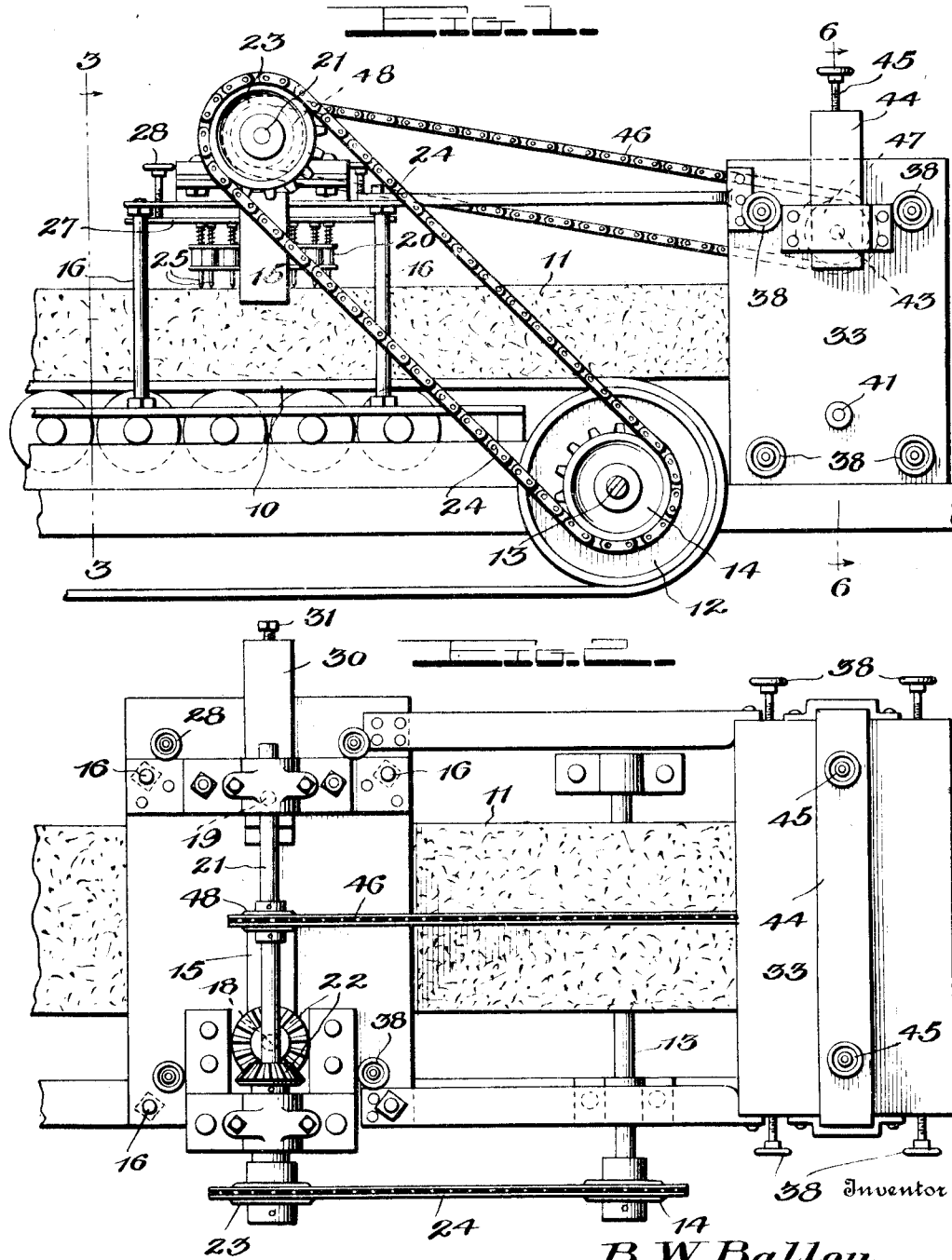


B. W. BALLOU.
BRICK ORNAMENTING MACHINE.
APPLICATION FILED MAY 26, 1915.

1,179,792.

Patented Apr. 18, 1916.
3 SHEETS—SHEET 1.



