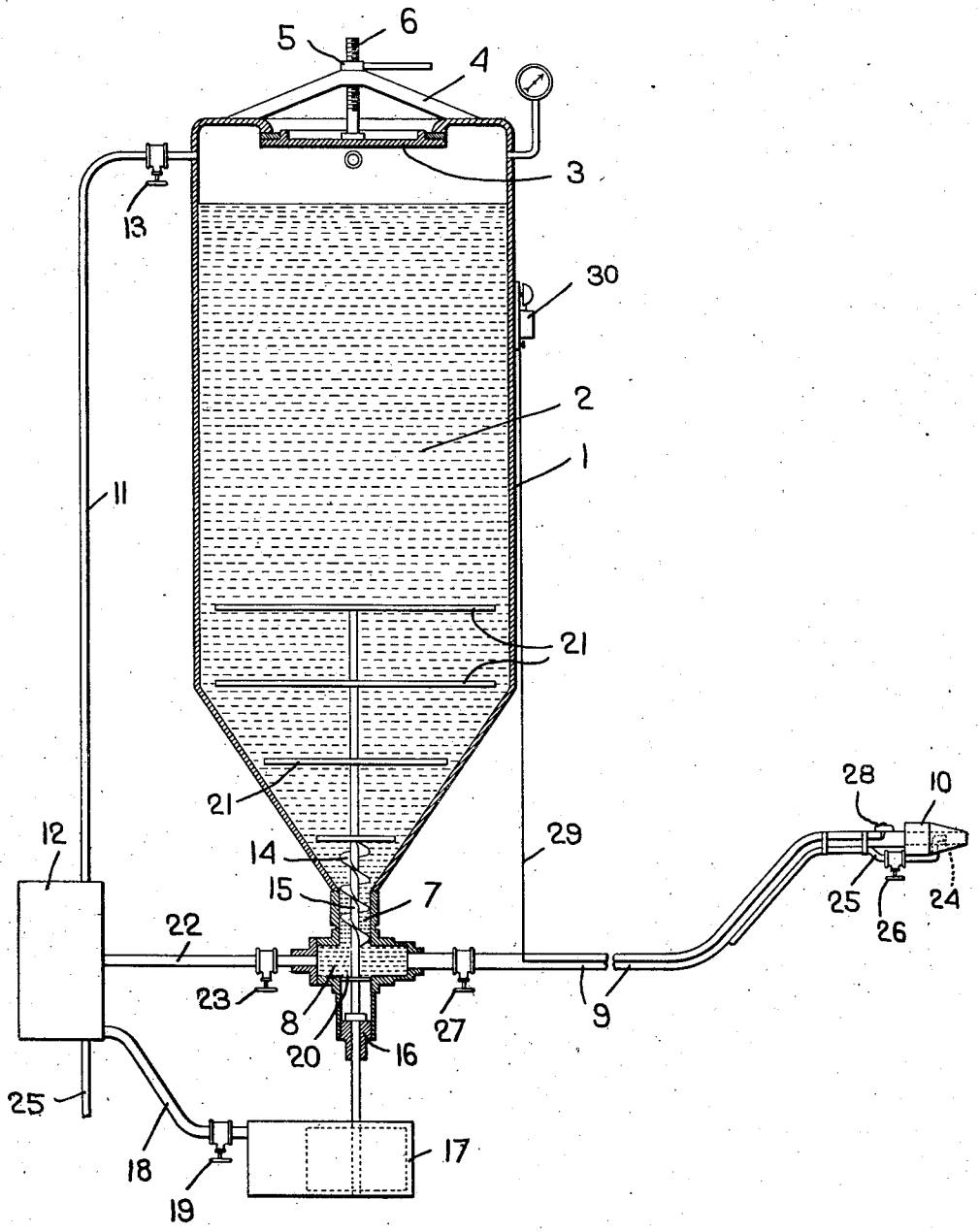
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PNEUMATIC PLASTERING MACHINE

Filed March 12, 1925



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PNEUMATIC PLASTERING MACHINE.

Application filed March 12, 1925. Serial No. 14,923.

To all whom it may concern:

Be it known that I, NAPOLEON M. BERNIER, a citizen of the United States, and resident of Cambridge, county of Middlesex, State of Massachusetts, have invented an Improvement in Pneumatic Plastering Machines, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to a pneumatic plastering machine for depositing plaster, cement and like plastic material on walls or floors and it has for its principal object to provide a novel machine of this type which is relatively simple in construction and which can be used with either plaster or cement and which has other advantages all as will be more fully hereinafter set forth.

In order to give an understanding of the invention I have illustrated in the drawings a selected embodiment thereof which will now be described after which the novel features will be pointed out in the appended claims.

The drawings show in vertical section a machine embodying the invention.

The device comprises a tank adapted to contain the plaster, cement or other plastic material and provided with a discharge port through which the material is fed, a receiving chamber communicating with the discharge port and having a delivery pipe leading thereinto at substantially right angles to the discharge port of the tank, means for delivering air under pressure into the receiving chamber in the direction of the delivery pipe whereby the plaster or cement is aerated and is carried along through the delivery pipe in this condition.

