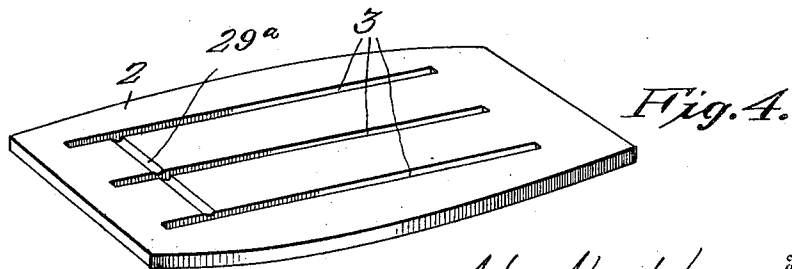
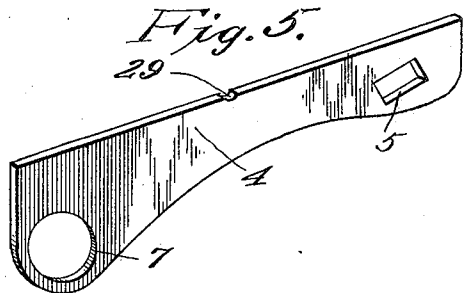
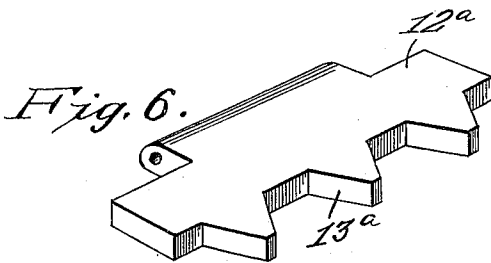
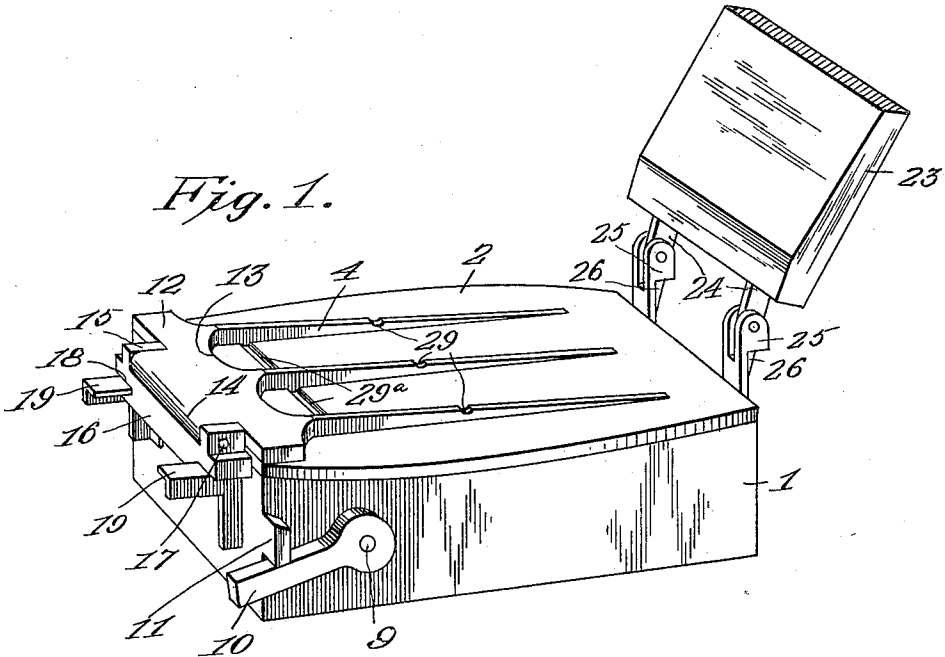


H. H. KATZ.
MOLD FOR ROOFING TILES.
APPLICATION FILED MAR. 5, 1909.

934,734.

Patented Sept. 21, 1909.
2 SHEETS—SHEET 1.



Witnesses

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Fig. 11.

