A. K. GOODMUNDSON & R. F. SMITH.

MACHINE FOR MIXING CONCRETE.

APPLICATION FILED JULY 31, 1909.

959,512. **Patented May 31, 1910.**

2 SHEETS--SHEET 1.

Fig. 1.

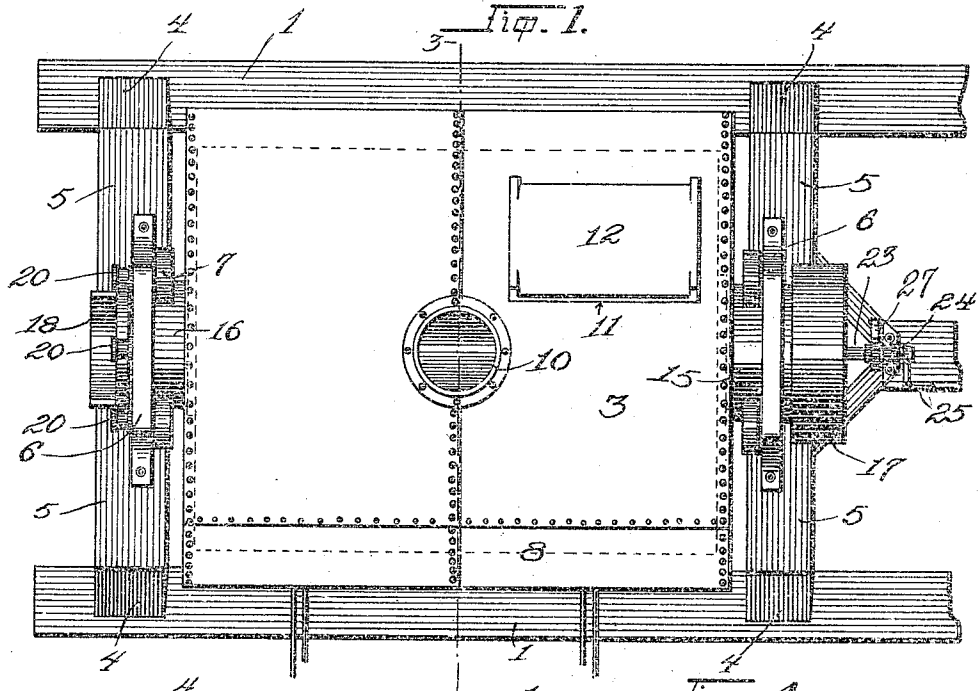

Fig. 4.

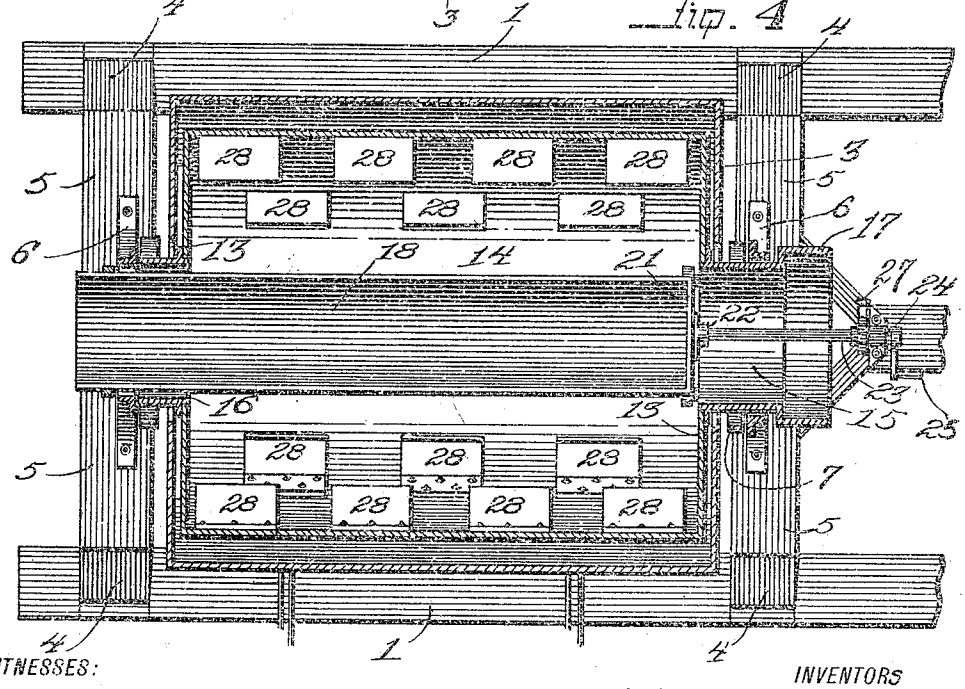

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Fig. 2.

