F. HLOCH.

APPARATUS FOR MAKING ASBESTOS CEMENT SLABS AND THE LIKE.

APPLICATION FILED JULY 11, 1910.

1,005,706. Patented Oct. 10, 1911

Fig. 1

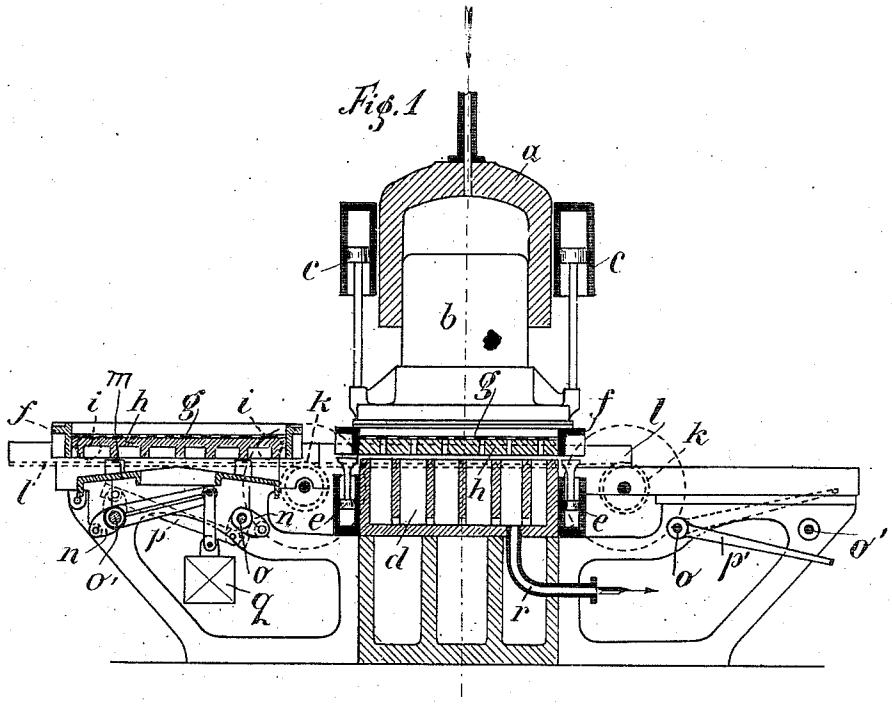
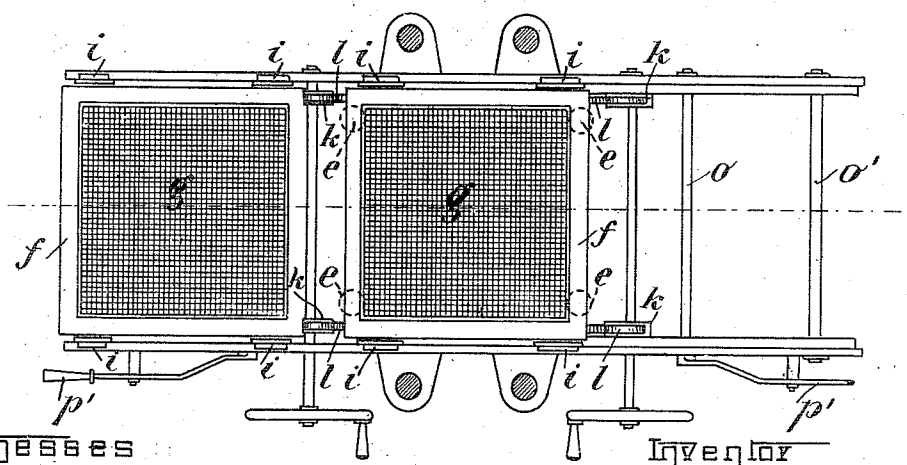


Fig. 2



Witnesses

D. L. Reinoehl

Anton W. Helander.

Inventor

Franz Hloch

by F. Dillmar

Attorney.

UNITED STATES PATENT OFFICE.

FRANZ HLOCH, OF MÄHR, SCHÖNBERG, AUSTRIA-HUNGARY.

APPARATUS FOR MAKING ASBESTOS-CEMENT SLABS AND THE LIKE.

1,005,706. Specification of Letters Patent. **Patented Oct. 10, 1911.**

Application filed July 11, 1910. Serial No. 571,337.

To all whom it may concern:

Be it known that I, FRANZ HLOCH, a subject of the Austro-Hungarian Emperor, residing at Mähr, Schönberg, Moravia, in the Empire of Austria-Hungary, have invented certain new and useful Improvements in Apparatus for Making Asbestos-Cement Slabs and the Like, of which the following is a specification.

