Jan. 31, 1950 A. WEHNER 2,496,077

REVOLVING CEMENT MIXER SCREEN

Filed Feb. 10, 1947

2 Sheets-Sheet 1

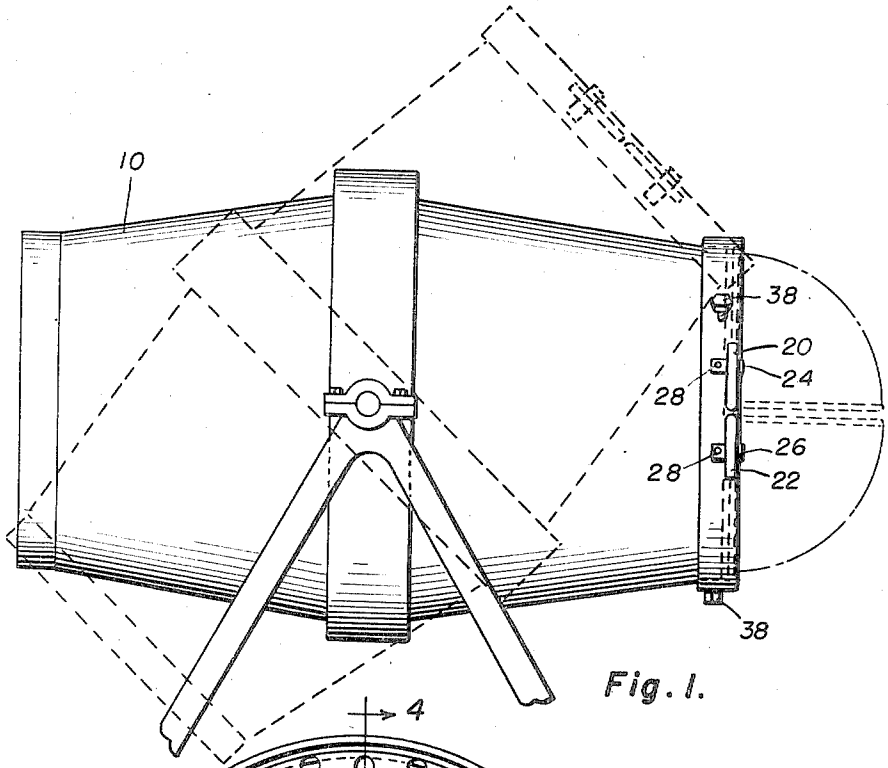


Fig. 1.

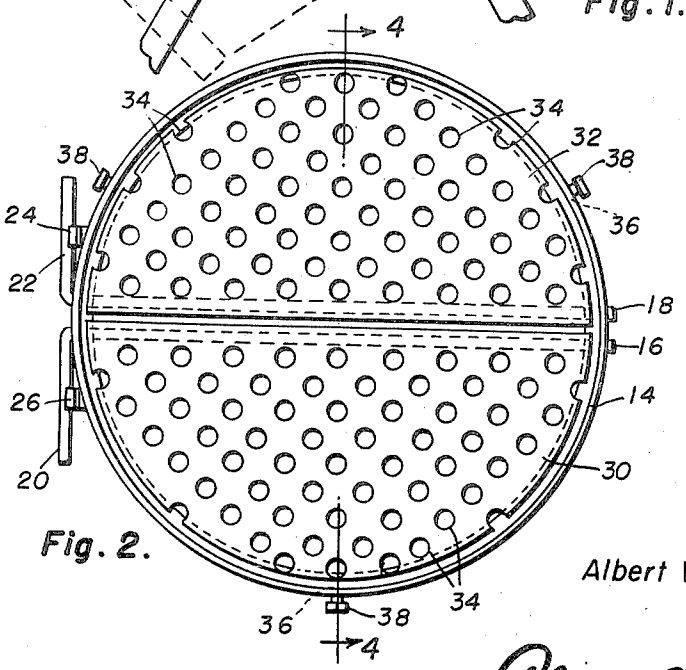


Fig. 2.

