Nov. 17, 1925. 1,561,612

P. F. LOICHOT

CLAY PRESS

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Fig. 1

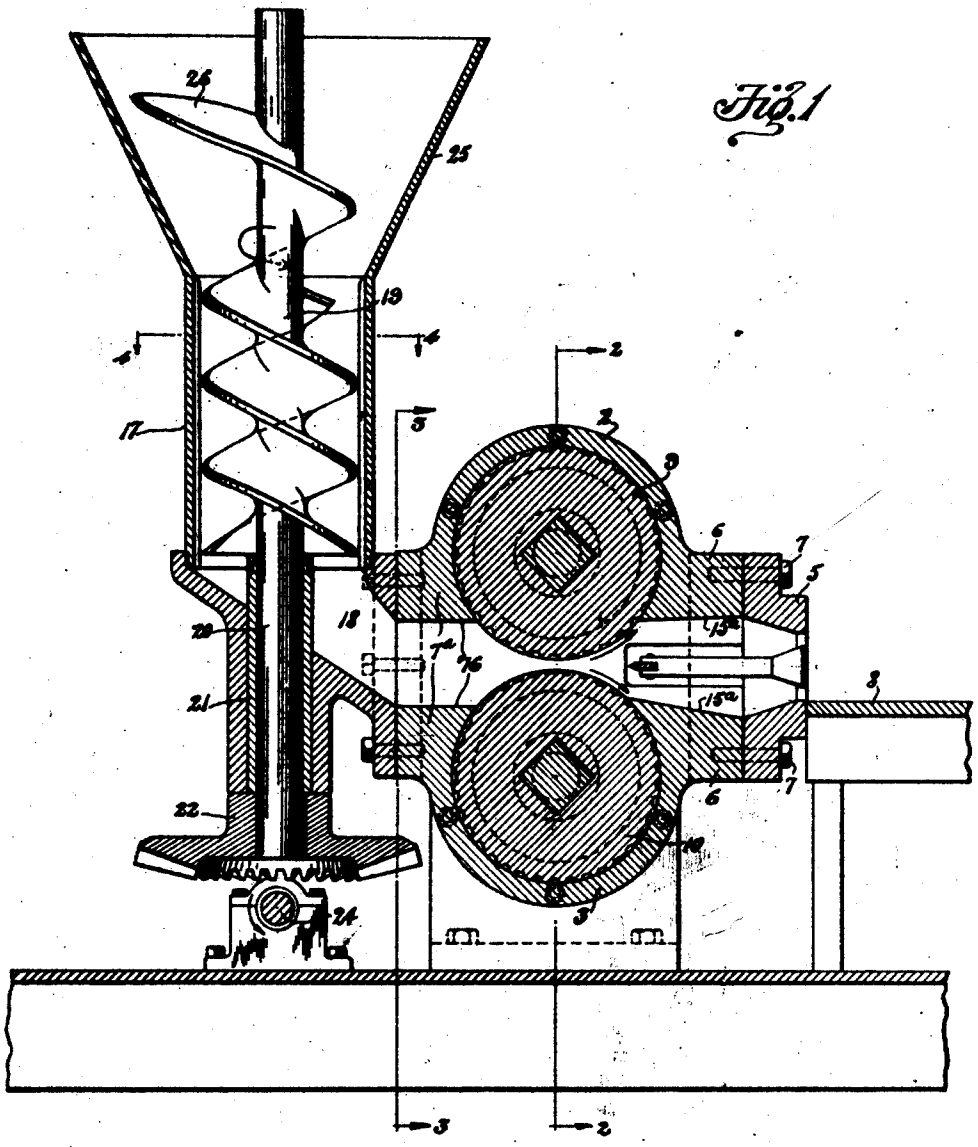
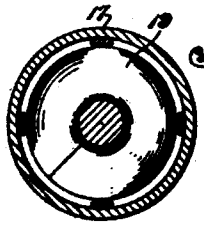


