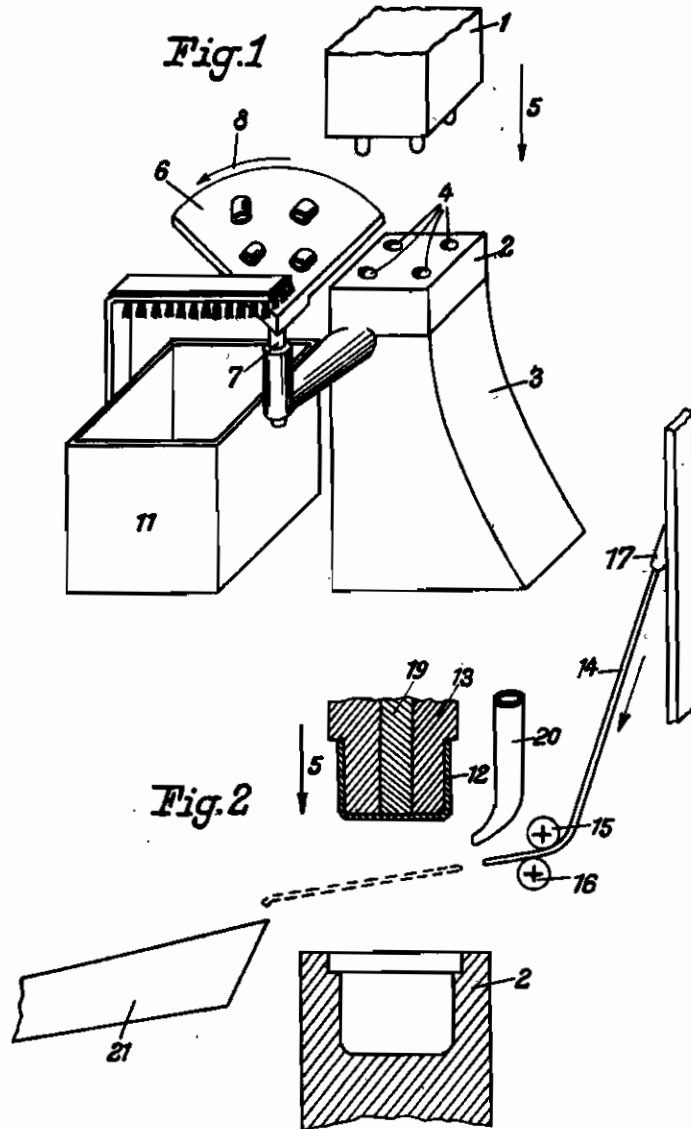


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ALIEN PROPERTY CUSTODIAN

MACHINES OR APPARATUS FOR THE MANUFACTURE OF MOULDED AND/OR PRESSED ARTICLES

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The present invention relates to improvements in or relating to machines or apparatus for the manufacture of moulded and pressed articles, and more especially but not necessarily exclusively to completely automatic presses for artificial resins.

For the production of pressed mouldings a moulding powder is usually employed as starting material. This mass is filled into the mould by means of suitable charging devices and then subjected to a strong pressing between a matrix and a plunger. In many cases, in particular in the production of pressed bodies from urea derivatives, phenol condensation products, or other artificial resins, this pressing is combined with a heating whereby the press material within the mould is softened and additionally polymerized. As soon as the pressed article is ready, the mould is opened and the pressed article ejected.

In semi-automatic presses of this kind the ejectors are often fitted in the lower mould plate, so that they lift up the pressed article and thereby enable it easily to be taken out of the press. By selecting an appropriate mould it is possible to determine beforehand the part of the mould to which the pressed article adheres on opening the press. It can thus be arranged for the pressed article to remain attached to the upper part of the mould on opening the mould. The ejector is then provided on the upper part of the mould.

The present invention is concerned with moulds, moulding presses and the like especially completely automatic artificial resin moulding presses which operate in this second manner and it is an object of the invention to provide in or for such a machine, a device for receiving the moulded articles as they are detached from the plunger or the like and removing them. It is a further object of the invention to provide such a device which acts to prevent waste material such as crumbs broken away from the edges of the articles from falling on to the lower mould part. It is a further object of the invention to provide such a device which is automatic in operation.

