

M. MUELLER.
 AUGER BRICK MACHINE.
 APPLICATION FILED MAR. 28, 1912.

1,101,142.

Patented June 23, 1914.

FIG. 1

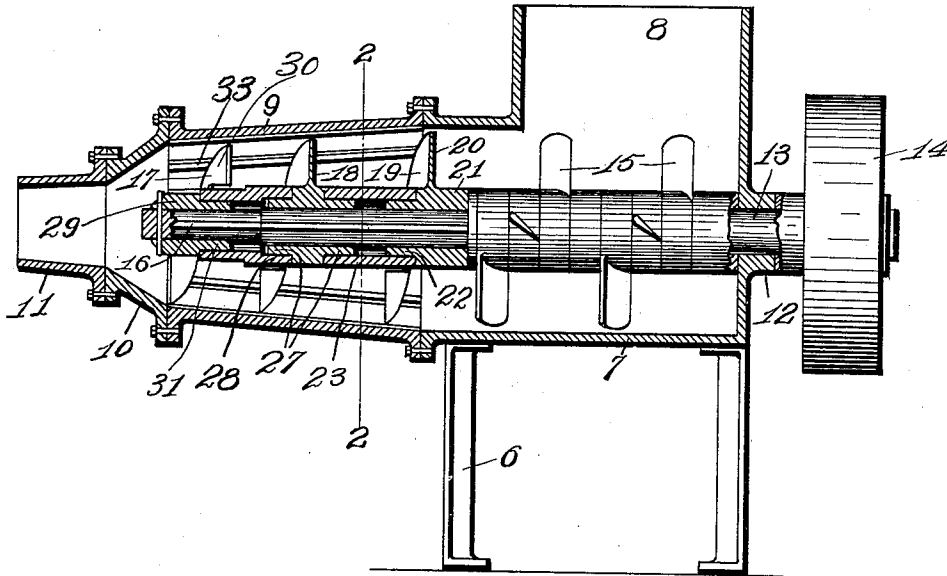


FIG. 2

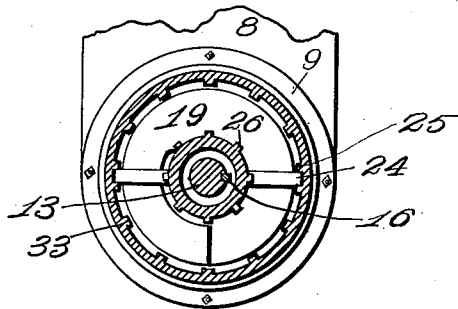


FIG. 3

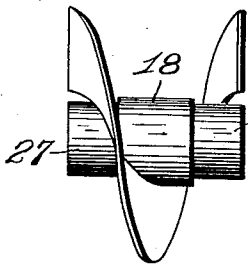


FIG. 5

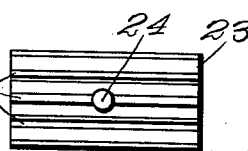
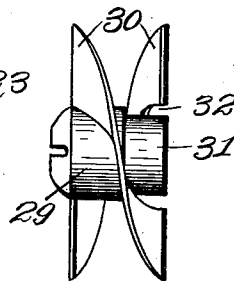


FIG. 4



Witnesses
 W. B. Stein
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UNITED STATES PATENT OFFICE.

MAX MUELLER, OF ST. LOUIS, MISSOURI.

AUGER BRICK-MACHINE.

1,101,142.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MAX MUELLER, a subject of the Emperor of Germany, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Auger Brick-Machines, of which the following is a specification.

This invention relates to improvements in an auger brick machine and has for its object winged augers rotatably mounted in a suitable casing and is used for advancing and compressing clay through a die, this mechanism being used in what is termed the stiff mud process, the inner surface of the casing and the spacing collars between the augers being provided with suitable ridges so that the clay is advanced to the die on a direct line and the center portion of the clay as well as the outer surface being equally compressed so as to form a solid brick.

A further object of my invention is to construct a cylinder in which is rotatably mounted a plurality of augers by which the plastic clay is advanced forward through a die on a direct line evenly compressing the clay, the die being constructed to be used for shaping bricks or tiles and the inner surface of the cylinder as well as the sleeves between the augers being suitably ribbed for holding the clay preventing it from turning with the rotation of the augers.

