F. G. S. PRICE.

PROCESS FOR CONSOLIDATING PREVIOUSLY MIXED MATERIALS IN MOLDS.

APPLICATION FILED AUG. 2, 1910.

1,032,424. Patented July 16, 1912.

Fig. 1.

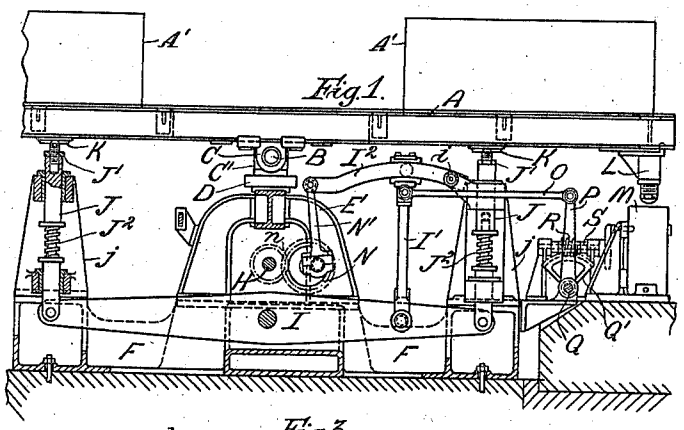


Fig. 3.

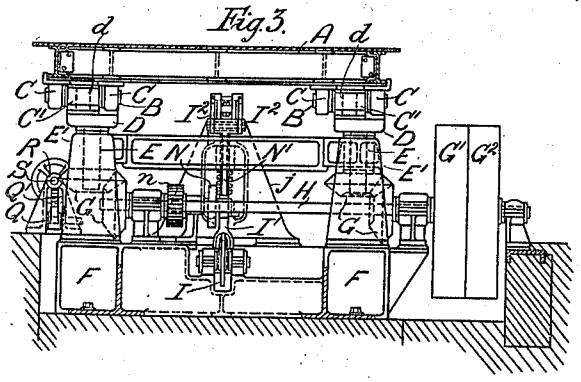
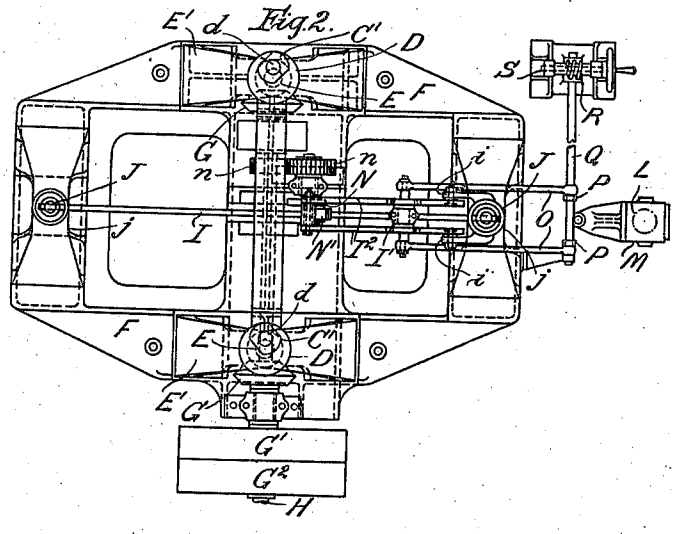


Fig. 2.



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PROCESS FOR CONSOLIDATING PREVIOUSLY-MIXED MATERIALS IN MOLDS.

1,032,424. Specification of Letters Patent. Patented July 16, 1912.

Application filed August 2, 1910. Serial No. 575,165.

To all whom it may concern:

Be it known that I, FRANK GEORGE SYMMONDS PRICE, a subject of the King of the United Kingdom of Great Britain and Ireland, and residing at Glasgow, Scotland, have invented a certain new and useful Improvement in Processes for Consolidating Previously-Mixed Materials in Molds, of which the following is a specification.

This invention relates to a process of consolidating previously mixed materials in molds.

According to one process as previously practised the substances to be consolidated have, after mixing, been placed in molds on a table to which a vertical jogging or vibratory motion, or such motion combined with a horizontal reciprocatory movement, is imparted, and in the action of which the mass is brought to rest at the termination of each stroke; or the molds have been rotated so that the particles are subjected to centrifugal action either alone or combined with a vertical vibratory motion; or the molds have been rotated eccentrically.

The process according to my invention consists in imparting simultaneously to the molds a vertical reciprocating or vibratory movement and an orbital movement in a horizontal plane, for the purpose of effecting uniform distribution of the ingredients; the orbital motion causing a rolling action of the particles on each other in one direction and around the sides of the molds in an opposite direction, and the vertical reciprocating or vibratory movement causing the mixture to be consolidated.

The accompanying drawings show apparatus employed in performing the process.

Figure 1 is a side elevation partly in section of the complete apparatus, Fig. 2 is a plan with the table removed, and Fig. 3 is a cross sectional view.

The apparatus comprises a table or platform A which is arranged to swing on a horizontal axis formed by a pair of pivot pins B fitted in bush bearings C on the underside of the table and carried each by a swivel bearing C^1 on a crank disk D, the said disks D being secured on vertical shafts E carried by brackets E^1 on a framing F and driven in unison by bevel gears G from a driving shaft H provided with fast and loose belt pulleys G^1, G^2, the arrangement being such that the desired orbital movement is imparted to the table or platform which may carry a single mold or a number of molds A^1. A swing motion is imparted to the table by means of an oscillating beam I centered on the lower part of the framing F and carrying at each end a connecting rod J guided in a bracket *j* which rod may be attached to the swinging table but which is preferably detached therefrom and arranged to contact with a block *k* on the underside of the table, more or less play being allowed for by a screw adjustment at J^1 and a resilient action being insured by interposing a helical or like spring J^2 in the length of each connecting rod. A jogging or jarring action to facilitate consolidation of the particles of the material under treatment is provided by fitting at each end of the swinging table, at its under side, a leg or stump L preferably having a screw adjustment and so arranged as to strike a stationary anvil M at each swinging movement.

The oscillating beam I is actuated by a link motion, comprising a rod I^1 and pivoted link I^2 from a crank disk N and connecting rod N^1 the crank disk being driven by gearing *n* from the shaft H or other shaft. Variation of the extent of oscillation of the beam I is provided for by fitting the end of the rod I^1 to slide on the pivoted link I^2 so as to bring said end more or less near to the pivot *i* of the link; or the oscillation may be entirely suspended by bringing the top end of the rod I^1 over the pivot *i*, the rod I^1 being coupled by links O to a lever P on a rock shaft Q carrying a quadrant Q^1 operated by a worm R on a hand-actuated shaft *s;* or this adjusting arrangement may be geared to the main shaft so as to provide for a constant variation.

Having now described my invention what I claim and desire to secure by Letters Patent of the United States is:—

1. A process of consolidating previously mixed materials in molds consisting in simultaneously imparting to the molds an orbital movement in a substantially horizontal plane and a vertical vibratory movement, the successive positions of each horizontal axis of each mold being substantially parallel.

2. A process of consolidating previously mixed materials in molds consisting in simultaneously imparting to the molds an

orbital movement in a substantially horizontal plane and a variable vertical vibratory movement accompanied by jogging action, the successive positions of each horizontal axis of each mold being substantially parallel.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK GEORGE SYMMONDS PRICE.

Witnesses:
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