Jan. 8, 1935. C. M. TOLLEY 1,986,864

CONCRETE AGGREGATE PROPORTIONER

Filed Nov. 16, 1932

Fig. 1.

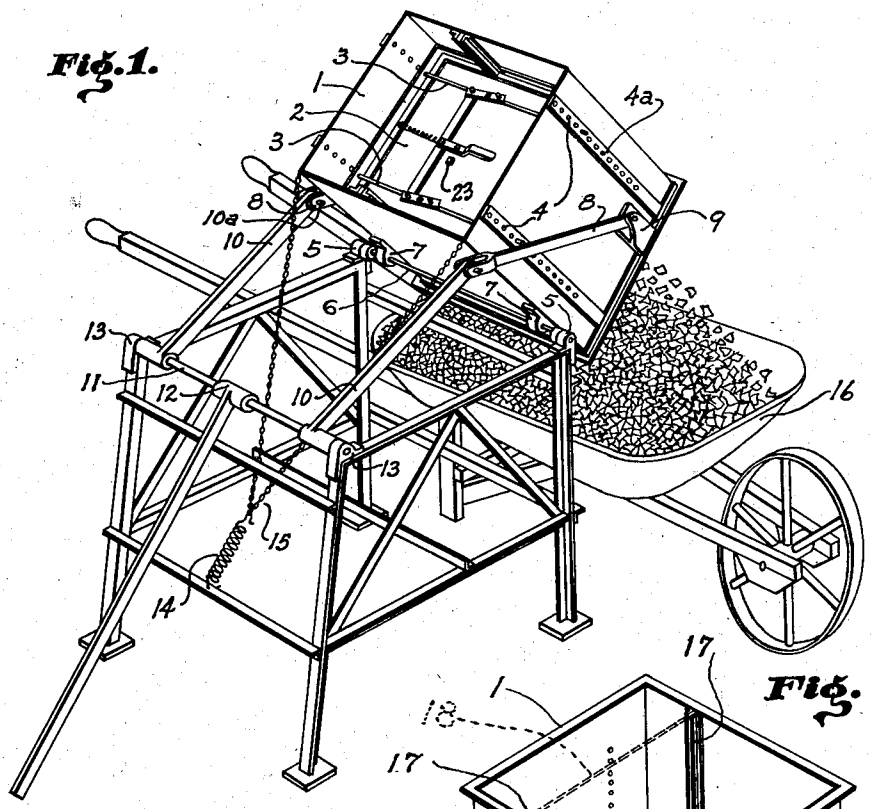


Fig. 2.

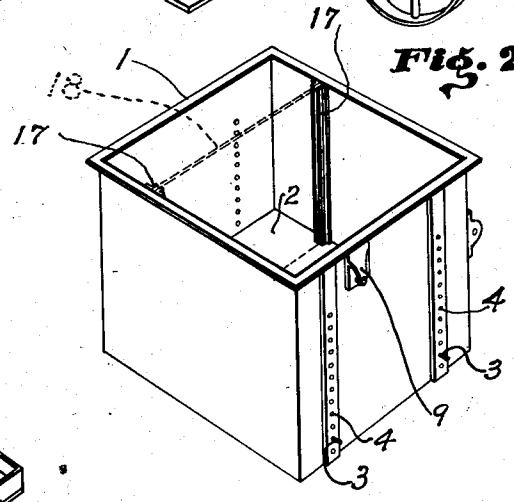
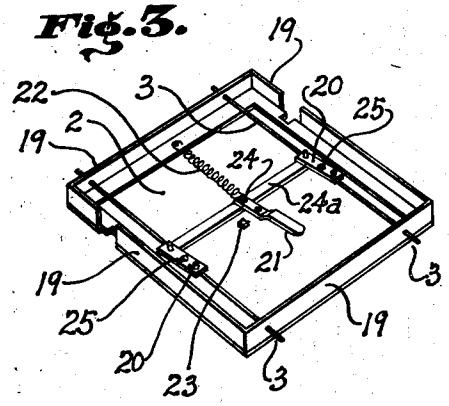


Fig. 3.



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UNITED STATES PATENT OFFICE

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CONCRETE AGGREGATE PROPORTIONER

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Application November 16, 1932, Serial No. 642,941

2 Claims. (Cl. 221—95)

My invention relates to improvements in concrete aggregate proportioners in which a dumping box is provided with a movable bottom, and is provided, also, with a vertical partition: and the objects of the improvement are, first, to provide a means of accurately measuring concrete aggregate in small batches to provide a uniform mass in large quantities, and, second, to provide ready means for adequate inspection of concrete aggregate as the mixing process is going on, and, third, to provide means for accurately measuring the components of concrete that is adaptable to all concrete work without changes being made in types of machinery now employed.

