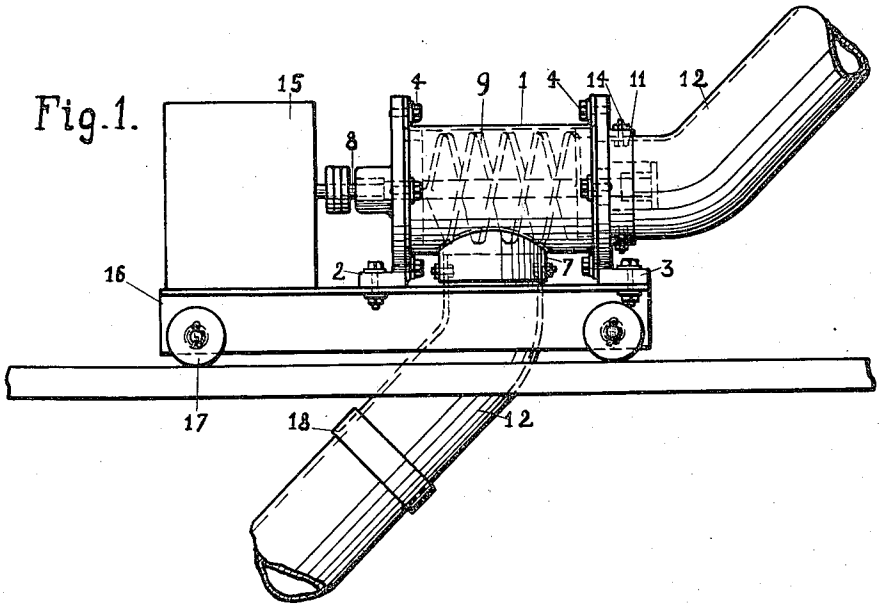
May 4, 1943. A. MASSANO 2,318,176

CONVEYER FOR SEMI-LIQUID MATERIAL

Filed June 25, 1942

Fig.1.



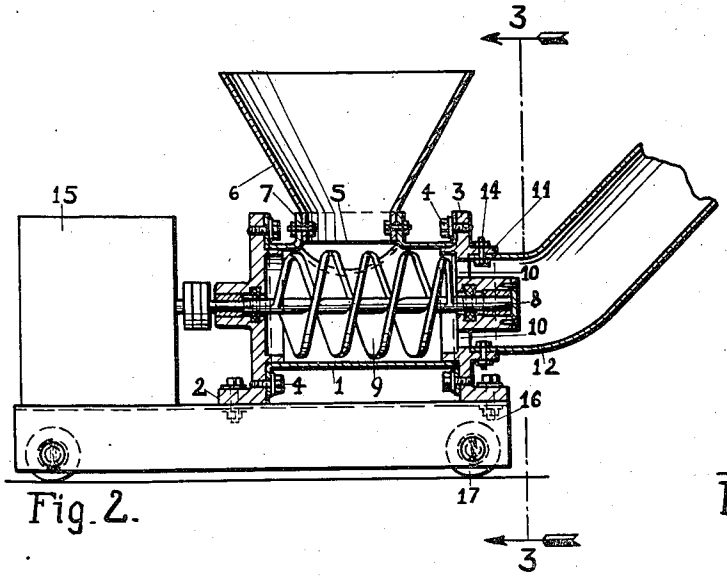


Fig.2.

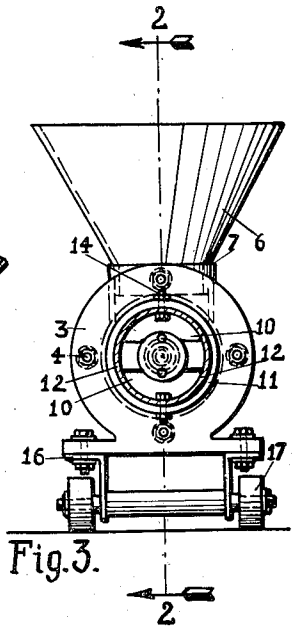


Fig.3.

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CONVEYER FOR SEMILIQUID MATERIALS

Aurelio Massano, Teaneck, N. J.

Application June 25, 1942, Serial No. 448,427

1 Claim. (Cl. 198—82)

The present invention relates to improvements in conveyers for semi-liquid and granular materials such as concrete, plaster, cereals, sand, gravel, crushed stones, or analogous materials.

