

W. H. REIMER.
 PLASTERING MACHINE.
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1,053,645.

Patented Feb. 18, 1913.

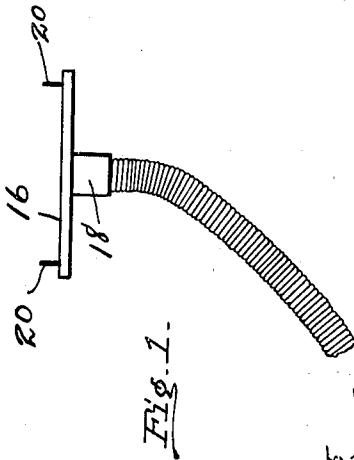


Fig. 1.

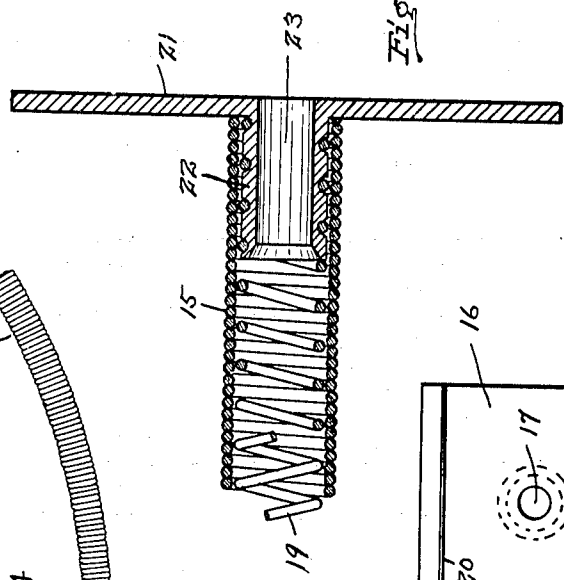


Fig. 2.

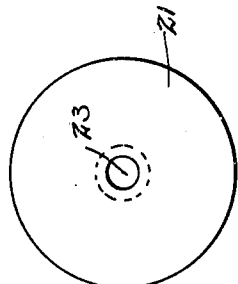


Fig. 3.

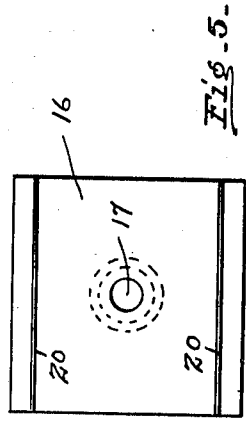


Fig. 5.

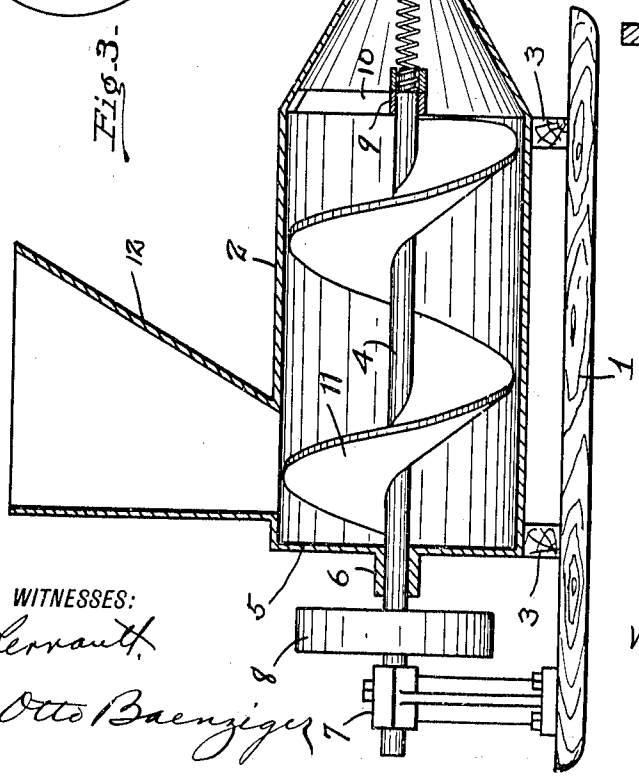
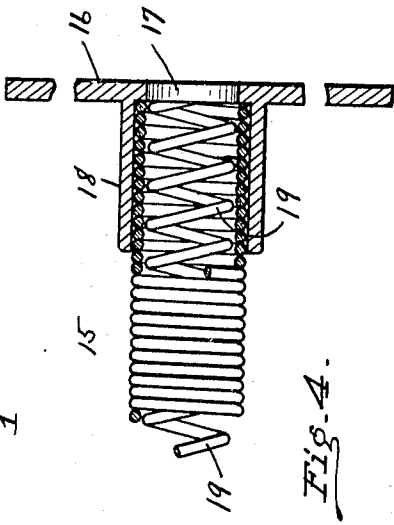


Fig. 4.



