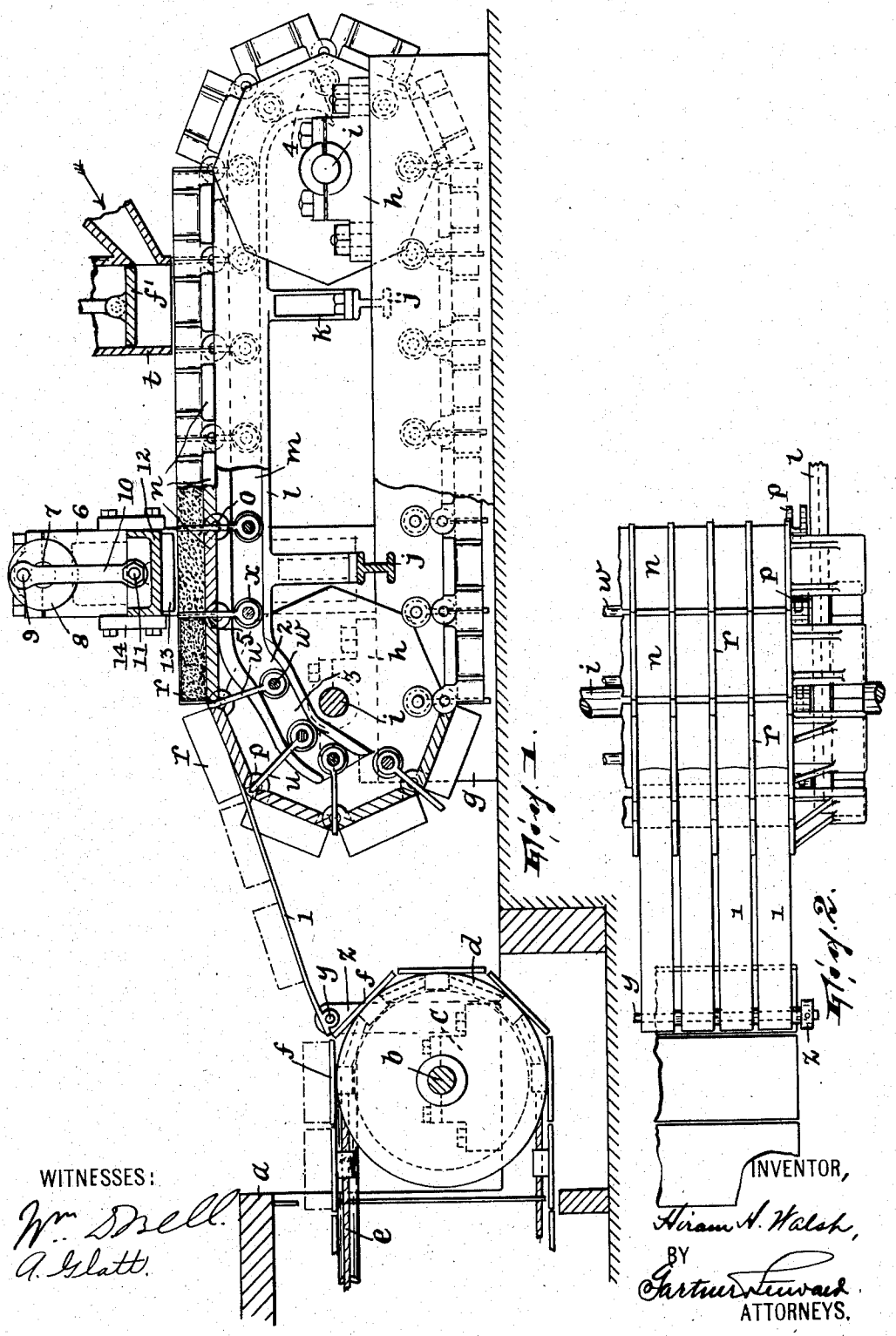
No. 846,536. PATENTED MAR. 12, 1907.

H. H. WALSH.

BRICKMAKING PLANT.

APPLICATION FILED OCT. 8, 1906.

