Sept. 14, 1926. 1,599,404

C. O. BRANDELL

TILE FORMING MECHANISM

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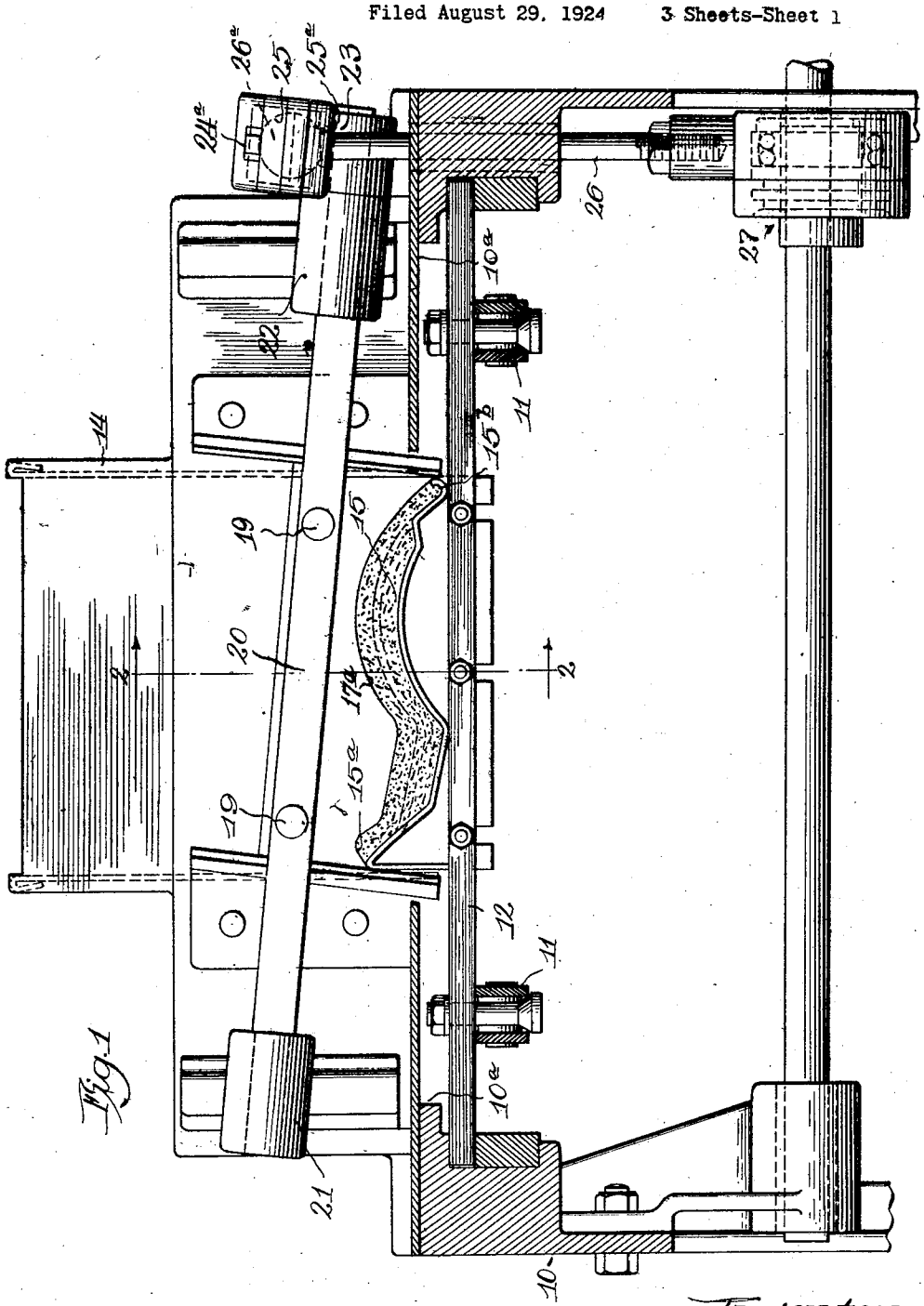


