Nov. 3, 1925. 1,559,682

I N. DOUGHTY

MACHINE FOR PRODUCING BRICK FACES

Filed May 6, 1925

Fig. 1

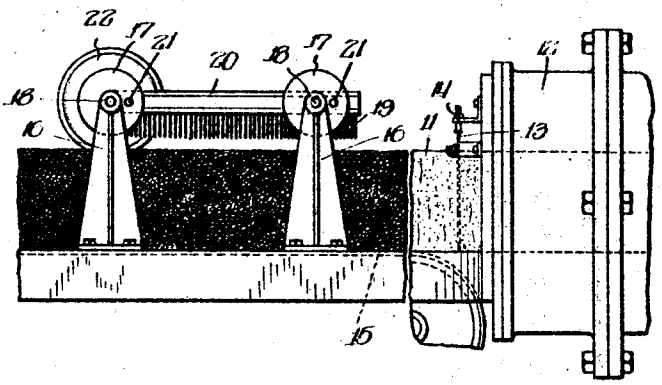


Fig. 2

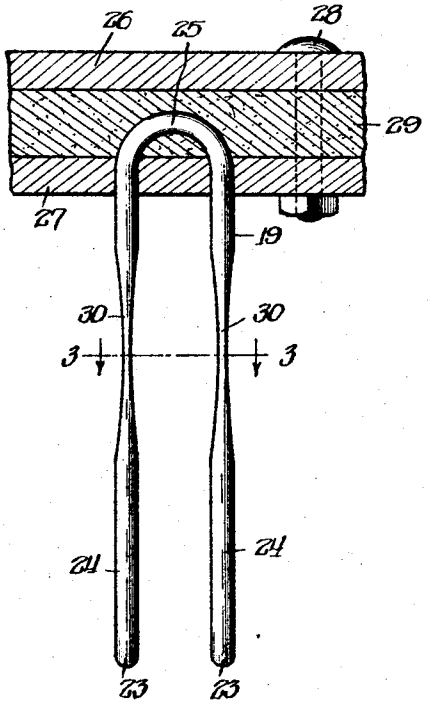


Fig. 3

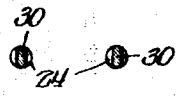
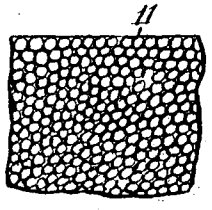


Fig. 4



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Attys

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UNITED STATES PATENT OFFICE.

IVAN N. DOUGHTY, OF DANVILLE, ILLINOIS, ASSIGNOR TO WESTERN BRICK COMPANY, OF DANVILLE, ILLINOIS, A CORPORATION OF ILLINOIS.

MACHINE FOR PRODUCING BRICK FACES.

Application filed May 6, 1925. Serial No. 28,296.

To all whom it may concern:

Be it known that I, IVAN N. DOUGHTY, a citizen of the United States, residing at Danville, in the county of Vermilion and State of Illinois, have invented certain new and useful Improvements in Machines for Producing Brick Faces, of which the following is a specification.

This invention relates to a new and improved apparatus for forming the surface of plastic material and more particularly, to an apparatus adapted for forming a texture face upon face brick.

There have been a number of machines developed for roughening or scratching the surface of bricks or the like, to provide a rough surface texture. An example of such machines is shown in the patent to Butterworth and Holmes No. 1,191,925, granted July 18, 1916. The machine of this patent has resilient fingers which move into and out of engagement with the brick surface forming a plurality of short lines and picking material from the surface.

It is an object of the present invention to provide a machine for making an indented surface somewhat similar to what is called a hammered surface on metal.

It is a further object to provide a machine of this character adapted to substantially uniformly indent the brick or other plastic surface without removing material therefrom.

It is an additional object to provide a machine adapted to work upon the surface while the material is traveling from the brick ribbon forming machine.

Other and further objects will appear as the description proceeds.

I have shown somewhat diagrammatically in the accompanying drawings one form of apparatus constructed according to the present invention.

In the drawings—

Figure 1 is a fragmentary view of the surface forming portion of the brick apparatus;

Figure 2 is a fragmentary view showing one set of forming elements;

Figure 3 is a section taken on line 3—3 of Figure 2 and

Figure 4 is a fragmentary view showing the surface formed.

Referring now to Figure 1 the ribbon or brick material 11 is extruded from the apparatus 12 by any usual means. The edges of the ribbon may be treated by the wires 13 held in place by brackets 14. The ribbon of brick material is carried over the conveyor 15 between the standards 16. The standards carry the discs 17 which rotate about axles 18 bearing in the standards. The surface forming elements 19 are carried by the supporting assembly 20 and the latter is supported by the studs 21 which fit in eccentric bearings in the discs 17. The discs 17 at the left end of Figure 1 are rotated by power supplied to pulley 22.

It will be apparent that rotation of the discs 17 will bring the surface forming members 19 into and out of engagement with the surface of the ribbon of plastic material 11. If the discs are rotated in the clockwise direction, the surface forming members while in contact with the ribbon will move in the same direction as the ribbon.

