

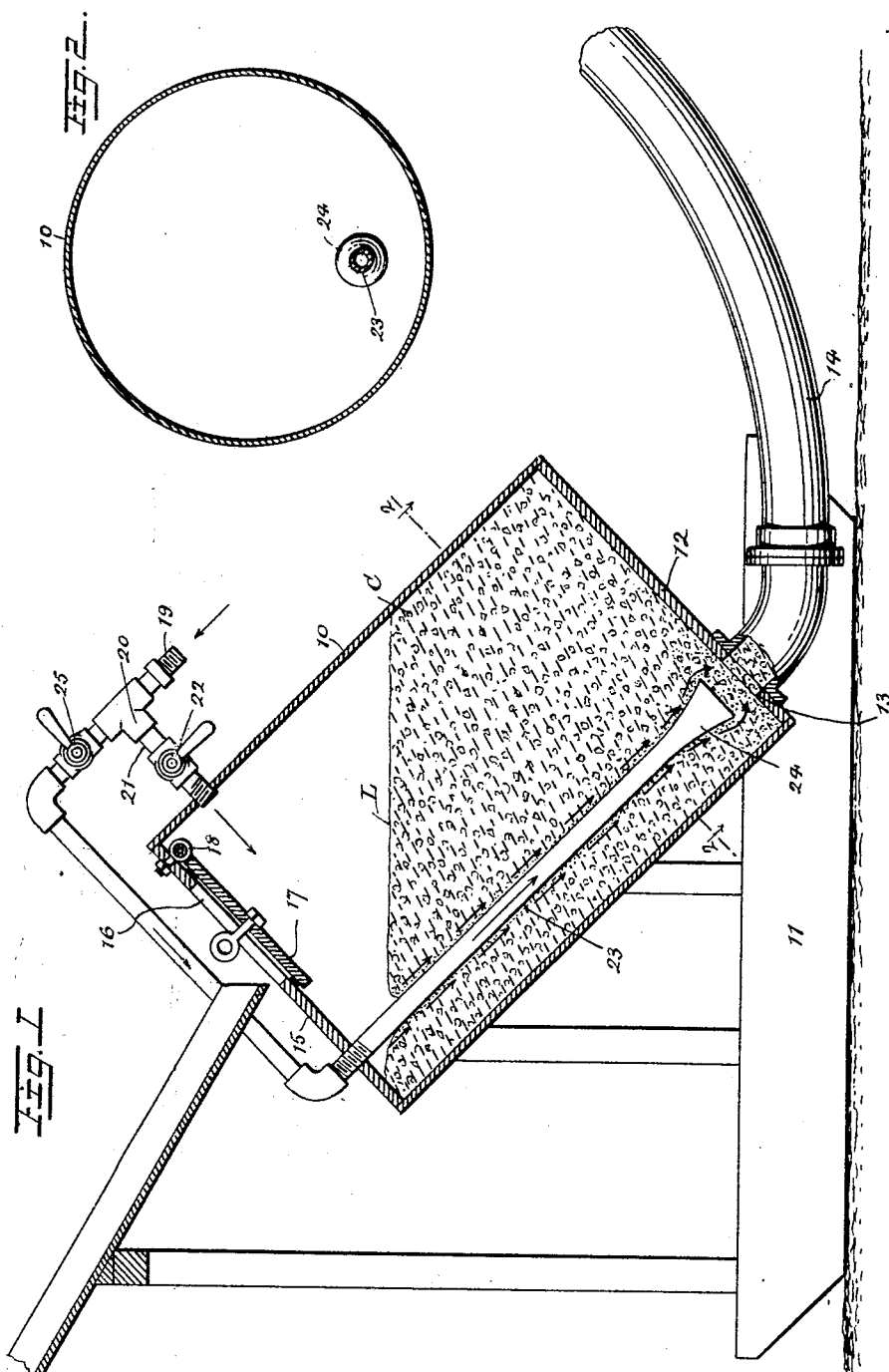
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CONCRETE BLOWER

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WITNESSES

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CONCRETE BLOWER

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This invention relates to an apparatus for moving mixed concrete through a conduit for discharge at the point of moulding, and has particular reference to an improvement therein for breaking up the mixture and preventing choking or clogging of the same at the point where it is received by the conduit.