Fig. 1

Witness:
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TILE FORMING MECHANISM

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Fig. 2

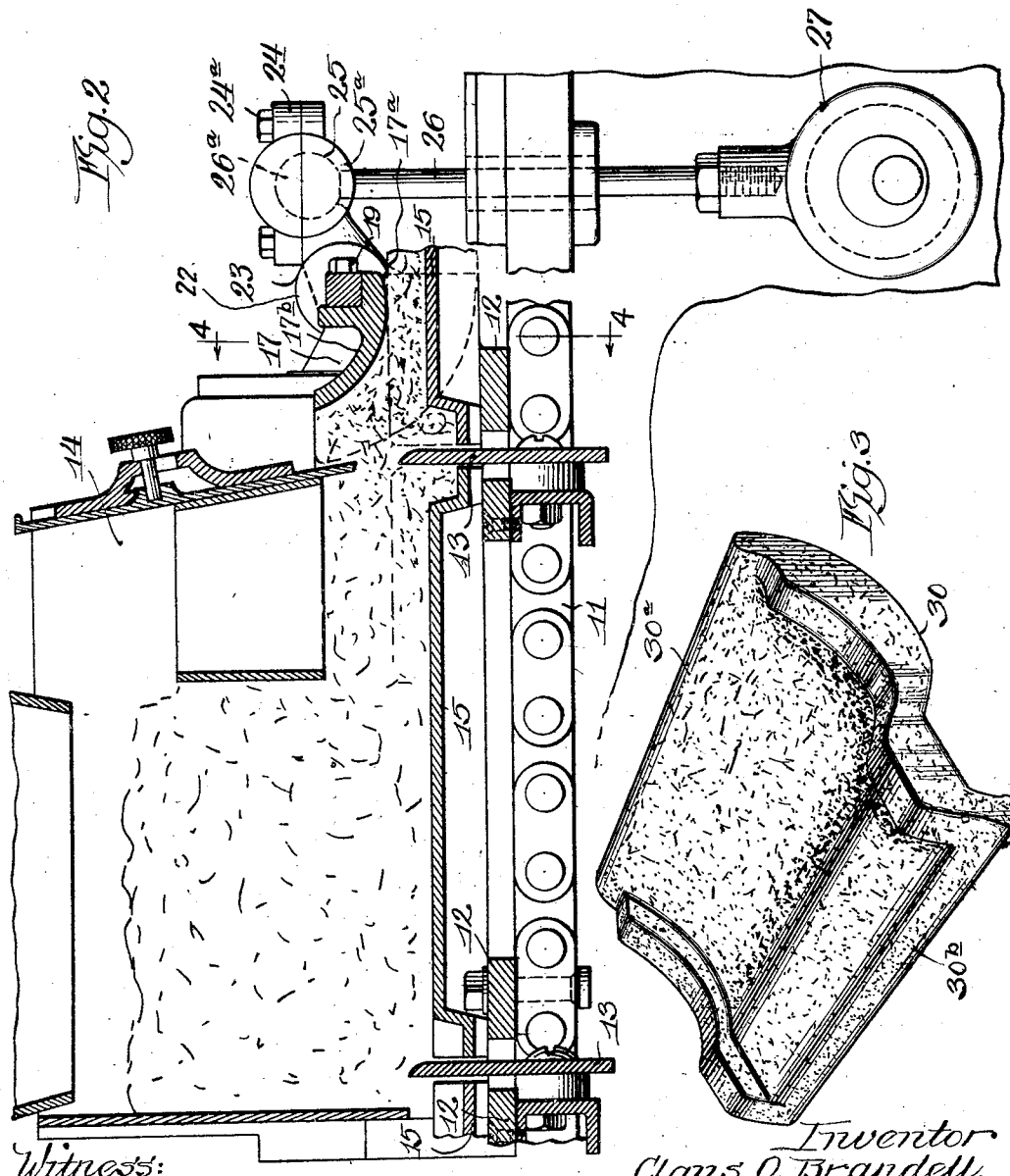


Fig. 3

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TILE FORMING MECHANISM

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Fig. 4

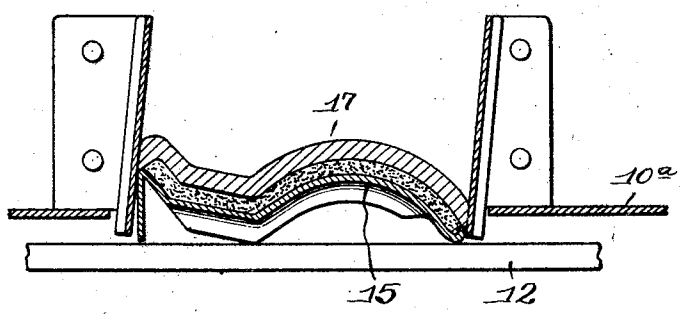
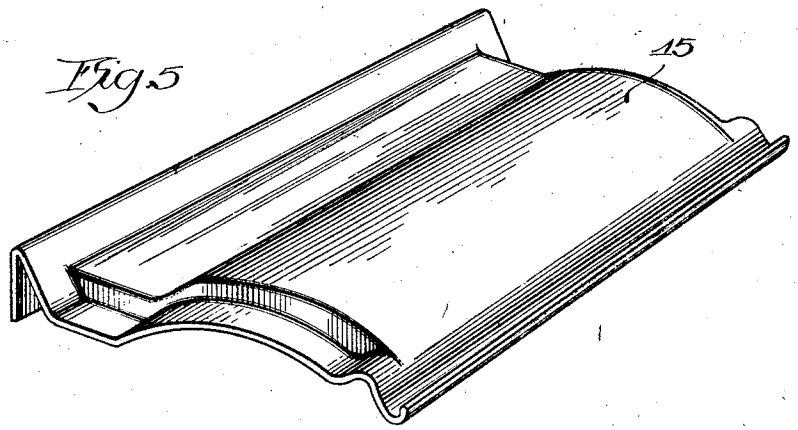


Fig. 5



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Patented Sept. 14, 1926. 1,599,404

UNITED STATES PATENT OFFICE.

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TILE-FORMING MECHANISM.

Application filed August 29, 1924. Serial No. 734,901.

This invention relates to improvements in tile forming mechanisms, and has for its object to provide mechanism of that character which will readily and efficiently form a tile, for example, of concrete.

In the particular form of tile for which this machine is designed, known to the trade as French tile, the pallets are formed with the side edges relatively offset and constructed in coaction with the forming member to create a tile with such side edge portions relatively thin. With the rapidly oscillating forming member which I use I have found that the difference in linear velocity of the forming portions of such member at the sides there is a tendency to form imperfect tile. In the present invention I have arranged the axis of the tile forming member at an incline with respect to the plane of travel of the pallets, so that the linear velocity of the forming member at the sides of the tile is more nearly the same.

These and other objects will be more fully set forth and described in the following specification and shown in the accompanying drawings, in which—

Fig. I is a transverse section through a tile making machine embodying my invention.

Fig. II is a vertical section along the line 2—2 of Fig. I.

Fig. III is a perspective view of an inverted French tile.

Fig. IV is a vertical section taken along the line 4—4 of Fig. 2.

Fig. V is a perspective of one of the pallets upon which these tile are formed.

In the drawings 10 designates generally the supporting framework of a tile making machine, having the table portions 10^a, between which runs conveying mechanism comprising a pair of spaced chains 11, upon which are supported pairs of parallel strips 12, the members of each pair being slightly spaced to accommodate the separating plate 13.