B.W. Ballou,

By *Meyer Cushman*

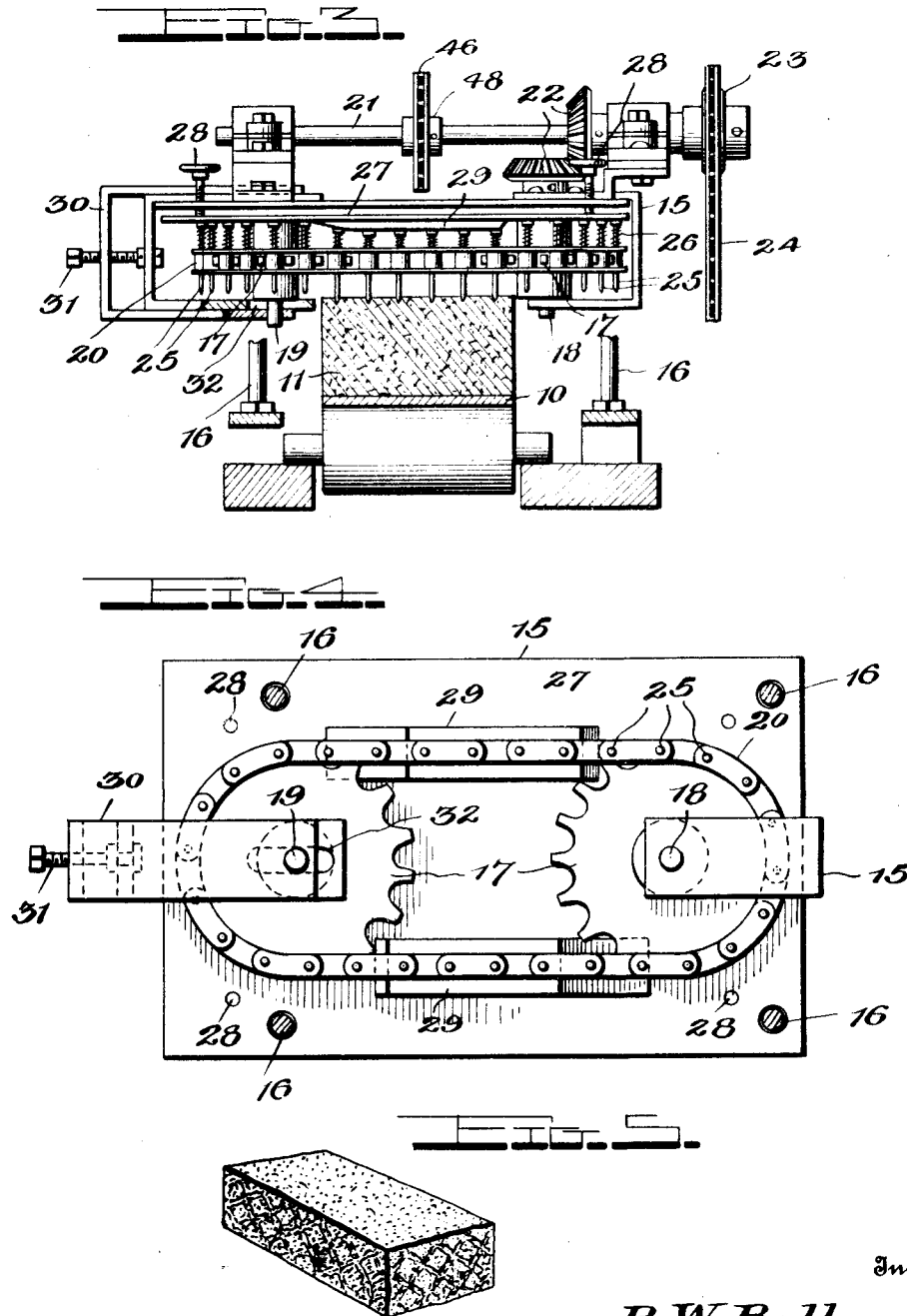
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Inventor

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1,179,792.



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UNITED STATES PATENT OFFICE.

BYRD W. BALLOU, OF BUFFVILLE, KANSAS.

BRICK-ORNAMENTING MACHINE.

1,179,792.

Specification of Letters Patent.

Patented Apr. 18, 1916.

Application filed May 26, 1915. Serial No. 30,652.

To all whom it may concern:

Be it known that I, BYRD W. BALLOU, a citizen of the United States, residing at Buffville, in the county of Wilson and State of Kansas, have invented new and useful Improvements in Brick-Ornamenting Machines, of which the following is a specification.

