(No Model.) 2 Sheets—Sheet 1.

H. E. DAWSON & W. H. NOYE.

SHINGLE MOLD.

No. 579,939. Patented Mar. 30, 1897.

Fig. 1.

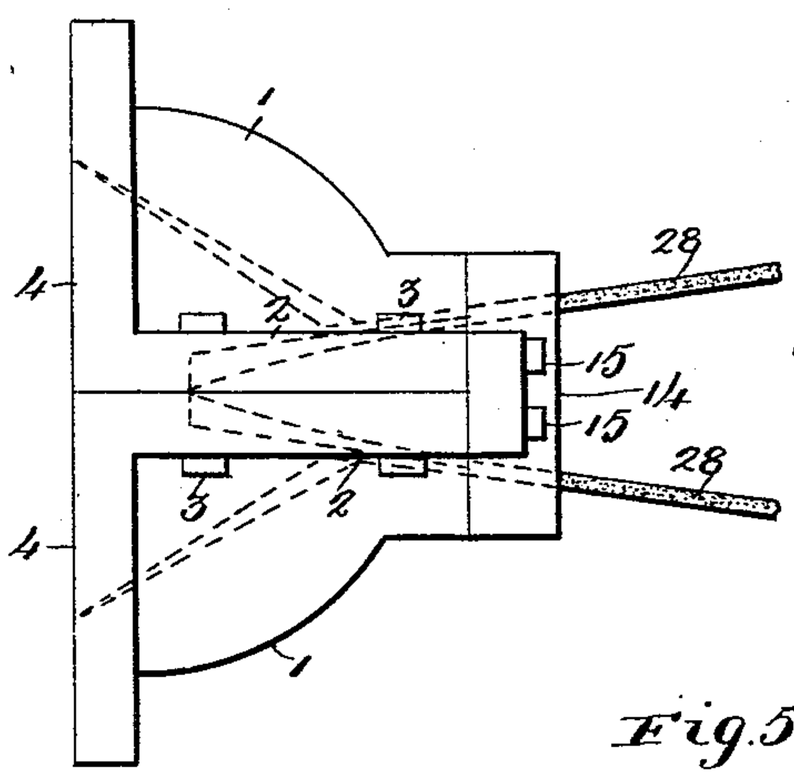


Fig. 2.

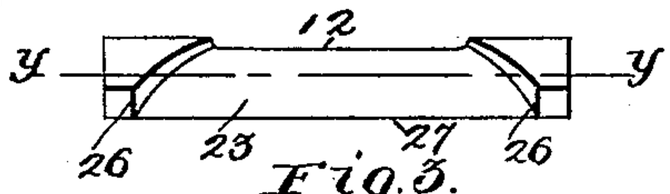


Fig. 3.

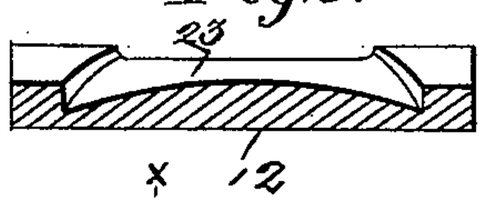


Fig. 5.

