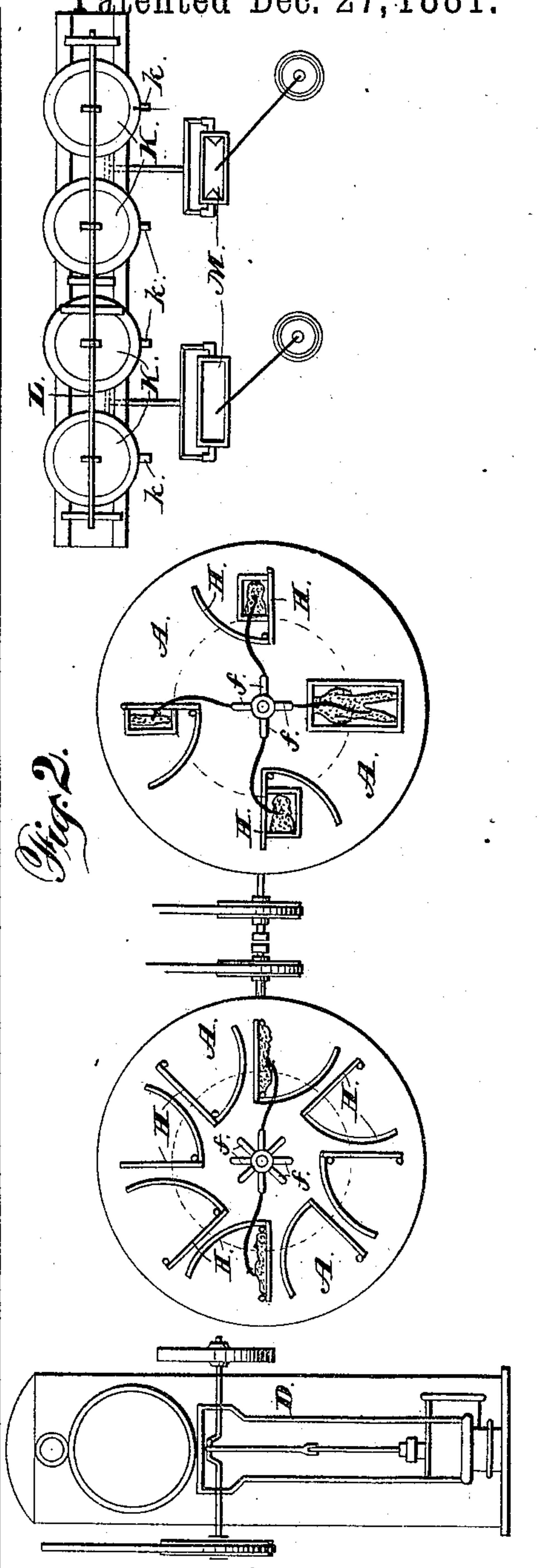
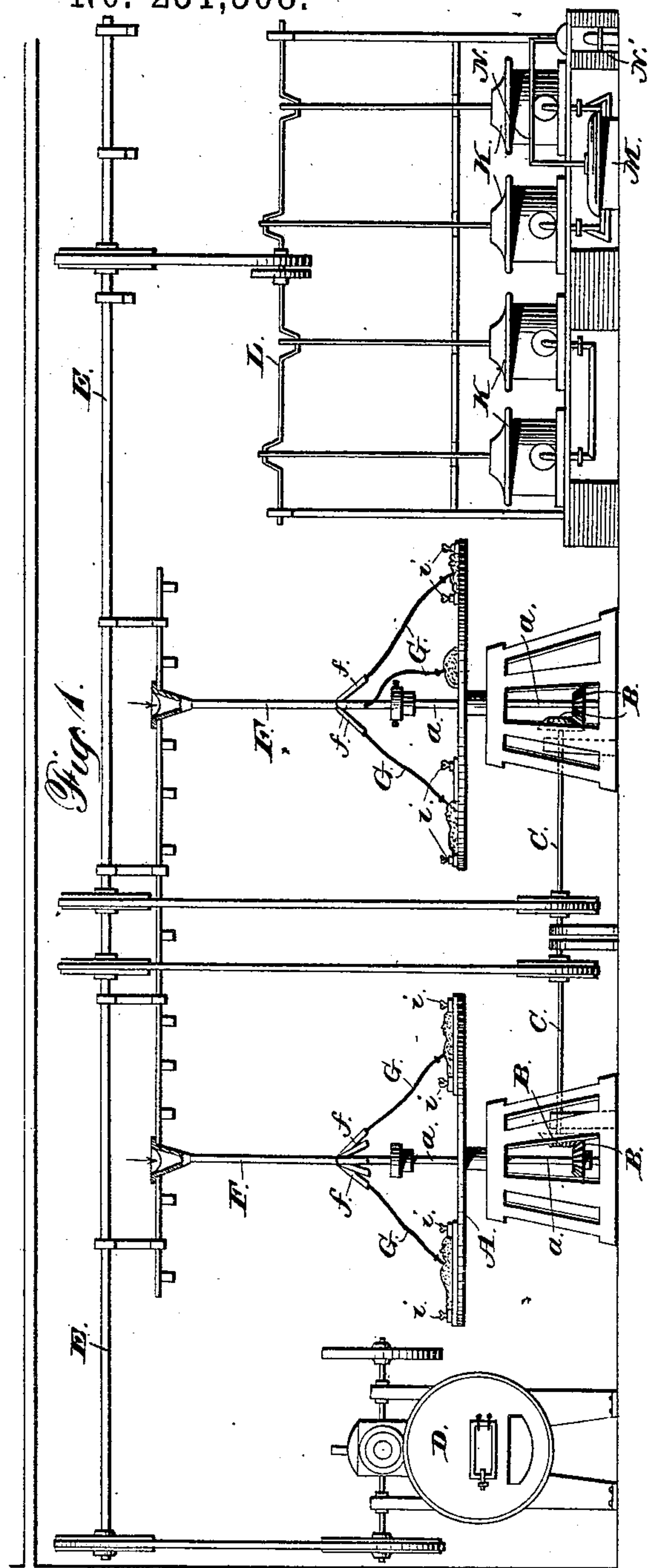
(No Model.)

