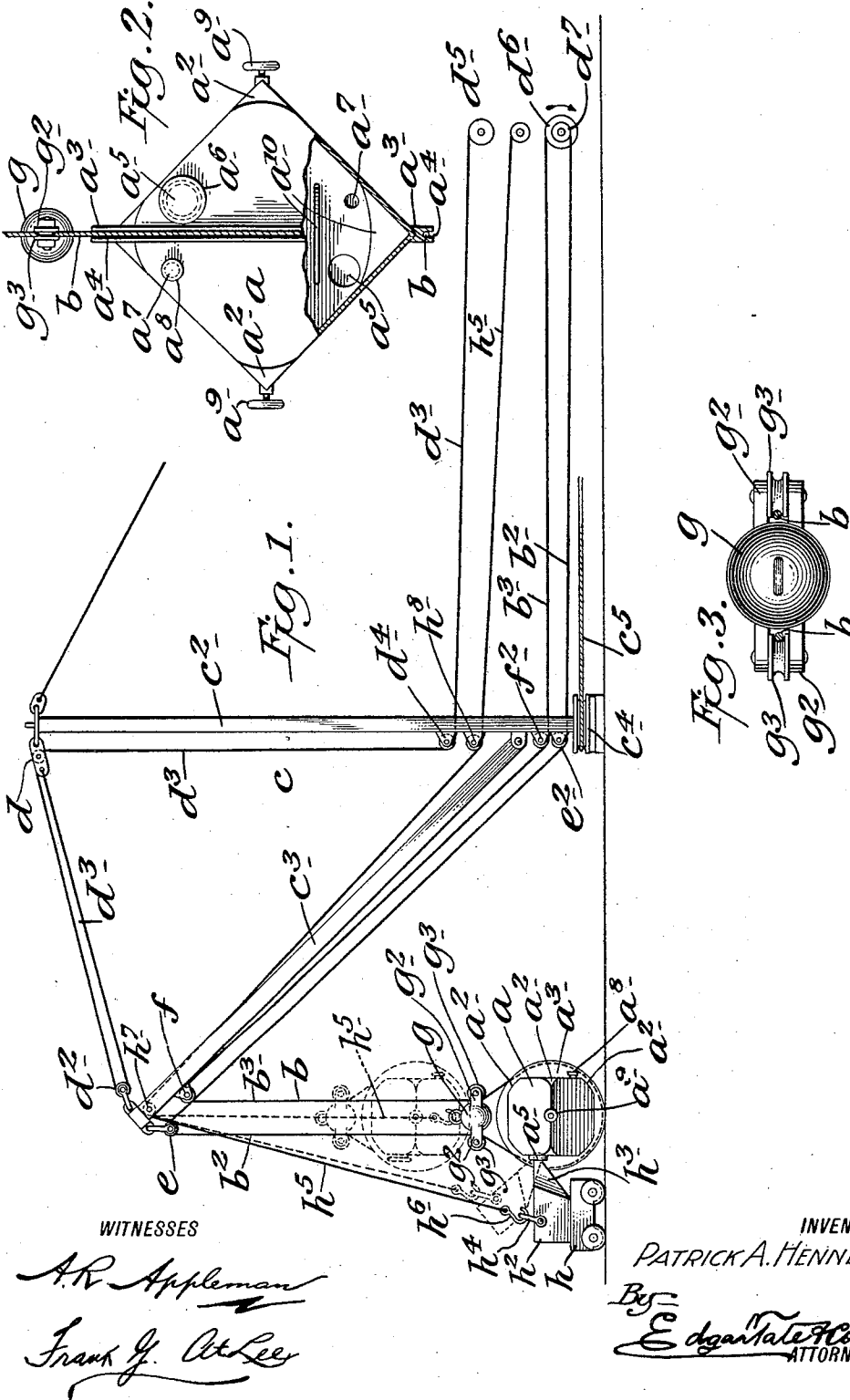


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 CONCRETE MIXER AND CONVEYER.
 APPLICATION FILED OCT. 24, 1911.

1,065,608.

Patented June 24, 1913.



UNITED STATES PATENT OFFICE.

PATRICK A. HENNESSY, OF BELVIDERE, NEW JERSEY.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, PATRICK A. HENNESSY, a citizen of the United States, and residing at Belvidere, in the county of Warren and State of New Jersey, have invented certain new and useful Improvements in Concrete Mixers and Conveyers, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to means for mixing concrete used for building and other purposes and conveying the same from one point to another; and the object thereof is to provide an improved apparatus of this class by means of which concrete may be thoroughly mixed while being conveyed from one point to another and which involves the use of a derrick constructed and operating in a manner somewhat similar to other apparatus of its class.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which:—

Figure 1 is a sectional side elevation of an apparatus involving my invention, part of the construction being shown diagrammatically; Fig. 2 a side view of the container and mixer which I employ, and; Fig. 3 a plan view of a guiding and controlling weight which forms a part of the apparatus.

In the practice of my invention I provide a concrete container and mixer which consists of a suitable receptacle *a* preferably made of sheet metal and which is also preferably cubical in form and the corners of which are rounded as shown at *a*² to prevent concrete or concrete material from collecting therein. The receptacle *a* is provided centrally with a circular web *a*³ in the perimeter of which is a deep groove *a*⁴ adapted to receive a cable *b* which forms a part of the derrick or hoisting and conveying apparatus as shown in Fig. 1. The receptacle *a* is also provided on opposite sides thereof and on opposite sides of the web *a*³ with filling and discharge openings *a*⁵ closed by threaded caps *a*⁶, or the closing of said openings may be effected in any desired manner. The receptacle *a* is also provided on opposite sides thereof and on opposite sides of the web *a*³, in the form of construction shown, with air vents or openings *a*⁷

which may be closed by threaded caps *a*⁸, or in any desired manner, and said receptacle is also preferably provided on opposite side corners thereof and at right angles to the central web *a*³ with swiveled or other handles *a*⁹ whereby the said receptacle, when swinging from the boom of the derrick and also while revolving as hereinafter described, may be swung laterally or turned around in the manipulation thereof.