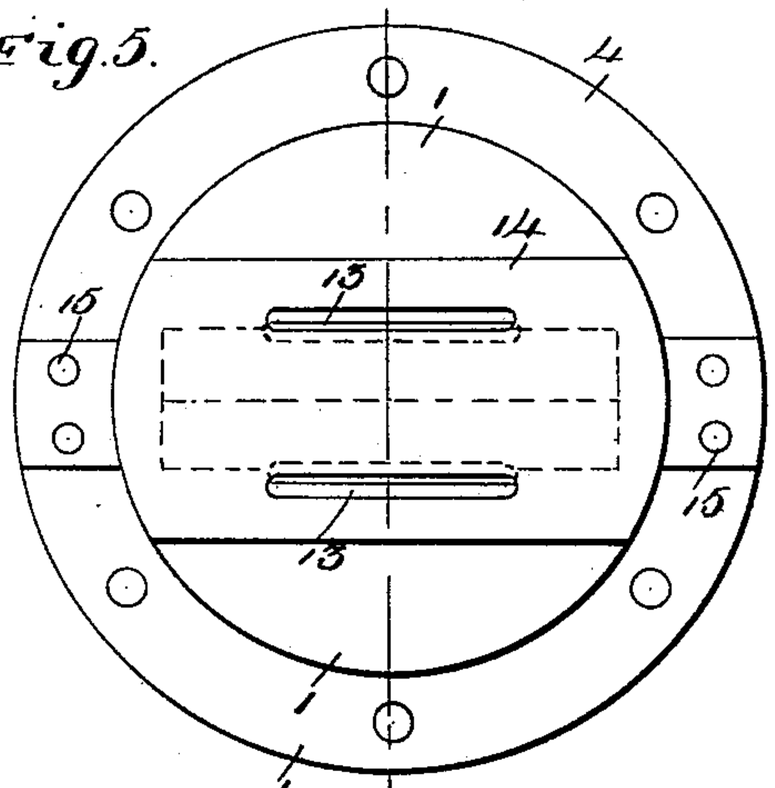


Fig. 4.

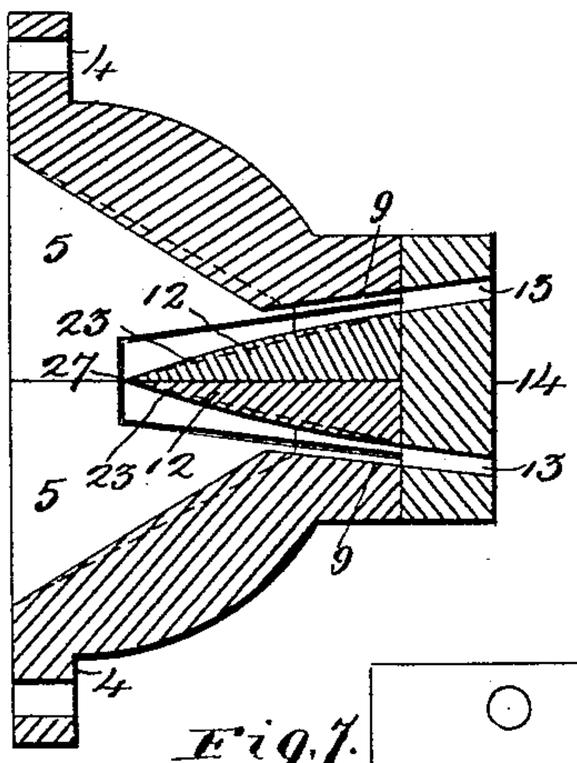


Fig. 7.

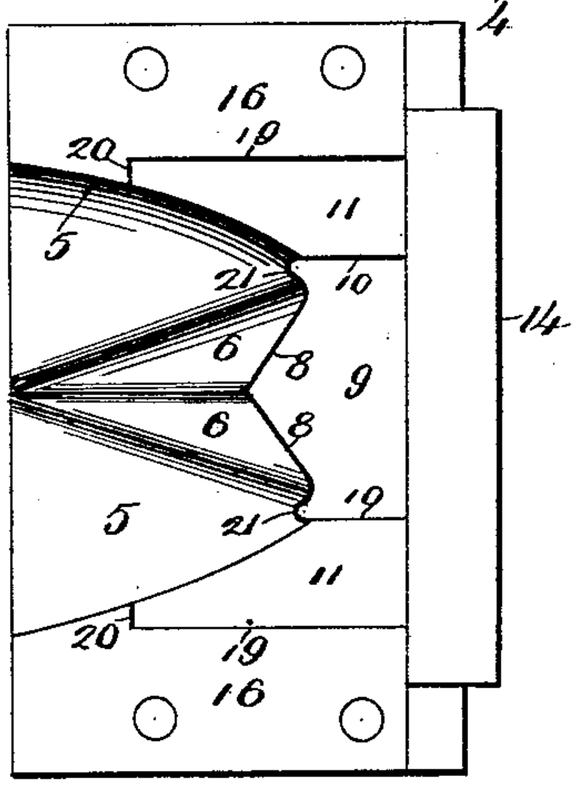


Fig. 6.

