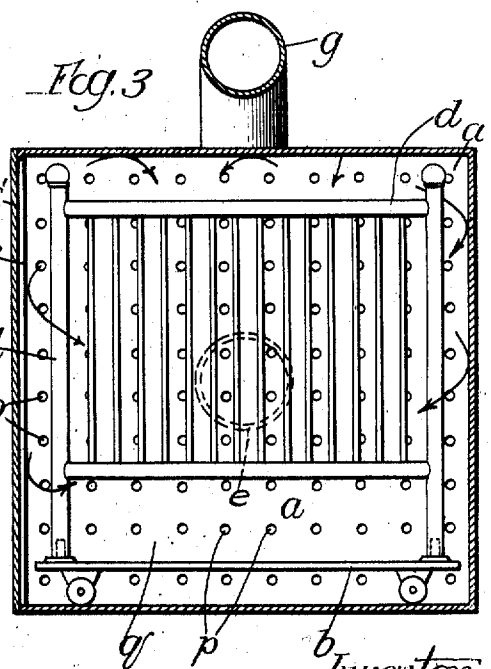
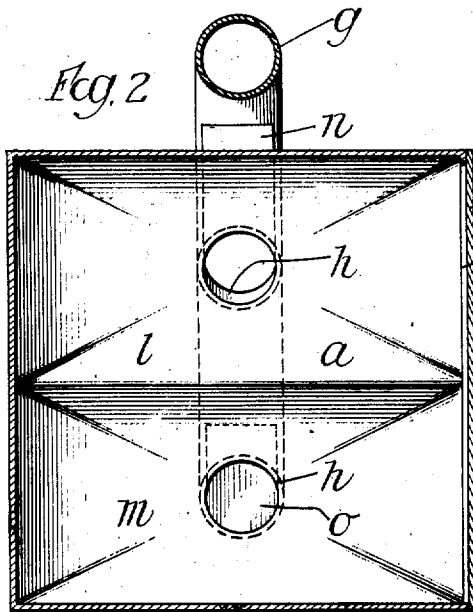
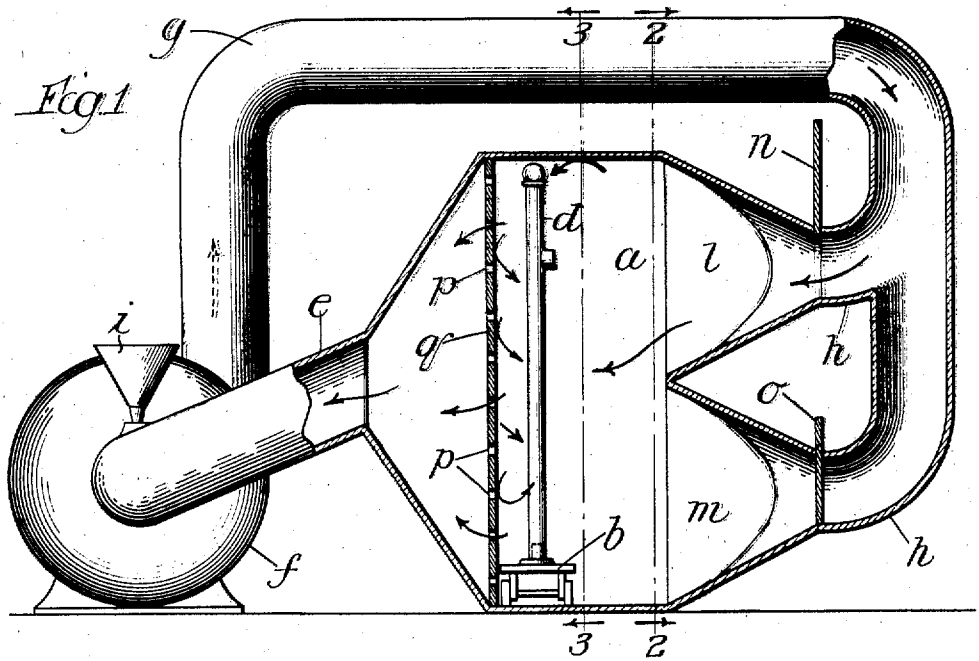


F. E. BRADLEY.
 PROCESS OF COATING OBJECTS WITH SUBDIVIDED MATERIAL.
 APPLICATION FILED FEB. 17, 1911.

988,243.