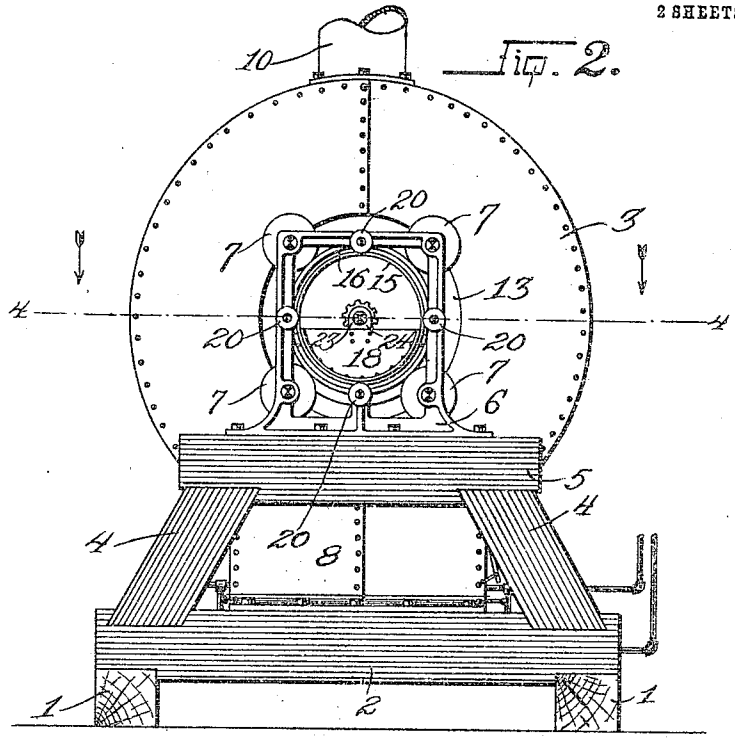
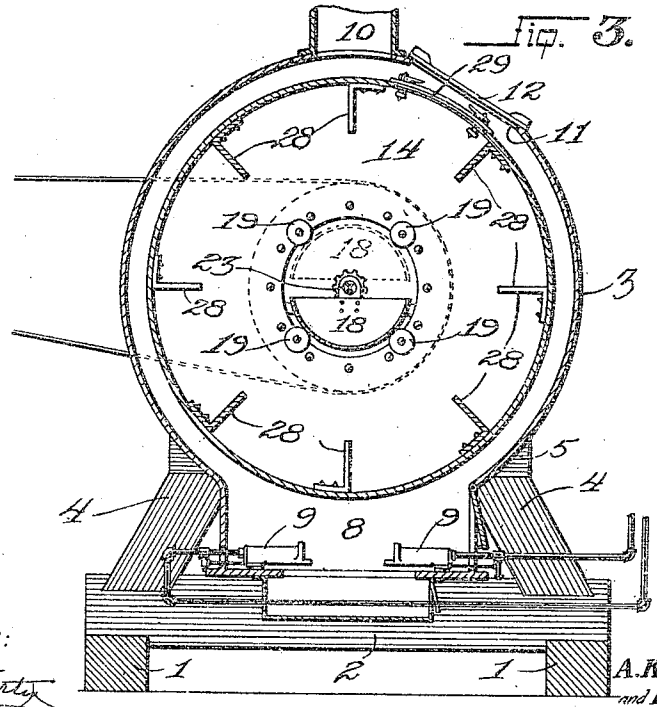


Fig. 3.



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MACHINE FOR MIXING CONCRETE.

959,512. Specification of Letters Patent. Patented May 31, 1910.

Application filed July 31, 1909. Serial No. 510,622.