The derrick *c* shown in Fig. 1 comprises the usual mast *c*² and boom *c*³, and the mast *c*² is provided with the usual rotating base *c*⁴ operated by a cable *c*⁵ in the usual manner. The mast *c*² is also provided at the top thereof with the usual pulley block *d* and the end of the boom with a pulley *d*², and a cable *d*³ is connected with the pulley block *d* and passed around the pulley *d*² and back through the pulley block *d*, and down and around a pulley *d*⁴ on the bottom portion of the mast, and from which it is carried to the winch mechanism at *d*⁵.

The end portion of the boom *c*³ is provided with two pulleys *e* and *f* and the separate parts or reaches *b*² and *b*³ of the cable *b* after being passed around the receptacle *a* are passed around the pulleys *e* and *f* and around corresponding pulleys *e*² and *f*² at the bottom of the mast, and from which they are carried to the winch mechanism *d*⁵, and are passed around drums *d*⁶ and *d*⁷, respectively, which are mounted on and secured to the same shaft. The drum *d*⁶ is much larger than the drum *d*⁷ and the part *b*³ of the cable *b* is connected with the drum *d*⁶ and the part *b*² of said cable with the drum *d*⁷, and this connection is so made that when the part *b*³ of the cable *b* is wound on the drum *d*⁶, the part *b*² of said cable will be unwound from the drum *d*⁷, and by means of this construction, as the receptacle *a* is raised it is rapidly revolved, the speed of the rotation of said drum being much greater than if the drums *d*⁶ and *d*⁷ were of the same size.

I also provide a heavy weight *g* having opposite side members *g*² in which are mounted pulleys *g*³, and in practice, after the cable *b* has been passed around the receptacle *a* the separate parts thereof are passed through the side members *g*² of the weight *g* and said weight rests on and is supported by the separate parts of the cable *b* above the receptacle *a*, as clearly shown in Fig. 1, and the separate parts of said cable

operate in connection with the pulleys g^3 , and said weight serves to hold the cable in connection with the receptacle a or to prevent the disconnection of said cable and said receptacle in the operation of the apparatus. It will be seen that when power is applied to the cable to raise the receptacle the strain on the same will tend to lessen the deflection caused by the weight and in cases of very heavy loads will effect this by raising weight in proportion to the weight upon the cable.

I also provide means for filling the receptacle a with concrete or concrete material, and in the form of construction shown, the means employed to accomplish this result consist of a truck h on which is mounted a detachable filler box h^2 having a discharge nozzle h^3 adapted to enter either of the filling and discharge openings a^5 in the receptacle a , and said filler box is provided with a yoke or bail h^4 , and in practice, I also provide a cable h^5 having a hook h^6 adapted to enter the yoke or bail h^4 , and said cable is passed around a pulley h^7 at the free end of the boom c^3 and around another pulley h^8 on the bottom portion of the mast c^2 and from which said cable is passed to the winch mechanism at d^5 .

In practice, the filler box h^2 is filled with the concrete material and either the truck or the receptacle manipulated so as to pass the nozzle h^3 of the filler box into one of the openings a^5 , after which the cable h^5 is manipulated so as to raise the filler box as shown in dotted lines in Fig. 1, in which operation the contents of said box is dumped into the receptacle a , after which the box h^2 is lowered onto the truck h and moved out of engagement with the receptacle a , and the said receptacle may be raised and moved to any point where it may be desired to dump the concrete. In this operation of raising and conveying the receptacle to the desired point, said receptacle is rapidly rotated and the contents thereof thoroughly mixed, and in order to facilitate this operation of mixing the concrete material the receptacle a is provided on the inner sides thereof with mixer plates, ribs or projections a^{10} .

If it be desired at any time to raise the

weight g and disconnect the cable b from the receptacle a , the cable h^5 and hook h^6 are employed for this purpose as indicated in dotted lines in Fig. 1.

In the above described operation of this apparatus, the handles a^9 on the receptacle a may be employed when said receptacle is within reach to swing it around or turn it into different positions when desired, and especially when necessary in order to connect the filler box h^2 therewith.

My improved apparatus for mixing concrete material is simple in construction and operation and comparatively inexpensive, and my invention is not limited to the exact details of construction herein shown and described, and various changes therein and modifications thereof may be made, within the scope of the appended claims, without departing from the spirit of my invention or sacrificing its advantages.

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

1. The combination with a weighted member provided with a cable pulley, of a cable engaging and passing nearly around the same, a separate device for inwardly deflecting the cable, said device engaging and acting upon the cable at automatically varying distances above the said weighted member, and means connected with said cable to cause the same to raise and revolve said member.

2. The combination with a weighted member provided with a cable pulley, a cable passing nearly around the same, means connected with said cable to cause the same to raise and revolve said member, a device for inwardly deflecting said cable above said member to a greater or less extent depending upon the weight carried by said cable, said device being movable upwardly from said member to enable the cable to be disengaged therefrom.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 21st day of October 1911.

PATRICK A. HENNESSY.

Witnesses:

C. E. MULREANY,
FRANK G. AT LEE.