One method of construction of the invention is illustrated in the accompanying, one sheet of drawings, in which Figure 1 is a perspective view of the entire machine with the dump box raised out of its carrying frame as it must be to dump its measured contents into a wheelbarrow; Figure 2 is a detailed view, in perspective, of the dump box; Figure 3 is a detailed view, in perspective, of the movable bottom inverted and removed from the dump box showing the means of readily securing it within the dump box.

The dump box 1 is pivotally carried by its bearings 7 on bar 6 that passes through bearings 5 that are secured to the upper forward corners of the form, or stand, which may be of any suitable type that will also carry bearings 13 on its upper rear corners to take shaft 11 on which arms 10, pivoted at 10*a* to links 8, are secured, by a key, at each end of bar 11 near bearings 13; shaft 11 also carries lever 12 keyed securely to it, near its middle, so that an upward movement of lever 12 will move arms 10 downwardly and carry links 8 that are pivotally connected to arms 10 and the arms 8 being pivotally carried at their other ends in brackets 9 that are secured to box 1 will draw the box back over pivot bar 6 till the box is in an upright position as in Figure 2, in which position lever 12 will stand vertically and the box will be in proper position to be filled with concrete aggregate to a level with its upper edges where an inspector of the concrete work being done can readily see, from a distance that the right amount of material is being supplied, since bottom 2 has been placed in predetermined position to permit the right amount of material to be filled into the box.

The bottom is retained in place by rods 3 through holes in angles 19 that are secured to bottom 2 and holes 4 in reinforcing bars 4*a* carried on the outside of box 1. Rods 3 are retained by a spring 22 which is secured at one end to bottom 2 and at the other to a central handle lever 21 which pivotally operates on a pivot 24, and bar 24*a* being pivotally connected at 25 to handle lever 21 and links 20, will be swung into the position shown in Figure 3, whereupon rods 3 will extend through the holes of angles 19 as well as the walls of box 1 and bars 4*a* and be held from releasing by spring 22.

To release the bottom, lever 21 is swung counterclockwise till stopped against a bolt head 23 at which position the bottom is free to be lifted out of box 1.

The vertical partition indicated by dotted line 18, Figure 2, is used when two rough materials, such as gravel and ground rock, are used and a proportional relation between them is desired to be kept for uniformity of aggregate.

The full operation of supplying concrete aggregate to a concrete structure is accomplished by the use of two of my proportioners, one being used to measure the coarse aggregate, such as gravel or crushed rock, and the other the sand: In the box used for sand measuring the bottom being set two thirds the way up toward the top. The cement being always handled in sacks which carry uniform quantities and need no measuring.

It may be seen that by the use of the invention small batches of concrete aggregate uniformly for any mixture the bottoms are set for and maintain uniformity throughout the entire column of any quantity of concrete required for any job.

Having thus explained my invention so that any one versed in the art could make and use the same,

I claim:

1. The combination in a concrete aggregate proportioner that consists of a rectangular box carried in a suitable frame on pivots near the upper forward corners thereof and having reinforcing bars carried by two opposite sides of said box through which holes are provided to receive retaining rods carried by a movable bottom; of retaining rods pivotally carried at one end of each rod in the ends of links that are centrally pivot connected to said bottom, said links being each turnable connected at one end to the outer ends of a bar across said bottom which is pivoted near its middle to a spring retained operating lever that is pivotally carried by said bottom at a point near its middle so that a lateral movement of said lever will move said bar across said bottom and rotate said links and cause the retaining rods to move back and forth in holes in the

framed sides of said bottom in and out of holes provided for various positions of the bottom in opposite walls of said rectangular box and its reinforcing bars, substantially as shown and set forth.

2. The combination in a concrete aggregate proportioner consisting of a rectangular box carried in a suitable frame on pivots near the upper forward corners thereof, and having a movable bottom therein to provide differing depths of said box; of manually operated means for quickly dumping said box of its contents and returning it to a reloading position, consisting of brackets secured to opposite sides of said box in which links are turnably mounted on one end while the other ends are pivotally attached to arms on each side of said box, said arms being secured near the ends of a shaft carried by bearings secured at the upper rear corners of the carrying frame and are operated to dump and replace said box by a centrally secured lever on the shaft carrying said arms, substantially as shown and set forth.

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