Patented Mar. 28, 1911.



Witnesses:
 Geo. C. Dawson.
 Harold Barrett.

Inventor:
 Franklin M. Bradley
 by H. L. Cragg atty.

UNITED STATES PATENT OFFICE.

FRANKLIN F. BRADLEY, OF CHICAGO, ILLINOIS, ASSIGNOR TO BRADLEY AND VROOMAN COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

PROCESS OF COATING OBJECTS WITH SUBDIVIDED MATERIAL.

988,243.

Specification of Letters Patent. Patented Mar. 28, 1911.

Application filed February 17, 1911. Serial No. 609,204.

To all whom it may concern:

Be it known that I, FRANKLIN F. BRADLEY, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Processes of Coating Objects with Subdivided Material, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to a process of coating objects with subdivided material and has for its purpose the provision of a novel process whereby objects possessing variously shaped and disposed surfaces may quickly and effectively be coated with subdivided material.

My invention is of particular service in effecting the application of bronze powder to metal bedstead parts, though the invention is not to be restricted to such use. Hitherto bronze powder has been applied to metal bedstead parts by means of ordinary bristle or hair brushes, a method that required much time and which was not always accompanied by satisfactory results.

In practicing my invention I employ moving air that is laden with the subdivided material and so locate the object to be coated and so direct the air that is to convey the material to the object to be coated that all exposed parts of the object which have previously been coated with suitable adhesive material may have the subdivided material applied thereto in one operation which may be very speedy, and by which results equal and superior to the hand method may be secured.

As my invention is preferably practiced the object to be coated, which has first had suitable adhesive material such as a thin wet varnish applied to those parts that are to receive the coating, is placed in coöperative relation with a deflecting surface so as to have space intervene between the object and said surface, the air laden with the subdivided material being caused to move toward the object and the deflecting surface in a manner to cause the air that strikes the deflecting surface to move toward the object, whereby all exposed parts having adhesive material thereon are coated with the subdivided material. The deflecting surface constitutes the preferred means for causing

the air to flow toward the object in a direction opposite to that in which the air is initially caused to move. Further to insure quickness of results, particularly where the objects cover considerable area, the locality from which the air is initially directed upon the objects is changed, to change the direction in which the air is caused to flow.

Reference is made to my co-pending application for United States Letters Patent Serial No. 614,001, filed March 13, 1911, which, in some respects, more broadly relates to a process of coating objects with subdivided material.

I will explain my invention more fully in connection with a description of the apparatus shown in the accompanying drawing and by which the process of my invention may readily be practiced, though I do not limit myself to the apparatus illustrated.

In the drawing Figure 1 is an elevation, partly in section, of a machine that may be used; Fig. 2 is a sectional view in the direction of arrows 2 2 in Fig. 1; Fig. 3 is a sectional view in the direction of arrows 3 3 in Fig. 1.

Like parts are indicated by similar characters of reference throughout the different figures.

The receptacle *a* is shaped suitably to the objects to be received therein, the construction illustrated being well adapted to receive metal bedstead parts that are moved into and out of the receptacle upon the truck *b*, through the door-way *c* having a door *c'*, the bedstead part *d* being illustrated within the receptacle. A section *e* of suitable piping leads from the air exit side of the receptacle to a power driven fan or blower *f*; the complemental section *g* of the piping leading from the blower to the air entrance side of the receptacle located opposite the air exit side, the pipe section *g* having multiplied branches *h* through which air is admitted to the interior of the receptacle in a stream or streams. The powder or subdivided material, such as bronze powder, is admitted to the piping, preferably through the funnel *i*. The powder is distributed throughout the flowing column of air in the piping and is conveyed by the moving air to the multiplied discharge ends *l m* of the piping that may be located in vertical alinement. By manipulating valves *n* and *o* located in the throat

