

1,043,151.

E. W. SEAMANS.
CONCRETE MIXER.
APPLICATION FILED MAY 15, 1911.

Patented Nov. 5, 1912.
3 SHEETS—SHEET 1.

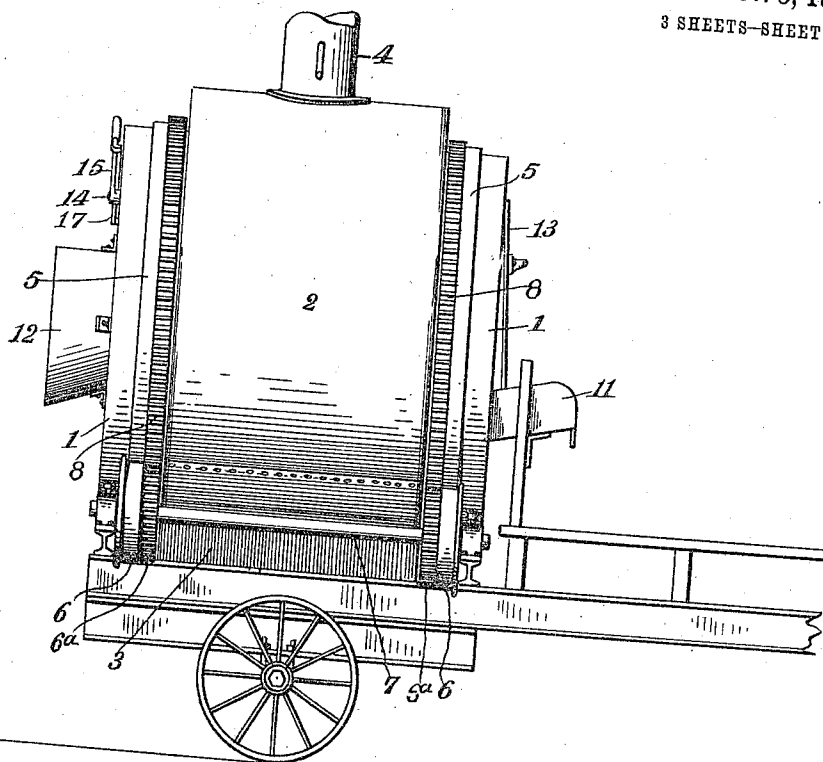


Fig. 1.

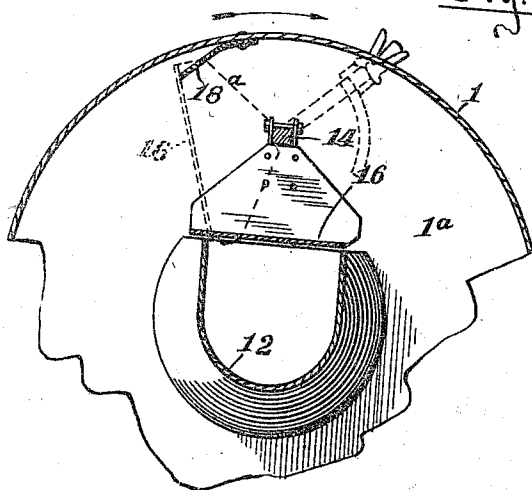


Fig. 7.

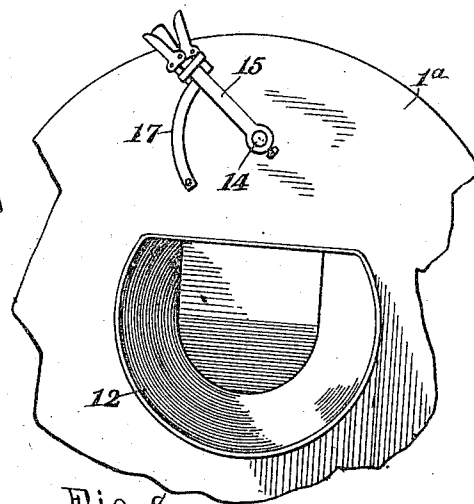


Fig. 8.

