Nov. 8, 1927. 1,648,649

W. B. LOUTHAN

DIE AND EJECTOR FOR MAKING CLAY HEATING ELEMENTS

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Fig. 1.

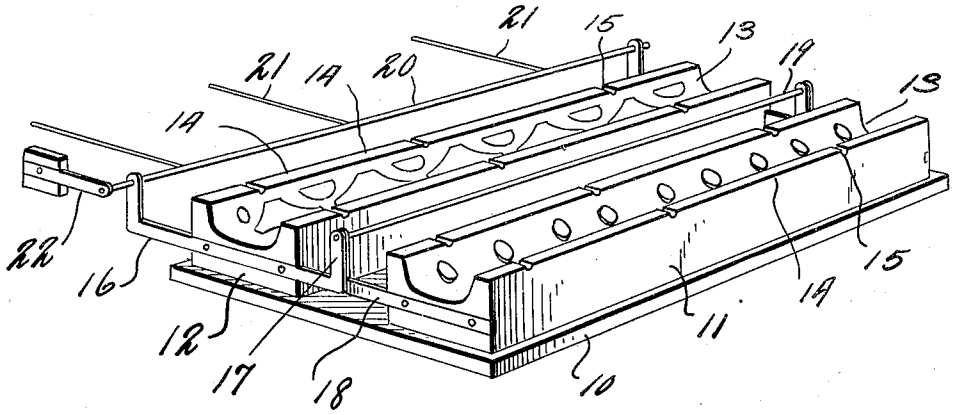
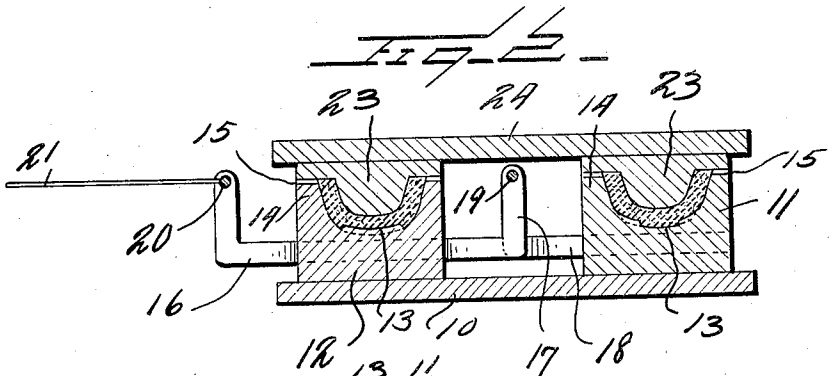


Fig. 2.



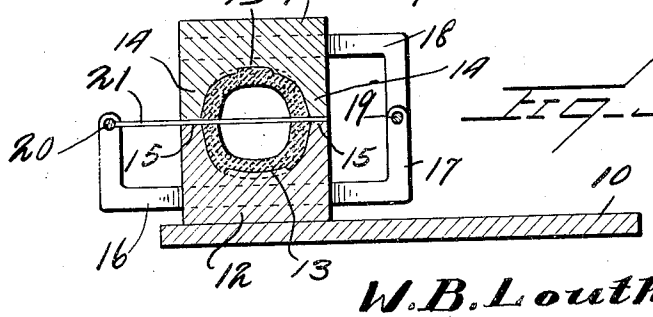


Fig. 3.

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UNITED STATES PATENT OFFICE.

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DIE AND EJECTOR FOR MAKING CLAY HEATING ELEMENTS.

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This invention relates to dies for making clay radiants such as are used for gas stove heating elements.

The general object of the invention is to provide for this purpose a very simple hand operated die which is readily opened and closed and which is provided with means whereby the element may be readily removed from the die when the die is opened.

A further object is to provide a construction of this character in which the element is formed in two sections of the die and then the two sections turned over upon each other so as to bring the two halves of the element into contact to thereby cause the two halves to stick together and permit the completed element to be readily removed from the die.