portions of the pipe ends the powder-laden air may be caused to pass entirely or mainly through each of the discharge ends in succession whereby the locality from which the air is initially directed upon the object or where the air has fullest flow may be changed to change the direction of the air where it flows most fully. I also desirably multiple the air exit openings and distribute them over an area that preferably exceeds the largest exposed surface upon the structure *d* that is to receive the powder. These multiplied air exit or discharge openings are desirably constituted of perforations *p* in the screen plate *q* preferably constituting a wall of the receptacle *a*. The aggregate area of these screen openings is preferably not greater than the area of a right cross section through the portion of the pipe *e* that is uniform in diameter, the escaping air passing through all of the openings *p* in seeking paths of least resistance. The end of the pipe section *e* adjacent to the screen *q* flares toward said screen and embraces its borders.

In practicing my invention with the apparatus described, the object *d* that is to be coated with the subdivided material has those exposed surfaces which are to receive the coating covered with a suitable adhesive material such as wet varnish. This object is then placed within the receptacle so as to have spaces or clearance intervene between the receptacle walls and the object, the object being located between the pipe ends *lm* and the receptacle wall *q*. Air is then forced to move toward the object *d* and the receptacle wall *q* before which the object has been placed, this receptacle wall affording a deflecting surface against which the air strikes after it has passed toward and by the structure *d* and which deflecting surface returns air to the structure. Where the objects to be coated are large, the direction of the air in moving toward the object is modified by the manipulation of the valves *n* and *o*. Space intervening between the plate *q* and the object to be coated, air is permitted to be directed around and toward the object in a general movement (the walls of the receptacle taking part in defining such general movement). The deflecting surface afforded by the receptacle wall *q* and other walls of the receptacle cause the air also to move in eddies and minor currents whereby the material with which the air is laden is conveyed to exposed parts of the object that would not be as well reached otherwise.

While I have used the term "air" throughout the specification and claims, it is obvious that any inert elastic fluid may be used, and I use the term "air" in the claims in this broad sense.

I have filed applications for patents upon apparatus for coating objects with subdivided material as follows: Serial No. 543,215, filed February 11, 1910; Serial No. 550,115, filed March 18, 1910; Serial No. 569,428, filed June 29, 1910; Serial No. 588,730, filed October 24, 1910; Serial No. 588,731, filed October 24, 1910; Serial No. 603,251, filed January 18, 1911; Serial No. 603,726, filed January 20, 1911; and Serial No. 609,203, filed February 17, 1911.

While I have herein specifically described the preferred way of practicing my invention, I do not wish to be limited thereto nor to the apparatus which I have shown with which to practice the method of my invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent the following:—

1. The process of coating objects with subdivided material which consists in placing adhesive material upon the object to be coated; placing the object in association with a deflecting surface so as to have space intervene between said object and surface; and causing air laden with the subdivided material with which the object is to be coated to move toward the object and thereafter toward the deflecting surface in a manner to cause material-laden air that strikes the deflecting surface to move toward the object, whereby exposed parts having adhesive material thereon are coated with subdivided material.

2. The process of coating objects with subdivided material which consists in placing adhesive material upon the object to be coated; placing the object in association with a deflecting surface so as to have space intervene between said object and surface; causing air laden with the subdivided material with which the object is to be coated to move toward the object and thereafter toward the deflecting surface in a manner to cause material-laden air that strikes the deflecting surface to move toward the object; and changing the locality from which the air is initially directed upon the object, whereby exposed parts having adhesive material thereon are coated with subdivided material.

3. The process of coating objects with subdivided material which consists in placing adhesive material upon the object to be coated; placing the object in association with a deflecting surface so as to have space intervene between said object and surface; and causing air laden with the subdivided material with which the object is to be coated to move in a stream toward the object and thereafter toward the deflecting surface in a manner to cause material-laden air that strikes the deflecting surface to move toward the object, whereby exposed parts having adhesive material thereon are coated with subdivided material.