F. F. BASTIER.

MODE OF MANUFACTURING HUMAN AND OTHER FIGURES BY MOLDING
THEM FROM PAPER PULP OR OTHER PASTY OR PLASTIC
MATTERS, AND THE APPARATUS THEREFOR.

No. 251,508.

Patented Dec. 27, 1881.



Witnesses:
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UNITED STATES PATENT OFFICE.

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MODE OF MANUFACTURING HUMAN AND OTHER FIGURES BY MOLDING THEM FROM PAPER-PULP OR OTHER PASTY OR PLASTIC MATTERS, AND THE APPARATUS THEREFOR.

SPECIFICATION forming part of Letters Patent No. 251,508, dated December 27, 1881.

Application filed July 22, 1881. (No model.) Patented in France April 14, 1881.

To all whom it may concern:

Be it known that I, FRANÇOIS FÉLIX BASTIER, of the city of Paris, in the Republic of France, have invented an Improvement in
5 Mode of Manufacturing Human and other Figures by Molding them from Paper-Pulp or other Pasty or Plastic Matters, and Apparatus therefor, of which the following is a specification.

10 This invention relates to a novel process of and apparatus for molding human and other figures or articles designed for exhibitions, store-windows, and numerous other purposes.

The process consists in introducing the pulp
15 into a revolving mold by centrifugal force and then expelling moisture from the molded figure.

The apparatus consists essentially in a revolving table for holding the molds, with a rotary vertical pulp-supply pipe having a lower lateral
20 discharge-tube connected with a flexible tube for conducting the pulp into the mold, the table and pipes being rotated in unison, so that the pulp descending the vertical supply-pipe will be thrown out through its lateral branch
25 tube into the mold.

It further consists in the combination, with a case or receiver for receiving a perforated mold containing the molded article, of an air-pump for creating a partial vacuum within the
30 receiver and a hot-air pipe for admitting a suitable current of hot air into the receiver, so as to effectually dry and harden the molded article, all as hereinafter more fully described.

In the drawings, Figure 1 is a side elevation
35 of the apparatus constructed for carrying out my invention. Fig. 2 is a top or plan view of the principal parts of the same.

