

J. H. STEWART & J. M. SCHENK.
 FORMER HEAD FOR TILE MACHINES.
 APPLICATION FILED FEB. 4, 1910.

1,006,603.

Patented Oct. 24, 1911.

Fig. 6.

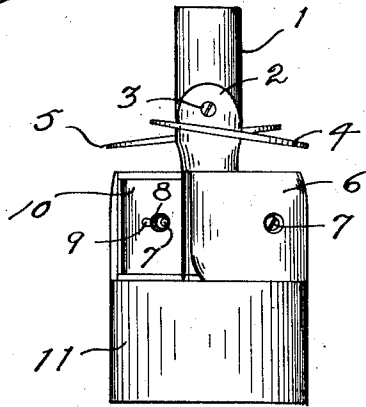
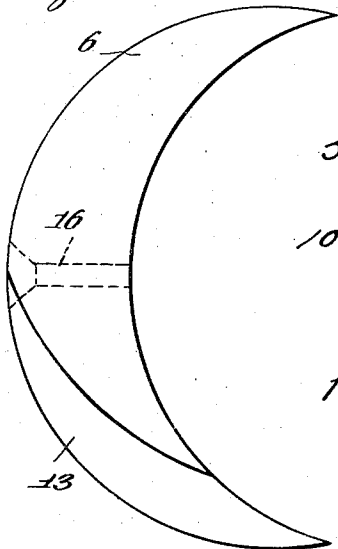


Fig. 1.

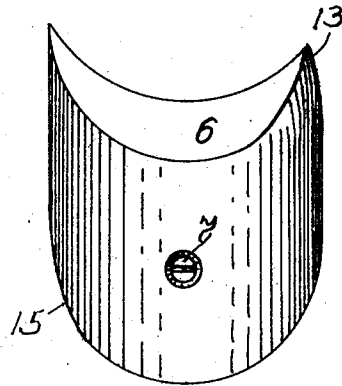


Fig. 5.

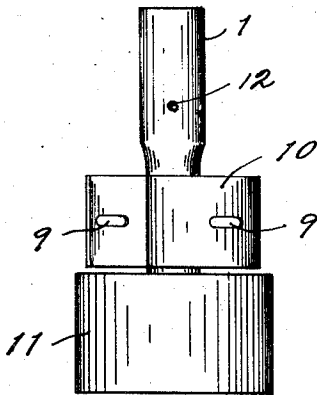


Fig. 2.

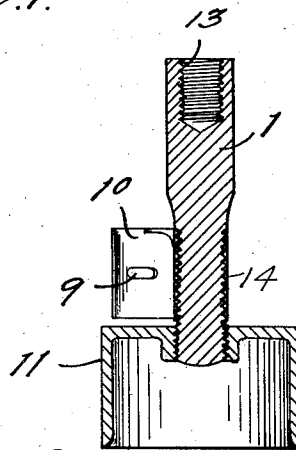


Fig. 3.

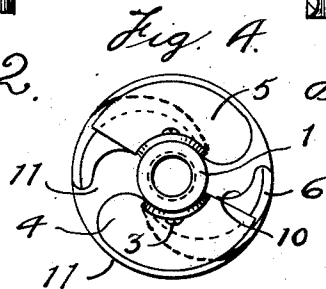


Fig. 4.

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UNITED STATES PATENT OFFICE.

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FORMER-HEAD FOR TILE-MACHINES.

1,006,603.

Specification of Letters Patent.

Patented Oct. 24, 1911.

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To all whom it may concern:

Be it known that we, JOHN H. STEWART and JOHN M. SCHENK, citizens of the United States of America, and residents of Waterloo, Blackhawk county, Iowa, have invented certain new and useful Improvements in Former-Heads for Tile-Machines, of which the following is a specification.

Our invention relates to improvements in former-heads for tile machines, and the object of our improvement is to provide means for adjusting the wearing parts of the head to compensate for loss of substance incurred in use. This object we have accomplished by the means which are hereinafter fully described and claimed, and which are illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of our improved and assembled adjustable former-head for tile machines. Fig. 2 is a side elevation of the same with the adjustable troweling bodies and deflecting bodies removed. Fig. 3 is a central vertical section of the parts shown in Fig. 2. Fig. 4 is an upper plan view of the assembled head shown in Fig. 1, and Fig. 5 is a view of a troweling body. Fig. 6 is an enlarged top plan view of one of the troweling bodies.

Similar numerals refer to similar parts throughout the several views.