This invention relates to brick ornamenting machines; has reference to that type of machine which operates upon a brick ribbon as the latter is fed from the die or mold, and has for an object to provide a machine which imparts certain designs or configurations to the surface of the ribbon by practically a single operation of the machine or treatment of the brick ribbon and no subsequent application of mechanism or pressure to the brick ribbon after it leaves the marking machine.

It is another object of this invention to provide an ornamenting machine of this character wherein the lines produced upon the surface of the finished article will extend obliquely of and be crossed on the ornamented surface and, when a plurality of the thus ornamented brick are assembled in the formation of a wall, the severe vertical or horizontal lines or configurations of prior products of this character, which impart to the wall an appearance of being water-streaked or marked by the trickling of streams of water down the face of the wall, is entirely done away with and a wall of rugged appearance is produced.

In machines heretofore constructed, it has been found necessary to further treat and to press the ornamented face of the brick ribbon after the lines have been cut therein, and it has also been necessary to form these ornamental lines longitudinally of the brick ribbon or by the dragging of the ribbon against a plurality of fixed pins or marking points.

It is the design of the present invention to overcome these disadvantages found in prior machines and methods and to produce a machine which, by a single operation upon the brick ribbon imparts the desired configuration in its finished or complete form.

The above and other objects and advantages of the present invention will be more clearly brought out in the following detail description of the present preferred embodiment of the same, the present embodi-

ment being disclosed in the accompanying drawings in which—

Figure 1 is a side elevation of the brick ornamenting machine of this invention. Fig. 2 is a top plan view of the same. Fig. 3 is a transverse section on the line 3—3 of Fig. 1, taken through the brick ribbon forwardly of the ornamenting device and looking toward the same. Fig. 4 is a detail enlarged bottom plan view of the upper surface ornamenting or marking mechanism. Fig. 5 is a detail perspective view of the finished article produced by the machine of this invention. Fig. 6 is a transverse section taken on the line 6—6 of Fig. 1, through the side or edge marking mechanism. Fig. 7 is a detail enlarged fragmentary view of the marking pins and guide therefor applied to the upper surface of the brick ribbon.

Referring to the accompanying drawings, 10 designates a brick ribbon support, shown in the present instance in the form of a conveyer or endless belt which, as usual, is adapted to support and carry the brick ribbon 11 from the die or former, not shown. The endless belt or conveyer 10 is disclosed as supported at one end upon a pulley 12 mounted on a shaft 13, the latter provided upon its end with a sprocket wheel 14 for a purpose which will hereinafter appear.

The present invention relates to the means for ornamenting the face of the brick ribbon during its passage on the conveyer or belt 10, and is shown in the present embodiment as comprising a substantially U-shaped frame 15 open at its lower end and supported above the brick ribbon 11 upon suitable braces 16. In the opposite ends of the frame 15 are supporting wheels 17 carried upon vertical shafts 18 and 19. The wheels 17 support an endless carrier 20 adapted to move in an endless path above the brick ribbon 11. The frame 15 carries upon its upper side a horizontal shaft 21 connected to the shaft 18 by bevel gears 22 and having upon its end a sprocket wheel 23 which is connected to the sprocket wheel 14 of the conveyer mechanism by means of a chain 24. The object of this arrangement is to drive the endless carrier 20 simultaneously with and at the desired proportionate speed relative to the endless conveyer 10.

Mounted upon the carrier 20 is a plurality of vertically-movable downwardly projecting pins 25. The pins 25 are normally held

up out of contact with the upper face of the brick ribbon 11 by means of springs 26, each spring 26 surrounding its pin 25 and being held between the head of the pin and the upper edge of the carrier 20.

The frame 15 is provided in its upper end with a pin adjusting plate 27 supported upon set screws 28 passing through the frame 15. The plate 27 receives the inner ends of the pins 25 and has upon its lower face near its forward and rear edges guides or cams 29 which lie in the path of the heads of the pins 25 to depress the pins and hold the same down during their passage across the upper face of the brick ribbon 11. It will be noted from Figs. 3 and 7 that the cams or guides 29 are so placed that the pins 25 in moving toward the edge of the brick ribbon are depressed prior to their engagement with the brick ribbon. The pins are held down in engagement with the brick ribbon until they reach a point near the opposite edge of the brick ribbon when they are abruptly released out of contact with the ribbon to prevent the breaking away or crumbling of the edge of the ribbon by the pins as they are drawn laterally out of contact therewith.

