

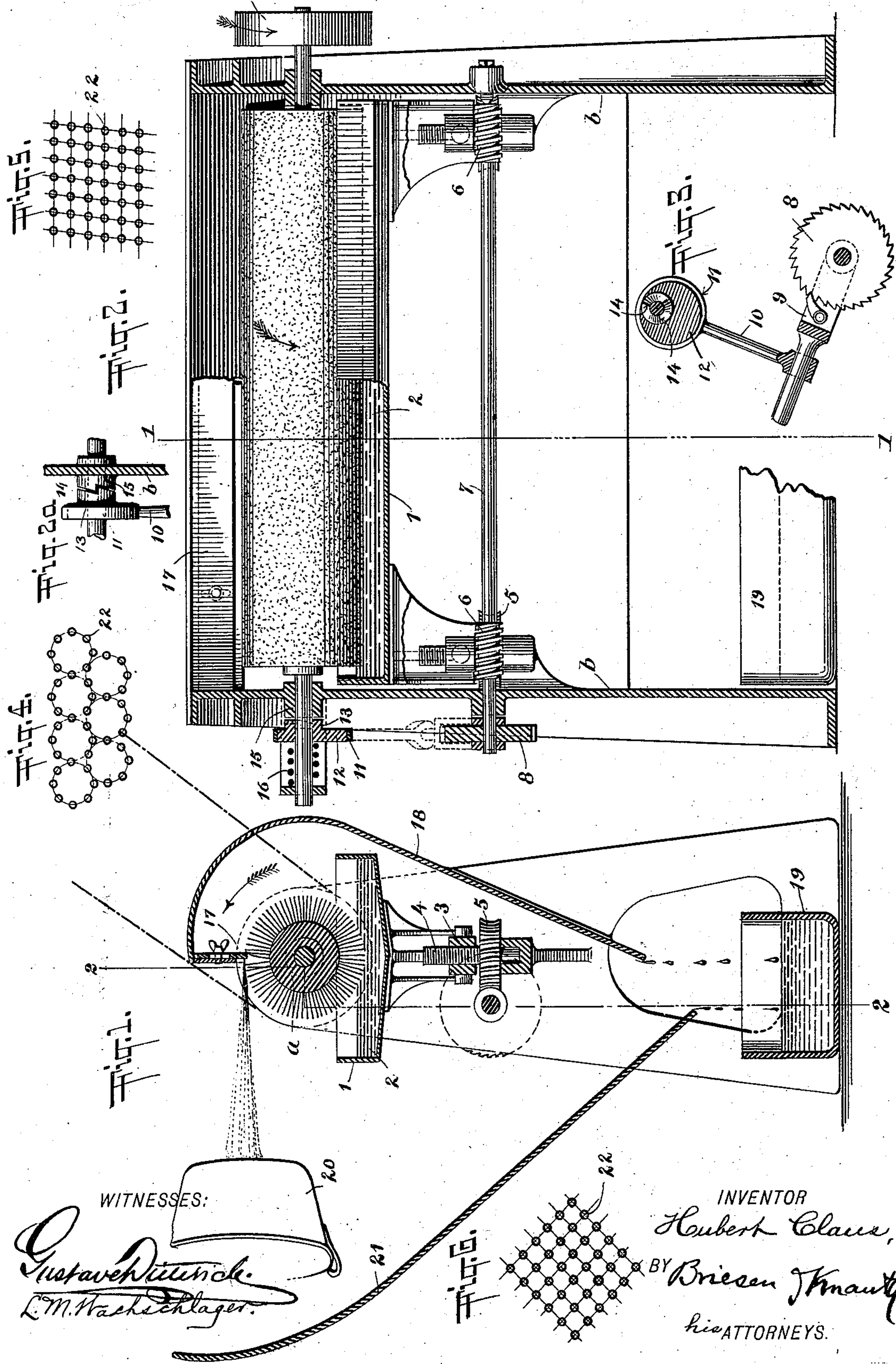
(No Model.)

H. CLAUS.

# MARBLING OR ENAMELING PROCESS AND APPARATUS.

No. 506,389.

Patented Oct. 10, 1893.





# UNITED STATES PATENT OFFICE.

HUBERT CLAUS, OF THALE, GERMANY.

## MARBLING OR ENAMELING PROCESS AND APPARATUS.

SPECIFICATION forming part of Letters Patent No. 506,389, dated October 10, 1893.

Application filed February 21, 1893. Serial No. 463,201. (No model.)

*To all whom it may concern:*

Be it known that I, HUBERT CLAUS, a resident of Thale, in the Harz, Germany, have invented an Improved Marbling or Enameling Process and Apparatus, of which the following is a specification, reference being had to the accompanying drawings, forming part hereof, wherein—

Figure 1 is a vertical cross sectional view, taken on line 1—1 of Fig. 2, of my improved machine. Fig. 2 is a vertical section on line 2—2 of Fig. 1. Figs. 2<sup>a</sup> and 3 are views of details, to be described. Figs. 4, 5, and 6 illustrate how the spikes or tufts forming the brush may be arranged.