Witnesses
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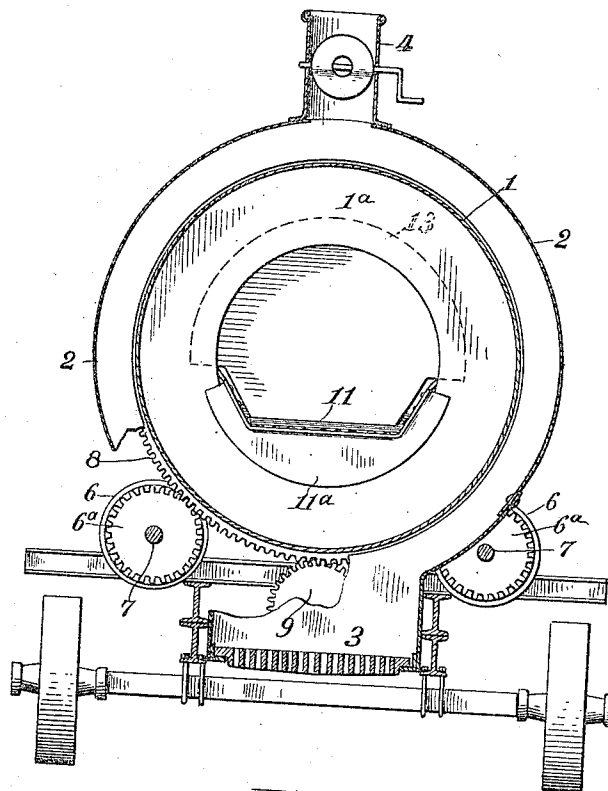


Fig. 2.

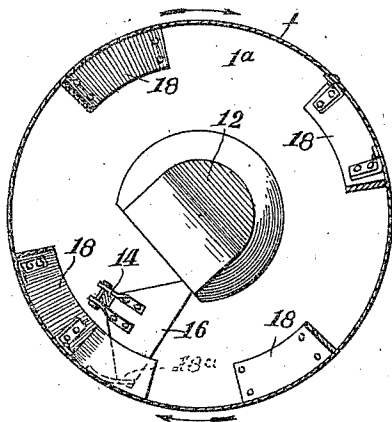


Fig. 5.

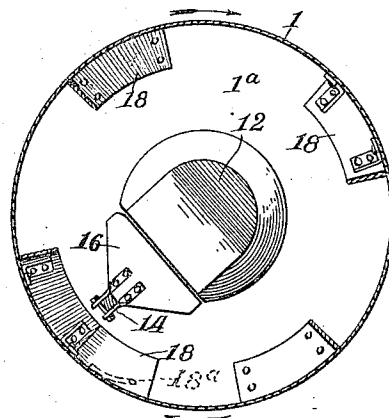


Fig. 6.

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3 SHEETS—SHEET 3.