Fig. 4



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Fig. 2

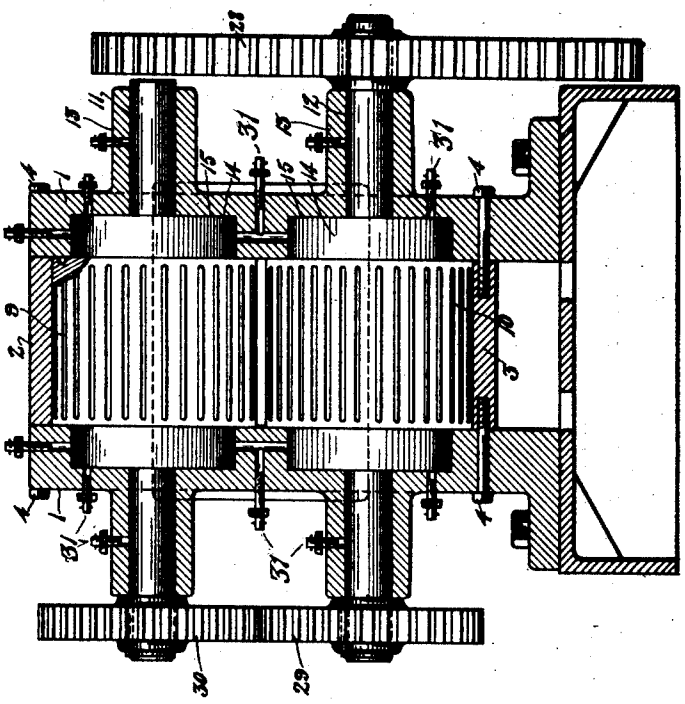
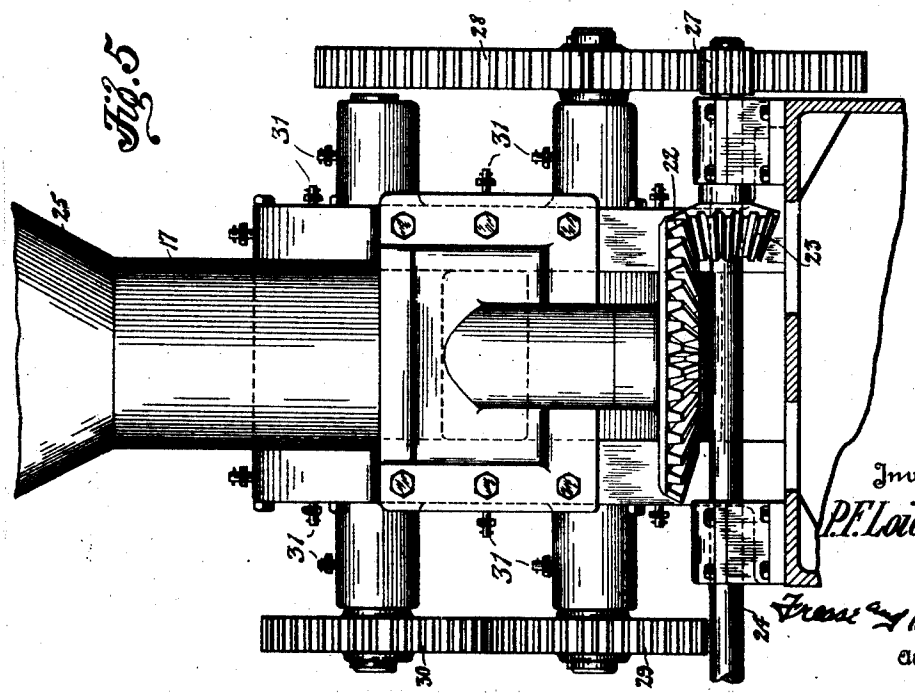


Fig. 5



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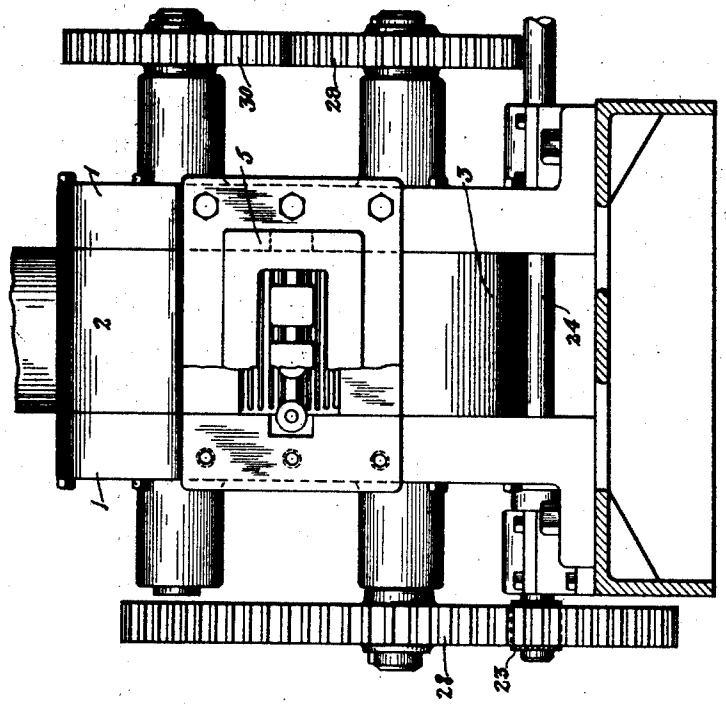