At the present time the mixed concrete is introduced into a receptacle having a conduit communicating therewith and leading therefrom to the point where it is to be moulded and compressed air is introduced to the receptacle above the level of the concrete and at the inlet of the conduit for forcing the same from the receptacle through the conduit. In practice, it has been found that choking or clogging of the mixture at the outlet point frequently occurs, necessitating the cutting off of the compressed air, the opening of the receptacle and the introduction of means for breaking up the mixture at the outlet point. This, obviously, entails time and labor and retards the progress of the work.

It is, therefore, the principal object of the present invention to provide means extending from a point above the level of the concrete in the receptacle to a point spaced from and in axial alignment with the point of communication of the conduit therewith which functions as a baffle at the outlet point to shield the outlet from the direct weight and pressure of the mixture, and which also acts to loosen the compactness and to lessen the cohesion of the mixture, preventing clogging or choking of the same at the outlet point.

The invention further comprehends means of the character set forth, in the nature of a pipe which may optionally be brought into communication with the compressed air supply to produce a pressure at the outlet point for further relieving clogging or choking of the mixture.

The invention further comprehends an improvement in concrete moving and conveying apparatus which does not materially increase the cost of production of the apparatus or unduly complicate its structure and which is highly efficient in its purpose.

With the above recited and other objects in view, reference is had to the following description and accompanying drawings, in which there is exhibited one example or embodiment of the invention, while the claims define the actual scope of the same.

In the drawings:

Figure 1 is a vertical sectional view through a concrete blower constructed in accordance with the invention.

Figure 2 is a transverse sectional view therethrough taken approximately on the line 2—2 of Figure 1.

Referring to the drawings by characters of reference, 10 designates a substantially cylindrical receptacle which is supported at an angle from skids 11. The receptacle is provided with a bottom wall 12 having an outlet 13 adjacent its lower portion which is connected to and communicates with a conduit 14. The upper wall 15 of the receptacle is formed with a charging opening 16 through which the mixed concrete C is introduced to the receptacle. A closure 17 is hinged at 18 to the upper wall 15 for swinging movement inwardly to an open position to permit of the introduction of the mixed concrete and said closure is formed with suitable means for swinging the same upwardly to a closed position. A pipe 19 leading from a source of compressed air (not shown) is connected to a coupling 20 which in turn is provided with a pipe section 21 leading into the receptacle adjacent the upper portion. A valve 22 in the pipe section 21 controls the introduction of compressed air to the interior of the receptacle above the level of the concrete so that a force will be exerted on the mass to cause the same to be discharged through the outlet opening 13 and through the conduit 14.

In order to provide means for preventing the choking or clogging of the concrete at the outlet 13, a member 23 is supported within the receptacle 10 and extends from a point above the maximum level L of the concrete to a point spaced from and in axial alignment with the outlet 13. The member 23 is of lesser diameter than the outlet 13 for the major portion of its length but its

free lower end 24 is gradually flared outwardly and terminates in a diameter approximately equal to the diameter of the outlet 13. The terminal 24 is also spaced
5 from the outlet 13 approximately a distance equal to the diameter of the outlet. Under this construction and arrangement, the flared terminal 24 serves as a baffle which effectually functions to prevent clogging or
10 choking of the outlet. It is also found that in practice the member 23 operates to loosen the compactness of the mixture and to assist the baffling action in precluding clogging or choking of the outlet 13. In practice,
15 the member 23 may be in the nature of a pipe or tube which is led through the upper wall 13 of the receptacle and which connects and communicates with the coupling 20, a valve 25 being provided in said pipe for
20 optionally establishing or cutting off communication of the same with the source of compressed air supply to the coupling. Where choking or clogging occurs, it is obvious that by opening the valve 25, compressed
25 air may be allowed to flow through the member or pipe 23 for acting upon the mass at the outlet point to relieve a temporary choking or clogging at this point.

What is claimed is:

30 A device of the character described comprising a receptacle having an outlet opening in its lower end, a conduit communicating with a source of compressed air and leading into the upper part of the receptacle,
35 a pipe mounted within the receptacle and extending from the upper part thereof to a point above the outlet opening, said pipe being in axial alinement with the outlet opening and its lower end being flared
40 outwardly and of a diameter substantially equal to the diameter of the outlet opening and spaced from said opening a distance substantially equal to the diameter of the opening, and a valved connection between
45 said pipe and the source of compressed air supply.

Signed at New York, in the county of New York and State of New York, this
23rd day of May A. D. 1928.

50 ALEXANDER R. CUTHBERTSON.

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