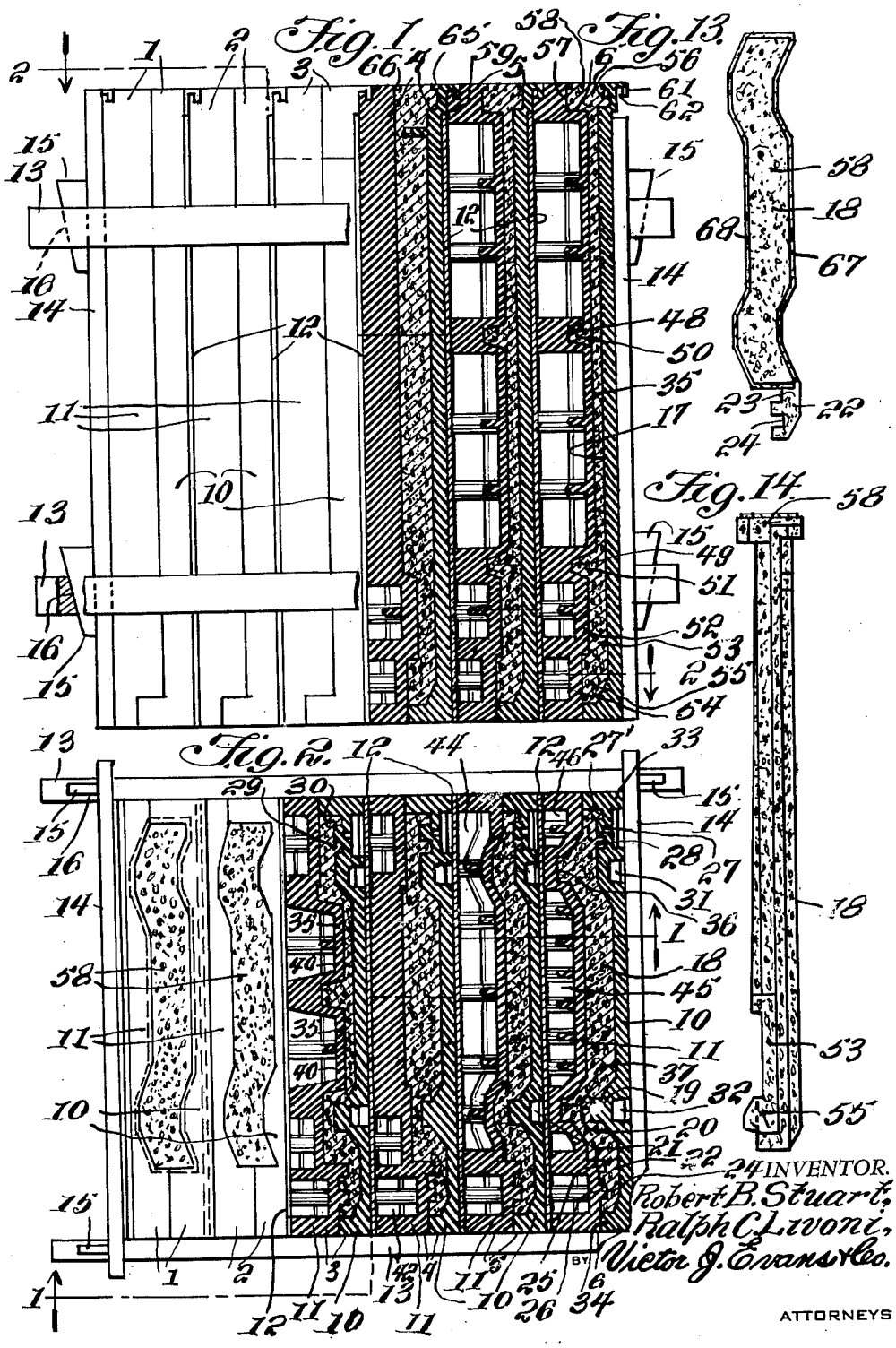
June 17, 1952 R. B. STUART ET AL 2,601,180