To all whom it may concern:

Be it known that we, ALVIN K. GOODMUNDSON and ROBERT F. SMITH, citizens of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Machines for Mixing Concrete, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to machines for mixing concrete and like material and the principal object of the same is to provide a novel type of mixing drum and delivery trough therefor by means of which the material is thoroughly mixed while in a heated state and automatically delivered into said trough from which it may be readily removed.

In carrying out the objects of the invention as generally stated above it will be readily understood, of course, that the essential features thereof are necessarily susceptible of changes in details and structural arrangements, but a preferred and practical embodiment of the same is shown in the accompanying drawings and set forth in the claim.

In said drawings Figure 1 is a top plan view of the improved mixing machine. Fig. 2 is an end view. Fig. 3 is a central vertical sectional view taken on the line 3—3, Fig. 1. Fig. 4 is a horizontal sectional view taken on the line 4—4, Fig. 2.

Referring to said drawings by numerals, 1 designates the longitudinal side beams which support the transversely arranged end beams 2, forming a base foundation for the casing 3 of the improved mixing machine. Said end beams 2 each support a pair of standards 4 the tops of which are connected by the transversely arranged beams 5, each of said beams 5 being provided with a pillow block 6. Roller bearings 7 are carried by the corners of each pillow for a purpose to be explained. The said casing 3 has its firebox 8 bolted to the end beams 2 as shown in Fig. 2. Gas or other burners 9 project into said fire box from opposite sides. A smoke flue 10 is carried by the upper surface of said casing 3, and said casing is also provided with an opening 11 through which access is had to the interior thereof, said opening being provided with a door 12. An opening 13 is formed centrally through each end of the casing, said openings being in alinement with the pillow blocks 6 of the end beams 5.

A mixing cylinder 14 has its hollow end shafts 15—16 projected through the end openings of the casing 3 and the pillow blocks 6, said shafts resting on the roller bearings 7. The shaft 15 is both larger in diameter and longer than the shaft 16 and projects beyond its pillow block and has its end enlarged and in the form of a pulley 17 adapted for connection with a source of power.

A semi-cylindrical trough 18 has one end resting within an annular series of roller bearings 19 carried by one end of the cylinder 14, said trough extending longitudinally through said cylinder and having its other end projecting through the shaft 16 and through the pillow block 6 and resting on roller bearings 20 carried by said block. The inner end of said trough is provided with an end wall 21 provided on its outer face with a socket 22 in which one end of a shaft 23 is mounted. Said shaft 23 projects through the hollow shaft 15 and through a bearing 24 supported from the base foundation of the machine and has its end equipped with a crank handle 25 by means of which said shaft 23 may be rotated to turn said trough to the position shown in dotted lines in Fig. 3. A ratchet wheel 26 is carried by said shaft 23 which is engaged by a pawl 27 to prevent rotation of said shaft 23.

The mixing cylinder 14 is provided with a plurality of internal rows of mixing paddles 28 which are formed of angle plates one flange of which is rigidly fastened to the said cylinder, the other flange projecting outwardly so as to agitate and elevate the material within the cylinder. Said paddles are arranged in staggered relation.

In operation, the material is introduced into the mixing cylinder through the door-controlled opening 29 which is brought into alinement with the opening 11 of the casing 3. Power is applied to the pulley of shaft 15 which rotates cylinder 14 causing its paddles 28 to agitate the material in a manner well understood, the trough 18 having been previously rotated on its roller bearings to the position shown in Fig. 3 by dotted lines so that the material elevated by said paddles will not fall therein. After the material had been thoroughly mixed, the trough is rotated to the position shown more clearly

in Fig. 4 and the continued rotation of the cylinder 14 will cause the paddles 28 to deposit the said material in the trough so that it may be readily drawn out of the same by means of a suitable tool inserted through the end which projects beyond the shaft 16.

What we claim as our invention is:—

A machine of the character described comprising a base, end cross beams connected to said base, a casing, a rotatable drum having mixing paddles therein mounted in said casing and having a collar at each end, one of said collars being terminally enlarged to form a pulley, bearings for said collars, and means for conveying the material from said drum.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

ALVIN K. GOODMUNDSON.
ROBERT F. SMITH.

Witnesses:
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F. P. SCHROEDER.