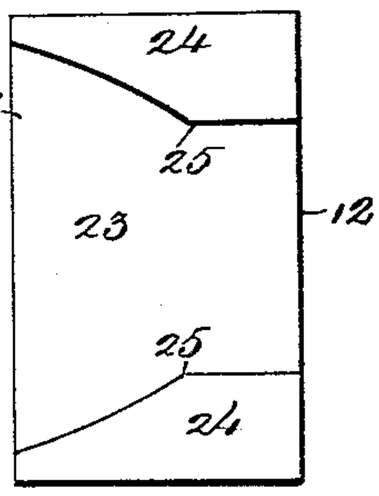
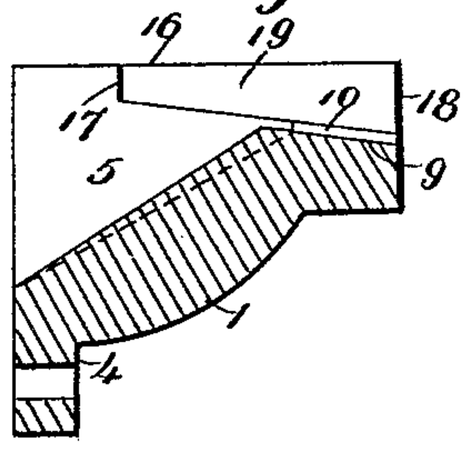


Fig. 8.



Witnesses
Alfred A. Mathey
Chas Baeuerle

Inventors
H. E. Dawson, and
By their Attorneys W. H. Noye.
Keller & Starek

(No Model.) 2 Sheets—Sheet 2.

H. E. DAWSON & W. H. NOYE.

SHINGLE MOLD.

No 579,939. Patented Mar. 30, 1897.

Fig. 9.

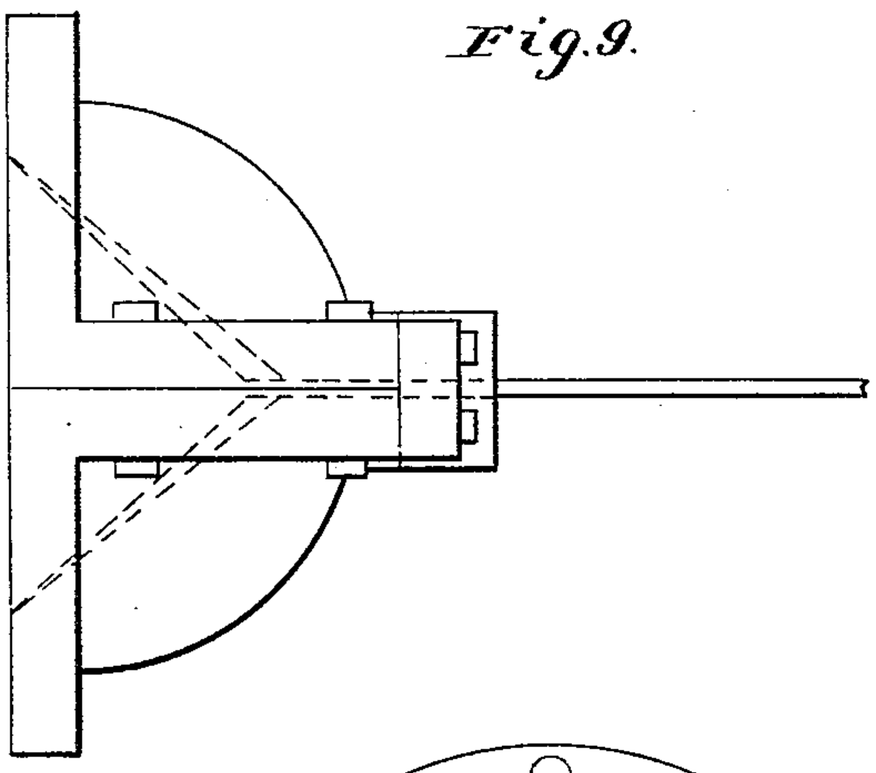


Fig. 10.

