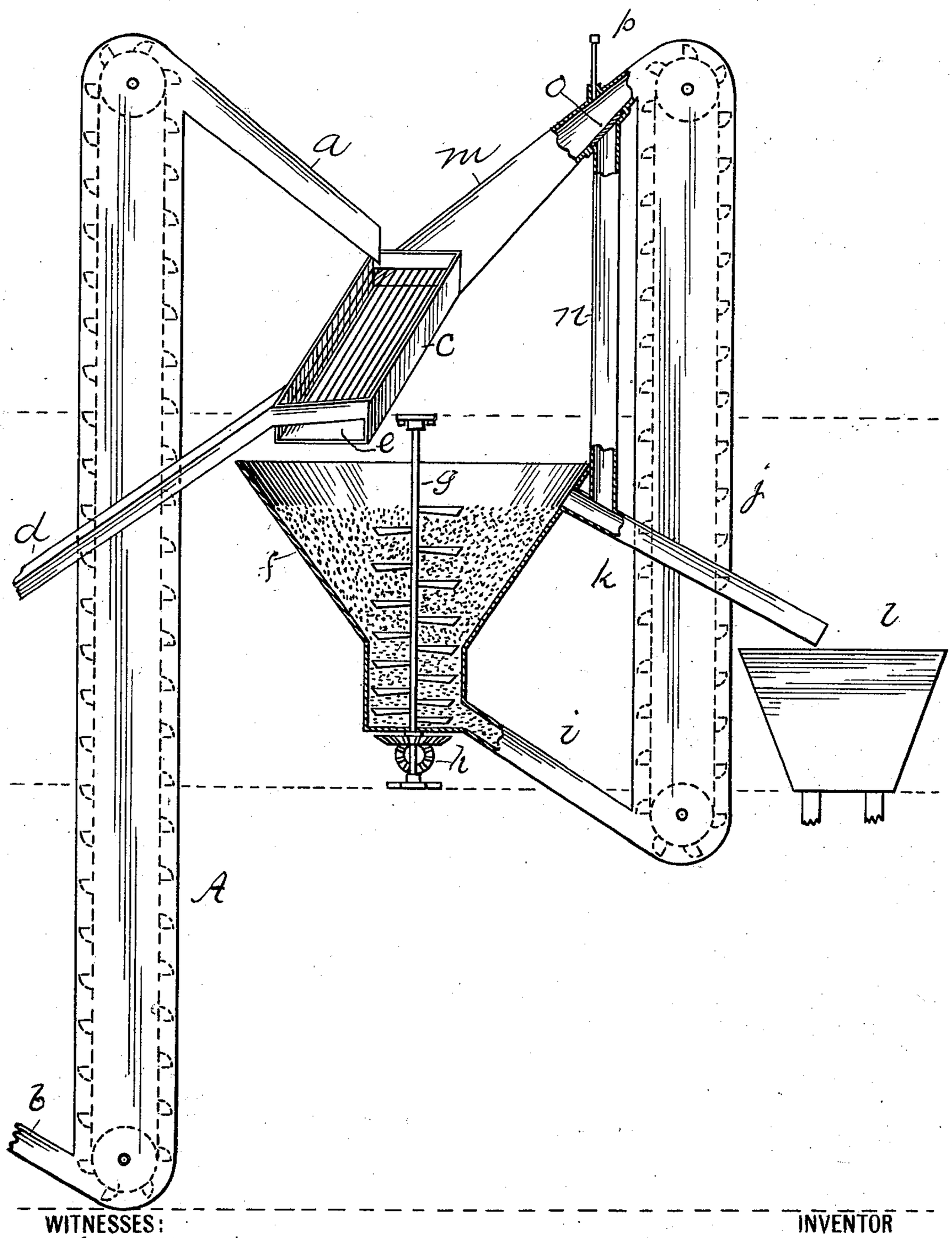
No. 692,774. Patented Feb. 4, 1902.

# D. APPLEBY, JR.

## CLAY MIXER.

(Application filed May 24, 1901.)

(No Model.)




WITNESSES:

C. Sedgwick

J. M. Howard.

INVENTOR

David Appleby Jr.