MULTIPLE SHINGLE AND SIDING CASTING MOLDS

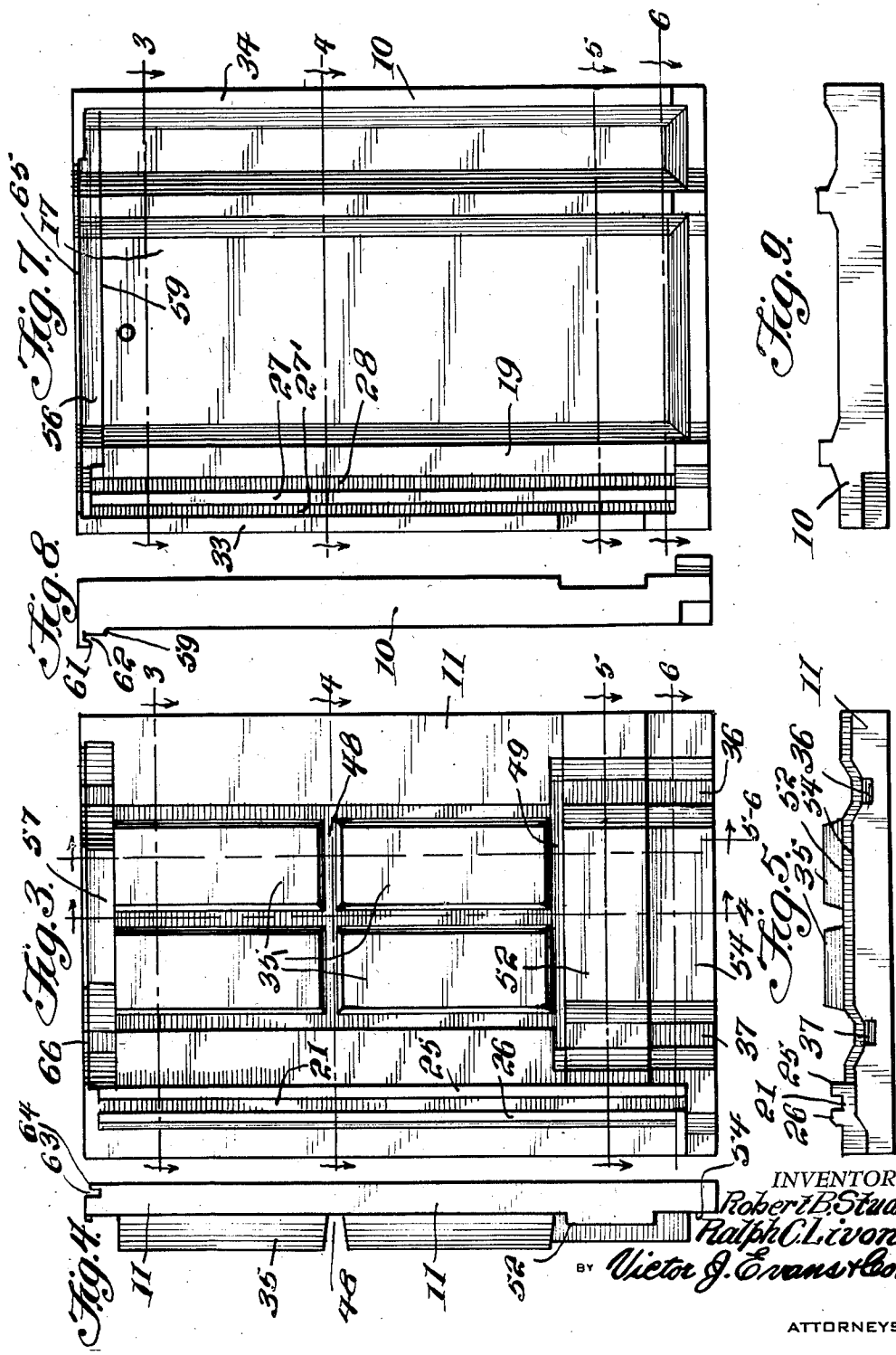
Filed Aug. 25, 1949 3 Sheets-Sheet 1



June 17, 1952 R. B. STUART ET AL 2,601,180

MULTIPLE SHINGLE AND SIDING CASTING MOLDS

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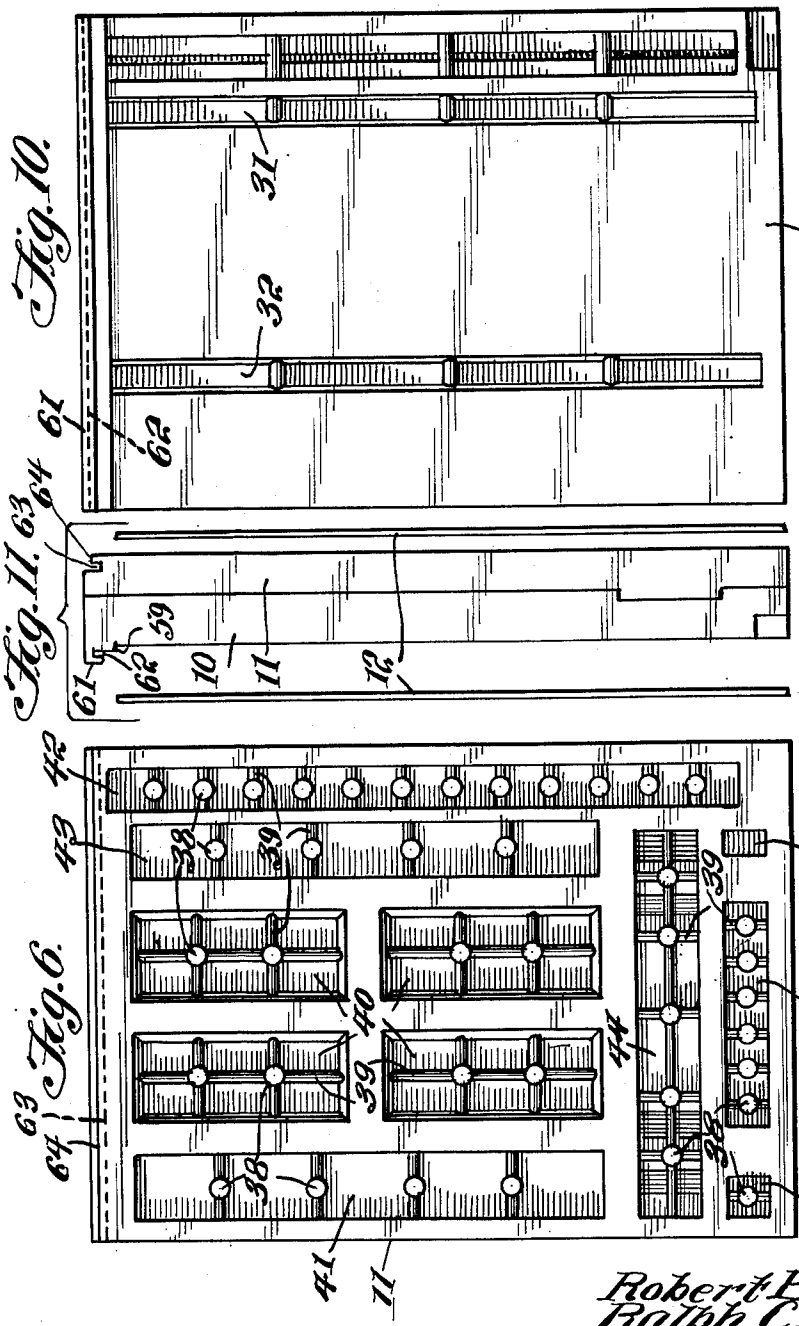
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Filed Aug. 25, 1949 3 Sheets-Sheet 3



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Patented June 17, 1952

2,601,180

UNITED STATES PATENT OFFICE

2,601,180

MULTIPLE SHINGLE AND SIDING CASTING MOLDS

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Application August 25, 1949, Serial No. 112,312

4 Claims. (Cl. 25—121)

1

This invention relates to molds or forms for casting shingles, siding, and the like in quantity production, and in particular molds formed of flexible material which makes it possible to obtain various shapes and designs and smooth, accurate surfaces on all faces.

The purpose of this invention is to provide an improved mold for manufacturing roofing or siding shingles and slabs that permits greater flexibility of design and provides units with smooth accurate faces.

In the usual type of mold made of metal, sand, or other materials the cost of producing complicated designs is excessive and it is extremely difficult to obtain absolutely smooth accurate surfaces. With this thought in mind this invention contemplates molds formed of rubber, composition, or other suitable flexible material with the molds formed so that various designs may be produced and so that comparatively thin walls may be used in the molds, the walls being reinforced by relatively closely spaced ribs or projections.

The object of this invention is, therefore, to provide means for constructing a mold for quantity production wherein the molding elements are formed of flexible material and reinforced to make comparatively thin walls possible.

Another object of the invention is to provide a multiple mold for casting, roofing and siding shingles in which reverse channels are provided for an overflow of excess material.

Another object of the invention is to provide an improved mold for casting roofing and siding shingles, slabs, and the like with molds of flexible material in which the molds are interlocked and in which each section of the mold is separated by a stiffening member.