A charging hopper, generally indicated by numeral 14, projects upwardly from the table and is attached thereto in a suitable manner. At the front and back this charging hopper is open at the bottom to permit the entrance thereinto and exit therefrom of the pallets 15, which are supported in their passage through the machine by the supporting strips, as shown in Fig. 2. Concrete aggregate is supplied to the hopper 14, and each pallet in its passage therethrough receives a charge, which is regulated by the exit gate. Located above the table and slightly spaced from the exit end of the hopper 14 is the tamping or forming member, generally indicated by the numeral 17, having the rounded rubbing portion 17^a and the flattened patting or tamping portion 17^b, which first encounters the charge upon the moving pallet. This tamper is formed on its under surface to conform to the contour of the tile to be formed, as illustrated in Fig. 1. The forming member 17 is secured by machine screws 19, or the like, to a transverse axis-shaft 20, which is journalled at one end in the supporting bearing 21, and at its other in a similar bearing 22. Outwardly of the bearing 22 the shaft 20 is provided with a projecting crank arm 23, having a removable cap 24 secured thereto by screws 24^a, the cap and crank being provided with a spherical socket 25 having the aperture 25^a leading therefrom to accommodate the intruded end of drive shaft 26, which is formed with the spherical or ball-shaped head 26^a, seated in and oscillating in the socket 25. This shaft 26 is reciprocated at high speed by means of an eccentric 27 and associated mechanism.

The pallets illustrated and described coact with the forming member to form what are termed French tile 30, one of which is illustrated in inverted position in perspective in Fig. III. These tile are formed with the side edge portions 30^a and 30^b relatively thin to permit super-position of one upon the complementary edge portion of adjacent tile. This necessitates relative offsetting of the side edge portions of the tile, and also of the pallet, the latter being indicated by numbers 15^a, 15^b in Fig. 2, for example. This results in a considerable difference in height of the tile during its formation, and if the axis of rotation of the forming member were horizontally arranged the difference in linear velocity at the side portions would be so considerable as to affect the the formation of the tile at its edges, resulting in the formation of defective tile. By inclining the axis of rotation, as shown in the drawings, the axis of rotation is brought nearer to the low

side of the tile and moved farther from the high side of the tile than if it were horizontal and this difference in velocity is reduced to such an extent that formation of satisfactory tile is not interfered with.

The inclined mounting of the supporting shaft 20 necessitates a species of universal joint, so that I have provided a ball and socket connection with the driving shaft 26, as previously described.

It will be apparent that my invention is susceptible of modification, and I do not wish to be restricted to the form shown except as defined in the appended claims.

What I claim is:—

1. In combination, pallet conveying and supporting means, a forming member located above said means and transversely to the direction of movement thereof, means to move said forming member about an axis, said axis being inclined with respect to the plane of travel of the pallets upon said supporting means.

2. In combination, pallet supporting and conveying means, a forming member located thereabove, said means being oscillatable about an axis transversely arranged with respect to said means, said axis being inclined with respect to the plane of travel of the pallets upon said means, and means to oscillate said forming member.

3. In combination, pallet supporting and conveying means, a forming member located thereabove, said means being oscillatable about an axis transversely arranged with respect to said means, said axis being inclined with respect to the plane of travel of the pallets upon said means, and means to oscillate said forming member, said last named means comprising a supporting shaft carrying said forming member, a crank arm projecting therefrom and a reciprocating drive shaft operatively attached thereto.

4. In combination, pallet supporting and conveying means, a forming member located thereabove, said means being oscillatable about an axis transversely arranged with respect to said means, said axis being inclined with respect to the plane of travel of the pallets upon said means, and means to oscillate said forming member, said last named means comprising a supporting shaft carrying said forming member, a crank arm projecting therefrom and a reciprocating drive shaft operatively attached thereto by a ball and socket joint.

5. In combination, pallet supporting and conveying means, a forming member located thereabove, said means being oscillatable about an axis transversely arranged with respect to said means, said axis being inclined with respect to the plane of travel of the pallets upon said means, and means to oscillate said forming member, said last named means comprising a supporting shaft carrying said forming member, a crank arm projecting therefrom and a reciprocating drive shaft operatively attached thereto, said drive shaft having a ball portion, said arm being provided with a socket engaging said ball portion.

6. In combination with a pallet having its sides relatively offset, a supporting and conveying means for said pallet, a forming member located transversely of said conveying means and movable about an axis inclined with respect to the plane of travel of said pallet.

In witness whereof, I hereunto subscribe my name to this specification.

CLAUS O. BRANDELL.