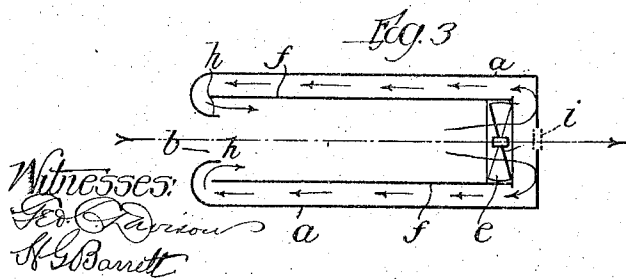
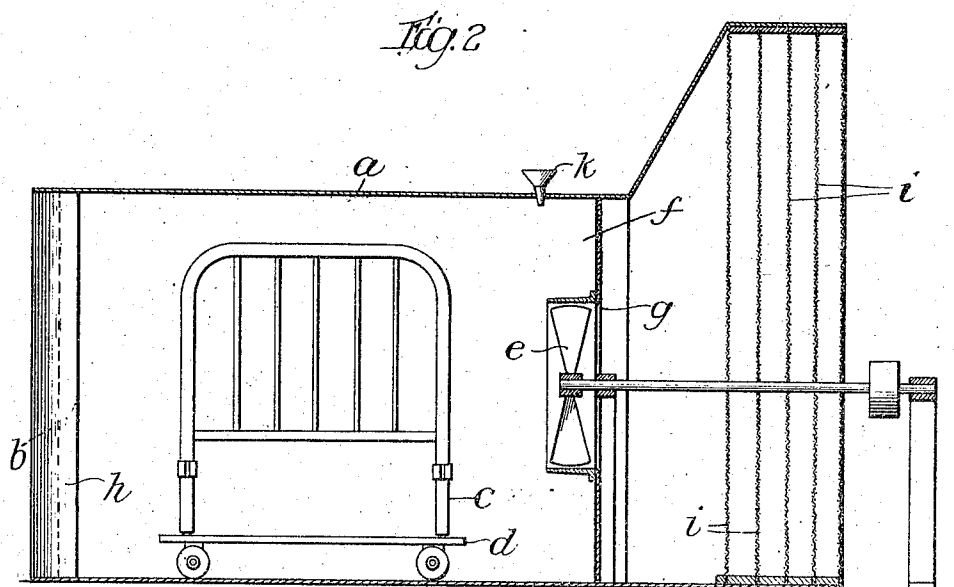
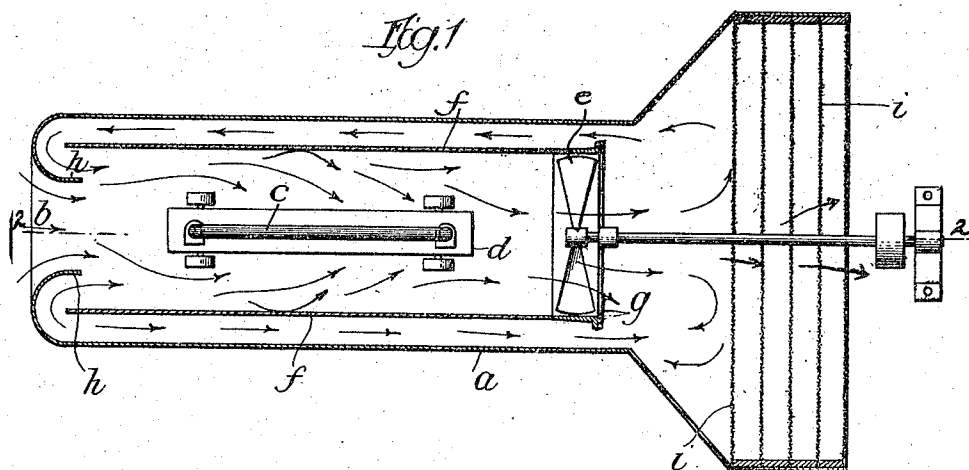


F. F. BRADLEY.
 APPARATUS FOR COATING OBJECTS WITH SUBDIVIDED MATERIAL.
 APPLICATION FILED MAR. 16, 1911.

995,998.

Patented June 20, 1911.



Inventor:
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UNITED STATES PATENT OFFICE.

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APPARATUS FOR COATING OBJECTS WITH SUBDIVIDED MATERIAL.

995,998.

Specification of Letters Patent. Patented June 20, 1911.

Application filed March 16, 1911. Serial No. 614,879.

To all whom it may concern:

Be it known that I, FRANKLIN F. BRADLEY, a 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 Apparatus for 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 apparatus for coating objects with subdivided material.

I have hitherto filed applications relating to the coating of 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; Serial No. 609,203, filed February 17, 1911; Serial No. 609,204, filed February 17, 1911; Serial No. 611,042, filed February 27, 1911; and Serial No. 617,149, filed March 27, 1911.

My invention has purposes and advantages which are desirably realized in one structure, but to the accomplishment of which by one structure I do not wish to be limited.

