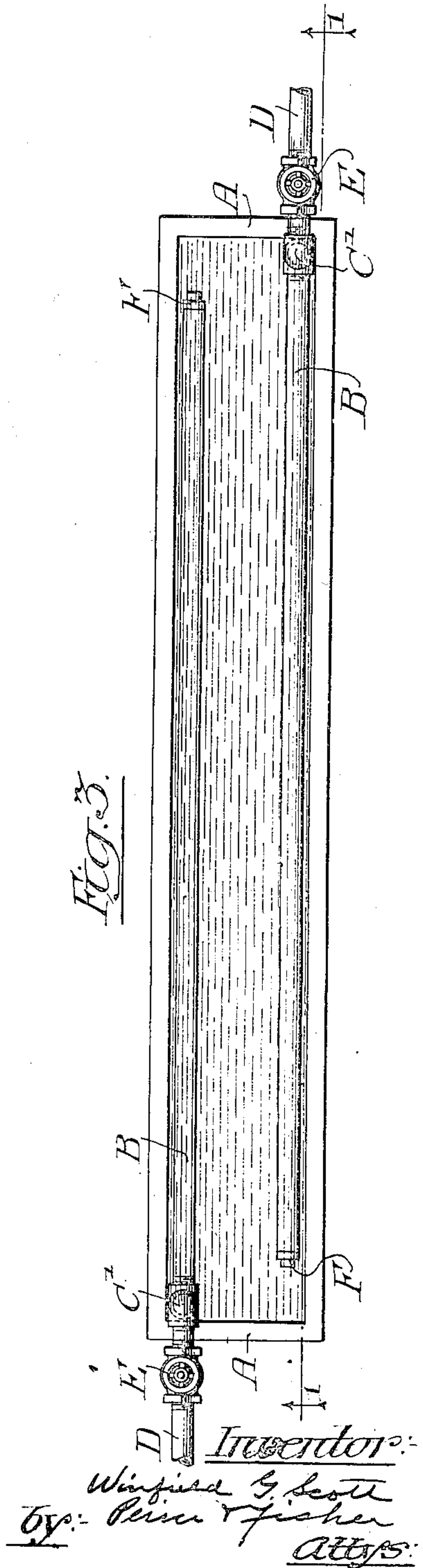
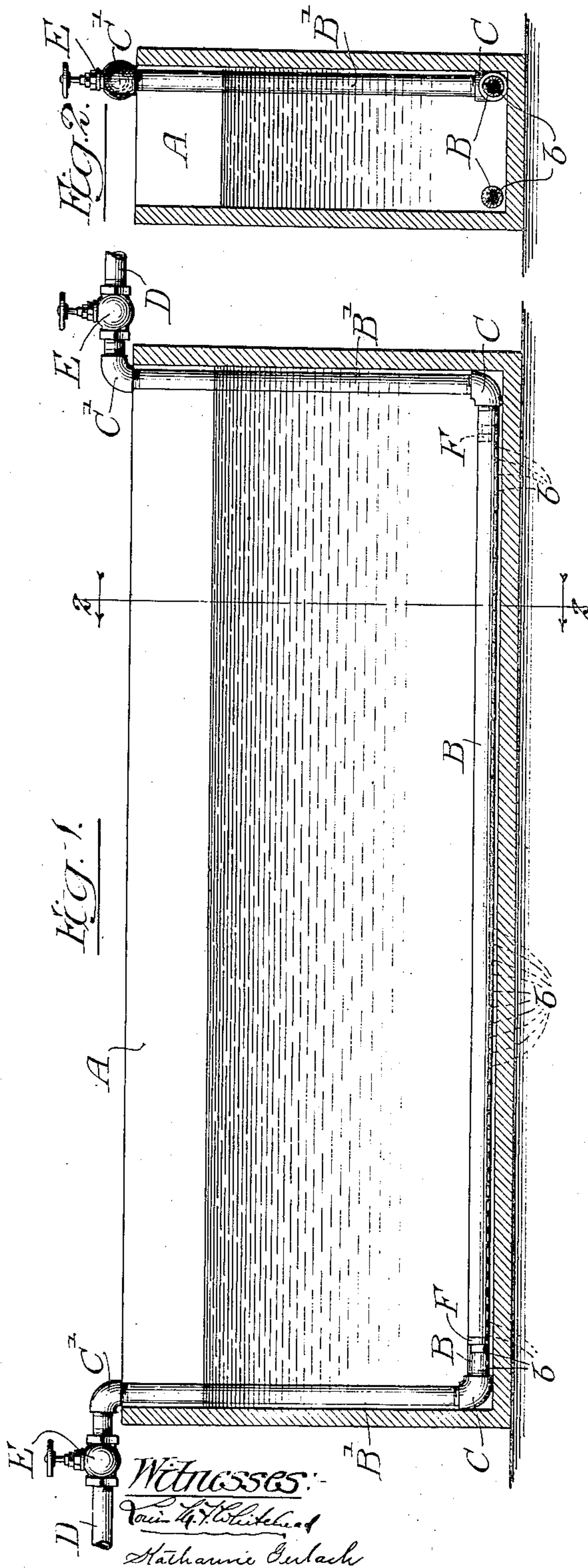


W. G. SCOTT.
DIPPING PROCESS FOR COATING ARTICLES.
APPLICATION FILED JAN. 4, 1909.

931,503.

