H. KOCH.

MOLDING MACHINE.

APPLICATION FILED DEC. 31, 1918.

1,317,710.

Patented Oct. 7, 1919.

2 SHEETS—SHEET 1.

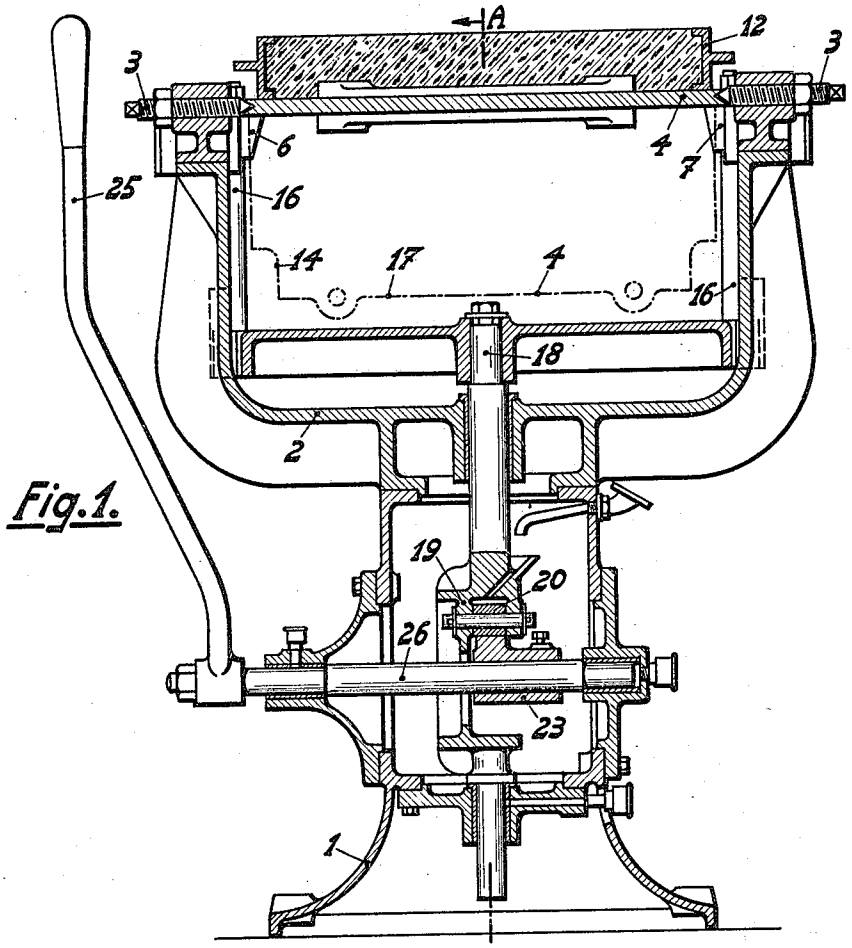


Fig. 1.

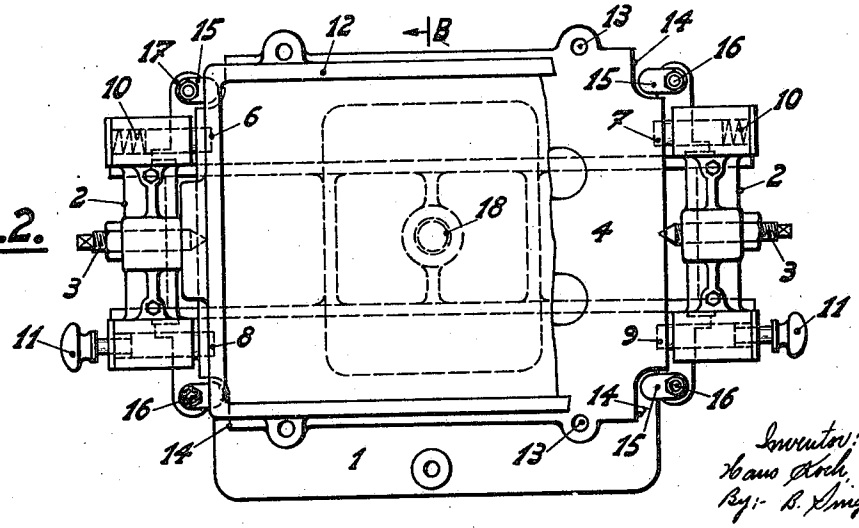


Fig. 2.

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THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