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PLASTERING-MACHINE.

1,053,645.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM H. REIMER, a citizen of the United States, residing at Detroit, in the county of Wayne, State of Michigan, have invented certain new and useful Improvements in Plastering-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to plastering machines, and consists in the construction and arrangement of parts hereinafter more fully set forth and pointed out particularly in the claims.

The object of the invention is to provide simple and efficient means for mixing the ingredients of plaster and other cementitious matter and feeding the plaster or cement through a flexible conductor to the desired point of application, provision being made for forcibly feeding the material the entire distance through the flexible conductor between the mixing cylinder and the trowel, and for spreading the material onto the surface to be coated through the medium of a rotary trowel, through the center of which the material is conveyed.

The above object is attained by the mechanism illustrated in the accompanying drawings, in which:—

Figure 1 is a general view partly in section, illustrating one embodiment of my invention. Fig. 2 is an enlarged fragmentary view in section showing the discharge end of the flexible conductor, the flexible rotary conveyer therein, and a rotary trowel connected to said conductor to be driven thereby, and having a central aperture through which the material may pass onto the surface to be coated. Fig. 3 is a plan view of the rotary trowel shown in section in Fig. 2. Fig. 4 is an enlarged fragmentary view partly in section, illustrating the manner of connecting the rotary trowel to the end of the flexible conductor, said trowel being apertured for the passage of the material therethrough. Fig. 5 is a plan view of the trowel shown in Fig. 4.

Referring to the drawings by the characters of reference marked thereon, 1 design-

ates a skid upon which is mounted a mixing cylinder 2, being supported upon the blocks 3 secured to the skid. Within the mixing cylinder 2 is a shaft 4 which extends through the end 5 thereof and is supported in the bearings 6 and 7. Between said bearings on said shaft is mounted a driving wheel 8, which may be driven from any suitable source of power not shown. The inner end of the shaft 4 is supported in a bearing 9 carried by the hanger 10 which is suspended from the wall of the mixing cylinder. Upon the shaft 4 within the cylinder is a mixing and feeding screw 11. Communicating with the mixing cylinder above the screw is a hopper 12. The delivery end of the cylinder is tapered, as shown at 13, said tapered portion terminating in a projecting sleeve 14.

For the purpose of conveying plaster or similar material to the place of use or application, there is employed a flexible conductor 15 formed preferably by tightly coiling a metallic strand of spring wire of suitable gage. This affords a comparatively light flexible conductor, through which the material may be fed as it is required for use. One end of the flexible conductor 15 is secured in the sleeve 14 at the delivery end of the mixing cylinder, and at the other end for ordinary use there is connected a square trowel 16, having a central aperture 17 therethrough which is surrounded by a projecting sleeve 18. The free end of the flexible conductor 15 is introduced into the sleeve 18 of said trowel to detachably mount the trowel thereon, the opening 17 through said trowel registering with the opening through said conductor.

It has been found difficult to force material of the consistency and specific gravity of plaster and cement through a long conductor by pressure applied only at the induct end of said conductor, because of the fact that the material becomes packed within the conductor and cannot be moved. In order to insure a continuous and even feeding of the material through the conductor from the mixing cylinder to the trowel, I employ a flexible conveyer 19 which lies within and extends throughout the entire length of said conductor. The conveyer 19 is in the form of a spirally wound strand of spring metal, and is of a diameter to fill the interior of the conductor 15, producing in

effect a hollow flexible conveyer within a flexible conductor. To provide for rotating the flexible conveyer the inner end thereof is connected to the end of the shaft 4, as clearly shown in Fig. 3, whereby said conveyer is caused to turn with said shaft.