2 SHEETS—SHEET 1.



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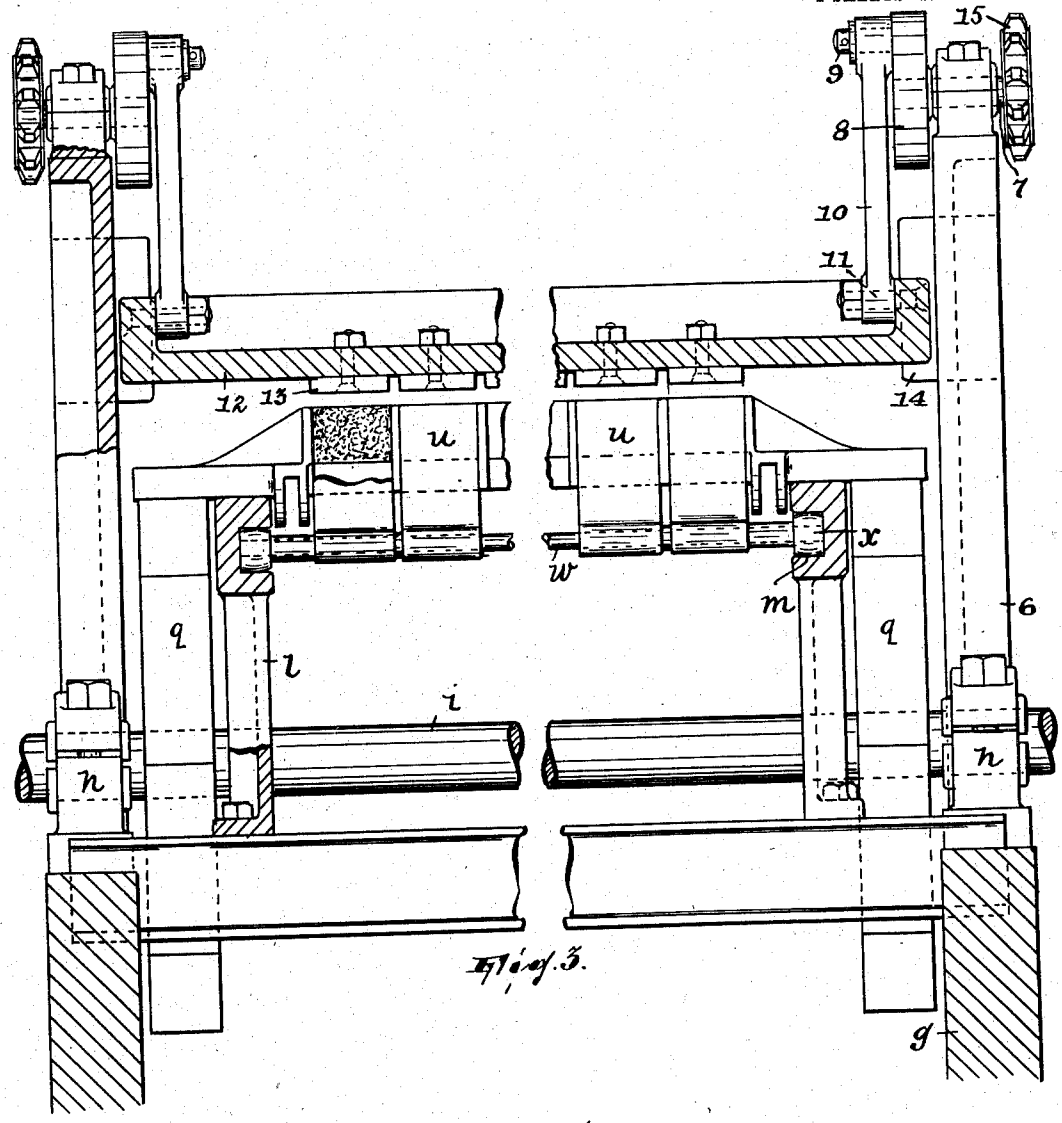


Fig. 3.

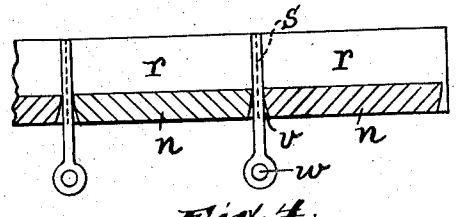


Fig. 4.

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HIRAM H. WALSH, OF LITTLE FERRY, NEW JERSEY.

BRICKMAKING PLANT.

No. 846,536. Specification of Letters Patent. Patented March 12, 1907.

Application filed October 8, 1906. Serial No. 337,888.

To all whom it may concern:

Be it known that I, HIRAM H. WALSH, a citizen of the United States, residing in Little Ferry, county of Bergen, State of New Jersey, have invented certain new and useful Improvements in Brickmaking Plants; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to brick-making plants.

It is commonly the custom to fill the molds whereby the bricks are shaped at a point more or less removed from the dry-house and to then convey the charged molds to the dry-house by means, such as an endless conveyer, which has so far required more or less manual handling of the molds.