The frame 15 is provided preferably upon one end with a yoke 30 in which are journaled the opposite ends of the shaft 19. A set screw 31 is carried by the yoke 30, and engages the end of the frame 15 to adjust the yoke longitudinally upon the end of the frame 15 and draw the shaft 19 through the slots 32 in the frame to adjust the tension of the endless carrier 20.

It is desired not only to ornament that portion of the brick ribbon which subsequently becomes the outer faces of the brick, but also the sides or edges of the brick ribbon which later become the opposite ends of the brick and which are disclosed to view in the construction of walls and the like. To ornament the edges of the brick ribbon a substantially hollow rectangular frame 33 is arranged in advance of the upper surface ornamenting mechanism above described, and surrounds the brick ribbon 11, as shown to advantage in Fig. 6. In this frame 33 there are arranged a pair of vertically disposed and spaced-apart endless carriers 34, each having inwardly extending pins 35 adapted to engage the opposite edges of the brick ribbon 11 and being normally urged away from the brick ribbon by springs 36. The springs 36 surround the inner ends of the pins and are held between the outer faces of the endless conveyers 34 and the heads of the pins. Adjusting plates 37 are also arranged within the frame 33 to receive thereagainst the heads of the pins 35. Set screws 38 support the plates 37 and serve to advance or retard the same toward the opposite sides or edges of the brick ribbon to

vary the depth of marking by the pins 35. The pins 35 are brought into engagement with the opposite sides of the brick ribbon 11 by the cams 39 which are of substantially the same formation and operate in the same manner as do the cams 27 hereinabove referred to. The lower ends of the endless carriers 34 are mounted upon sprocket wheels 40 fixed to a transverse shaft 41 passing beneath the brick ribbon 11 and journaled in the sides of the frame 33. The upper ends of the carriers 34 are mounted on sprockets 42 fixed upon a transverse shaft 43 passing over the top of the brick ribbon 11 and being journaled at its opposite ends in a yoke 44. The yoke 44 is supported upon set screws 45 engaging the frame 33 to raise or lower the yoke and thus vary the tension of the endless carriers 34. The lateral marking mechanism thus described is driven or actuated by a chain 46 which passes over a sprocket 47 fixed preferably upon an intermediate portion of the shaft 43, and which also passes over a sprocket 48 fixed to the transverse shaft 21 of the upper surface marking mechanism. With this arrangement it is thus seen that the top and lateral marking mechanisms are simultaneously operated, and that this operation is proportionate to the operation of the carrier or table upon which the brick ribbon is supported.

As the pins 25 and 35 are mounted on endless carriers 20 and 34 respectively, the pins 25 are moved across the surface of the brick ribbon first in one direction and then in an opposite direction. As the brick ribbon 11 is moved continuously forward during this back and forth travel of the pins, the pins first striking the brick ribbon cut into the surface, diagonal lines extending in one direction and subsequently these lines are intersected by the oppositely extending diagonal lines of the pins when they are drawn across the brick ribbon in the opposite direction. These pins not only mark lines in the surface of the brick ribbon but also roughen or disturb the surface so as to impart a rugged appearance to the ornamented surface, and produce a somewhat indistinct design of diamond-shape, dependent upon the proportionate speeds of the brick ribbon and the marking pins.

It is, of course, understood that various detail changes may be made in the above set forth embodiment of this invention without departing from the spirit of the same, all changes being contemplated within the scope of the following claims.

What I claim is:—

1. In combination, means for advancing a plastic body, and an ornamenting device having marking devices movable in opposite directions across the face of the body to form intersecting straight lines thereon.

2. In combination, means for moving a plastic body in a straight
a plastic body, and an ornamenting device for moving said
having means for moving said plastic body in a straight
direction past a
the path of travel of the plastic body, and means for moving said
passing by a carrier, and means for moving said plastic body
operating
the body in a straight line, and means for moving said plastic body
in a straight line, and means for moving said plastic body
opposite direction, and means for moving said plastic body
10 means for moving said plastic body in a straight line, and means
of the body in a straight line, and means for moving said plastic body
lines thereon.