According to the present invention a receiving plate is provided for removing moulded articles from the moulds, moulding presses or the like having vertically separable mould parts, and means for bringing said plate or the like underneath the upper mould part upon separation of the mould parts and for causing removal of articles received by said plate or the like therefrom.

A device as above set forth may be arranged so

as to operate automatically upon operation of the mould or moulding press. Thus, for example, the arrangement may be such that upon separation of the mould parts a receiving plate, tray or the like is moved between the mould parts whereupon a suitable ejecting or detaching device removes the moulded article or articles from the upper mould part so that the article or articles drops or drop on to the plate, tray or the like. Thereupon, if desired, after the plate, tray or the like has been moved from between the mould parts the article or articles may be removed therefrom by any suitable means, for example by means of a suitable brushing or sweeping device, by means of a blast of air, or by tilting the plate or tray. If a blast of air is employed it may serve at the same time for blowing any dust, powder or fragments from the mould parts, especially the upper one and for blowing such waste material and separating it from the articles. The said plate or the like may be moved in any suitable manner for example it may be rotated, oscillated or reciprocated into and out of position between the mould parts. In one form of the device the plate or the like, may be passed under a suitable brush, sweeper or the like adapted to sweep articles from the plate or the like but, if desired, a brush sweeper or the like could be moved over the plate or the like.

The plate, tray or the like is preferably made or coated with a suitable yieldable and/or resilient material such for example as rubber or leather in order to reduce the risk of breakage or chipping of the articles.

Any suitable means may be provided for detaching or ejecting the articles from the upper mould part.

The articles removed from the plate, tray or the like may, if desired, be received by any suitable chute, conveyor or receptacle.

In order that the invention may be well understood two preferred embodiments thereof will now be described by way of example with reference to the accompanying drawings in which:

Figure 1 is a diagrammatic perspective view of certain parts of one form of moulding press incorporating a device for removing the moulded articles, and

Figure 2 is a diagrammatic view partly in section of a press employing a different form of article receiving means.

Referring to Figure 1, 1 is a plunger member and 2 is a matrix the latter standing on the pedestal 3. In each working operation, a suitable predetermined amount of moulding powder is

first filled into cavities 4 of the matrix 2 and then the plunger member 1 is moved downwards in the direction of the arrow 5 until it has been pressed into the matrix 2 and has formed the pressed articles from the powder which has been introduced. On opening the press the prepared pressed article remains adhering to the plunger member 1, so that it is carried upwards with the plunger. When the press is opened a receiving plate 6 is brought under the plunger member 1 by rotating about the axle 7 in the direction of the arrow 6. When the ejectors on the plunger member 1 detach the moulded articles these are received by the plate 6 together with any adhering or crumbling waste or edges. The plate 6 is now further rotated in the direction of the arrow 6, and takes with it the articles and material adhering thereon until it arrives under a fixed brush 10. There the moulded articles are swept off the plate 6 and drop into a box 11. As the plate 6 continues its movement about the axle 7 in the direction of the arrow 6, the matrix is filled

afresh with moulding material and the next pressing is carried out.

Figure 2 shows an embodiment in which pneumatic removal is employed. The pressed article 12 adheres to the plunger 13 and is lifted out with it from the matrix 2. To the right of the plunger 13 is arranged a leather plate 14 which is guided between rollers 15 and 16. When the press is opened, the clamped upper end 17 of the leather plate 14 is moved downwards by a suitably controlled rod or the like, so that the leather plate 14 is moved between the matrix 2 and the plunger 13 as indicated by the dotted lines. Then the ejector 19 is actuated and separates the pressed article 12 from the plunger 13, so that it falls on the leather plate 14. At the same instant pressure air is blown out of the nozzle 20 so that the pressed article together with all adhering dust, broken fragments and the like slide down to the left from the plate 14, on to a chute 21, which leads them to a suitable receptacle (not shown).

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