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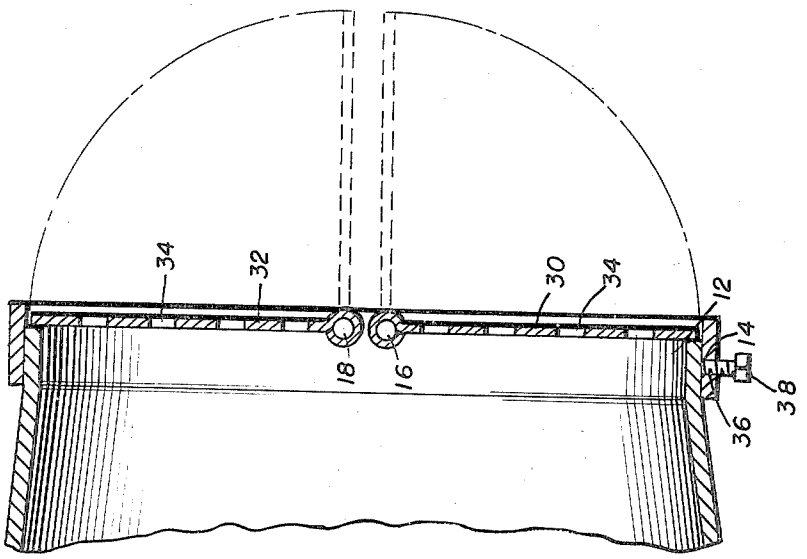


Fig. 4.

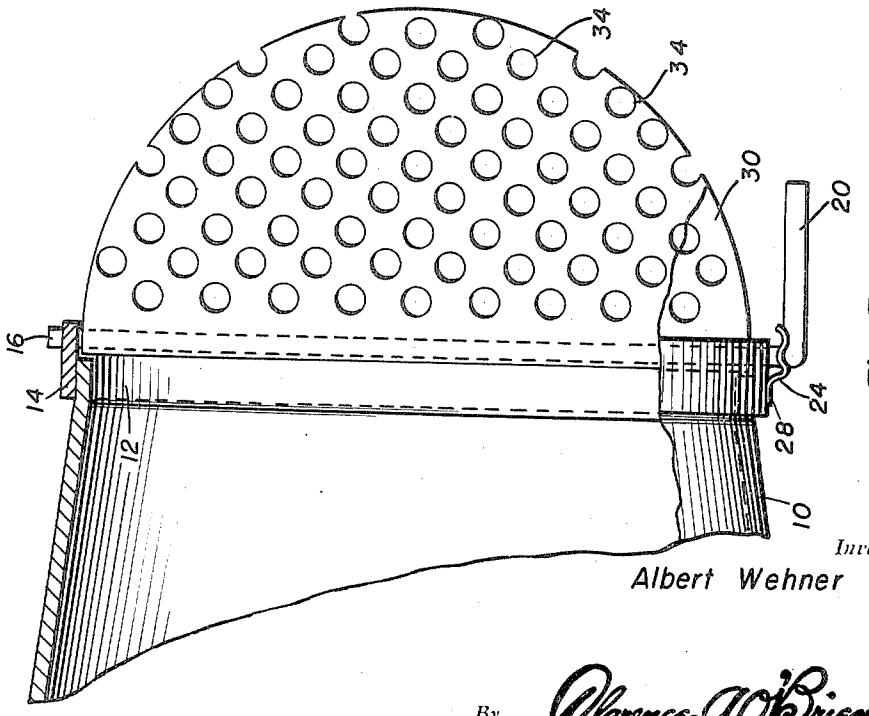


Fig. 3.

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UNITED STATES PATENT OFFICE

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REVOLVING CEMENT MIXER SCREEN

Albert Wehner, Harbor Beach, Mich.

Application February 10, 1947, Serial No. 727,633

5 Claims. (Cl. 259—145)

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This invention appertains to new and useful improvements in sifting screens particularly adapted to be used in making concrete and the like.

An object of this invention is to provide a labor and time saving device for screening an aggregate prior to entry into the conventional rotary mixing chamber element of a concrete preparing machine.

Another object of this invention is to provide means for securing the sifting element to said rotary mixing element.

Another object of this invention is to provide means for selectively opening and closing the aperture in the conventional cement mixing rotary chamber member.

A further object of this invention is to provide a latching means to be used in conjunction with the above mentioned means.

A still further object of this invention is to provide a device which is extremely simple, requiring but a very few parts for fabrication.

Ancillary objects and features of novelty as well as those specifically set forth hereinabove will become apparent to those skilled in the art, in following the description of the illustrated preferred embodiment of the present invention, illustrated in the accompanying drawing, wherein:

Figure 1 is an elevational side view of a conventional rotary cement mixing chamber with the invention secured thereto;

Figure 2 is an end view of the invention disclosed in Figure 1;

Figure 3 is an elevational side view of the invention disclosed in Figure 1 with parts broken away, showing details of construction; and

Figure 4 is a transverse sectional view of the invention disclosed in Figure 2 and taken substantially on the line 4—4 thereof and in the direction of the arrows.