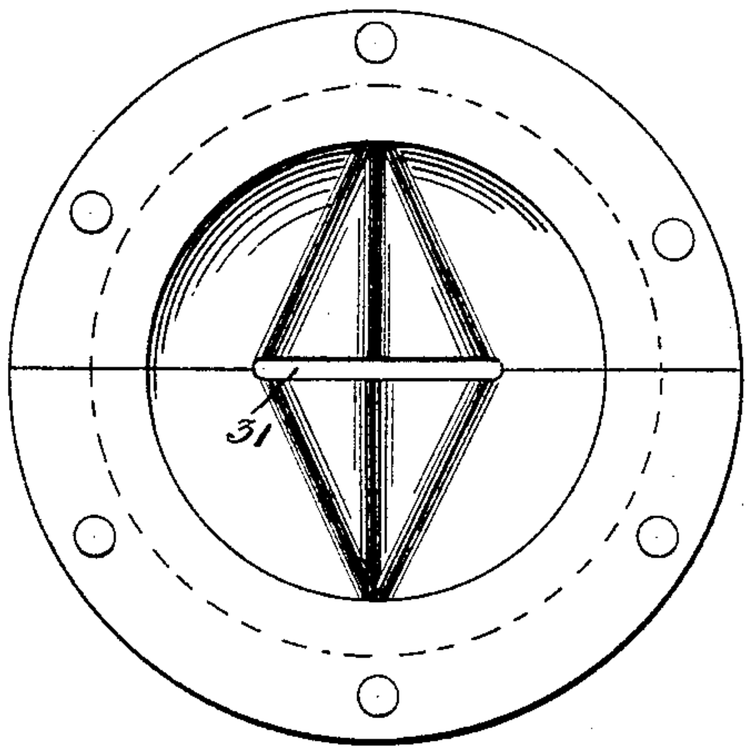
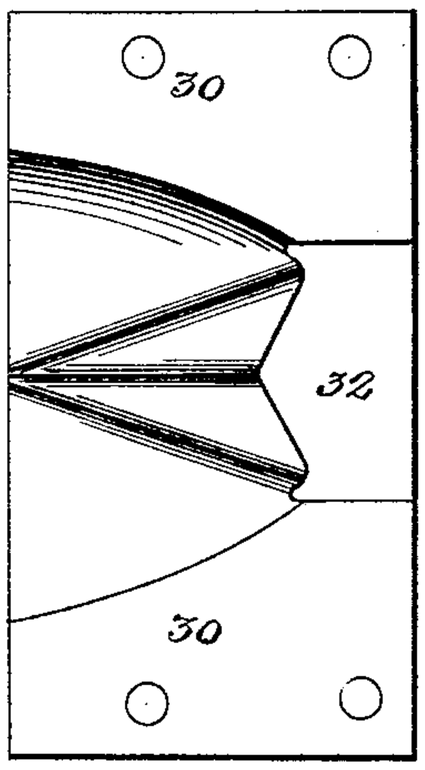


Fig. 11.



Witnesses
Alfred A. Methey
Chris Barth

Inventors
H. E. Dawson and
W. H. Noye.
By their Attorneys,
Keller & Starek

UNITED STATES PATENT OFFICE.

HENRY E. DAWSON AND WILLIAM H. NOYE, OF ST. LOUIS, MISSOURI.

SHINGLE-MOLD.

SPECIFICATION forming part of Letters Patent No. 579,939, dated March 30, 1897.

Application filed August 3, 1896. Serial No. 601,518. (No model.)

To all whom it may concern:

Be it known that we, HENRY E. DAWSON and WILLIAM H. NOYE, citizens of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Shingle-Molds, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention has relation to improvements in dies or molds for the making of clay shingles; and it consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of a double mold. Fig. 2 is an end view of the division plate or block separating the two halves of the double mold. Fig. 3 is a section on *y y* of Fig. 2. Fig. 4 is a vertical section of the mold, taken on the line *x x* of Fig. 5. Fig. 5 is a front elevation of the double mold. Fig. 6 is a bottom plan view of the division plate or block. Fig. 7 is a plan view of one-half of the double mold with the division-plate removed. Fig. 8 is a section similar to that shown in Fig. 4, with the division-plate removed. Fig. 9 is a side elevation of a complete single mold. Fig. 10 is a rear view of the same, and Fig. 11 is a top plan view of the interior of one-half of the single mold.