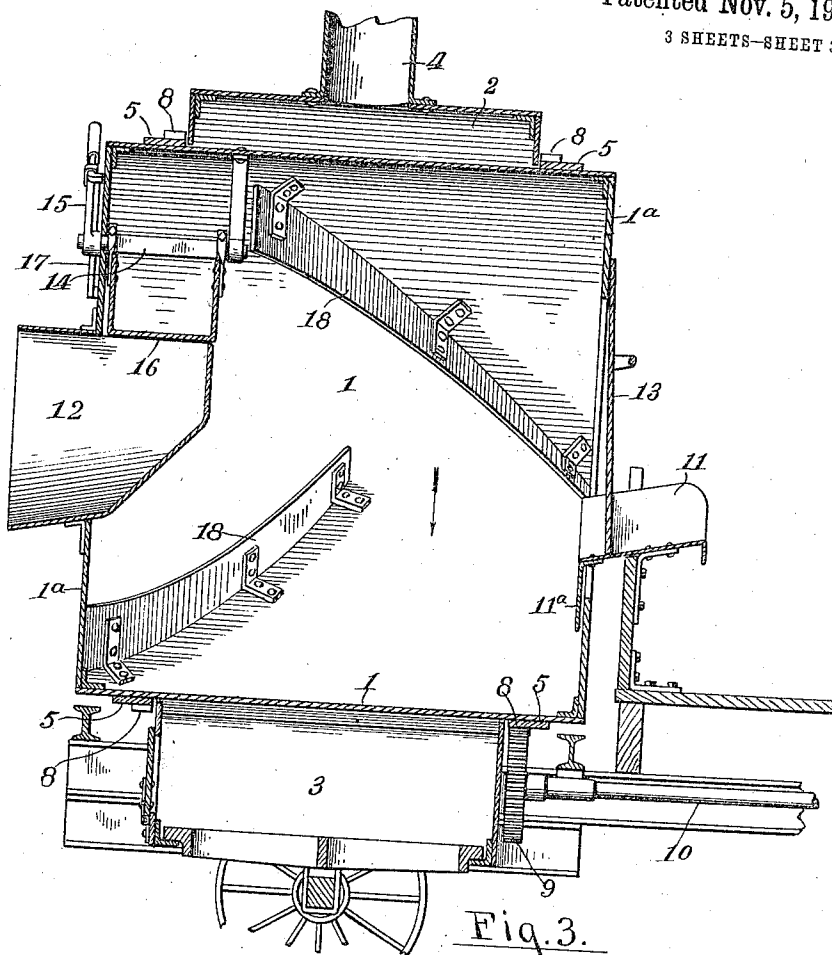


Fig. 3.

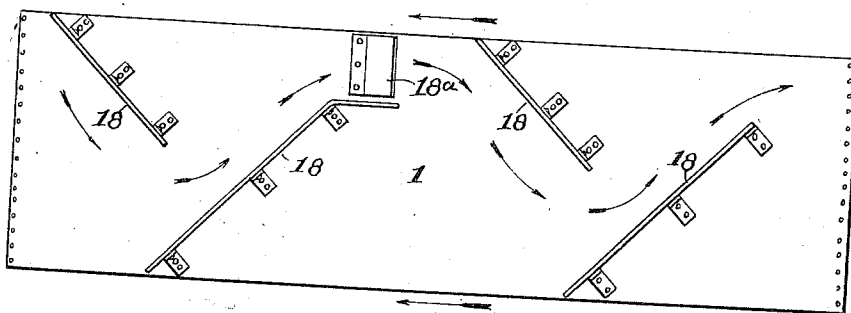


Fig. 4.

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UNITED STATES PATENT OFFICE.

EDWARD W. SEAMANS, OF GRAND RAPIDS, MICHIGAN.

CONCRETE-MIXER.

1,043,151.

Specification of Letters Patent.

Patented Nov. 5, 1912.

Application filed May 15, 1911. Serial No. 627,281.

To all whom it may concern:

Be it known that I, EDWARD W. SEAMANS, a citizen of the United States of America, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Concrete-Mixers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in a combined heater and mixer, and more particularly to such devices for heating and mixing asphalt pavement material and the like, and it consists essentially of improved means for closing and opening the drum; improved means for periodically discharging the contents of the drum, and in various features of construction and arrangement as will more fully appear by reference to the accompanying drawings, in which:—

Figure 1 is a side elevation of a device embodying my invention; Fig. 2 a transverse vertical section of the same; Fig. 3 a longitudinal vertical section of the same on an enlarged scale; Fig. 4 a plat of the interior of the drum; Fig. 5 a transverse section of the drum showing the discharging mechanism in operative position; Fig. 6 the same with the discharging mechanism in position to close the drum; Fig. 7 a fractional detail of the drum viewed from the inner side and in vertical section; and Fig. 8 the same viewed from the outer side.

Like numbers refer to like parts in all of the figures.

1 represents a hollow sheet metal cylinder having heads 1^a with central openings. This cylinder is surrounded by a jacket 2 spaced apart therefrom to confine the smoke and heated gases arising from the fuel in the fire box.

4 is a smoke stack at the top of the jacket.