The present invention relates to a process and apparatus for coating objects by throwing a marbling composition, enamel, or similar liquid material onto such objects, as hereinafter described.

The main object of the invention is to provide for throwing or spraying the coating liquid in an efficient manner, and for giving the desired mottled appearance to the coating.

The machine preferably used has a cylindrical brush *a*, the axis of which is provided with a driving means such as pulley, P. The brush is slightly shorter than the distance between the standards *b, b*, so that said brush can move back and forth in the direction of its axis a short distance. Below the brush is a receptacle 1 containing liquid marbling composition or enamel 2, into which the brush dips a short distance. This receptacle is supported on brackets, having at their lower ends screw threaded nuts 3, into which fit screws 4, forming the axes of worm wheels 5, which are engaged by worms 6 on shaft 7.

At one end of shaft 7 is a ratchet wheel 8, which as the apparatus is used is advanced step by step by the ratchet device 9, which is actuated by the arm 10, which terminates in a strap 11 surrounding the eccentric 12, which is rigidly secured to the spindle of the brush, so as to turn with it. One side of this eccentric is provided with an extension 13, the face of which has several ratchet shaped teeth 14, as shown in Figs. 2<sup>a</sup> and 3. This face is in contact with a similar face having like teeth, and formed by an extension 15 on the standard *b*. On the opposite side of the eccentric, and pressing against it, is a spring, 16.

Above the cylindrical spraying brush I place an adjustable spatter plate, 17, adapted to bear against the brush *a*, so as to bend or deflect its elastic tufts or parts, and then to allow them to snap by said plate, throwing or jerking the coating material in the form of spray against the article being coated. This brush and the receptacle for material thrown, are preferably shielded by a guard plate 18, adapted to guide material spattered by the brush in one direction to a lower drip vessel, 19.

20 is an article to be coated. 21 is a second guard plate for conducting liquid material which does not adhere to the article to be coated, to the receptacle, 19.

I propose to provide spraying brushes in which the springy tufts or spikes making up the brush shall be arranged in different figures, as illustrated by Figs. 4, 5, 6, in which 22 indicates said tufts. By the word tufts is meant the parts corresponding to the bristles of an ordinary brush, but a tuft, as the word is here used, may be composed of one or of several spikes or members. By using the different brushes, different mottled appearances may be given to the objects coated.

The operation of coating an article is, briefly, as follows: The article, 20, is held in the position shown in Fig. 1, and the brush is rotated in the direction of the arrow, carrying liquid from the receptacle 1 up toward the spatter plate 17. As the brush turns, the eccentric 12 and the brush are moved toward the left by the ratchet teeth, 14, compressing spring 16, until the teeth 14 snap by the teeth on the extension 15, and the spring 16 throws the eccentric and the brush toward the right, giving the brush a sudden shock which throws off superfluous material, if the brush has taken up more of the liquid than required. As the brush continues to rotate the parts of the brush which have passed through the liquid reach spatter plate 17, which first bends and then releases the springy parts of the brush, causing the same to throw the liquid coating material in the form of spray against the object 20, giving it a marbled or mottled surface, the specific appearance of which will depend on the arrangement of the tufts in the brush. Evidently the spatter plate may itself be elastic with the same effect as pro-



duced by having the brush tufts or spikes elastic. The shaft 7 being rotated as already described will slowly raise the receptacle 1, and the worm gearing and raising screws are  
5 so proportioned that the receptacle will be moved up at such a speed that the brush will always dip practically the same distance into the liquid therein, thereby making the work done by the machine uniform.

10 I do not limit myself to the specific means for administering shocks to the brush, herein shown and described as it is obvious that any suitable means may be employed.

What I claim is—

15 1. The process herein described of controlling the amount and distribution of liquid to an article to be spattered, which consists in partially immersing a brush within the liquid and rotating said brush, causing the brush  
20 bristles to spatter the article when placed within the path of projection of said spatterings from said brush, and imparting a jarring motion to said brush during its rotation to remove excess of liquid therefrom; substan-  
25 tially as and for the purpose set forth.

2. In a marbling machine the combination of suitable spattering device a cylindrical spraying brush cooperating therewith having

springy spikes or tufts arranged in special configurations for producing a desired mot- 30 tled appearance on an object coated, means for applying thereto material to be sprayed, and means for rotating said brush, substantially as described.

3. The combination of a reciprocatory ro- 35 tatable brush, a receptacle into which the brush extends, adapted to contain a liquid to be sprayed, means for rotating said brush, means for jarring the brush during its rota- 40 tion, and a spatter-plate against which the brush is adapted to bear and which as the brush rotates causes the coating material to be sprayed on the object to be coated; sub-  
stantially as and for the purpose set forth.

4. The combination of a spraying brush, 45 and means for applying thereto liquid material to be thrown, a part, 12, on the brush axis, and having ratchet teeth, corresponding fixed ratchet teeth, and a spring, 16, for giving mechanical shocks to the brush, substan- 50 tially as described.

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Witnesses:

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