Patented Aug. 17, 1909.



UNITED STATES PATENT OFFICE.

WINFIELD G. SCOTT, OF CHICAGO, ILLINOIS, ASSIGNOR TO CHICAGO VARNISH COMPANY,
OF CHICAGO, ILLINOIS, A CORPORATION.

DIPPING PROCESS FOR COATING ARTICLES.

No. 931,503.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed January 4, 1909. Serial No. 470,661.

To all whom it may concern:

Be it known that I, WINFIELD G. SCOTT, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in the Dipping Process for Coating Articles, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification.

In coating articles by the dipping process, it has long been customary to place within the tank containing the liquid with which the article is to be coated, mechanical agitators designed to maintain a uniform character in the body of liquid and prevent any of its heavier ingredients from settling. While the mechanical agitators will serve effectively for a certain class of liquids, such as ordinary paints, I have found that when dipping articles in a bath of bronze liquid, the surfaces of the articles will not be uniformly coated, but, as the articles, after they have been dipped, are lifted from the tank, there is a tendency of the bronze to settle toward the lower portions of the articles and to leave the upper portions in great measure uncovered by the bronze. This is due not only to the greater specific gravity of the bronze within the liquid, but to the fact that bronze powder, when mixed with a liquid, has a remarkable tendency to flow or settle very rapidly.

I have discovered that by blowing air through the bronze liquid contained within the dipping tank, not only will a thorough agitation of the liquid be effected, but the setting of the liquid upon the surfaces of the articles dipped will be caused to occur more quickly so that a substantially uniform coating of the bronze liquid will remain upon the whole surface of the article after it has been lifted from the bath.

In carrying out my invention, any suitable bronze liquid may be used, as, for example, one consisting of the following ingredients and in the proportions stated, viz: 1 gallon of coach varnish; 1 quart of japan; 9 quarts of benzin and 20 pounds of bronze powder. So, also, it is obvious that the dimensions of the tank for containing the bath of bronze liquid may be varied in accordance with the size and shape of the articles to be dipped.

In the accompanying drawing, Figure 1

is a view in vertical, longitudinal section on line 1—1 of Fig. 3. Fig. 2 is a view in vertical section on line 2—2 of Fig. 1. Fig. 3 is a plan view of the tank adapted for the practice of my invention.

The body of the tank A may be formed of wood or may be of galvanized iron or other suitable material, and may be, for example, 36 inches high, 8 feet long and 2 feet wide, and in such a tank there would be normally about 30 inches of depth of the bronze liquid. Along the bottom of the tank A extend the air pipes B that are provided with perforations *b*, these perforations being arranged at suitable distances apart—say, about one inch apart—and being preferably about 3/32nds of an inch in diameter. To the end of each of the pipes B is connected, by a coupling C, a vertical air delivery pipe B' that is united, as by a coupling C', to an air supply pipe D that is fitted with a suitable controlling valve E. Preferably, the free end of each of the pipes B is fitted with a screw plug F so that the pipes can be readily cleaned, in event they become more or less clogged. Preferably, the perforations *b* in the pipes B are arranged to discharge the air downward and inwardly, as shown, although this is not essential, and, by preference also, the air will be introduced under about 50 pounds pressure, if the column of liquid within the tank is, say, about 30 inches high. Of course, if the height of the column of liquid is increased, then the air pressure should be correspondingly increased.

I have found in practice that when an article, as, for example, a plate or bar of metal, is dipped within the bath into which air is forced under pressure, and is withdrawn therefrom, the bronze liquid will set so rapidly upon the whole surface of the plate or bar, as it is lifted from the bath, that the whole surface of the plate or bar will have substantially a uniform coating of the bronze, and that there will not be that tendency of the bronze to settle toward the bottom of the plate or bar, which would be the case if the bronze liquid were simply agitated by mechanical means.

By the term, bronze liquid, as herein used, I mean any liquid containing in suspension a metallic powder.

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

1. That improvement in the process of dipping articles in a bronze liquid, which consists in dipping the article in a bath of bronze liquid and blowing air through the liquid bath wherein the article is dipped to cause the liquid to more uniformly set when the article dipped is withdrawn from the bath.
5 2. That improvement in the process of dipping articles in a bronze liquid, that con-

sists in discharging air under pressure, adjacent the bottom of the column of liquid and dipping the articles in the column of liquid while the liquid is subjected to agitation by the air blown therethrough. 10

WINFIELD G. SCOTT.

Witnesses:

GEO. P. FISHER, Jr.,
KATHARINE GERLACH.