

Oct. 26, 1943.

R. J. KENNEDY

2,333,014

PORTABLE CONTAINER

Filed Feb. 24, 1941

Fig. 1.

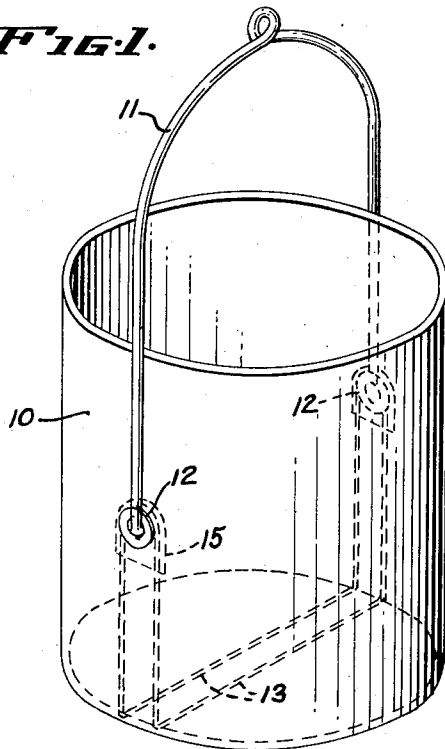


Fig. 2.

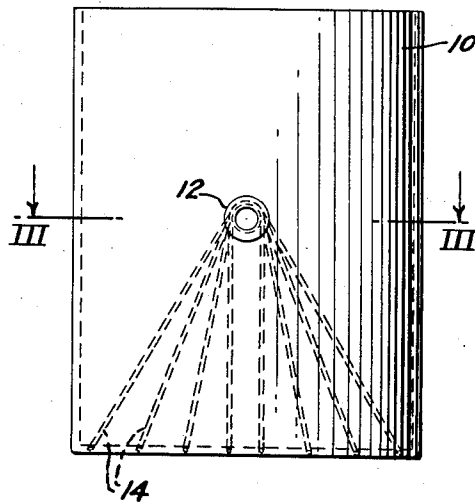


Fig. 3.

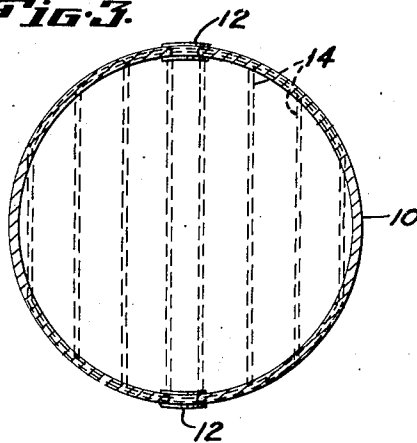


Fig. 4.

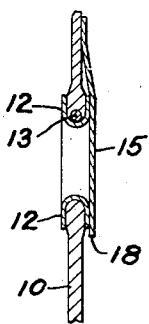


Fig. 5.

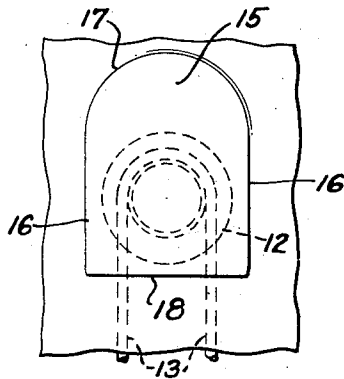
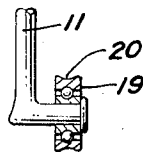


Fig. 6.



INVENTOR.
RAYMOND J. KENNEDY
BY
Castberg & Roemer
ATTORNEYS.

UNITED STATES PATENT OFFICE

2,333,014

PORTABLE CONTAINER

Raymond J. Kennedy, San Francisco, Calif.

Application February 24, 1941, Serial No. 380,285

3 Claims. (Cl. 150—48)

The present invention relates to containers, and particularly to portable containers of sufficient size and durability to contain large quantities of mineral aggregates of the kind of which concrete is composed.

In order to obtain concrete of maximum strength, it is necessary that the sizes of the aggregates which make up the mix be included in proper proportions. A scientifically perfect mix may be obtained by weighing the aggregates upon their delivery from a plant where they have been crushed, graded and stored in bins. What is termed a "certified mix" may by this means be delivered into a truck for transportation to a job, where it is placed in a mixer. Water and cement are added to the aggregates in the mixer. If the mixer is of a capacity to contain a full truck load, the proportions of the mix are retained, but if the mixer has a capacity, for example, of one-half ton and the truck carries two tons, there is no practical method of dividing the truck load into four parts in which the aggregates are exactly proportioned. The result is that each of the four batches placed in the mixer will contain more or less of the coarse or fine particles than required for a perfect mix. One very common method of producing a mix is to haul the various sizes of aggregate separately, and then measure them by shovels full from separate piles into batches for the mixer. It is apparent that the mix obtained in this manner is neither uniform nor accurate.

It is the object of the present invention to provide a portable container of the same capacity as a concrete mixer, with sufficient strength and durability for the transportation of mineral aggregates, and which will be flexible enough to be loaded with efficiency of space on a truck body, and which will be provided with convenient means for handling in such a manner that its contents may readily be discharged into a mixer or a chute which feeds the mixer.

Further objects and advantages of the invention are made apparent in the following specification, wherein reference is made to the accompanying drawing, illustrating one form of the invention.