In the drawings 1 indicates a tank or container adapted to contain the cement, plaster, or other plastic material indicated at 2. This tank is provided with a filling opening in its upper end which is closed by a cover 3, the latter being clamped tightly in place through the medium of the yoke 4 and clamping screw 5 screw threaded on the stem 6 of the cover.

The tank is provided at its lower end with a discharge port 7 through which the material is discharged. This port leads into a receiving chamber 8. This receiving chamber has connected thereto a delivery pipe 9 which is preferably in the form of a flexible hose and which is provided at its end with a delivery nozzle 10. The delivery pipe 9 leads from the receiving chamber 8 in a direction at right angles to the discharge port 7.

The material 2 is forced or fed into the receiving chamber 8 through the discharge port 7 both by mechanical means and by air pressure.

11 indicates an air pipe leading from a tank 12 or other source of compressed air supply into the upper end of the tank 1, said pipe being provided with a valve 13 by which it may be controlled. By means of this pipe and the air tank 12 it is possible to build up an air pressure at the upper end of the tank 1 above the plastic material 2 therein which will have a tendency to force the material outwardly through the discharge port 7.

The mechanical means for assisting in feeding the material 2 through the discharge port 7 comprises a feed screw 14 which extends through the discharge port 7 and into the lower end of the tank 1 and is herein shown as mounted on a shaft 15 which extends through the discharge port and receiving chamber 8 and through a bearing 16 at the lower end of said chamber, said shaft leading to a motor 17 by which it may be operated. This motor may conveniently be an air motor which receives its motive power from the compressed air tank 12 through a supply pipe 18, the latter having a control valve 19 therein.

The shaft 15 is illustrated as having a collar 20 thereon which serves as a packing and prevents the plastic material from being forced into the bearing 16. The shaft 15 is shown as extended above the screw 14 and is provided with arms 21 which constitute stirrers or agitators for keeping the plastic material adjacent the discharge port 12 stored up and in plastic condition. These stirrers also prevent the formation of air pockets.

The plastic material is forced from the receiving chamber 8 into and through the delivery pipe 9 by air pressure and for this purpose I connect the receiving chamber 8 to the compressed air tank 12 by means of a pipe 22 which has a control valve 23 therein. This pipe delivers its air blast into the chamber 8 in a direction at right angles to that in which the material is fed into the chamber and as a result as fast as material is delivered to the chamber 8 it is filled with

air and is carried laterally into and through the delivery pipe 9. I find that by this construction the plastic material will be so thoroughly aerated and fluffed up by the air that it will be readily carried through a relatively long delivery pipe without danger of the pipe clogging.

In order to further assist in a free delivery of the plastic material from the nozzle 10 the latter is provided with an air jet 24 which delivers into the discharge port of the nozzle and which is connected by a pipe 25 to the compressed air tank 12. This pipe 25 is controlled by a valve 26. A valve 27 is preferably used for controlling the delivery pipe 9.

I find that with this construction, wherein the plastic material is delivered to a receiving chamber in one direction and wherein the delivery pipe from the receiving chamber is at right angles to the discharge port of the tank and a stream of compressed air is delivered into the receiving chamber at right angles to the discharge port, it is possible to successfully deliver plaster or cement from the nozzle without danger of the apparatus clogging.

30 indicates a signal herein shown as an electric bell which is connected by a circuit 29 with a push button 28 on the nozzle so that the man who is operating the nozzle may signal back to the container, it being understood that the container is often quite a distance away from the nozzle.

I claim:

1. In a pneumatic plastering machine, the combination with a tank having a discharge port, of a receiving chamber with which said port communicates, a feed screw for feeding material from the tank through the discharge port into the receiving chamber, a delivery pipe connected to the receiving chamber and extending at right angles to the discharge port, a source of compressed air supply, means to connect the latter with the opposite end of the tank from the discharge port, and means for delivering air under pressure into the receiving chamber at right angles to the discharge port.

2. In a device of the class described, the combination with a tank having a discharge port, a receiving chamber with which said port communicates, a shaft extending through said receiving chamber and discharge port, a screw on the shaft for feeding material through the discharge port, agitating arms also carried by said shaft, means to rotate the shaft, a delivery pipe extending from the receiving chamber in a direction at right angles to the discharge port, and means to deliver air under pressure into the receiving chamber and aslo to deliver air under pressure into the tank.

3. In a device of the class described, the combination with a tank having a discharge port, a receiving chamber with which said port communicates, a shaft extending through said receiving chamber and discharge port, a screw on the shaft for feeding material through the discharge port, agitating arms also carried by said shaft, means to rotate the shaft, a delivery pipe extending from the receiving chamber in a direction at right angles to the discharge port, means to deliver air under pressure into the receiving chamber and also to deliver air under pressure into the tank, a distributing nozzle on the end of the delivery pipe, and means to deliver an air jet into the delivery passage of the nozzle thereby to assist in the delivery of the material therefrom.

In testimony whereof, I have signed my name to this specification.

NAPOLEON M. BERNIER.