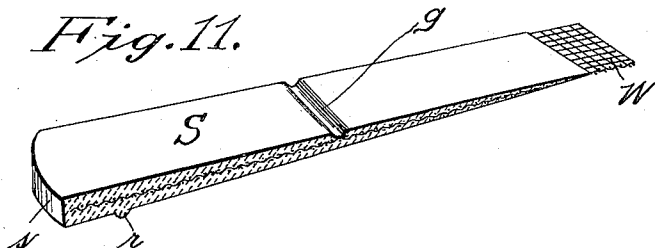


Fig. 2.

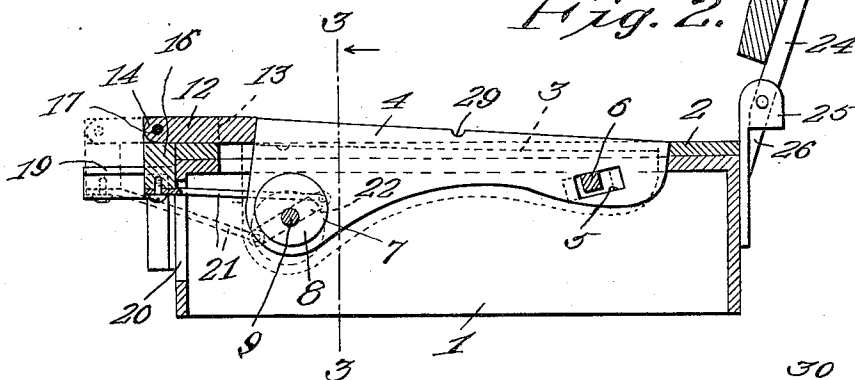


Fig. 8.

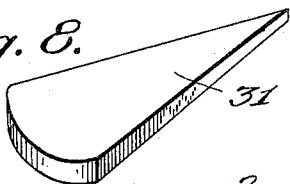


Fig. 7.

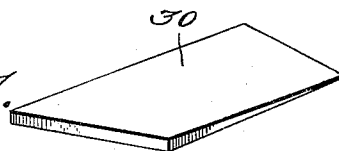


Fig. 3.

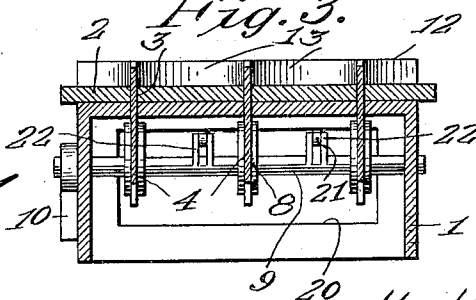


Fig. 9.

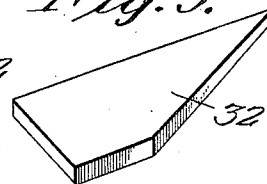
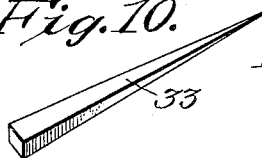


Fig. 10.



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UNITED STATES PATENT OFFICE.

HARRY H. KATZ, OF DUBOIS, INDIANA.

MOLD FOR ROOFING-TILES.

934,734.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed March 5, 1909. Serial No. 481,259.

To all whom it may concern:

Be it known that I, HARRY H. KATZ, a citizen of the United States, residing at Dubois, in the county of Dubois and State of Indiana, have invented certain new and useful Improvements in Molds for Roofing-Tiles, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in molds for making roofing tiles or shingles from concrete or other plastic material.

One object of the invention is to provide a simple and practical molding device of this character by means of which a plurality of roofing tiles or shingles may be simultaneously made; and further objects of the invention are to provide improved means for retracting the sections of the mold after the plastic material has set and means whereby shingles or tiles of different shapes and sizes may be produced.

With the above and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the improved mold showing its cover section raised and partly broken away; Fig. 2 is a vertical longitudinal section through the same; Fig. 3 is a vertical cross section taken on the plane indicated by the line 3—3 in Fig. 2; Fig. 4 is a detail perspective of the removable pallet board or bottom section of the mold; Fig. 5 is a detail perspective of one of the side mold sections or division plates; Fig. 6 is a similar view of an end section for the mold shaped to make shingles having angular ends; Figs. 7 to 10 inclusive are detail perspective views showing parts by means of which shingles of different sizes and shapes may be formed; and Fig. 11 is a sectional perspective through a roofing shingle or tile molded of plastic material by the improved molding machine.