In the drawing—

Fig. 1 is a perspective view of a container embodying the present invention;

Fig. 2 is a side elevation of a similar container illustrating a modification in the arrangement of the container reinforcing means;

Fig. 3 is a sectional view taken on line III—III of Fig. 2;

Fig. 4 is an enlarged sectional view of a portion of the container illustrated in Fig. 1;

Fig. 5 is an elevation taken from the interior of a container of the portion illustrated in Fig. 4; and

Fig. 6 is an enlarged detail, partially in section, of a modified form of hook for the bail member illustrated in Fig. 1.

Referring to the drawing in greater detail, a container embodying the present invention is shown as comprising a cylindrical or bucket-shaped receptacle 10, preferably formed of some flexible but durable material, such as rubber vulcanized over a foundation of heavy fabric, so that the texture of the receptacle will resemble that of the side walls of an automobile tire or a piece of heavy reinforced belting. A bail member 11 is shown to provide means for lifting the container through the medium of eyes 12 formed at diametrically opposite points and preferably at a position just slightly above its vertical center. The bail member 11, which may be inexpensively constructed, in the manner shown, of a single metal rod bent to form a U-shape, with inwardly projecting hooks at its ends for engagement with the eyes 12, is sufficiently resilient to permit of its being sprung apart and thus disengaged from the container. If desired, the bail may be carried by a crane or other suitable lifting device and engaged with the container only at such times as it is desired to lift the same.

In order to reinforce the bottom of the container and also to provide sufficient strength in the mounting of the eyes 12, to prevent them from being torn away from the rubberized fabric of which the container is formed, a flexible steel cable 13 is passed across the bottom of the container and also extends upwardly at the sides to pass over the tops of the eyes 12, the position of this cable being indicated in dotted lines at 13 in Fig. 1.

Referring to Fig. 4, one of the eyes 12 is illustrated as a steel ring of U-shaped cross section and the cable 13 is shown as received within the channel formed by the U-shape, where it will be securely held against dislodgement and where it will also be safe to receive directly the greater part of the load imposed upon lifting of the container through the medium of the bail member, the ends of which project into the eyes 12.

Another arrangement of reinforcing cables is illustrated in Figs. 2 and 3, wherein a plurality of cables 14 are shown as passing over the eyes 12 and as being splayed or spread in their arrangement so that they pass across the bottom

of the container at equally spaced intervals, thus reinforcing and lending support to the entire area.

To prevent aggregates from spilling through the eyes 12, it is preferable that they be covered with a flap or shield, as shown at 15 in Figs. 4 and 5, which shield is also formed of flexible material to admit the ends of the bail member through the eyes 12, while at the same time preventing spilling of any portion of the aggregate through the central openings of these eyes. As considerable quantities of dirt, cement or other matter may enter the eyes 12 from the exterior, the shield 15 is secured to the container along its side edges 16 and top edge 17, but is left free at its bottom edge 18 to prevent the formation of a pocket for the collection of such foreign matter.

While the bail member 11 may be formed as shown in Fig. 1, with its ends bent inwardly to form hooks insertable through the eye 12, for lifting and handling a relatively small sized container which, for example, might have a capacity of one-half ton, a pivotal action is desired at this point to permit the contents of the container to be discharged into a mixer or chute, and it is desirable therefore that in large containers, having a capacity of, say, one or two tons, that the ends of the bail member be provided with an anti-friction bearing such as indicated at 19 in Fig. 6. The exterior periphery of this bearing 19 is preferably formed with a concavity, as indicated at 20, to register and engage with the interior of the eye 12 to facilitate pivoting of the container relative to the bail member when its contents are to be discharged.

With containers constructed in accordance with the present invention, it is possible to fill any number of containers having the same capacity as a mixer to which they are to be delivered with a "certified mix" at an aggregates plant equipped with the necessary grading equipment and scales, and then to deliver them by truck or car to the site at which the mixer is located. Due to the flexibility of the containers, they may be loaded on a truck with a greater efficiency of space than is possible with metal drums or barrels, and by reason of the manner in which the eyes 12 are placed in their sides, they may conveniently be handled to and from a truck and discharged into a mixer through

the use of any suitable hoisting device which may be supported either adjacent the mixer or on the truck itself.

The proper quantity of cement is preferably also included in the container with the aggregates. Where the mix is to be delivered directly from the supply plant to the job in a short time, the cement may be placed in the container in direct contact with the balance of the aggregates. To prevent setting of the cement in case it is to remain in the container for a longer period of time, it may be contained in paper bags which will be opened just prior to delivery of the contents of the container to a mixer, or preferably the container may be provided with a partition to maintain the cement separate from the aggregates until its entire contents are discharged.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. A container comprising a receptacle formed of rubberized fabric, metal eyes positioned in opposite sides thereof for the reception of hooks at each end of a bail member, each eye having a channel in its upper edge receiving the receptacle fabric, and a continuous flexible cable reinforcing strand in the form of an elongated loop embedded in said fabric and extending across the bottom of the receptacle, up the opposite sides of the container and hung over said eyes and maintained in position thereon by said channel.

2. A container comprising a receptacle formed of rubberized fabric, metal eyes positioned in opposite sides thereof for the reception of hooks at each end of a bail member, each eye having a channel in its upper edge receiving the receptacle fabric, and continuous flexible cable reinforcing strands in the form of elongated loops embedded at spaced intervals across the bottom of the receptacle and converging upwardly on opposite sides and over said eyes.

3. A container for carrying material comprising a receptacle having openings formed in its opposite side walls for the reception of hooks at each end of a bail member, and a shield of flexible material covering each opening and positioned on the interior of the receptacle, said shield being secured to the receptacle along its top and side edges only.

RAYMOND J. KENNEDY.