Figure 1 is a vertical sectional view of my complete invention. Fig. 2 is a cross-sectional view taken on the line 2—2 of Fig. 1. Fig. 3 is a plan view of a single blade auger made use of. Fig. 4 is a plan view of a double blade auger located on the shaft immediately in front of the die. Fig. 5 is a plan view of one of the sleeves made use of for spacing the augers.

In carrying out my invention I provide a suitable base frame 6 on which is securely mounted a container 7, the upper portion thereof provided with a hopper 8; the forward end of the container is suitably flanged and to said flanges is firmly bolted a tapered cylinder 9; this cylinder is also flanged and to it is firmly bolted a tapered casting 10 through which the clay from the machine is fed into the die 11 mounted on the end of the casting 10.

On the rear wall of the container is located a projecting bearing 12 in which is supported a shaft 13, the greater portion of

this shaft projecting through the container 55 and extends into the cylinder, and the same is driven by means of the pulley 14 from any suitable motive power.

On the shaft is located a plurality of agitator blades 15 supported on collars rigidly attached to the shaft and by means of these blades the plastic clay is thoroughly mixed and intermingled and by means of the angle of the blades said clay is advanced forwardly and toward the cylinder 9, the said shaft 13 is provided with a key or feather 16 by which the agitators together with the augers are fixed so as to rotate with the movement of the shaft.

On the shaft 13 in advance of the agitators and located within the tapered cylinder 9 are augers 17, 18, and 19; the augers 18 and 19 are what are termed single blade augers and the blades 20 are formed integral with the hubs; the bore of each hub is provided with a key-way which corresponds with the key 16 of the shaft and the one end of the hub of the auger 19 is turned down to a smaller diameter as indicated by the numeral 22 for the admission of a sleeve 23; this sleeve is held stationary by means of a pair of projecting arms 24 (see Figs. 2 and 5), the outer ends resting between lugs 25 formed on the inner surface of the cylinder 9, the outer surface of this sleeve is provided with a plurality of parallel elongated ribs 26 which form suitable passages for retaining the clay and permitting it to advance forwardly under pressure in a straight or direct line.

The auger 18 has both ends of its hub reduced in diameter as indicated by the numeral 27, the one end supporting the opposite end of the sleeve 23, the opposite end of the hub supporting the end 28 of a similar sleeve and on the end of the shaft is mounted the double winged auger 17 which consists of a hub 29 having a pair of integral wings 30, the one end 31 of the hub being of reduced diameter and operating under the one end of the sleeve 28; the sleeve 28 is likewise supported in set position by projecting arms similar to those provided on the sleeve 23 and its outer surface is also ribbed so as to advance the clay on a direct line; the wings of the augers are under cut or in other words cut away from the reduced portion of the hub as indicated by the nu-

meral 32 so as to accommodate the application of the sleeves and to allow free movement of said wings over the sleeves as well as to provide direct movement toward the die.

The inner surface of the tapered cylinder 9 is provided with elongated ribs 33 which are designed to hold the outer surface of the clay from rotating and by means of these ribs which form channels and the ribs and channels on the surface of the sleeves the wings of the augers have a tendency to more firmly compress the plastic clay, at the same time advancing the homogeneous mass forwardly toward the die without rotation. By this structure the tendency of the rotating augers through a mass operating on a direct line will evenly compress the clay so that when passed through the die the center portion of the clay as well as the outer edge is of an even compression.

It has been found by practice that clay which is compressed by an auger process which is permitted to adhere to the collars and the wings of the auger will continuously rotate without compressing, the outer edge of the clay only is advanced forwardly therefore causing the center portion of the

compressed mass to be of a spongy nature while the outer edge is solid and compact.

By my invention the construction of the inner surface of the cylinder and the channeled sleeves of the shaft takes away the greater portion of the turning effect of the material caused by the rotating of the augers and makes the homogeneous mass of clay in the cylinder to move on a direct line toward the die and the same pressure exerted evenly on the entire moving mass.

Having fully described my invention what I claim is:

A machine of the class described comprising a cylinder, a shaft located therein, a plurality of augers located on the shaft, the wings of said augers being partially undercut, non-rotating sleeves located around the shaft beneath the undercut portion of the wings of the augers and between each auger, substantially as specified.

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

MAX MUELLER.

Witnesses:

ALFRED A. EICKS,
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