The letter A indicates a revolving table arranged upon a vertical rotary shaft, *a*, that is
40 centered in a suitable supporting-frame. In the present instance I have illustrated two of these tables, it being obvious that one or more table impelled from a common source of power could be employed. As herein shown, these
45 tables are driven by the gears B B, that are arranged at their lower ends, and also upon the horizontal shafts C, carrying belt-pulleys, motion being transmitted to these horizontal shafts from any suitable steam-motor, D, by

means of an upper pulley-shaft, E, and suitable belt-connections. 50

To the upper end of the vertical shaft that passes through the table is secured a vertical pulp-supply pipe, F, which is made funnel-shaped at its upper end, and at its lower end
55 provided with a series of lateral pulp-discharge tubes, *ff*, which are inclined downwardly, and made each of greater sectional area than the vertical pulp-supply pipe.

Each lateral discharge-tube connects with a
60 flexible tube, G, of gutta-percha, rubber, or other flexible material, for carrying and directing the pulp into the molds, which will be arranged upon the revolving table, near its periphery. The table will be provided with a
65 suitable number of angle-irons, H, for holding the several models in place thereon, and the molds will be further secured in place upon the table by means of set-screws or bottles *i*.

Each mold will be preferably made in two
70 parts, of perforated sheet metal, said parts, when secured together, constituting a complete mold of the shape of the article to be produced. Other material than metal might be employed—for example, some strong stiff tissue having
75 interstices sufficiently large to admit of the free evaporation of moisture from the article while contained in the mold.

The letter K refers to several air-pumps, the piston-rods of which are driven by cranks upon
80 an upper horizontal shaft, L, to which motion is transmitted from the main upper pulley-shaft, E, by belt-connection. These pumps connect by pipes with one or more cases or receivers, M, adapted to receive the molds, and
85 the receiver or receivers connect by pipes N with a funnel, N', heated by gas or other suitable means, so that the action of the pump not only creates a partial vacuum in the receivers, but also draws a current of hot air through
90 the same and into the pump-barrels, from whence it is forced out by the discharge tubes *k*.

The table and pipes are caused to rapidly revolve by the means described, and the paper-pulp or other plastic material, refined or not,
95 as the case may be, is placed in the funnel-shaped end of the vertical supply-pipe. The pulp descends to the revolving lateral dis-

charge-tubes, and is thrown outwardly by centrifugal force through these tubes into the flexible conducting-tubes, and through the latter into the molds, with which they will be connected. The force with which the pulp is discharged into the molds depends upon the velocity with which the table and tubes rotate; and hence, by rapidly moving the same the pulp will be thrown into the molds with considerable force, and be well packed therein.

Preparatory to the above operation the molds should be coated with grease, which will admit of the pulp being retained therein until dry without sticking to their walls. After this operation the filled mold will be removed from the table and placed in one of the receivers, where all of the moisture will be expelled from the pulp, so as to solidify the same, by operating the pumps, and thereby creating a partial vacuum around the mold, and also causing a suitable current of hot air to traverse the receiver. After the molded figure or article is dried and hardened it can be removed and painted or varnished; and in the case of a human figure the separately molded members can be secured together in any suitable way.

Having thus described my invention, what I claim is—

1. The process of molding a figure or other

article from paper-pulp or other plastic material, consisting in introducing the pulp into a revolving perforated mold by centrifugal force, and then expelling the moisture from the molded article, substantially as described.

2. The apparatus for molding figures or other articles from paper-pulp or other plastic material, consisting essentially in a revolving table with a rotary vertical pulp-supply pipe, having a lower vertical discharge-tube connected with a flexible tube for conducting the pulp into the mold, substantially as described.

3. The combination, with the revolving table, of a perforated mold arranged thereon, the pulp-supply pipe arranged to rotate in unison with the table, and the tube for conducting the pulp thrown out by centrifugal force from the supply-tube into the mold, substantially as described.

4. The combination, with the receiver for receiving the perforated mold containing the molded article, of the air-pump connected with the receiver, and a hot-air-supply pipe leading to the receiver from a suitable furnace, substantially as described.

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