The apparatus shown in Figure 1 for bringing the members into and out of engagement with the material is illustrative only of a number of forms of apparatus which may be used, such for example, as that of the Butterworth and Holmes patent above referred to.

One of the contact elements and its securing means are shown in detail in Figure 2. The element 19 is U shaped in form and is circular in cross-section. The lower ends 23 of the legs are hemispherical in form. The lower portions 24 of the legs are of the full circular cross-section and are substantially rigid. The bow 25 of the U is located between the securing plates 26 and 27 and the legs extend through the plate 27. The plates 26 and 27 are secured in the

desired relation by means of bolt 28. The space between the plates is filled with material 29, such as lead poured in while hot, which serves to maintain the contact element in desired relation.

The intermediate portions 30 of the legs of the U member are reduced in cross-section by cutting away tapering portions of opposite faces. This reduced portion 30 thus renders the legs much more flexible in the plane of the drawing than in a plane perpendicular to the drawing. The contact members are thus rendered more flexible in the plane of movement of the ribbon being formed.

The particular utility of the form of securing and supporting means shown in Figure 2 lies in the fact that it is difficult to form the U shaped contacting members of exactly the same length and with the bends exactly similar and identically located. By this construction the contact elements are inserted in the plate 27 and with the lower ends of the legs of all the elements in contact with a flat surface, the material, such as lead is poured between the plates 26 and 27. When it solidifies it maintains the contact elements with their hemispherical ends all in the same plane.

It is necessary to have contacting elements of relatively large cross-section at their contacting ends in order to give the desired finish to the material being worked. In order not to roughen or smear the surface of the material being worked, it is necessary to have flexibility in the contacting members, so that they may travel at the same speed as the material. It will be apparent that, due to the arcuate movement of the contacting member assembly, the movement of the members will not be exactly that of the ribbon throughout the contacting period. This variation in movement may be taken care of by the flexibility of the contacting member. This flexibility is, therefore, highly important in order to give the desired finish to the surface of the material.

While I have shown one preferred form of construction by way of illustration it is to be understood that I contemplate such changes and modifications as come within the spirit and scope of the appended claims.

I claim:

1. Apparatus for forming plastic surfaces which comprises a plurality of elements having substantially hemispherical ends and means for bringing said ends into and out of engagement with the surface.

2. Apparatus for forming plastic surfaces which comprises a plurality of flexible elements having rounded ends and means for bringing said ends into and out of engagement with the surface.

3. Apparatus for forming plastic surfaces which comprises a plurality of elements, means holding the elements, rounded ends on the elements, the portions of the elements adjacent the ends being substantially rigid, the portions of the elements intermediate the ends and holding means being flexible, and means for bringing the ends into and out of engagement with the surface.

4. Apparatus for forming plastic surfaces which comprises a plurality of contact elements, a pair of spaced holding plates, the elements through one of said plates into the space between the plates, and material filling said space and retaining the elements in fixed relation.

5. Apparatus of the character described comprising a plurality of U shaped contact elements, a pair of spaced plates, the bow of the U of the elements being located between said plates, the legs of the U extending through one of the plates, and material filling said space and maintaining the elements in fixed relation.

6. Apparatus of the character described comprising a plurality of U shaped contact elements, a pair of spaced plates, the bow of the U of the elements being located between said plates, the legs of the U extending through one of the plates, the ends of the legs being in a common plane, and material filling said space and maintaining the elements in fixed relation.

7. Apparatus of the character described comprising a plurality of contact elements, supporting means for said elements, the elements having intermediate portions of reduced cross-section rendering such portions more flexible than the remainder of the elements.

8. Apparatus of the character described comprising a plurality of contact elements, supporting means for said elements, the elements having intermediate portions of reduced cross-section in one direction rendering such portions more flexible in that direction than the remainder of the elements.

9. Apparatus of the character described comprising a plurality of contact elements, supporting means for said elements, the elements being circular in cross section, portions of the elements being reduced in cross-section by the removal of material from opposite faces whereby the elements are more flexible at such points toward said faces.

10. Apparatus of the character described comprising a plurality of contact elements, supporting means for said elements, the elements being circular in cross-section, portions of the elements being reduced in cross-section by the removal of tapering amounts of material from opposite faces whereby the elements are more flexible at such points toward said faces.

11. Apparatus of the character described comprising a plurality of contact elements, supporting means for said elements, the ele-

ments having intermeditae portions of reduced cross-section rendering such portions more flexible than the remainder of the elements, the ends of the elements being hemispherical in form.

12. Apparatus of the character described comprising a plurality of contact elements, supporting means for said elements, the elements being circular in cross-section, portion of the elements being reduced in cross-section by the removal of material from opposite faces whereby the elements are more flexible at such points toward said faces, the ends of the elements being hemispherical in form.

Signed at Danville, Illinois, this 1 day of May, 1925.

IVAN N. DOUGHTY.