Our former-head is designed for use in a tile machine for forming hollow cylindrical tiling, and is moved spirally through an outer cylindrical mold-casing (not shown) to form the tile of plastic materials therebetween. The lower part of the head consists of a hollow cylinder 11 open at the bottom but closed at the top and designed to be spaced away from a containing mold-casing to a distance equal to the thickness of a tile to be formed therebetween. The closed in upper head of this cylinder 11 has an axial interiorly threaded orifice adapted to receive the exteriorly threaded lower end of a vertical axial upright 1, the latter being provided in its upper end with an interiorly threaded socket 15 intended to removably receive the exteriorly threaded lower end of a rotary shaft (not shown).

Screwed upon the upright body 1 and projected therefrom oppositely are the wings 10, each of the same form, and curved around in the same direction. Each of the wings is provided with a horizontal slot 9.

The adjustable troweling bodies 6 are alike in form, and are designed to be movably seated upon the outwardly curved outer surfaces of the wings 10. The bodies 6 are so formed that their outer surfaces have like curves at both sides so as to be reversible and similar to the circumferential curve of the cylinder 11, and are truncated or smoothed at their advance corners 13, so as to act upon the tile material with less friction. The troweling bodies have orifices 16 registering with the slots 9 in the wings 10, and are thus secured adjustably thereon by bolts 7 and nuts 8. The bodies 6 are thus made adjustable over the cylinder 11, to permit of fresh unworn surfaces being presented when necessary.

Above the wings 10 are inclined plates, which may be straight or in the form of segments of screw threads, whose shanks 2 are secured by screws 3 to the body 1. The tile material falls upon these plates, which break lumps, and deliver into the interspaces 11 of the wings 10. The plates 4 and 5 further aid in compressing the material thereunder as they move similarly to a screw there-through. They also prevent material from being crowded back away from the influence of the bodies 6 which follow and compact and trowel the mass against the inner wall of the outer mold casing. The combined action of the screw plates 4 and 5 and of the bodies 6, with the following holding cylinder 11, is to perfect the process of evenly packing the material into a cylindrical tile. The adjustment of the bodies 6 is made by a wrench from the outside in loosening the nuts 8.

The whole former-head acts in moving both longitudinally and spirally through the mold-casing, and is very effective in packing the material solidly, as well as in distributing such material evenly before packing.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is:

1. A former-head for a tile machine, comprising in combination, a rotary shaft adapted for longitudinal reciprocation, a depending body removably secured to the lower end of said shaft concentrically, a plurality of lateral wings removably secured upon said depending body, each wing having its outer surface curved, and a troweling tool removably secured to said

5 cylindric surface of each wing and having an outer surface with symmetrical curvatures on each vertical side to render it reversible, said troweling tools being adjustably mounted on said wings.

10 2. A former-head for a tile machine, comprising in combination, a rotary shaft adapted for longitudinal reciprocation, a depending body removably secured to one end of said shaft concentrically, said body having a plurality of spaced apart lateral wings each of which has an outer bearing surface curved as part of a cylinder eccentrically to the axis of said body and shaft, 15 a troweling-tool removably secured to the eccentric surface of each wing and adjustable over said surface away from the axis of said shaft eccentrically, and a plurality of spaced apart planes above said wings and 20 troweling-bodies, inclined in the same direction toward the interspaces of said wings.

25 3. A former-head for a tile machine, comprising in combination, a rotary shaft adapted for longitudinal reciprocation, a depending body removably secured to one end of said shaft concentrically, said body having a plurality of spaced apart lateral wings each of which has an outer bearing surface curved as part of a cylinder whose 30 axis is eccentric to the axis of said shaft, a

troweling-tool removably secured to the eccentric surface of each wing and adjustable over said surface eccentrically outwardly, a plurality of spaced apart screw blades above said wings and troweling-bodies, inclined in the same direction and adapted to deliver into the interspaces between said wings thereto adjacent, and a smoothing cylinder concentrically secured to the lower end of said depending body removably. 35 40

4. A former-head for a tile machine, comprising a longitudinally and spirally movable shaft, a screw-blade thereon, lateral wings thereon below said blade, a follower cylinder concentrically connected to said 45 shaft below said wings, and packing bodies removably mounted on and adjustable outwardly over said wings, the tile-contacting outer surfaces of said bodies being reversely curved and adapted to conform successively 50 to the inner wall of the tile as adjusted outward.

Signed at Waterloo, Iowa, this 19th day of Jan. 1910.

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Witnesses:

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