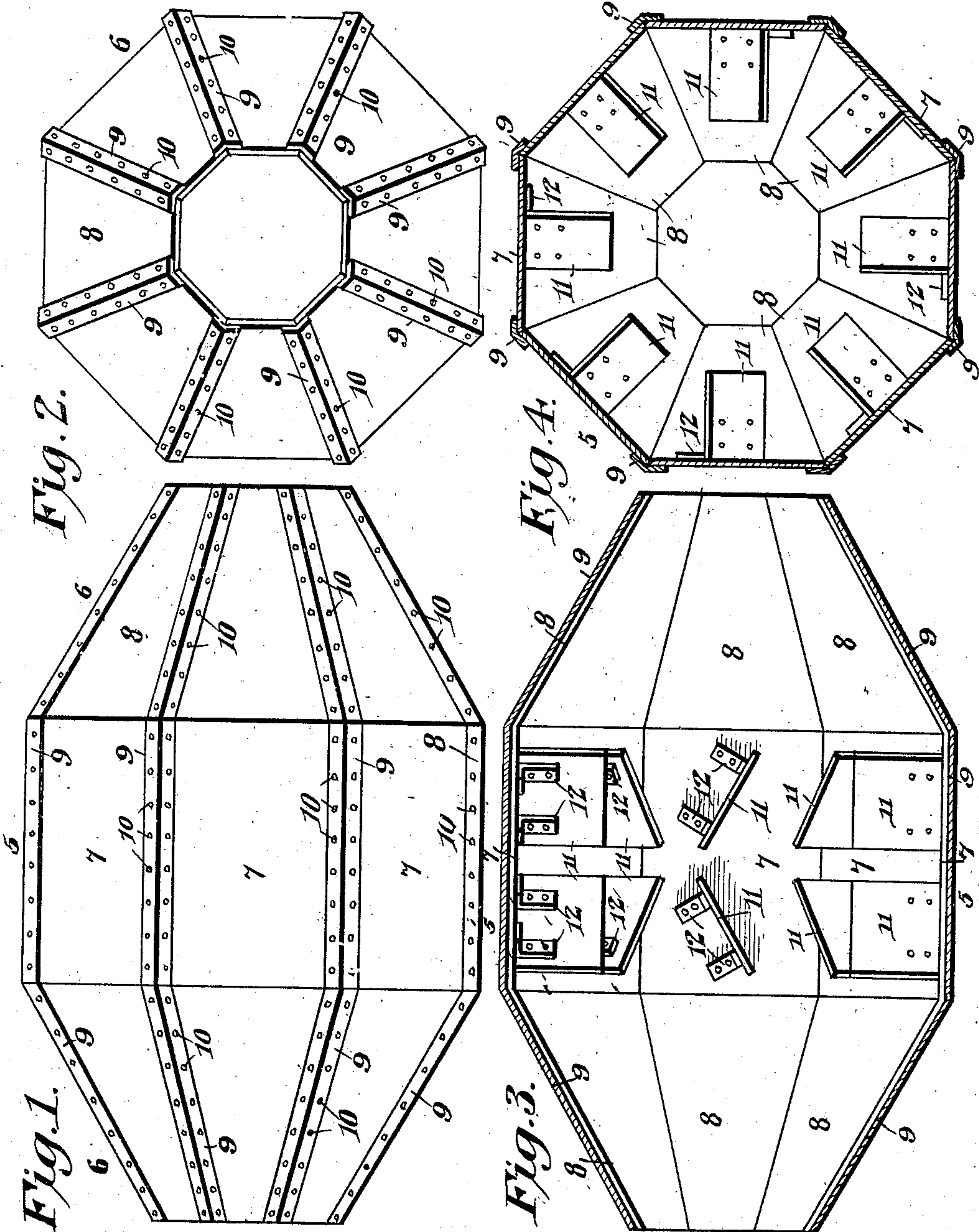


J. W. CUMISKEY.  
MIXING DRUM.  
APPLICATION FILED APR. 26, 1907.

928,850.

Patented July 20, 1909.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JOHN W. CUMISKEY, OF YOUNGSTOWN, OHIO.

## MIXING-DRUM.

No. 928,850.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed April 26, 1907. Serial No. 370,402.

*To all whom it may concern:*

Be it known that I, JOHN W. CUMISKEY, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented a new and useful Mixing-Drum, of which the following is a specification.

The present invention relates more particularly to batch mixing drums employed in mixing concrete and other materials.

The principal object of the present invention is to provide novel means of a simple nature that can be easily constructed, will thoroughly agitate the material, has a comparatively low spilling line, and may be made of comparatively small diameter without deleteriously affecting its capability of thoroughly mixing the ingredients of the batch placed therein.