A further object of the invention is to provide an improved mold formed of flexible material, for casting roofing and siding shingles or slabs which is of a comparatively simple and economical construction.

With these and other objects and advantages in view the invention embodies a mold having front and rear sections of flexible material with designs incorporated in the sections, with reinforcing studs distributed over the walls of the sections, and with means for removably clamping the sections together.

Other features and advantages of the invention will appear from the following description taken in connection with the drawings wherein:

Figure 1 is a view showing a side elevation of a mold with parts broken away showing a section on line 1 of Figure 2.

Figure 2 is a sectional plan taken on line 2—2 of Figure 1 showing sectional plans through the elements of the mold.

2

Figure 3 is a front elevational view showing the inner casting surface of a mold section.

Figure 4 is a side elevational view looking toward one side of the section shown in Figure 3.

Figure 5 is an end elevational view looking toward one end of the section shown in Figure 3.

Figure 6 is a rear elevational view looking toward the back of the section shown in Figure 3.

Figure 7 is a front elevational view looking toward the casting surface for forming the back of the shingle or unit.

Figure 8 is a side elevational view looking toward one side of the section shown in Figure 7.

Figure 9 is an end elevational view looking toward one end of the section shown in Figure 7.

Figure 10 is a rear view looking toward the back of the section shown in Figure 7.

Figure 11 is a side elevational view showing the two sections of a unit assembled and also with stiffening plates used in combination therewith.

Figure 12 is an end elevational view looking toward the end of a unit with two of the sections thereof assembled.

Figure 13 is a plan view looking downwardly upon the upper end of a shingle or unit formed in the mold.

Figure 14 is a side elevational view looking toward one edge of a shingle or unit formed in the mold.

Figure 2 shows a gang mold with a plurality of pairs of molds and with some of the molds in sections taken at different points. The first two units numbered 1 and 2, show end elevations, the next unit, number 3, shows a section taken at the points 3 of Figures 3 and 7, the next unit 4 shows a section taken at the point 4 on these figures, the next unit is a section at the point 5, and the last unit, a section at the point 6.

Referring now to the drawings wherein like reference characters denote corresponding parts the improved flexible roofing and siding shingle or slab casting mold of this invention includes a front mold section 10 for forming the face of a shingle, or the like, a rear mold section 11 for forming the rear face of the shingle or unit, stiffening plates 12 and a supporting frame having side rails 13 and end rails 14 with tapered locking pins or wedges 15 in slots 16.

The section 10 of the mold against the inner surface of which the outer face of a shingle or unit is formed is formed particularly as illustrated in Figures 1, 2 and 7 with a vertically disposed recess portion 17 having beveled edges

which produces a flat outwardly bulging section 18 of a shingle or unit and at one edge of the section 10 is a continuous rib 19 that forms a groove 20 in a shingle, and beyond the rib 19 is a smaller recessed section 21 for forming an overhanging lip 22 with grooves 23 and 24 in the inner surface formed by ribs 25 and 26 on the section 11. At the opposite side of the section 10 is a rib 27 with recesses 27' and 28 on opposite sides thereof which form extended ribs 29 and 30 on interlocking edges of the unit. The outer surface of the section 10 is provided with reverses or grooves 31 and 32 that receive the overflow from material poured into the mold. These grooves prevent excess material working downwardly between the sections of the mold which usually distorts the mold.

The sides of the mold 10 are provided with flanges 33 and 34 that bear against corresponding shoulders on the opposite section 11, as illustrated in Figure 2 and the section 11 is provided with a bulge 35 corresponding with the recess 17 which cores out the back or inner surface of a unit formed in the mold. The section 11 is provided with spaced recesses 36 and 37 which provide reinforcing ribs on the rear surface of the unit.

The intermediate webs of the molds are comparatively thin and, as illustrated in Figures 2 and 6 the inner surface of the section 11 is provided with a plurality of small studs 38 which are connected by webs 39 and are positioned in recesses 40 behind the bulging sections 35 and 41 and 42 at the sides. Intermediate recesses 43 are also provided parallel to and spaced from the end recesses 42 and the studs 38 are also positioned in these recesses and in the recesses 41 and 42 as shown in Figure 6. Horizontally disposed recesses 44, 45 and 46 are also provided in one end of the mold and the studs 38 are used in these recesses also. A small recess 47 may also be provided in the rear face, as shown.