3. In combination, means for moving a plastic body in a straight
plastic body, and an ornamenting device for moving said plastic
15 having means for moving said plastic body in a straight line, and means for
direction past a point, and means for moving said plastic body in a
a straight line, and means for moving said plastic body in a
plastic body past a point, and means for moving said plastic body
line of movement, and means for moving said plastic body in a
20 grooves or seal surface, and means for moving said plastic body in a
of movement, and means for moving said plastic body in a
a body, and an ornamenting device for moving said plastic body
marking means for moving said plastic body in a straight line, and means
the body in a straight line, and means for moving said plastic body
25 tion and receiving means for moving said plastic body in a straight line, and means
in a straight line, and means for moving said plastic body in a
part in the other direction, and means for moving said plastic body
means for moving said plastic body in a straight line, and means
30 setting means for moving said plastic body in a straight line, and means
of movement, and means for moving said plastic body in a
5. In combination, means for moving a plastic body in a straight
a plastic body, and an ornamenting device for moving said plastic body
adapted to move said plastic body in a straight line, and means
moving plastic body in a straight line, and means for moving said plastic body
35 namenting device for moving said plastic body in a straight line, and means
transversely, and means for moving said plastic body in a straight line, and means
body in a straight line, and means for moving said plastic body in a
having means for moving said plastic body in a straight line, and means
40 direction, and means for moving said plastic body in a straight line, and means
to form intersecting lines, and means for moving said plastic body in a
body.

6. In combination, means for moving a plastic body in a straight
plastic body, and an ornamenting device for moving said plastic body
45 plastic body in a straight line, and means for moving said plastic body in a
angles to the direction of travel, and means for moving said plastic body
body, said ornamenting device for moving said plastic body in a
able at a constant rate of speed, and means for moving said plastic body
50 only in the direction of travel, and means for moving said plastic body in a
point in the path thereof, and means for moving said plastic body in a
7. In combination, means for moving a plastic body in a straight
plastic body, and an ornamenting device for moving said plastic body
having a plastic body in a straight line, and means for moving said plastic body
55 said plastic body in a straight line, and means for moving said plastic body in a
direction and then past a point, and means for moving said plastic body in a
across the face of the carrier, and means for moving said plastic body in a
rective in two directions, and means for moving said plastic body in a
60 face of said body, and means for moving said plastic body in a straight line, and means
moving continuously in a straight line, and means for moving said plastic body in a
past any given point in the path thereof, and means for moving said plastic body in a
8. In combination, means for moving a plastic body in a straight
a plastic body, and an ornamenting device for moving said plastic body
ing marking means for moving said plastic body in a straight line, and means
65 the path of travel of the plastic body, and means for moving said plastic body in a

15. In combination, means for advancing a plastic body, an endless carrier arranged at one side of the plastic body, marking devices mounted on the carrier adapted to travel completely across the plastic body first in one direction and then in an opposite direction, and means for adjusting the marking devices to vary the depth of cut in the face of the plastic body.
16. In combination, means for advancing a plastic body, an endless conveyer arranged in spaced relation to a surface of the plastic body, pins mounted upon the endless conveyer and movable therewith, a guiding plate adapted to retain the pins in proper position relative to the plastic body, and means for operating the endless carrier to move said pins across the face of the plastic body and transversely to the direction of travel thereof first in one direction and subsequently in the opposite direction during the travel of the plastic body to form crossed grooves in the face of the plastic body.
17. In combination, means for moving a plastic body, a frame overhanging the plastic body, a horizontal endless carrier mounted in the frame, means for adjusting one end of the horizontal carrier to vary the tension of the same, a plurality of pins mounted in the endless carrier, means for driving the endless carrier to move the pins across the surface of the plastic body in opposite directions, and means for moving said pins into contact with the surface of the plastic body.
18. In combination, a movable support for a plastic body, a frame arranged adjacent the support, a movable endless carrier mounted in the frame, markers mounted on the carrier, means for adjusting the markers on the carrier toward and from the adjacent face of the plastic body, and guides on the frame for engagement with the markers to move the same into the face of the plastic body at predetermined times and to retain the markers in such position during their travel across the face of the plastic body.
19. In combination, means for advancing a plastic body, marking devices movable across the face of the plastic body, and means for forcing said marking devices into engagement with the face of the said plastic body to mark the same.
20. In combination, means for moving a plastic body, marking devices normally out of line with the face of the plastic body, means for moving said marking devices across the face of the plastic body, and guides for engagement with the marking devices to move the same into engagement with the face of the plastic body.
- In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

BYRD W. BAILLOU.

Witnesses:

MARIE LEMON,
J. E. DWYER.