My object is to avoid entirely this manual handling of the brick, entailing, as it does, the employment of men especially for that purpose, waste of time, and other disadvantages; and I accomplish this object by employing a mechanism which serves both to shape the bricks and convey them to the drier, where, as is preferable, they are received by an endless conveyer, which carries them through the drier.

One adaptation of my invention is fully illustrated in the accompanying drawings, wherein—

Figure 1 is a view, partly in side elevation and partly in longitudinal section, of my invention. Fig. 2 is a plan view of the left-hand end portion of Fig. 1. Fig. 3 is a vertical sectional view taken in a plane through a press, which may be used or not, according to the kind of brick being made; and Fig. 4 illustrates a detail.

In the drawings, *a* is a dry-house, and *b* a shaft journaled horizontally in suitable bearings *c* and carrying a drum *d*, around which and a similar drum (not shown) extends an endless conveyer, which comprises endless cables *e* and elongated plates *f*, carried by said cables and forming supports by which the bricks are carried through the dry-house.

The foregoing forms a part of an improved brick-making plant, which I have described and claimed in my copending application, Serial No. 298,941. I therefore make no claim thereto *per se* herein.

Alined with the dry-house are two spaced parallel foundation-walls *g*, which support bearings *h*, in which are journaled parallel horizontal shafts *i*. Said walls are spanned by two girders *j*, to which are bolted the legs *k* of guide-frames *l*, arranged side by side and having grooves *m* on their inside faces, which grooves are horizontal and substantially straight except at the ends thereof, where they dip downwardly in the manner hereinafter more particularly specified.

n indicates elongated plates, which are connected together by pivots *o*, penetrating projections *p* on the under sides and at both edges of the plates, thus forming of the latter a continuous or endless series. Such endless series of plates is carried by polygonal sheaves *q*, which are mounted on the shafts *i*, each side of each sheave being substantially of the same dimension as the width of each plate *n*. The plates have on their top surfaces partitions or walls *r*, which extend transversely of said plates and which may be cast as an integral part of the corresponding plates if the latter are of metal. The plates as the sheaves rotate, and so advance them, ride in the upper stretch of the series on the top surfaces of the guide-frames *l*, which surfaces are substantially horizontal throughout except at their ends, where they tip downwardly, the same as the grooves *m*. The plates are so linked together that when they are alined with each other—*i. e.*, when they are riding on the tops of the guide-frames *l*—they are slightly spaced. The walls *r*, however, are so formed that at this time they abut end to end, as indicated at *s* in Fig. 4. The space between each two walls *r* is adapted to receive the material to form a single brick. I have shown the walls *r* so disposed on the plates that the length of each brick will be crosswise of the plate, though of course this is not essential. The material for forming the bricks may be fed onto the plates and pressed into the molds from a suitable discharge *t* by a plunger *f'*, which are arranged over the apparatus with the mouth of the discharge close to the plane marking the tops of the walls *r* as the plates *n* ride over the guide-frames *l*. This discharge is of course as wide as the plates are long, so that it will fill all the compartments formed by the walls *r* while the series of plates are being advanced by the sheaves *q*.

In the foregoing provision is made for dividing the bricks from each other longitudinally. In order to divide the bricks from each other laterally and yet provide for removing them from their molds, so that they may be passed onto the dry-house conveyer, already described, I construct the walls which are to separate the bricks laterally so as to be movable out of the way for the bricks to be slid off the plates *n* longitudinally of the apparatus. The last-mentioned walls *u* are arranged to project through the spaces between the plates *n* and be movable therein inwardly and outwardly with reference to the shafts *i*, rising high enough to bring their upper edges flush with the upper edges of the walls *r* and falling at least so far as to bring their upper edges flush with the tops of the plates *n*. There are as many of the walls *u* laterally as there are spaces between the walls *r*, and they are kept constantly spaced from each other by the projecting portions *s* of the walls *r* or at least the lower corners *v* of said projections, when any two plates are flexing. Each transverse series of walls *u* is strung on a shaft *w*, which may carry at its ends antifriction-rolls *x*, which run in the grooves *m* of the guide-plates *l*.

y is a shaft which extends across the end of the dry-house conveyer adjoining the apparatus above described, being supported on standards *z*, and on this shaft are pivoted inclined plates *l*, which rest at their free ends on the plates *n* in such manner that as the series of plates *n* advances the bricks to be discharged from the latter are wiped off onto the plates *l* and slide by gravity onto the dry-house conveyer. The plates *l* are of metal and may be kept wet, so that the bricks will move freely down the same.