The object of our invention is to construct a die or mold for the making of clay shingles; whereby a uniform product is always produced; whereby the danger of the shingle splitting as it is forced from the mold is reduced to a minimum; whereby the shingles formed or forced from a double mold are properly separated, so that those delivered from one side do not interfere with those delivered from the adjacent side; wherein the clay passing over the retarding-surfaces located adjacent to the nose-piece is positively forced to the edges of the shingle, thus well filling the shingle before it passes through the nose-piece by which the final form of the product is determined, and whereby the clay as it leaves the hopper of the clay-feeding machine is positively directed to the retarding-surface, thus insuring a compact and homogeneous product.

The mold comprises certain other and further advantages which a detailed description will serve to bring out.

In detail the device may be described as follows:

The mold may be either a single or double one, but for commercial purposes we prefer the double mold, or one capable of turning out two shingles at one time.

Referring particularly to Figs 1 to 8, 1 1 represent the respective halves of a double mold united along the inner surfaces of the lateral flanges 2 by means of bolts 3 and adapted to be secured along their rear flanges 4 to the feed-hopper of any ordinary clay-feeding machine. (Not shown.) The sides of the flanges 2 are continuous with the sides of the flanges 4.

We will confine our description to but one half of the double mold, as it will at the same time suffice to describe the other half. Leading forward a suitable distance from the rear end of the block, or that end along which the flange 4 is located, and converging gradually along the sides of the block are concave interior walls or surfaces 5 5, the adjacent edges of the surfaces being bounded by the plane inclined triangular surfaces 6 6, tapering in a reverse direction, (or toward the rear of the block,) said surfaces forming, as it were, a pyramidal ridge whose apex is located at the middle of the rear edge of the block or mold adjacent to the flange 4. The basal edges of the concave surfaces 5 5 form a semicircle, thereby making a complete circular opening at the rear end of the double mold when the two halves of the mold are assembled. The bases 8 8 of the plane triangular faces of the pyramidal ridge form the two rear forwardly-inclined edges of a plane retarding-surface 9, located at the front end of the mold or block, the said surface 9 being depressed to the extent represented by the shoulder 10 below what constitute the lateral supporting surfaces or ledges 11 for the removable division-plate 12, which separates the clay leading to the delivery-passages 13 of the terminal detachable nose-piece 14, carried at the forward end of the mold, said nose-piece being secured by means of bolts 15. The surfaces of the ledges 11 are inclined rearwardly to the plane of the coupling-surfaces 16 of the flanges 2, along

which the two halves are united. The depth of the rear end of the ledge 11 below the surface 16 is indicated by the edge 17 of the rear limiting vertical wall of the ledge, (see Fig. 8,) and its depth at the front end being indicated by the front edge 18 of the vertical wall 19, which limits the ledge on one side. The width of the rear vertical limiting-wall is indicated by the shoulder 20. The shoulder 10, to the extent of which the plane retarding-surface 9 is depressed below the ledge 11, is extended rearwardly into the conical surface 5, thereby producing the curved corners 21 at the meeting-points between the rear forwardly-inclined edges 8 of the retarding-surface and the lateral edges or sides of said retarding-surface.

When the two halves of the mold are assembled, the combined space formed between the ledges 11 of the respective halves is adapted to receive the clay-dividing plates 12, which are substantially wedge-shaped in form, the rear edge of each wedge being in line with the shoulders 20 and in the plane of the surfaces 16. The adjacent faces of the wedge-shaped division-plates are plane, but the opposite face of each plate is a gradual outwardly convex-curved surface 23, tapering toward the rear edge of the wedge. Each wedge is provided on the side of its curved face with the lateral supporting legs or wings 24, the shape of each leg corresponding to that of the supporting-surface of the ledge 11, on which the leg rests and along which it is adapted to slide, the depth of the forward portion of each leg corresponding, approximately, to the depth of the shoulder 10 and the depth of the rear portion of the leg gradually increasing from a point represented by the angle 25 (from which point the width of the leg begins to decrease) to a depth indicated by the rear edge 26 of the terminal or rear wall of the leg, (see Fig. 2,) which is in line with the rear edge 27 of the wedge or division-plate. Thus the supporting-surface of each leg, resting, as it does, on the ledge 11, like the latter, is inclined to the general axis of the mold, the curved face of each wedge serving, in conjunction with the concave surfaces 5 and the pyramidal ridge formed by the plane surfaces 6 6, to divide the clay as it is forced from the hopper (not shown) and properly direct the same to the front opening or delivery-passage of the mold, formed between the retarding-surfaces 9 and the forward plane portions of the curved faces of the wedges. The thickness of the said opening is of course equal to the combined depth of the shoulder 10 and the depth of the forward portion of the vertical wall of the leg 24, the width of such opening being equal to the width of the retarding-surface 9. Each delivery-passage from the mold communicates with the passage 13 of the nose-piece 14, which gives finish to the shingle and by which the final form of the product is determined, the passages 13 diverging from one another outwardly, so that as the finished strip or shingle 28 is delivered from the nose-piece each strip of clay can be cut into required lengths and deposited on a separate traveling delivery-belt (not shown) without interfering one with the other.

