

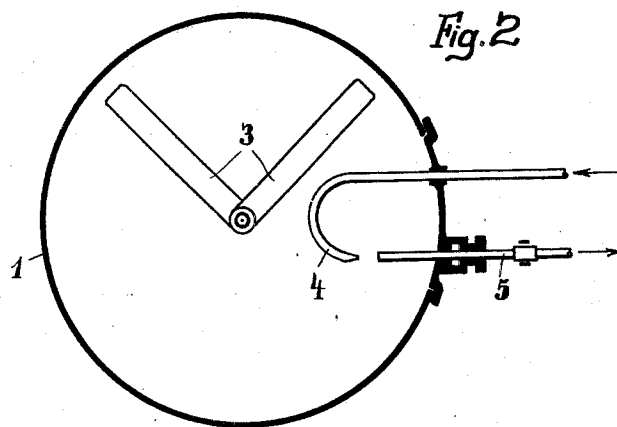
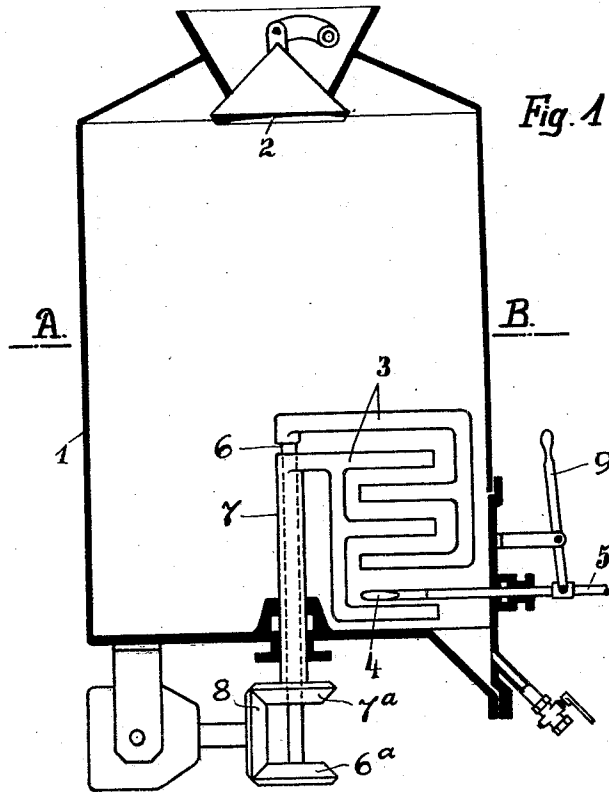
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INJECTING AND DELIVERING MACHINE FOR MORTAR AND OTHER MATERIALS

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## UNITED STATES PATENT OFFICE

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## INJECTING AND DELIVERING MACHINE FOR MORTAR AND OTHER MATERIALS

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Heretofore in the art, it has been extremely difficult to deliver mortar and other materials that are used in a fluid or moistened condition through long hose piping to the place of utilization by means of compressed air.

The present invention enables the difficulties experienced in the prior art to be overcome in that the mortar or other material or mixture, (whether thin or viscous) is introduced into a vessel wherein it is kept in constant motion by a stirring device and from which it is forced, by the action of compressed air issuing from a nozzle into the same, into a delivery pipe disposed in alignment with the direction of discharge from said nozzle. The motion imparted to the mass in the vessel by the stirrers prevents the material from settling, thereby obviating clogging of the nozzle which would otherwise occur and which would hinder the delivery action; so that a continuous stream of the material can now be delivered even through long piping.

By disposing the delivery pipe that faces the discharge end of the air nozzle so that it can be adjusted, the consistency of the material introduced into the vessel can be taken into consideration. In other words, the inlet to the delivery pipe can be set with respect to the discharge end of the air nozzle according to the consistency of the material so as to obtain the best results under all conditions.

One constructional form of my machine is illustrated, by way of example, on the accompanying drawings, whereon:—

Fig. 1 represents a vertical section through the machine; and

Fig. 2 represents a section on the line A—B of Figure 1.

Referring to the drawings, 1 denotes the vessel into which the mortar or other material is introduced through a charging hopper controlled by a valve 2. Within the vessel is a stirring device 3 comprised of two rotatable and coaxing stirrers one mounted directly on a vertical shaft 6 and the other mounted on a sleeve 7 surrounding said shaft. The shaft 6 and the sleeve 7 extend to the outside through a suitable gland in the bottom of the

vessel and carry respectively a bevel gear 6a and a bevel gear 7a, both in mesh with a driving bevel wheel 8 which is conveniently mounted in the manner shown. 4 denotes the compressed air nozzle, and 5 the delivery pipe which aligns with the discharge end of said nozzle and to the outer end of which a flexible hose can be attached. Said delivery pipe 5 is slidably mounted for adjustment relative to the discharge end of the air nozzle 4, as by means of a handle 9.

The mortar or other material to be delivered is charged into the vessel 1 which is thereafter closed by the valve 2. The stirring device is set in operation and keeps the mass of the material in continual motion so as to prevent it from settling on the compressed air nozzle 4 and clogging the same. Consequently, the stream of compressed air admitted through said nozzle 4 forces the mortar or other material in the vessel continuously into the adjustable delivery pipe 5 and thence through the attached flexible piping (not shown) to the place of utilization.

I claim:—

1. An injecting and delivering machine for mortar and other materials that are to be used in a fluid and moistened condition comprising, a vessel into which the material is charged, means for maintaining the material in said vessel in constant motion, a compressed air nozzle opening into the mass of material in said vessel, a delivery pipe disposed in alignment with the discharge end of said nozzle and means connected to the exterior of said vessel for adjusting the interior relation of said delivery pipe with respect to said nozzle.

2. An injecting and delivering machine for mortar and other materials that are to be used in a fluid or moistened condition, comprising a vessel into which the material is charged, means for maintaining the material in said vessel in constant motion, a compressed air nozzle opening into the mass of material in said vessel, and a delivery pipe disposed in alignment with the discharge end of said nozzle for adjustment in relation thereto.

3. An injecting and delivering machine

for mortar and other materials that are used  
in fluid or moistened condition, comprising  
a vessel into which the material is charged,  
co-acting stirrers mounted for rotation in  
said vessel, mechanism for effecting rotation  
5 of said stirrers to maintain the material in  
said vessel in constant motion, a compressed  
air nozzle opening into the mass of material  
in said vessel, a delivery pipe disposed in  
10 alignment with the discharge end of said  
nozzle and a manually actuated lever pivotally  
mounted on the exterior of said vessel and  
connected with said delivery pipe for vari-  
ably positioning said delivery pipe in select-  
15 ed spacial relation to said nozzle.

4. An injecting and delivering machine  
for mortar and other materials that are used  
in a fluid or moistened condition comprising  
a vessel into which the material is charged,  
20 co-acting stirrers mounted for rotation in  
the vessel, mechanism for effecting rotation  
of the stirrers to maintain the material in  
said vessel in constant motion, a compressed  
air nozzle opening into the mass of material  
25 in said vessel, and a delivery pipe disposed in  
alignment with the discharge end of said  
nozzle for adjustment in relation thereto.

In testimony whereof I affix my signature.

ERNST FRAENKEL.

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