This invention has for its object a press for making asbestos cement roofing slabs and the invention consists substantially in the compression of the material in a chamber adapted to be contracted by the action of pressure, which chamber is formed of the perforated bottom of the mold and the press die fitting closely over the molding frame. The molding frame itself is displaceably arranged relative to the bottom of the mold and is carried by small pressure pistons during the pressing, which pistons move downward under the compression pressure and thereby cause the molding frame to be displaced so that the press die can approach the bottom of the mold and compress the asbestos cement material.

The under part of the press is made with hollows in which the water, pressed out of the cement, can accumulate, in order to be carried off, whereby the cleanliness of the operation is secured and the water expressed from the cement can always be used again.

The press is shown in diagrammatic section in Figure 1 of the accompanying drawings, and in Fig. 2 in plan, with the upper part of the press removed.

The press consists of an upper part *a* and a press die *b* and lifting cylinders *c* and the lower part of the press *d*, which lower part, as already mentioned, has a hollow space in which the water expelled from the cement can accumulate. On the under part of the press, pistons *e* for supporting the molding frame *f* are provided, which frame incloses the molding bottom *h* which is covered by a sieve plate *g* and perforated (shown on the left hand side in another sectional plane).

The molding frame *f* is displaceably arranged relatively to the mold bottom *g*, for instance, by the provision of bolts on one part which engage in suitable slots in the other part, and as usual each press is provided with two molding frames, so that the finished pressed slab or plate can be ejected from one molding frame and the mold filled with fresh material, while the second molding frame is under the hydraulic press and a slab is being made.

The molding frames are mounted on rollers *i* in the ordinary way and are displaceable by means of rackbar gear *k l*. For ejecting the pressed slab or plate from the molding frame the arrangement shown as an example in Fig. 1 is employed, in which an ejecting plate *m* rests on two cams *n*, the shafts *o o'* of which are connected with one another by means of a link *p*. On the shaft *o* an adjusting lever *p'* is mounted and also a weight *q* which assists the lifting of the ejecting plate *m*.

The operation is as follows:—The molding frame filled with the material is brought by the operation of the rackbar gear *k l* beneath the press die and arranged so that the molding frame rests on the small supporting pistons *e*. The pressure medium (water) is now admitted to the upper part of the press, the press stamp or die bearing closely on the molding frame and on further pressure the molding frame descends overcoming the pressure acting on the supporting pistons *e*. The material is thereby compressed between the press die and the mold bottom *h* and at the same time the water expelled from the cement is received in the hollow chamber of the lower part *d* of the press and discharged from the latter by a pipe *r*. When the plate or slab is compressed the press die is raised by the lifting pistons *e* and the molding frame then moved by means of the rackbar gear *k l* to one side where the plate is expelled. In the meantime a second molding frame filled with material is moved under the press die and the operation repeated.

It is to be understood that the outlet valves are opened as the pressure piston descends, and the piston forced down against the water pressure, which raises the same again when the pressure above is removed.

The supporting of the bottom of the mold by means of the under part of the press which is provided with a hollow chamber, and the subsequent displacement of the molding frame have the particular advantage that the press chamber may be readily and effectively made tight-fitting so that the loss of material is almost *nil*.

I declare that what I claim is:—

1. In an apparatus for making asbestos cement roofing slabs, an upper part, a press die and lifting cylinders, a lower part having

a hollow space in which the water expelled from the cement is collected, pistons on the under part of the press constructed to support the mold while the pressure on the press is being applied, a molding frame supported by said pistons, and a molding bottom inclosed by said frame, suitable ejecting means, said frame being longitudinally movable whereby said molding frame is held between the plunger and die only while pressure is exerted on the composition employed.

2. In an apparatus for making asbestos cement roofing slabs, an upper part, a press die and lifting cylinders, a lower part having a hollow space in which the water expelled from the cement is collected, pistons on the under part of the press constructed to support the mold while the pressure on the press is being applied, a molding frame supported by said pistons, a molding bottom inclosed by said frame, suitable ejecting means, said frame being longitudinally movable whereby said molding frame is held between the plunger and die only while pressure is exerted on the composition employed and means for supporting said molding frame outside of the press during the filling of the molding frame and the removal of the finished slab.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANZ HLOCH.

Witnesses:
ROBERT W. HEINGARTNER,
AUGUST FUGGER.