No. 864,450. PATENTED AUG. 27, 1907.

L. K. DAVIS.

MIXING APPARATUS.

APPLICATION FILED MAY 19, 1906.

Fig. 2,

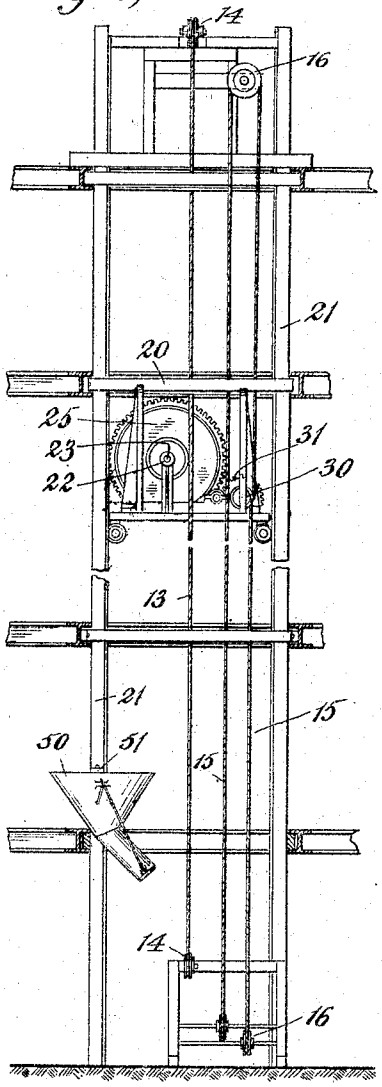
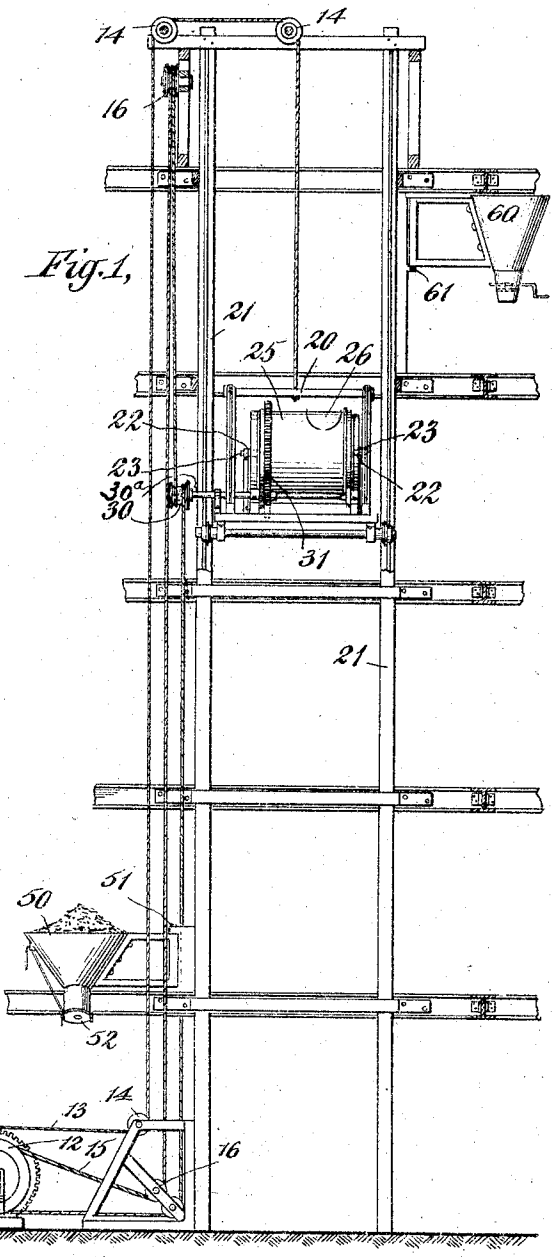


Fig. 1,



WITNESSES:

A. Crocheron

Fred Fisch

INVENTOR

Lewis K. Davis

BY

E. W. Marshall

ATTORNEY

UNITED STATES PATENT OFFICE.

LEWIS K. DAVIS, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO RIBBED CONCRETE BUILDING COMPANY, A CORPORATION OF NEW YORK.

MIXING APPARATUS.

No. 864,450. Specification of Letters Patent. Patented Aug. 27, 1907.

Application filed May 19, 1906. Serial No. 317,726.

To all whom it may concern:

Be it known that I, LEWIS K. DAVIS, a citizen of the United States, and a resident of the city of New York, in the county of New York and State of New York, United States of America, have invented certain new and useful Improvements in Mixing Apparatus, of which the following is a specification.

My invention relates to an apparatus for conveying and mixing material, and its object is to provide a simple and efficient arrangement of parts for conveying materials and agitating them or mixing them together.

I will describe my invention in the following specification and point out the novel features thereof in claims.

Referring to the drawings, Figure 1 is a side elevation of my improved conveying and mixing apparatus, together with some of its connected parts. Fig. 2 is a side elevation of some of the parts shown in Fig. 1, the view being taken at right angles to that shown in Fig. 1. Like characters of reference designate corresponding parts in all of the figures.