The preferred form of construction of the drum is illustrated in the accompanying drawings, wherein:

Figure 1 is a side elevation thereof. Fig. 2 is an end elevation of the drum. Fig. 3 is a longitudinal sectional view therethrough. Fig. 4 is a cross sectional view.

Similar reference numerals designate corresponding parts in all the figures of the drawings.

The drum, as constructed, consists of an oblong body portion 5 with tapered end portions 6 that are in the form of frustums of pyramids. The drum is formed of a series of sections, each section extending from one end of the drum to the other having an oblong or rectangular body portion 7 and tapered ends 8, the ends being bent so that they are located in angular relation to the body portions. These various sections are arranged edge to edge, and they are rigidly connected together and the joints between them made water-tight by suitable means, such as angle bars 9 located outside the drum and having their flanges secured to the adjacent margins by rivets 10 or other fasteners. As a result, an exceedingly strong and durable body is provided consisting of a series of angularly disposed flat faces. The drum is designed to rotate on an axis passing centrally through the open ends thereof and either end may be used as the entrance for the material to be mixed and the other end as the outlet for the mixed material.

Arranged within the body portions are two sets of wings or blades, designated 11. A pair of these wings or blades are carried

by each body portion 7, being secured thereto by angle brackets 12. It will be observed that the blades of each pair are spaced apart and arranged in opposite angular relation so that corresponding blades of both sets form an elevating bucket which acts to lift a portion of the material by the rotation of the drum and allows such portion of the material to gradually fall back to the bottom of the drum so that a thorough mixing action is produced. The tapered ends of the drum serve to crowd the material inwardly toward and between the blades. The blades are of comparatively great width, and consequently act throughout the body of the material placed in the drum. To be more explicit, the blades are in pairs, those of each pair being at an opposite inclination and mounted on the flat central portion of the drum. Moreover they converge toward the center of the drum, and are spaced apart both laterally and longitudinally.

From the foregoing, it is thought that the construction, operation, and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. A mixing drum comprising a hollow structure open at both ends and composed of a polygonal body portion and frustum end portions arranged with their axes coincident with the axis of the body portion, said structure consisting of a plurality of members or sections extending longitudinally from one end to the other and each being wider at the central portion and tapering therefrom to the extremities and the tapering extremities being bent at an angle to the central wider portion, said members being arranged side by side with the longitudinal edges of adjacent members meeting, means for rigidly securing adjacent members together and forming liquid-tight joints between them, and a plurality of internal blades arranged in two sets and secured around the inside of the body portion of the said structure, the sets being disposed symmetrically to each other and at opposite



sides of the median transverse plane of the structure, each member having a pair of the said blades and the latter being arranged obliquely to each other to form together a  
5 bucket-like element.

2. A mixing drum of the character described, comprising a polygonal body having tapered end portions that are substantially in the form of frustums of pyramids having  
10 open outer ends, said body consisting of sections that comprise rectangular flat body portions and tapered flat end portions disposed in angular relation to the body portions, these sections being disposed edge to  
5 edge, angle bars bridging the joints between the sections and secured to the margins of said sections, opposite angularly disposed spaced stirrer blades secured to the inner sides of each of the different body walls, and  
20 angle brackets fastening said blades to the said walls.

3. A mixing drum comprising a hollow structure open at both ends and composed of a polygonal body portion and frustum end  
25 portions arranged with their axes coincident to the axis of the body portion, said structure consisting of a plurality of members or sections extending longitudinally from one end of the drum to the other and  
30 each being wider at the central portion and tapering therefrom to the extremities, the tapering extremities being bent at an angle to the central wider portion, said members being arranged side by side and connected  
35 together, and a plurality of internal blades

arranged in two sets and secured around the inside of the body portion of the said structure, the sets being disposed symmetrically to each other and at opposite sides of the median transverse plane of the structure, 40 each member having a pair of the said blades and the latter being arranged obliquely to each other to form together a bucket-like element.

4. A mixing drum of the character described, comprising a polygonal body having equal flat sides, said body having outer end portions substantially in the form of frusto pyramids having open outer ends, said body consisting of sections that comprise flat  
50 plates, each plate forming a side of the body, said plates being disposed edge to edge and secured to each other by exterior angle irons, the end portions comprising tapered flat plates disposed in angular relation to the  
55 plates forming the body and being located edge to edge to each other, angle irons connecting the end plates to each other and to the body portion, and opposed, laterally separated, angularly disposed stirrer blades  
60 secured to the inner faces of each of the body plates.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN W. CUMISKEY.

Witnesses:

R. C. HUEY,  
J. W. ROGERS.