The improved molding machine comprises a body 1 adapted to be mounted on a suitable support and preferably in the form of a hollow box. Removably arranged upon the top of the body 1 is a pallet board 2 which forms the bottom section of the mold and which has a plurality of vertical slots or openings 3 through which are adapted to project retractable side mold sections 4. The

latter are in the form of division plates mounted for vertical sliding or swinging movement in the top of the body 1 and the slots 3, their mounting being preferably effected by forming, adjacent their rear ends, elongated openings 5 to receive a cross bar 6 arranged in the body 1. Said bar 6 serves as a fulcrum on which the side sections or plates 4 slide and swing, as will be seen upon reference to Fig. 2. The front ends of the side sections or plates 4 have their lower portions enlarged and formed with circular openings 7 to receive disks 8 eccentrically arranged upon a horizontal shaft 9 journaled in the side walls of the body 1. Upon one of the projecting ends of the shaft 9 is an arm 10 which serves as an operating crank or handle and the swinging movement of which is adapted to be limited by a laterally extending stop projection 11 shown more clearly in Fig. 1. It will be seen that when the shaft 9 is rocked or oscillated, the front ends of the side sections or plates 4 will be raised and lowered by the eccentrics or cams 8 and the upper edges of said side sections or plates will be moved above or beneath the plane of the upper surface of the pallet board.

12 denotes an end section for the mold adapted to shape the thick ends of the roofing shingles or tiles and its inner face may therefore be of any shape it is desired to give the ends of the shingles. As shown in Fig. 1, its inner face is formed with curved recesses 13 to form shingles S having curved ends s, as shown in Fig. 11, while in Fig. 6 of the drawings an end mold section 12^a is shown having recesses 13^a of angular shape whereby the ends of the shingles will be correspondingly shaped. The end section 12 is pivotally mounted so that it may be swung upwardly and off of the pallet board 2 to permit the latter to be readily removed and replaced by another, and said end section 12 is also mounted so that it will be retracted or moved away from the molded shingles or tiles, simultaneously with the retraction of the side sections or division plates 4. To accomplish the foregoing, said end mold section is formed with a reduced outer edge which provides a projection 14 adapted to enter between spaced lugs 15 formed upon a slidable support 16. The projection or lug 14 on the end section is removably pivoted between the lugs 15 by passing a pin 17

through registering openings in the lugs 14, 15, as shown. By mounting the end section in this manner, it will be seen that it may be readily swung up off of the pallet board 2 and may be also readily removed and replaced by one of different shape. The support or slide 16 has its ends grooved or recessed, as shown at 18, for the reception of angular supporting and guiding brackets 19 arranged upon the front wall of the box 1 on opposite sides of an opening 20 in said wall. The slide 16 is connected by a pair of links 21 to crank arms 22 on the shaft 9, whereby when the latter is rocked to project or retract the side sections or plates 4, the end section 12 will be simultaneously projected or retracted, as will be readily understood upon reference to Fig. 2, in which said sections are shown in projected position in full lines and in retracted position in dotted lines.

23 denotes a top mold section mounted for vertical swinging movement preferably by providing it with hinge arms 24 which are pivoted in forked bearing brackets 25 secured to the rear wall of the body 1. The pivots for these hinges of the top section pass through the arms 20 intermediate the ends of the latter so that the free extremities 26 of said arms are adapted to serve as stops to limit the backward swinging movement of the top section, as clearly shown in Fig. 2. The front or inner face of the top section may be of any shape it is desired to give the tops of the shingles and upon its free edge may be provided a U-shaped handle 27 or a handle of any other shape, whereby the top section may be conveniently raised or lowered.

While the mold may be adapted for making shingles of any size and shape, the embodiment illustrated and above described is especially adapted for making a shingle such as shown in Fig. 11 and which consists of a body of plastic material tapered from end to end and having embedded in it a longitudinally extending sheet of woven wire W or any equivalent reinforcing material which may also be used as a means for nailing or fastening the shingle to the roof. The shingles S are also preferably provided upon their upper faces with transverse grooves *g* and upon their bottom faces with transverse ribs *r*, which ribs are adapted to enter the grooves *g* on the next lower course of shingles, as will be readily understood. To form the grooves *g* and ribs *r*, a transverse rib 28 is provided upon the top section 23 and notches 29 are formed in the upper edges of the side sections or plates 4 for the reception of the rib 28. Grooves 29^a are also formed in the top of the pallet board 2, as shown in Figs. 1 and 4. The mold, as shown in Figs. 1, 2 and 3, is adapted for making the regular shingles which are of ordinary shape but when it is desired to