It is the present practice of cement workers, using the conventional rotary chamber mixing machine, to screen the usual aggregate by the use of a leaning, stationary screen. This invention has been devised to obviate the necessity of this screening, thereby avoiding a complete step in making or mixing the components of concrete.

A conventional rotary cement mixer element 10 is provided with the usual opening or aperture 12 at one end thereof. A collar 14 is composed of some suitable material, preferably metallic, and is adapted to encircle the rotary mixing chamber adjacent the said aperture 12. This member 14 is a collar adapted to be complemental

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to the surface exterior of said member 10, and since it is conventional to use an annular shaped rotary mixing element, the preferred configuration of the said collar 14 is annular. A pair of shafts 16 and 18 project through said collar and are provided with right angular extensions 20 and 22, respectively, which are adapted to be used as handles and latching means. A pair of clips 24 and 26, respectively, are rigidly secured to the said collar 14, exterior thereof. Any suitable securing means may be used for this purpose, such as the rivets 28 shown in Figure 3. It is rather apparent from an inspection of Figures 2 and 3 that the said handles 22 are adapted to be clipped in said securing means or friction clips, in a certain predetermined position of said shafts.

A pair of substantially semi-circular sieve members 30 and 32, respectively, are secured to said shafts at the straight edge of said sieve members. The said sieve members are provided with a plurality of apertures 34 of selected predetermined size, which size is determined by the quality of concrete which is to be made. It can now be seen that upon actuation of the handles 22 and 24 the screens 30 and 32 may be opened or closed, that is, open to a position as shown in Figure 3, or closed to the cement mixing element aperture closing position.

About the periphery of the said collar 14 is a plurality of apertures 36 adapted to receive friction securing means therein. The preferred form of friction securing means is the simple set screw 38, disclosed in the drawings. This form of securing means was chosen in order that the collar may be easily and conveniently removed from the said mixing element 10.

In operation, aggregate is piled on the screening elements 30 and 32 while said elements are in the latched position. If so desired, the mixing elements 10 may be rotated, thereby sifting said aggregate into the mixing chamber. Of course, the undesirable portions of the aggregate will simply be thrown out. In pouring the concrete, the usual cement mixing machine adjustment may be used to tilt the rotary chamber while gravity opens the said screen. If gravity isn't sufficient, the handles 20 and 22 may be pulled slightly to release the latches 24 and 26.

Due to the extreme simplicity characterizing this invention, a further description thereof is deemed unnecessary. However, protection is sought on all the modifications falling in the purview of this invention, and therefor limitation is sought only in accordance with the scope of the following claims.

What I claim is:

1. An aggregate sifting closure for a rotary mixing chamber comprising an annular collar, shafts projecting therethrough, latch rods on said shafts, latch keepers secured exterior of said collar adjacent said latch rods, screens secured to said shafts adapted to selectively open and close the bore of said collar, adjustable securing means secured to said collar for attaching said hopper to a cement mixing rotary chamber.

2. In a cement mixing machine, a cement mixing rotary chamber member, an annular collar, shafts projecting therethrough and having latch rods at the ends thereof, latch keepers secured to the exterior surface of said collar adjacent said latch rods to releasably hold said latch rods, screens secured to said shafts adapted to selectively open and close the bore of said collar, adjustable securing means carried by said collar for attaching said collar to a cement mixing rotary chamber member.

3. An aggregate sifting device including a collar, means carried by and extending through said collar for securing said collar to a cement mixing rotary chamber member, shafts projecting through said collar, means for locking said shafts in a predetermined position, sifting means fixed on said shafts, said locking means comprising friction clamps secured to the exterior surface of said collar.

4. An aggregate sifting device including a collar, means carried by and extending through said collar for securing said collar to a cement mixing rotary chamber member, shafts projecting through said collar, means on said collar for locking said shafts in a predetermined position, sifting means on said shafts, handles associated with said shafts, said locking means including clips on said collar lockingly engaging said handles, said securing means including a plurality of set screws.

5. An aggregate sifting device including a collar, a plurality of set screws extending through said collar for securing said collar to a cement mixing rotary chamber member, shafts projecting through said collar and having angularly disposed end portions, means for locking the end portions of said shafts in a predetermined position, sifting means fixed to said shafts closing the bore of said collar for aggregate sifting when said end portions are retained in said locking means, and said locking means comprising friction clamps secured to the exterior surface of said collar.

ALBERT WEHNER.

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