Fig. 6

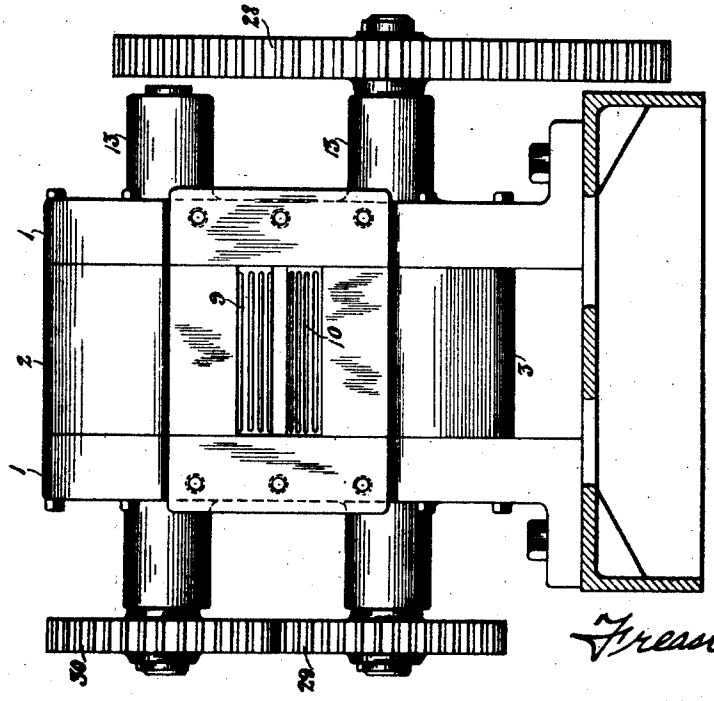


Fig. 5

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Patented Nov. 17, 1925. 1,561,612

UNITED STATES PATENT OFFICE.

PAUL F. LOICHOT, OF CANTON, OHIO.

CLAY PRESS.

Application filed December 17, 1924. Serial No. 756,442.

To all whom it may concern:

Be it known that I, PAUL F. LOICHOT, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Clay Presses, of which the following is a specification.

This invention relates to clay presses used in the stiff mud process of making brick or tile for forcing the clay through a die of proper conformation in a column which is received upon a cut-off table of usual construction to be severed into brick or tile of the desired size in customary manner.

The common form of clay press such as is in general use, comprises an auger longitudinally aligned with the die for forcing the clay in a column through the die. The clay being carried around spirally by the auger forms laminations in the column which are greatly aggravated in certain kinds of clay or shale.

Thus each brick or tile cut from the column has these laminations running through its structure, weakening the brick or tile and frequently causing the same to crack or break around the line of the laminations. This is especially objectionable where it is desired to cut a brick in two as instead of getting a square face, the brick will follow the lines of the laminations in breaking.

It is known that attempts have been made to eliminate these laminations in the clay column by providing a plurality of rollers for forcing the clay through the die, but it has been found by experience that the roller press will not properly force the clay through the dies in a column of the proper quality and constituency, the back pressure against the rollers being greater than the forward pressure of the rollers upon the clay, frequently causing the clay to work its way around the bearings of the rollers.

The object of the present invention is to provide a clay press which eliminates the laminations in the column produced in the usual clay auger and at the same time overcomes the objections to the roller press above referred to.

The above and other objects may be attained by providing a pair of rollers behind the die to remove any laminations from the clay as the same is forced into the die; an auger being provided behind the rollers for forcing the clay through the same, the auger being preferably located at right angles to the axis of the die, whereby any laminations formed in the clay by the auger are eliminated by the rollers.

An embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal, vertical, sectional view through the improved clay press;

Fig. 2, a section on the line 2—2, Fig. 1;

Fig. 3, a section on the line 3—3, Fig. 1;

Fig. 4, a section on the line 4—4, Fig. 1;

Fig. 5, a rear elevation of the press; and

Fig. 6, a front elevation of the same, a portion of the die being broken away.

Similar numerals refer to similar parts throughout the drawings.

The press is located in a housing comprising the side plates 1 spaced by the upper and lower curved plates 2 and 3, respectively, which are connected thereto as by the screws 4.

The die 5, which may be of usual and well known construction, is connected to the forward projections 6 of the upper and lower plates 2 and 3 as by the screws 7 and the usual cut-off table indicated at 8 may be provided adjacent to the die to receive the clay column as it passes from the same.

The upper and lower rolls 9 and 10 respectively are fixed upon the shafts 11 and 12 respectively, which are journaled in the bearings 13 in the side walls of the housing. Each of these rolls is preferably provided with a corrugated periphery as illustrated, and is provided at each end with a neck 14 journaled in a bearing socket 15 in the adjacent side wall.