10 designates a hoisting engine which is arranged to rotate two winding drums 11 and 12.

13 designates a cable which is connected to the winding drum 11 and which, after passing over supporting and guiding sheaves 14, 14, has its other end attached to a traveling frame 20. The frame is made up of a plurality of separate parts fastened together so that they may all move together.

15 designates a rope which is connected to the winding drum 12 and which passes over supporting and guiding sheaves 16, 16 and passes around a sheave or pulley 30 on a shaft 30^A on the traveling frame 20.

The frame 20 is arranged to travel upon and to be supported by stationary guides 21, 21 which, in the present instance, are shown in a vertical position but which may be horizontal or inclined, if desired.

22, 22 designate bearings which are supported by the frame 20 and in which are mounted trunnions 23, 23. These trunnions are attached to a rotatable receptacle 25. The receptacle may be of any desired form or construction; for example, it may be a box in the form of an inclosed cylinder, or it may be rectangular in form. It is provided with a door 26 over an opening in one portion of its outer surface.

The shaft 30^A to which the sheave or pulley 30 is attached is supported upon the movable frame 20 and is connected through gearing 31 to the rotatable receptacle 25.

At 50 a hopper is shown which may be pivotally attached, as shown at 51, to one of the guides 21, or to some other part of the supporting structure. 60 designates another hopper similarly pivoted at 61.

In the operation of this device the material to be conveyed and mixed may be first placed in the hopper 50, and when the traveling frame 20 is near the lower end of its travel this hopper may be swung around its pivots until its mouth 52 is directly over the door 26 in the receptacle 25. When in this position the door 26 may be opened and then the hopper may be allowed to discharge its load into the receptacle 25, after which the door 26 may again be closed and securely fastened. After the receptacle has thus been filled the engine 10 may be allowed to rotate the winding drum 11 and to hoist the movable frame 20. During its travel the sheave or pulley 30 will be rotated by passing up over the portion of the rope 15 which surrounds it and its rotation will be transmitted through the gearing 31 to the receptacle 25. When the movable frame and its connected parts reach the desired point it may be stopped and the receiving hopper 60 swung about its pivots until it registers with the door 26 in the receptacle 25. The door 26 may then be opened to allow the contents of the receptacle to be emptied into the receiving hopper 60. The hopper 60 may then be swung back out of the way and the frame 20 may again be lowered for another load, and this operation may be repeated indefinitely.

The engine 10 may be made to rotate the drum 12 independently of the drum 11, and in this case the rope 15 will be driven and its motion will be transmitted through the sheave or pulley 30 and the intermediate mechanism 31 to rotate the receptacle 25. Thus, it may be seen that the receptacle 25 may be rotated either by the movement of the frame 20, while the rope 15 is held stationary, by the movement of the rope 15 while the frame 20 is held stationary, or by the combined movement of the frame 20 and the rope 15. To obtain the rotation of the receptacle 25 it is only necessary that the receptacle and the rope 15 be moved relatively to each other.

It is obvious that this invention is useful in connection with the hoisting or conveying of concrete, mortar or sand during building operations, and this is one of its advantageous uses.

When this device is used there is a great saving both of time and labor, and one engine alone may be used both for conveying the materials and for mixing them together.

What I claim is—

1. A frame comprising a plurality of parts fastened together, in combination with stationary guides on which said frame is adapted to travel, a receptacle rotatably mounted within the frame, a driven rope connected with said frame and arranged to give the frame and the receptacle a reciprocating movement over the guides, a second rope, and intermediate mechanism including a shaft mounted on the frame connecting the second rope and the receptacle, said second rope and intermediate mechanism

being arranged to rotate the receptacle when the frame bearing the receptacle and said second rope are moved relatively said rotation being independent of the reciprocating movement of the receptacle.

2. A movable frame comprising a plurality of parts fastened together, in combination with stationary guides on which said frame is adapted to travel, a receptacle mounted within said frame, a drum with a rope connected to said frame for moving it over the guides, means including a drum, rope and pulleys and gearing connecting one of said pulleys with said receptacle for rotating said receptacle independent of the movement of the frame over said guides, a stationary bearing for one of said pulleys, another of said pulleys being mounted on the frame and connected with the receptacle.

3. A frame comprising a plurality of parts fastened together, guides therefor, an engine, two rotatable drums arranged to be driven by said engine, a receptacle rotatably mounted within the frame, a rope connecting the frame with one of said drums and arranged to move the frame and the receptacle reciprocatingly over the guides upon the rotation of the first drum, a second rope connected with the other of the drums, intermediate mechanism comprising a pulley mounted on a shaft journaled in the frame and carrying a gear connecting with the receptacle, said second rope being associated with said pulley and arranged to rotate the receptacle by the power of the engine when the frame bearing the receptacle and said second rope are moved relatively.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses

LEWIS K. DAVIS.

Witnesses:
ERNEST W. MARSHALL,
ELLA TUCH.