BY

A. P. Thayer

ATTORNEY

# UNITED STATES PATENT OFFICE.

DAVID APPLEBY, JR., OF WILMINGTON, DELAWARE.

## CLAY-MIXER.

SPECIFICATION forming part of Letters Patent No. 692,774, dated February 4, 1902.

Application filed May 24, 1901. Serial No. 61,671. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID APPLEBY, Jr., a citizen of the United States of America, and a resident of Wilmington, county of Newcastle, and State of Delaware, have invented certain new and useful Improvements in Clay-Mixers, of which the following is a specification.

My invention relates to improvements in apparatus for mixing clay in brick-making, as hereinafter described, reference being made to the accompanying drawings, in which my improved apparatus is represented partly in side elevation and partly in vertical section.

A represents an elevator, or it may be any other feeder that may serve for receiving the ground clay, either dry or more or less moist, and discharging it in a regulated flow or stream. In this case it is represented as receiving the clay from a spout *b* and discharging it by a spout *a* into a screen *c*, through which the clay, except the coarse lumps, which are discharged through a spout *d*, falls into a spout *e* under the screen-wires and thence passes into a bin *f*, wherein is a vertical rotating mixer *g*, to which motion may be imparted by suitably-impelled means, as bevel-wheels *h*, to which power may be applied in any approved way. The bin *f* has a spout *i* at the bottom discharging into another elevator *j*, and it has an overflow-spout *k* near the top discharging into another bin *l* for reception of the thoroughly-mixed clay. The elevator *j* discharges at the top into a spout *m*, which delivers into the upper end of the before-mentioned spout *e* under the screen-wires, where the fresh incoming clay falls through the screen and mixes with the returns from the mixing-bin and enters the bin with said returns again entering therein. The elevator *j* will be of larger capacity or will be run faster—say to the extent of three times, more or less, the capacity of elevator A—and spout *i* will also have three times the capacity of said elevator A, so that the clay may be practically run through the mixer three times. The discharge of completely-mixed clay through spout *k* will equal the amount supplied by elevator A. A by-pass spout *n* is connected with spouts *m* and *k*, by which the elevator *j* may discharge directly into bin *l* by opening the gate *o* and closing a gate *p* whenever it may be desired to empty the mixing-bin *f*. The spout *d* will in practice return the lumps to the grinding-mill.

By the use of this apparatus grinding the clay a second time for mixing is avoided, with economy of power and expense of apparatus, and the clay will be more thoroughly mixed.

By locating the mixing-bin and screen on a lower level than the grinding apparatus the clay can be spouted directly from the grinding-mill into the bin, and thus the elevator A may be dispensed with.

While it is preferable to return the ground clay into the mixing-bin through the spout *e*, so as to mix therein with the incoming new clay, good results will be had by causing the two streams to meet in the bin, and the invention is not limited to the use of said spout *e*, and if the clay be ground sufficiently in the first place the screen may be omitted, and I do not, therefore, limit myself to the use of it.

What I claim as my invention is—

1. The combination with the mixing-bin and rotating mixer therein, of the feeder of the ground clay thereto, the screen intermediate of said feeder and bin, and means for discharging the clay from the mixing-bin and repeatedly returning, accumulating and remixing it therein, and an overflow-discharge for the excess.

2. The combination with the mixing-bin and rotating mixer therein, of the feeder of the ground clay thereto, the screen intermediate of said feeder and bin, mixing-spout receiving the clay from the screen, means for discharging the clay from the mixing-bin and repeatedly returning and accumulating and remixing it therein, also means for mixing the returns and the incoming new clay from the screen prior to entering the bin, means for discharging the clay from the mixing-bin and repeatedly returning, accumulating and remixing it therein and an overflow-discharge for the excess.

3. The combination with the mixing-bin,

screen, feeder, and means for returning the clay to the bin, of the by-pass for emptying the said bin.

4. The combination with the mixing-bin and rotating mixer therein, of the feeder of the ground clay thereto, means for discharging the clay from the mixing-bin and repeatedly returning, accumulating and remixing it therein and an overflow-discharge for the excess.

Signed at Wilmington, Delaware, this 20th day of May, 1901.

DAVID APPLEBY, JR.

Witnesses:
HARRY HOUGH,
NICHOLAS S. STAYTON.