My invention has for one purpose the provision of an improved apparatus from which the undue escape of the subdivided material is prevented while the apparatus is in operation, whereby the operation of the apparatus need not be stopped or materially modified in order to withdraw the coated objects from the apparatus and to substitute therefor other objects to be coated. This and other features of my invention will be fully explained by reference to the accompanying drawing showing the preferred embodiment of the invention, and in which—

Figure 1 is a sectional plan view of the preferred form of apparatus; Fig. 2 is a sectional elevation on line 2-2 of Fig. 1; Fig. 3 is a diagrammatic view illustrating the operation of the apparatus.

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

I employ a receptacle *a* provided with an

opening *b*, through which the object *c* to be coated may be passed into the receptacle interior. The object *c* illustrated is a metal bedstead part that is placed upon a wheeled truck *d* in order that it may be moved into and out of the receptacle. Some means is employed for effecting the forced circulation of air within the receptacle, the particular means illustrated being a fan *e* which is constructed to cause the air where it has fullest flow to follow a circuit or stream within the receptacle. The fan is provided with blades that are shaped or disposed to act as component parts of a screw in order that the fan may cause air to flow in a stream. Irrespective of the location of the air circulating mechanism, I desirably employ a partition or partitions *f* within the receptacle whereby the course followed by the air circulating within the receptacle may be defined owing to the division of the receptacle interior into channels, in one of which channels the objects to be coated are to be received. Where the fan is disposed upon the receptacle interior, it is preferably located at the rear part of the receptacle and is located in a wall *g* uniting the rear vertical margins of the partitions *f*, by which arrangement communication between the space intervening between the partitions *f* and the spaces intervening between said partitions and the side walls of the receptacle is afforded at the rear of the receptacle only through the fan space. Communication between the spaces intervening between the receptacle walls and the partitions *f* and the space intervening between said partitions is directly afforded at the front portion of the receptacle, and in order the better to define the currents of air circulating within the receptacle the marginal portions of the entrance opening *b* are inset as indicated at *h*. In this way direct communication is avoided between the exterior of the receptacle and the spaces intervening between the partitions and the receptacle walls, the better to achieve the purposes of my invention. The fan is rotated in a direction which will cause the air to move toward the rear of the receptacle through the space intervening between the partitions *f* and forwardly through the spaces intervening between said partitions and the receptacle walls, the air issuing from these latter spaces at the forward ends

of the partitions *f* moving in streams rearwardly toward the fan.

The subdivided material, such as bronze powder, with which the object is to be coated is admitted to the receptacle interior through a funnel *h*. The circulating air takes up the bronze powder and carries it to the object *c* to be coated, this object previously having been provided with suitable adhesive material such as wet varnish having the capacity of retaining the particles of subdivided material conveyed thereto by the air laden with the same. Deflecting surfaces are afforded within the receptacle interior, against which the material-laden air strikes and which take part in directing the air toward the object, and in creating minor currents and eddies for the purpose of more thoroughly conveying the subdivided material to various parts of the object to be coated therewith. The rear of the receptacle is preferably provided with a plurality of sheets of muslin or other suitable fabric *i* toward which the fan effects the forced passage of material-laden air, and through which a restricted portion of the air finds passage from the receptacle interior to the external air when the opening *b* is free of closure; the restricted amount of air which escapes from the rear of the machine being replaced by a corresponding amount of fresh air flowing through the opening *b* as indicated diagrammatically in Fig. 3. The sheets of textile fabric *i* serve to intercept particles of subdivided material carried by the air escaping from the rear of the receptacle.

My apparatus, as actually operated in practice, works so well that the opening *b* through which the objects to be coated are inserted need not be provided with a door, as no appreciable or substantial amount of subdivided material finds escape through the opening *b* even though the coating operation be at its height. I do not wish to be limited however, to the absence of a door for the opening *b*. While the sheets of muslin or other suitable textile fabric indicated at *i* constitute a means for restricting the exit for the air, I do not wish to be limited to such a means which also has the added function of intercepting particles of subdivided material, though I prefer a re-

stricting means having this added characteristic.

I have broadly claimed a process of coating objects with subdivided material in my co-pending application Serial No. 614,001, filed March 13, 1911.

While I have herein shown and particularly described the preferred embodiment of my invention, I do not wish to be limited to the precise construction shown as changes may readily be made without departing from the spirit of the invention.

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

1. Apparatus for coating objects with subdivided material carried by air including a receptacle for the objects having an entrance opening for the objects; and mechanism for effecting the forced passage of air within the receptacle, there being present a restricted opening for the exit of air from the receptacle interior to the external air, said mechanism operating to draw air from the exterior of the receptacle in a direction from the aforesaid entrance opening toward the aforesaid exit opening, whereby the escape of material-laden air through said entrance opening is materially prevented.

2. Apparatus for coating objects with subdivided material carried by air including a receptacle for the objects having an entrance opening for the objects; and mechanism for effecting the forced passage of air within the receptacle, there being present a restricted opening for the exit of air from the receptacle interior to the external air, said mechanism operating to draw air from the exterior of the receptacle in a direction from the aforesaid entrance opening toward the aforesaid exit opening, whereby the escape of material-laden air through said entrance opening is materially prevented, there being present means at said restricted opening for removing subdivided material from the air passing therethrough.

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

FRANKLIN F. BRADLEY.

Witnesses:

G. L. CRAGG,

GEO. C. DAVISON.