(No Model.)

E. L. RANSOME.

CONCRETE MIXING MACHINE.

No. 485,428. Patented Nov. 1, 1892.

Fig. 1.

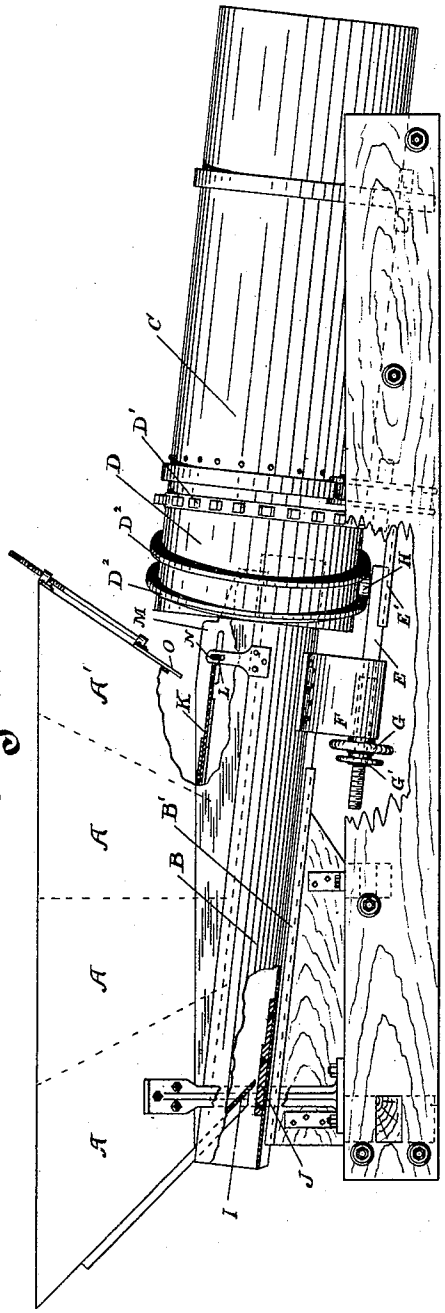
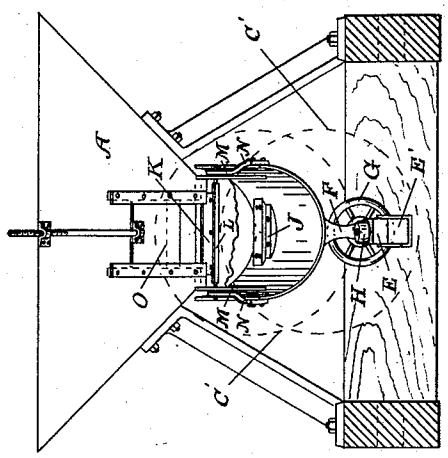


Fig. 2.



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ERNEST LESLIE RANSOME, OF OAKLAND, CALIFORNIA.

CONCRETE-MIXING MACHINE.

SPECIFICATION forming part of Letters Patent No. 485,428, dated November 1, 1892.

Application filed December 17, 1891. Serial No. 415,409. (No model.)

To all whom it may concern.

Be it known that I, ERNEST LESLIE RANSOME, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented new and useful Improvements in Concrete-Mixing Machines, of which the following is a specification.

My invention relates to improvements in concrete-mixing machines, and is especially applicable to the machine patented by me on the 10th of December, 1889, and numbered 416,950.

It consists of the substitution of a reciprocating traveler for the endless carrier hitherto used, together with the alterations necessitated by the change and with special means for operating the traveler, and of an auxiliary cement-feed.

The accompanying drawings illustrate my improvement.

Figure 1 is a side elevation of the complete machine. Fig. 2 is an end elevation with the mixing-cylinder removed.

Similar letters refer to similar parts throughout the several drawings.

A A A are the bins for the materials.

A′ is the cement-bin.

B is the reciprocating chute or conveyer sliding in the guide-channel B′.

C is the revolving mixer. In Fig. 2, the revolving mixer C being removed, its position is indicated by the dotted lines C′.

D is a casting at the end of and forming a part of the revolving mixer C, and the driving-sprocket D′ and the cam flanges or faces D^2 are cast on D. The rectangular bar E, sliding in the channel-guide E′, is turned down to form a shoulder and passes through the bracket F, which is riveted to the reciprocating conveyer B. Said bar E is screw-threaded, as shown, and carries the adjusting wheel-nut G and the locking wheel-nut G′. The friction-pulley H is attached to the bar E and plays between the cam-flanges D^2 D^2.

By reference to the above parts on said drawings, the *modus operandi* will be readily understood with the following explanation: When the mill is in full operation, power being applied to the mixing-cylinder C by any of the well-known methods, the latter in turning transmits, by means of the cam-flanges D^2 D^2, a reciprocating movement to the traveler B through connecting-bar E. This reciprocating movement of the traveler when advancing draws with it from the bottomless chambers A A A the materials, as hitherto done by the endless belt; but when returning the materials cannot return with it, because of the interference of the gates and the rear end of the chambers, and it therefore slides back, causing the materials on its forward end to drop off into the mixing-drum, while the rest of the materials remain almost stationary until the next advance is made. In order to prevent a possible slippage of said materials on the advancing or feeding stroke, I fix in the bottom of the conveyer a piece of metal J, which will engage with the materials on the feeding-stroke, but will not interfere with the return stroke. Fig. 1 shows conveyer B at the center of the stroke. The bar E has a shoulder to abut against lug F opposite nut G, and when it is desired to lessen the throw of the traveler the nut G is moved back and locked by nut G′, and bar E oscillates more or less through lug F to vary the throw of conveyer B, and by moving these nuts back sufficiently the movement of the chute is stopped altogether. The cam-flanges D^2 D^2, which may be either on the inner or outer circumference of the drum, can be constructed so as to give one or several advances of the traveler during each revolution of the drum, as may be deemed advisable. There are several other methods whereby the reciprocating traveler can be driven; but the one described is, I think, the best, though I do not confine my invention to its use.

In cases where the materials used are wet the flow of sand under the gate is not so uniform as when they are dry, and this want of uniformity interferes with the regularity of the cement-discharge, for whenever the level of the sand is lowered the thickness of the bed of cement is increased and too much cement passes under the cement-gate in consequence thereof. To obviate this difficulty, I attach to the cement-chamber a small separate feeder, consisting of the sliding bottom K, which is operated either independently or, by preference, from the larger traveler by the cross-bar L, attached to sliding bottom K, and passing through slots in the extended sides

M M of the bins and also through the driving-brackets N N, which, being riveted to the reciprocating conveyer B, communicate a similar reciprocating motion to the sliding bottom K, as shown, by which means the delivery of the cement is rendered independent of the level of the sand and free from the irregularities caused by the fluctuations of the latter.

Having thus described my invention and disclaiming anything already covered by my patent aforesaid, what I claim is—

1. The combination of a reciprocating traveler with stationary chambers having regulating-gates from which the traveler when in operation draws the material for mixing in regulated proportions, substantially as described.

2. The combination of the reciprocating traveler and stationary chambers from which it draws the material for mixing in regulated proportions with a mixer, substantially as described.

3. The means for operating a reciprocating traveler from a mixer, consisting of the cam-faces upon the rotary mixer, in combination with the sliding and guide bars, the wheel-nuts, and lug, whereby the reciprocating movement is increased, lessened, or stopped at will, substantially as described.

ERNEST LESLIE RANSOME.

Witnesses:
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