make shingles of other shapes and sizes blocks or mold sections, such as shown in Figs. 7 to 19 inclusive, may be arranged upon the pallet board 2. The block 30 shown in Fig. 7, is adapted to be used in making hip shingles while the blocks 31, 32 shown in Figs. 8 and 9 are adapted to be used in making valley shingles, the former 31 being adapted to form such shingles with rounded ends and the latter 32 being adapted to form such shingles with square ends. The block 33 shown in Fig. 10 is a dividing strip which may be placed on the pallet board to form shingles of one-half, one-third, or other fraction of the width of an ordinary shingle, it being understood that one or more of the dividing blocks or strips may be used in each of the compartments of the mold.

While the molding machine illustrated is adapted to make only two complete shingles at one operation, it will be understood that the machine may be constructed so as to simultaneously mold any number of shingles.

The operation of the invention is as follows: Assuming the parts to be in the position shown in Fig. 1, plastic material from which the shingles or tiles are to be made is placed in the two compartments of the mold until they are about one-half full, the woven wire reinforcing member is then placed upon the plastic material, and the compartment is then filled with plastic material. The top section 23 is then swung downwardly to press the plastic material in the mold compartments and to give the top of the shingles proper shape. The top is then raised and the arm or lever 10 operated to rock the shaft 9 so that the side section or plates 4 will be dropped beneath the plane of the upper surface of the pallet board 2 and the end section 12 will be simultaneously moved outwardly away from the ends of the molded tiles. Said end section 12 may be then swung outwardly off of the pallet board and the latter, with the molded shingles upon it, may be then raised from the body 1 and replaced by an empty pallet. The parts may be then returned to the position shown in Fig. 1 ready for the next operation. By the use of the blocks or sections shown in Figs. 6 to 10 inclusive of the drawings, shingles of different shapes and sizes may be molded by the machine. By using a pallet board without the grooves 29^a, shingles may be formed without the ribs *r* for use on the lowermost course of shingles on a roof. Shingles of angular shape may be employed for use upon the ridge of the roof to cover the uppermost course of the shingles S, as will be readily understood.

Having thus described the invention what is claimed is:

1. A molding machine of the character described comprising a body, a removable pal-

let thereon having slots, retractable side sections arranged in the body to project through the slots in the pallet, a retractable end section, a shaft, eccentrics upon the latter for projecting and retracting said side sections, a slide operatively connected to said shaft and carrying said end section for retracting and projecting the same, and a removable top section.

10 2. A molding machine of the character described comprising a body, a removable pallet thereon having slots, retractable side sections arranged in the body to project
15 end section, pivots for supporting the side sections at one end, a shaft, eccentrics upon the latter for actuating the other ends of said side sections, a guide, a slide upon said
20 section and slide, an arm upon said shaft, a link connecting said arm to said slide, means for actuating the shaft, and a removable top section.

3. A molding machine of the character described, comprising a body having a bottom
25 mold member formed with slots, retractable side sections arranged in the body to project through said slots, a retractable end section, a shaft, eccentrics upon the latter for projecting and retracting said side sections and
30 a slide operatively connected to said shaft

and carrying said end section for retracting and projecting the same.

4. A molding machine of the character described, comprising a body having a bottom
35 mold member formed with slots, retractable side and partition plates arranged for movement in said slots, a loose pivotal support for one end of each of said plates, the other
40 ends of the latter being formed with circular openings, a shaft, circular disks eccentrically arranged on said shaft and in said circular openings of the plates and means for actuating said shaft.

5. A molding machine of the character described, comprising a body having a bottom
45 mold member provided with slots, retractable side sections arranged in the body to project through said slots, a retractable end section, a shaft, means operated by the shaft
50 for actuating said side sections, a guide upon said body, a slide upon said guide, means connecting said end section to said slide, and an operative connection between
55 the shaft and said slide.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

HARRY H. KATZ.

Witnesses:

GEORGE DEKEMPER,
ADAM P. DUDINE.