Where a single mold is used, the two halves of the same are assembled along the surfaces 30, which correspond in position to the ledges 11. In that case the division plates or wedges 12 are omitted, the delivery-opening 31 being formed directly by the spaces between the retarding-surfaces 32 of the respective halves of such mold. In other respects, however, the mold is the same.

By our improved construction the concave walls 5 5 serve as a means for directing the clay to the delivery or discharge opening of the mold, the pyramidal ridge serving to well force and direct the clay into the edge or side of the shingle strip, thus producing a product which is compact, homogeneous, durable, and perfect.

Having described our invention, what we claim is—

1. In a shingle die or mold, a suitable block having a rear curved edge, a flange located adjacent thereto for securing the block to a suitable clay-feeding machine, interior concave forwardly-converging walls or surfaces, a pyramidal ridge having plane faces separating the concave surfaces, the apex of the pyramid being located adjacent to the rear edge of the block, and a suitable plane retarding-surface having forwardly-inclined rear sides, said sides forming the bases of the plane faces of the pyramidal ridge, substantially as set forth.

2. In a shingle die or mold, a suitable block having a rear curved edge, a flange located adjacent thereto, interior concave forwardly-converging walls or surfaces, a pyramidal ridge having plane faces separating the concave surfaces, the apex of the pyramid being located adjacent to the rear edge of the block, suitable ledges formed on each side of the forward end of the converging concave surfaces, a suitable plane retarding-surface located between said ledges and depressed a suitable distance below the same, the bases of the plane faces of the pyramidal ridge forming the rear forwardly-inclined sides of the retarding-surface, said ledges adapted to receive a suitable division-plate, the adjacent surfaces of the plate and retarding-surface adapted to form the discharge-opening for the mold, substantially as set forth.

3. In a shingle die or mold, suitable blocks having lateral flanges having plane uniting or coupling surfaces, a rear circular edge adapted to form a circular opening for the feeding of clay or similar material, a circular flange surrounding said opening and located adjacent thereto for securing the mold to a clay-feeding machine, each half of the mold having inner concave forwardly-converging walls or surfaces, a pyramidal ridge having

plane faces separating the concave surfaces, a forward plane retarding-surface having rear forwardly-inclined sides formed by the bases of the plane faces of the pyramid, a ledge on each side of the retarding-surface raised a suitable distance above the same, the supporting-surface of the ledge being inclined to the general axis of the mold and parallel to the plane of the retarding-surface, suitable division-plates having each a plane and curved face, said division-plates being assembled along their plane faces, the curved faces being gradually curved from the front of the wedge and tapering gradually toward the rear edge of the wedge, each curved face having a supporting-leg conforming in shape to the ledge adapted to support the same, the rear edges of the plates being in line with the rear terminal wall of the ledge, the parts operating as and for the purpose set forth.

4. In a shingle die or mold, a suitable block, means for securing the same to the hopper of a clay-feeding machine, an inner concave forwardly-converging surface on each side of the center of the block, a pyramidal ridge having plane faces separating the concave surfaces from each other, the apex of the pyramid being located adjacent to the middle of the rear edge of the block, and a plane retarding-surface extending forwardly from the base of the pyramid, the bases of the faces of the pyramid forming the rear forwardly-inclined sides of the retarding-surface, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

HENRY E. DAWSON.
WILLIAM H. NOYE.

Witnesses:
ALFRED A. MATHEY,
EMIL STAREK.