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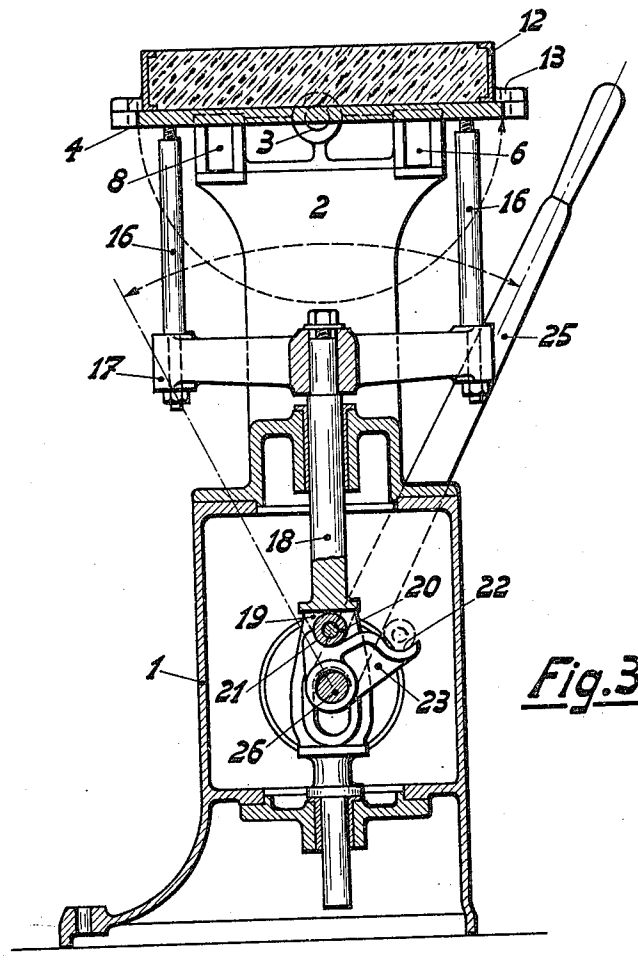


Fig. 3.

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UNITED STATES PATENT OFFICE.

HANS KOCH, OF DIETIKON, SWITZERLAND.

MOLDING-MACHINE.

1,317,710. Specification of Letters Patent. Patented Oct. 7, 1919.

Application filed December 31, 1918. Serial No. 269,116.

To all whom it may concern:

Be it known that I, HANS KOCH, a citizen of the Swiss Confederation, residing at Dietikon, Canton Zurich, Switzerland, have invented new and useful Improvements in Molding-Machines, of which the following is a specification.

The present invention relates to a molding machine having a plate on the faces of which the halves of the pattern are fixed in the well known manner.

The object of the invention is to provide a machine which allows a quick and correct setting of the box on the plate and the lifting-off of the box in a true vertical way in an easy manner.

Other objects of the invention relate to the provision of minor parts coöperating with the elements above noted and to details of construction all of which will be more clearly set forth in the following specification.

In the accompanying drawings a molding machine according to the invention is shown by way of an example.

Figure 1 is a sectional elevation of the machine

Fig. 2 is a top view parts being broken away

Fig. 3 is a section on line A—B of Fig. 1.

On a standard 1 a frame 2 is fixed having two arms which project vertically upward. On the upper end of each arm there is an adjustable bolt 3. The bolts 3 carry between points a plate 4. On the opposite faces of the plate 4 the halves of a pattern which is to be molded are fixed. The plate 4 which is rotatably mounted between the points of the bolts 3 is held in its horizontal position by four bolts 6, 7, 8 and 9 movably arranged in slots of the frame 2. The bolts 6, 7 are held in their locking position by springs 10, they have slanting faces projecting in the path of the plate 4 when the latter is turned about its pivots 3. The bolts 8, 9 are each provided with a knob 11 by means of which the bolts 8, 9 may be withdrawn if the plate 4 has to be rotated. The size of the plate 4 corresponds to the size of the box 12 in such a manner that the latter is fully supported by the plate 4. The corners 14 of the plate 4 are cut-away in such a manner that the corners of the box 12 are unsupported. The plate 4 is moreover provided with eyes 13 into which pins of the box 12 enter to adjust the latter with reference to the pattern. In the frame 2 a cross piece 17 is vertically guided having four vertical bars 16. Each bar 16 is provided with a finger 15 projecting in a recess formed by a cut-away corner 14 of the plate and below the lower edge of the box 12. By lifting the cross piece 17 the box 12 is lifted from the pattern plate 4. The piece 17 is fixed at the upper end of a rod 18 slidably mounted in the frame 2. The rod 18 is provided near its middle with a window 19 in which a roller 20 is journaled. The roller 20 rests on a cam piece 23 keyed to shaft 26 and having two rests 21, 22 in which the roller 20 may take place. The shaft 26 is journaled in the frame 1 and is provided with a hand lever 25.

In the position shown in Fig. 3 the cross piece 17 has its lowermost position, the roller 20 is in the rest 21 and the fingers 15 are well below the box 12. If the hand lever 25 is rotated the roller 20 is forced into the rest 22 and the rod 18 and therewith the fingers 15 are lifted whereby the box 12 is lifted from the plate 4. The box 12 is lifted at all the corners simultaneously and exactly vertical and it frees the pattern without shock etc. If one side of the pattern is molded the pins 8, 9 are withdrawn and the plate 4 rotated as shown by the arrow in Fig. 3 until it rests on the bolts 7. The pins 8, 9 are pushed in again to give the plate 4 a good rest and the second half of the box 12 is placed on the plate 4. The molding is done in the well known manner.

The new device facilitates the molding in a considerable degree, it replaces hand work and allows a speedy and exact molding without undue effort of the man.

Various details may be varied without departing from the spirit of my invention.

What I claim and wish to secure by Letters Patent is:

A molding machine comprising in combination a frame, a plate to receive the pattern rotatably mounted in said frame, means to lock the plate in its horizontal position, cut-off portions at the corners of the plate, a cross piece vertically adjustable in the frame fingers fixed to said cross piece engaging said cut-off portion of the plate adapted to lift the box from the plate, and means to lift the cross piece in vertical direction.

In testimony whereof I affix my signature.

HANS KOCH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."