The section 11 of the form for forming the rear surface of a unit is also provided with transversely disposed recesses 48 and 49 that provide ribs 50 and 51, respectively on the rear face of a unit. The lower part of the surface of the section 11 is also provided with a surface 52 that is offset from the surface 35 that provides a thick section 53 at the lower end of the unit, and also another surface 54, that provides an extended rib 55 on the lower end of the unit.

The upper edges of the sections 10 and 11 are also provided with recesses 56 and 57 respectively which form an enlarged section or flange 58 on one end of a unit formed in the mold. The upper edge of the section 10 is also provided with a shoulder 59 which, when the section 10 is placed against a rear surface of a section 11 provides an open slot for a stiff reinforcing panel 12. The upper edge of the section 10 is also provided with an overhanging lip 61 having a groove 62 in the undersurface and, as illustrated in Figure 1 the lip 61 extends into a slot 63 of the upper edge of the section 11, and a projecting edge 64 on the section 11 extends into the slot 62.

The upper inner edge of the section 10 is also provided with a bead 65 and the corresponding edge of the section 11 is provided with a similar bead 66 which provides finishing meeting recesses 67 and 68 on the edges of the flange 58 at the end of a unit formed by the mold.

It will be understood, therefore, that by using molds of rubber or other resilient or flexible material the inner and outer surface of roofing and siding shingles or other units may be formed with networks of recesses, ribs, or panels and the designs may readily be changed to produce slabs or units for different purposes. With the molds formed in this manner the meeting edges between the different designs or sections of a unit may be cast smooth and without lines or fins.

A plurality of sections may be assembled to provide a multiple mold as illustrated in Figures 1 and 2 and with the sections clamped together material may be poured into the open areas between the sections. After the material has set the clamping means may be removed and the individual sections peeled from the units formed thereby. The sections of the mold may then be washed and reused so quantities of the same shapes may be cast.

Units cast in the mold illustrated in the drawings are formed with interlocking ribs and grooves in the upper and lower edges which, with the parts assembled, provide sealing means, the flanges 58 at the ends of the units are positioned to fit under corresponding parts of adjoining units whereby a continuous interlocking wall or roof surface is provided.

It will be understood that modifications may be made in the design and arrangement of the parts without departing from the spirit of the invention.

What is claimed is:

1. In a mold for casting wall and roof sections used in building construction, the combination which comprises a slab of resilient material with recesses and projections on and in the inner face thereof, a complementary slab of resilient material also having recesses and projections in and on the inner face and positioned with the said recesses and projections thereof positioned to coact with the recesses and projections of the former slab, a frame for clamping a plurality of said slabs together, and stiffening panels positioned between pairs of the said slabs, said slabs having reinforcing studs positioned in recesses in the outer surfaces thereof and extended for engagement with the stiffening panels for preventing bulging in the webs of the slabs.

2. In a mold for casting wall and roof sections used in building construction, the combination which comprises a slab of resilient material with recesses and projections on and in the inner face thereof, a complementary slab of resilient material also having recesses and projections in and on the inner face and positioned with the said recesses and projections thereof positioned to coact with the recesses and projections of the former slab, a frame for clamping a plurality of said slabs together, and stiffening panels positioned between pairs of the said slabs, said slabs having reinforcing studs positioned in recesses in the outer surfaces thereof and extended for engagement with the stiffening panels for preventing bulging in the slabs.

3. In a mold for casting wall and roof sections used in building construction, the combination which comprises a slab of resilient material with recesses and projections on and in the inner face thereof, a complementary slab of resilient material also having recesses and projections in and on the inner face and positioned with the said recesses and projections thereof positioned to coact with the recesses and projections of the former slab, a frame for clamping a plurality of said slabs together, and stiffening panels positioned between pairs of the said slabs, said slabs having reinforcing studs

positioned in recesses in the outer surfaces thereof and extended for engagement with the stiffening panels for preventing bulging in the slabs, said slabs having vertically disposed over flow recesses providing reverses extended therethrough.

4. In a mold for casting wall and roof sections used in building construction, the combination which comprises a slab of resilient material with recesses and projections on and in the inner face thereof, a complementary slab of resilient material also having recesses and projections in and on the inner face and positioned with the said recesses and projections thereof positioned to coact with the recesses and projections of the former slab, a frame for clamping a plurality of said slabs together, and stiffening panels positioned between pairs of the said slabs, said slabs having reinforcing studs positioned in recesses in the outer surfaces thereof and extended for

engagement with the stiffening panels for preventing bulging in the slabs, and said slabs having interlocking tongues and grooves on adjoining edges thereof.

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