The principle object of the invention is to provide an ejector which presses the material through tubes to a point on a higher level, thus eliminating entirely the hoist mechanism such as heretofore used and by which concrete was carried to the highest point of a structure and was then poured into tubes which led the material by means of gravity to places situated on lower levels. By so doing a considerable saving of time and labor is effectuated.

Another object of the invention is to provide a simple device for the purpose stated above, which is easily movable from one place to another and which is simple in construction to be manufactured and sold at a reasonable price.

A further object of the invention is to provide facilities for the handy and quick replacement of parts which may become worn out.

In the drawing:

Figure 1 is a side elevation of an ejector; Fig. 2 is a sectional view of a primary ejector on the line 2—2, Fig. 3; and Fig. 3 is a sectional view on the line 3—3, Fig. 2.

Similar numerals refer to similar parts throughout the several views.

Referring first to the primary ejector, illustrated in Figs. 2 and 3, a horizontal cylinder 1 is carried and closed on both ends by bearing brackets 2 and 3, to which it may be detachably secured by screws 4 or in any other suitable manner. The cylinder 1 is provided with an intake opening 5 which has a collar 7 adapted to be connected with a hopper 6 or with a tube referred to hereinafter. A shaft 8 turns in the bearing brackets 2 and 3 and carries a spiral elevator blade section 9. The bearing bracket 3 is provided with one or more discharge openings 10 (two in the present instance) surrounded by a collar 11. This collar 11 is adapted to be connected to a tube 12, which may be secured to the collar 11 by means of screws 14 or in any other suitable manner. The shaft 8 may be turned by an electro-motor, an internal combustion engine, or by any other suitable engine 15.

To make the ejector easily movable from one place to another, I prefer to have both the ejector and the engine 15 mounted on a truck 16 which has wheels 17.

It will be obvious that semi-liquid material poured into the hopper 6 will be pressed through the discharge opening 10 into the tube 12, by means of the spiral elevator blade section, if shaft 8 revolves. In this way it is possible to transport the material to some higher or distant point. If it is necessary to transport material to a point situated so far away from or so high above the primary ejector that the power of this single ejector would be insufficient, one or more additional ejectors may be used to serve as boosters. In order to reduce the cost of such a conveyer system, the ejectors are so constructed that each ejector can easily be transformed from a primary to an additional ejector and vice versa. I prefer to carry out this feature of my invention in the manner shown in the drawing, where it will be seen that the cylinder 1, after it has been unscrewed from the bearing brackets 2 and 3 which are secured to the truck 16 and after the hopper 6 has been removed, can be turned 180 degrees around its axis so that its intake opening 5 and the collar 7 are either on the upper side of the vertical cylinder 1 (Figs. 2 and 3) or on the lower side of the cylinder 1 (Fig. 1). Moreover, as previously referred to, the collar 7 is adapted to be connected either to a hopper 6 or to a tube, and the truck 16 is so designed that a tube can extend through it. Thus the tube 12, which is preferably a flexible tube consisting of several tube sections which may be connected to each other by couplings 18, can lead, for instance, from a primary ejector (Fig. 2) to an additional ejector (Fig. 1), and from there another tube 12 can be connected to a further additional ejector, and so on, until the place where the material is needed has been reached.

This construction makes also a handy and quick replacement of the cylinder 1 or of the spiral elevator blade section 9 possible, whenever these parts should be worn out.

While there has been shown and described and pointed out the fundamental novel features of the invention as applied to a single modification, it will be understood that various omissions and substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention. It is the intention, therefore, to be limited only as indicated by the scope of the following claim.

What is claimed is:

In a conveyer system for semi-liquid material, the combination of a plurality of ejectors each of which comprises two bearing brackets, a horizontal cylinder having an intake opening in its side wall and being secured to said bearing brack-

ets in such a manner that said intake opening is adapted to be positioned either at the upper or at the lower side of said cylinder, a discharge opening in one of said bearing brackets, a shaft carried by said bearing brackets, a spiral elevator blade section caried by said shaft intermediate the intake and discharge opening, an engine driving said shaft, and a truck having wheels and carrying said bearing brackets and said engine; with flexible tubes connecting the discharge opening of one ejector with the intake opening in the lower side of the cylinder of the next following ejector; and a hopper attached to the intake opening in the upper side of the cylinder of the primary ejector.

AURELIO MASSANO.