5 are rings forming circular tracks surrounding the drum and engaging flanged roller 6 on which the drum is carried. These rollers are connected in pairs by shafts 7 extending parallel with the axis of the drum. To insure equal movement of the respective ends of the drum, pinions 6^a are provided on the respective shafts engaging gears 8 surrounding the drum close to the tracks 5. The jacket extends close to the gears and pinions, and the drum is rotated

therein by means of a driving pinion 9 engaging one of the gears 8 and mounted on a driving shaft 10 operated by any convenient motor (not shown).

11 is a stationary inlet spout in the lower part of the opening in the axis of one of the heads of the drum and having a radially projecting apron 11^a to direct the material into the drum. This opening and the spout is closed by a plate 13 removably supported in the spout and slidably engaging the outer surface of the head 1^a.

12 is a discharge spout fixed in the opening in the other head 1^a opposite to the spout 11. This spout 12 extends inward within the drum a suitable distance and is open on one side to receive the contents of the drum from a shiftable closure 16 mounted on a shaft 14 within the drum and near the periphery thereof. This closure consists of a flat plate 16 of substantially the dimensions of the opening in the side of the spout and is provided with substantially triangular extensions at opposite ends, turned upward at right angles and each secured at their upper angle to the shaft 14. These ends hold the plate flat and together with the plate form a trough to conduct material into the spout and also space the plate apart from the shaft whereby it is shifted in position as hereafter described. When this closure is adjusted opposite the opening in the spout 12 it closes the same and prevents the escape of the contents of the cylinder. The shaft 14 extends outside the head of the drum and is provided with a lever 15 having a latch engaging a sector 17 whereby the closure 16 is adjusted either to close the side opening of the spout, or swing to a position indicated by broken lines in Fig. 7 with one edge of the closure within the opening of the spout and the other edge close to the periphery of the drum and beyond the edge of a guide plate 18^a attached to the surface of the drum at one edge and spaced apart from the same at the other edge. In shifting to this position one edge of the closure swings down into and across the opening in the spout and close to the opposite edge of the same, and the other edge swings upward and close to the edge of the plate 18 and near the shell of the drum, the closure and its upturned ends thus form a trough oppositely extending beyond the edge of the plate and into the opening of the spout. In this position the closure will

operate to effectually discharge all of the material in the drum received from the plate 18^a into the spout 12 out of which said material is discharged by gravity. On the interior of the drum are spirally disposed fins 18 each alternately extending inward from the respective heads of the drum whereby the material in the drum is not only carried up and spilled to mix the said material but also alternately shifted to and fro toward the respective ends of the drum as the same is rotated. One of these fins terminates opposite the guide plate 18^a and parallel therewith to discharge the material thereupon.

15 In operation, a fire is made in the fire box 3 which heats the drum the smoke and heat from which passes up around the drum and escapes by way of the stack 4. The drum being charged with a sufficient supply of material, preferably asphalt and the other ingredients suitable for forming pavement, the plate 13 is placed in position to close one end of the drum and the closure 16 positioned to close the other end of the same.

25 The contents of the drum can then be thoroughly mixed, and at the same time suitably heated for use. When sufficiently treated in this manner, the closure 16 is shifted to discharging position and the contents of the drum discharged thereby, whereupon the same may be again charged and operated as before.

What I claim is:—

1. A mixer, comprising a rotative drum, a spout in one head of the drum and extending within the same, said spout having a side opening within the drum, a closure consisting of a plate to close said opening and upturned end extensions to form with said plate a trough, a shaft to which said ends are fixed and means for shifting said shaft and closure to open or close said opening.

2. A mixer, comprising a rotative drum, a spout in the axis of one head of the drum and having a side opening within the drum, a rock shaft journaled in the drum and spaced apart from the spout, a plate adapted to close said opening and having upturned triangular ends rigidly attached to the shaft, a guide plate attached at one edge to the shell of the drum and spaced apart from the same at the other edge and means for shifting the rock shaft to swing the plate with one edge within the spout and the other edge near the edge of said guide plate and beyond the same.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD W. SEAMANS.

Witnesses:

HAROLD O. VAN ANTWERP,
LUTHER V. MOULTON.