In order that the bricks may be free to leave the plates *n* and slide down the plates *l*, the adjacent end portions of the grooves *m* of the guide-frames *l* are deflected downwardly, as already stated, as at 2, in such manner that the rollers *x* as they follow the grooves *m* at this point will draw the walls *u* down out of the way. When the walls *u* have advanced far enough so as to clear the ends of the plates *l*, they must be again projected relatively upwardly between the plates *n*, and in order to effect this the grooves *m* are turned off in the other direction, as at 3, sufficiently far so that the grooves will continue to act to move the walls *u* up between the plates *n* until said walls have passed the horizontal, whereupon gravity will complete their movement in this direction. The other ends of the grooves *m* are turned downwardly and flared or widened, as at 4, sufficiently so as to insure the rollers *x* entering the grooves *m*.

It should be remarked that the adjacent edges of the plates *n* are preferably flat, as at 5, so that while they are riding over the guide-frames *l* they will keep the walls *u* firmly in their vertical positions.

I may employ in connection with my apparatus a means for compressing the bricks after they are fed into the molds. To this end 6 designates uprights in which are journaled shafts 7, carrying face-plates 8, on which are crank-pins 9, connected by links 10 with bearings 11 on a plunger 12. The plunger 12 may carry blocks 13, arranged over the paths of the molds. The plunger is guided between the uprights 6 and cheek-pieces 14 on the uprights. Motion may be imparted to the shafts 7 by chains (not shown) passing over sprockets 15 on the shafts 7.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A combined endless conveyer and shaping or molding apparatus comprising a series of linked plates forming the bottom wall of the molds, other walls thereon extending longitudinally thereof to form two opposed sides to each mold or compartment, and transversely-extending walls movable in and out of the plane of the longitudinally-extending walls, in planes coincident with where said plates break joints substantially as described.

2. A combined endless conveyer and shaping or molding apparatus comprising a series of linked plates forming the bottom wall of the molds, other walls thereon extending longitudinally thereof to form two opposed sides to each mold or compartment, and transversely-extending walls movable in and out of the plane of the longitudinally-extending walls, in planes coincident with where said plates break joints in combination with means for advancing said apparatus and means for moving the movable walls, substantially as described.

3. A combined endless conveyer and shaping or molding apparatus comprising a series of linked plates forming the bottom wall of the molds, other walls thereon extending longitudinally thereof to form two opposed sides to each mold or compartment, and transversely-extending walls movable in and out of the plane of the longitudinally-extending walls, in planes coincident with where said plates break joints in combination with means for advancing said apparatus, means for moving the movable walls and means for effecting the removal of the contents of the charged molds upon the withdrawal of the movable walls, substantially as described.

4. A combined endless conveyer and shaping or molding apparatus comprising series of linked plates forming the bottom wall of the molds and other walls arranged to form opposed sides to each mold or compartment, said other walls being movable in planes coincident with where said plates break

joints out of operative juxtaposition to said series of plates to leave the contents of said molds clear of said walls, substantially as described.

5. A combined endless conveyer and shaping or molding apparatus comprising series of linked plates forming the bottom wall of the molds and other walls arranged to form opposed sides to each mold or compartment, said other walls being movable in planes coincident with where said plates break joints out of operative juxtaposition to said series of plates to leave the contents of said molds clear of said walls, in combination with means for receiving the contents of the charged molds arranged in operative proximity to said flexible body, substantially as described.

6. A combined endless conveyer and shaping or molding apparatus comprising the flexible body portion forming the bottom wall of the molds and other walls arranged to form opposed sides to each mold or compartment, said other walls being movable out of operative juxtaposition to said body portion to leave the contents of said molds clear of said walls, in combination with a plate resting at one end on the flexible body portion of said apparatus in alinement with the molds, substantially as described.

7. A combined endless conveyer and shaping or molding apparatus comprising a series of spaced linked plates forming the bottom wall of the molds, and other walls arranged to move relatively vertically in the spaces between said plates, in combination with means for effecting the movement of said other walls, substantially as described.

8. A combined endless conveyer and shaping or molding apparatus comprising the flexible body portion forming the bottom wall of the molds, said body portion having transverse openings therethrough and other walls arranged to move relatively vertically in said openings, in combination with grooved guides operatively engaged by and adapted to move said other walls, substantially as described.

9. A combined endless conveyer and shaping or molding apparatus comprising the flexible body portion forming the bottom wall of the molds and other walls arranged to form opposed side walls of the molds, said other walls being movable out of operative juxtaposition to said flexible body to leave the contents of said molds clear of said walls, in combination with an inclined plate having its higher end resting on said body portion, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 5th day of October, 1906.

HIRAM H. WALSH.

Witnesses:
JOHN W. STEWARD,
WM. D. BELL.