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4. The process of coating objects with subdivided material which consists in placing adhesive material upon the object to be coated; placing the object in association with a deflecting surface so as to have space intervene between said object and surface; causing air laden with the subdivided material with which the object is to be coated to move in a stream toward the object and thereafter toward the deflecting surface in a manner to cause material-laden air that strikes the deflecting surface to move toward the object; and changing the locality from which the air is initially directed upon the object, whereby exposed parts having adhesive material thereon are coated with subdivided material.

5. The process of coating objects with subdivided material which consists in placing adhesive material upon the object to be coated; placing the object in association with a deflecting surface so as to have space intervene between said object and surface; causing air laden with the subdivided material with which the object is to be coated to move in a stream toward the object and thereafter toward the deflecting surface in a manner to cause material-laden air that strikes the deflecting surface to move toward the object; and changing the direction in which the air stream is caused to flow, whereby exposed parts having adhesive material thereon are coated with subdivided material.

6. The process of coating objects with subdivided material which consists in placing adhesive material upon the object to be coated; placing the object within a receptacle so as to be substantially clear of the receptacle walls; and causing air laden with the subdivided material to move within the receptacle toward the object, and receptacle walls whereby parts of the object that are provided with the adhesive material are coated with the subdivided material.

7. The process of coating objects with subdivided material which consists in placing adhesive material upon the object to be coated; placing the object within a receptacle so as to be substantially clear of the receptacle walls; causing air laden with the subdivided material to move within the receptacle toward the object and receptacle walls; and changing the locality where the air has fullest flow, whereby parts of the object that are provided with the adhesive material are coated with the subdivided material.

8. The process of coating objects with subdivided material which consists in placing adhesive material upon the object to be coated; causing air laden with the subdivided material with which the object is to be coated to move toward the object to coat portions thereof with subdivided materials; and causing material-laden air that has passed by the object to move toward the object, further to coat the object with subdivided material.

9. The process of coating objects with subdivided material which consists in placing adhesive material upon the object to be coated; causing air laden with the subdivided material with which the object is to be coated to move toward the object to coat portions thereof with subdivided materials; causing material-laden air that has passed by the object to move toward the object, further to coat the object with subdivided material; and changing the place where the air has fullest flow.

In witness whereof, I hereunto subscribe my name this sixteenth day of February A. D., 1911.

FRANKLIN F. BRADLEY.

Witnesses:

G. L. CRAGG,
E. L. WHITE.

Corrections in Letters Patent No. 988,243.

It is hereby certified that in Letters Patent No. 988,243, granted March 28, 1911, upon the application of Franklin F. Bradley, of Chicago, Illinois, for an improvement in "Processes of Coating Objects with Subdivided Material," errors appear in the printed specification requiring correction as follows: Page 3, line 41, after the word "object" the comma should be stricken out; same page, line 42, after the word "walls" a comma should be inserted; same page, lines 64 and 75, the word "materials" should read *material*; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 25th day of April, A. D., 1911.

[SEAL.]

C. C. BILLINGS,

Acting Commissioner of Patents.

4. The process of coating objects with subdivided material which consists in placing adhesive material upon the object to be coated; placing the object in association with a deflecting surface so as to have space intervene between said object and surface; causing air laden with the subdivided material with which the object is to be coated to move in a stream toward the object and thereafter toward the deflecting surface in a manner to cause material-laden air that strikes the deflecting surface to move toward the object; and changing the locality from which the air is initially directed upon the object, whereby exposed parts having adhesive material thereon are coated with subdivided material.

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7. The process of coating objects with subdivided material which consists in placing adhesive material upon the object to be coated; placing the object within a receptacle so as to be substantially clear of the receptacle walls; causing air laden with the subdivided material to move within the receptacle toward the object and receptacle walls; and changing the locality where the air has fullest flow, whereby parts of the object that are provided with the adhesive material are coated with the subdivided material.

8. The process of coating objects with subdivided material which consists in placing adhesive material upon the object to be coated; causing air laden with the subdivided material with which the object is to be coated to move toward the object to coat portions thereof with subdivided materials; and causing material-laden air that has passed by the object to move toward the object, further to coat the object with subdivided material.

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