My invention is illustrated in the accompanying drawings wherein:—

Figure 1 is a transverse view showing the female dies open;

Fig. 2 is a transverse sectional view through the female dies and the male dies coacting therewith; and

Fig. 3 is a transverse sectional view showing the two female dies in confronting relation.

Referring to these drawings it will be seen that the bottom die consists of a bottom 10 upon which are disposed the two female dies 11 and 12. These dies are approximately alike in that each die is formed with a longitudinally extending concave recess 13 having upon the face thereof a plurality of protuberances or recesses. The lateral walls 14 of each of these female dies is formed with a plurality of transversely extending grooves 15. The die 12 is fast to the base 10 but the die 11 is hingedly connected to the die 12 so that the die may be turned over into confronting relation to the die 12. To this end the opposite ends of the dies 11 and 12 are provided with transversely extending irons 16, the extremities of which are upwardly turned as at 17 and the die 11 is provided with the transversely extending irons 18 having upwardly turned ends overlapping the upwardly turned ends 17 being connected thereto by a pivot rod 19. Thus, as illustrated in Figures 2 and 3 the dies may be either disposed in parallel open relation or in a confronting and closed relation. The irons 16 at their opposite ends from the portions 17 are upwardly extended and carry the oscillatable rod 20, having the radially extending ejector fingers 21. This rod 20 also carries upon it the weighted arm 22.

Coacting with the female dies 11 and 12 are the two male dies 23 formed to fit into the dies 11 and 12 and mounted upon the plate 24.

In forming this radiant element, clay or like material is placed within the female dies and then the die plate 24 is disposed over these dies and forced downward so as to carry the dies 23 into the dies 11 and 12. The die plate 24 is then removed and the female die 11 turned over onto the die 12, as shown in Figure 3, thus causing the two halves of the completed element to adhere to each other. Prior to turning the die 11 over the other die 12 the ejector fingers 21 are shifted into the grooves 15 of die 12 so that when the die 11 is turned over onto the die 12 these fingers 21 will be embedded in and extend through the completed heating element. Then when the die 11 is opened out to remove the heating element it is only necessary to rotate the shaft 20 by means of the arm 22 to lift the completed heating element from the die 12 and then this heating element may be slipped off the fingers 21.

The construction which I have illustrated provides a very simple and convenient way for making heating elements and particularly provides for a ready detachment of the heating element from the female die which is not easy to accomplish by the ordinary means.

While I have illustrated certain details of construction and arrangement of parts which I have found to be particularly effective in use I do not wish to be limited thereto as it is obvious that many changes might be made therein without departing from the spirit of the invention as defined in the appended claims.

I claim:—

1. Means for making clay heating elements comprising two female dies disposed in parallel relation, one of said dies being hinged to the other whereby one die may be turned over into or out of confronting relation to the other, both of said dies having their side walls formed with aligning notches, a shaft extending parallel to said dies and having radially extending fingers adapted to be disposed in said notches and across the two dies when the dies are disposed in confronting relation, and male dies adapted to coact with

the female dies to initially produce two halves of the completed element.

2. Dies for making clay heating elements comprising a base, a female die fixedly mounted upon the base and having laterally projecting members at its ends, a second female die hingedly connected to the projecting elements on one side of the first named die and thereby adapted to be turned into or out of confronting relation thereto, both of said female dies having their lateral walls formed with a plurality of transversely extending grooves, a shaft extending parallel to one of said dies and having fingers thereon and adapted to be turned into or out of said grooves, a pair of male dies adapted to be forced into the female dies, and a plate upon which said male dies are mounted.

3. A die for making heating elements comprising an elongated base having thereon a pair of parallel, transversely concave, female dies, the dies being open at their ends, one of said female dies being hinged for movement into or out of confronting relation to the other female die, a pair of longitudinally elongated male dies coacting with the female dies, and a plurality of connected members adapted to be disposed between the confronting edges of the two female dies and engaged by the two halves of the heating element whereby the heating element may be removed from one of said dies when the dies are opened.

In testimony whereof I hereunto affix my signature.

WILLIAM B. LOUTHAN.