Where the apparatus is used for mixing and applying plaster the lime, sand and water are introduced into the cylinder 2 through the hopper 12, and the shaft 4 revolved to cause the screw 11 to mix said materials and feed them forward to the delivery end of the cylinder. As the mixing screw feeds said materials forward they encounter the tapered portion 13 of the cylinder and are directed into the end of the conductor 15. The rotation of the flexible conveyer 19 which passes through said conductor causes the plaster or other plastic mixture to constantly feed into said conductor as it is urged forward by the feeding screw 11, affording a continuous feed for said material throughout the entire length of the conductor, thereby preventing a possibility of the conductor becoming clogged, and at the same time continuing the mixing process until the mass is delivered at the trowel. To enable a proper application of the plaster or similar material, the trowel is provided upon the face thereof with the parallel gage strips 20, which are held against the surface to be coated, and which regulate the depth or thickness of the plaster as it is applied, said trowel being held with sufficient force against the wall or ceiling to cause the plaster to flow laterally over the surface being coated between the guide strips as the trowel is moved along, enabling the plaster to be quickly and evenly applied. Because of the flexibility of the conductor 15, the trowel 16 may be manipulated at will, and may be moved about by the operator so as to enable him to cover with plaster a side wall or ceiling irrespective of the location of the mixing cylinder and without changing the position thereof. This arrangement makes it unnecessary to continually move the mixing cylinder during the operation of plastering a room.

In putting on a putty coat in plastering, in order to produce the spreading effect of a hand trowel and to properly distribute said putty coat evenly over the surface, a rotary circular trowel 21 is employed, having a smooth face and provided with a laterally projecting hollow stem 22. Formed through said stem and through the face of the trowel is an aperture 23. In the exterior of the hollow stem 22 is cut a spiral thread of the trend of the conveyer 19. To attach the trowel 21 to said conveyer so that it shall receive motion therefrom, the stem 22 is screwed into said conveyer as shown in Fig. 2, thereby effecting such a connection between said parts as to cause the trowel to

rotate when the conveyer 19 revolves. When using the circular rotary trowel 21 the rotation of the conveyer 19 will force the plaster through the opening 23 and onto the face of the trowel, the rotary movement of the trowel serving to spread the plaster evenly over the surface, the operator, to accomplish this work, holding the trowel against the surface with sufficient force to effect a proper spreading of the finishing coat of plaster.

With this device cement for concrete sidewalks and other structures may be perfectly laid, obviating the necessity of wheeling the cement from the mixing bed to the place of use, as commonly practised.

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

1. In a plastering machine, a mixing cylinder, a mixing and conveying screw therein, a flexible conductor leading from said cylinder, a flexible conveyer extending through said conductor, and means at the end of the conductor for applying the material fed therethrough.

2. A plastering machine comprising a mixing cylinder, a shaft within the cylinder having a mixing screw thereon, a flexible conductor leading from said cylinder, means for spreading plastic material at the free end of said conductor, and a flexible rotary conveyer connected to the shaft in said cylinder and extending throughout the entire length of said conductor.

3. In a plastering machine, a mixing cylinder, a flexible conductor leading therefrom, means at the end of said conductor for spreading plastic material, a flexible conveyer extending longitudinally of said conductor, means for forcing material into said conductor, and means for imparting a rotary movement to said flexible conveyer.

4. In a plastering machine, a mixing cylinder, a mixing and conveying screw therein, said cylinder having a tapered end, a flexible conductor leading from the tapered end of said cylinder, a flexible conveyer passing through the conductor and driven from the shaft of said screw, and a rotary trowel at the end of the flexible conductor connected to said rotary conveyer to revolve therewith.

5. A plastering machine comprising a mixing cylinder, a mixing and conveying screw therein, a flexible conductor leading from said cylinder, a flexible conveyer passing through said conductor and driven from the shaft of said screw, and a trowel at the end of said conveyer, said trowel having a central aperture registering with the opening in said conductor through which the plastic material is fed.

6. In a plastering machine, a mixing cylinder, a flexible conductor extending from said cylinder and adapted to receive plastic material, means at the end of said conductor

for applying said material, and means for continuously conveying said material throughout the entire length of said conductor.

5 7. In a plastering machine, a relatively long flexible conductor, means for introducing plastic material into said conductor, and a flexible conveyer co-extensive with said

conductor for conveying plastic material from end to end thereof.

In testimony whereof, I sign this specification in the presence of two witnesses.

WILLIAM H. REIMER.

Witnesses:

E. S. WHEELER,

M. E. BROESAMLE.

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