As shown in Fig. 1, the rolls 9 and 10 have a very slight clearance within the upper and lower plates 2 and 3. As illustrated in this figure, the forward projections 6 and

rear projections 7ª of the upper and lower plates terminate near the pinch of the rolls, the opposite faces of the forward projections being slightly flared away from the rolls, as shown at 15ª, while the opposite faces 16 of the rear projections are preferably parallel.

The auger housing 17 is vertically disposed and provided with the inclined downwardly tapered passage 18 communicating with the reduced passage 16 leading to the rolls. The auger 19 is provided with the depending shaft 20 journaled in the bearing 21 provided at the lower end of the auger housing, a bevel gear 22 being fixed to the lower end of said shaft and meshing with the bevel pinion 23 upon the drive shaft 24.

The upper end of the auger housing is flared, forming a hopper 25 and the enlarged wing 26 is preferably provided upon the upper end of the auger shaft working in the mouth of the hopper for conveying the clay down to the double screw of the auger.

A pinion 27 is mounted upon the drive shaft 24 and meshes with the large gear 28 upon one end of the shaft 12, a smaller gear 29 upon the other end of said shaft, meshing with a similar gear 30 upon the shaft 11.

The gear is so constructed that the clay will be fed downward by the auger to the rolls at a speed just sufficient to permit the rolls to force the clay through the die at the proper rate of speed to produce a clay column adaptable for forming brick or tile.

The auger being located at right angles to the axis of the die and also at right angles to a plane passing through the axis of each roll, prevents the formation of any laminations in the clay column, as any laminations formed by the vertical auger are eliminated by the rolls.

By providing a sliding fit between the ends of the rolls and the side plates 1 and by forming the necks 14 upon the rolls journaled in the bearings 15 in the side plates, clay is prevented from working between the plates and rolls and into the journals of the rolls.

In order to prevent any leakage of clay around the rolls and into the bearings, a plurality of grease cups 31 is provided around the bearings and ends of the rollers for the reception of a grease gun, by means of which grease may be maintained at high pressure around these parts.

I claim:—

1. A clay press including a housing having a die in one side, a pair of rolls within the housing for forcing clay through the die in a column and an auger in the housing at an angle to the axis of the rolls for feeding clay to the rolls.

2. A clay press including a housing having a die in one side, a pair of corrugated rolls within the housing for forcing clay through the die in a column and an auger in the housing at an angle to the axis of the rolls for feeding clay to the rolls.

3. A clay press including a housing having a die in one side, a pair of rolls within the housing for forcing clay through the die in a column and an auger in the housing at right angles to the axis of the rolls for feeding clay to the rolls.

4. A clay press including a housing having a die in one end, a pair of horizontal rolls within the housing for forcing clay in a column through the die, and a vertical auger in the housing for feeding clay to the rolls.

5. A clay press including a housing having a die in one end, a pair of horizontal rolls within the housing for forcing clay in a column through the die, a vertical auger in the housing for feeding clay to the rolls, and means for driving the auger and rolls at the same speed.

6. A clay press including a housing having a die in one side, a pair of rolls within the housing for forcing clay in a column through the die, the upper and lower walls of the housing extending around the rolls to points near the pinch of the rolls, and an auger located at right angles to the axis of the rolls for feeding clay to the rolls.

7. A clay press including a housing having a die in one side, a pair of rolls within the housing for forcing clay in a column through the die, the upper and lower walls of the housing extending around the rolls to points near the pinch of the rolls, a neck formed upon each end of each roll and bearing sockets in the side walls of the housing in which the necks are journaled.

8. A clay press including a housing having a die in one side, a pair of rolls within the housing for forcing clay in a column through the die, the upper and lower rolls of the housing extending around the rolls to points near the pinch of the rolls, a neck formed upon each end of each roll, bearing sockets in the side walls of the housing in which the necks are journaled, and an auger at right angles to the axis of the rolls for feeding clay to the rolls.

9. A clay press including a housing having a die in one side, a pair of rolls within the housing for forcing clay in a column through the die, a neck formed upon each end of each roll, bearing sockets in the side walls of the housing in which the necks are journaled, and grease cups communicating with the necks of the rolls for holding grease under pressure to prevent clay from working into the bearings.

10. A clay press including a housing having a die in one end, a pair of horizontal rolls within the housing for forcing clay in a column through the die, a vertical auger in the housing for feeding clay to the rolls,

and a hopper at the upper end of the auger for receiving the clay.

11. A clay press including a housing having a die in one end, a pair of horizontal rolls within the housing for forcing clay in a column through the die, a vertical auger in the housing for feeding clay to the rolls, a hopper at the upper end of the auger for receiving the clay, and an enlarged wing upon the upper end of the auger for feeding clay from the hopper.

In testimony that I claim the above, I have hereunto subscribed my name.

PAUL F. LOICHOT.