Dec. 22, 1959 H. L. GOLDWAG 2,917,782

MOLDING AND CASTING PROCESS

Filed June 7, 1956

FIG. 1

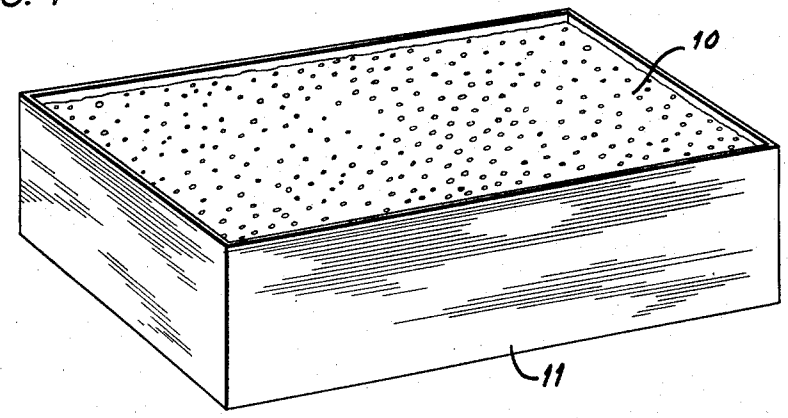
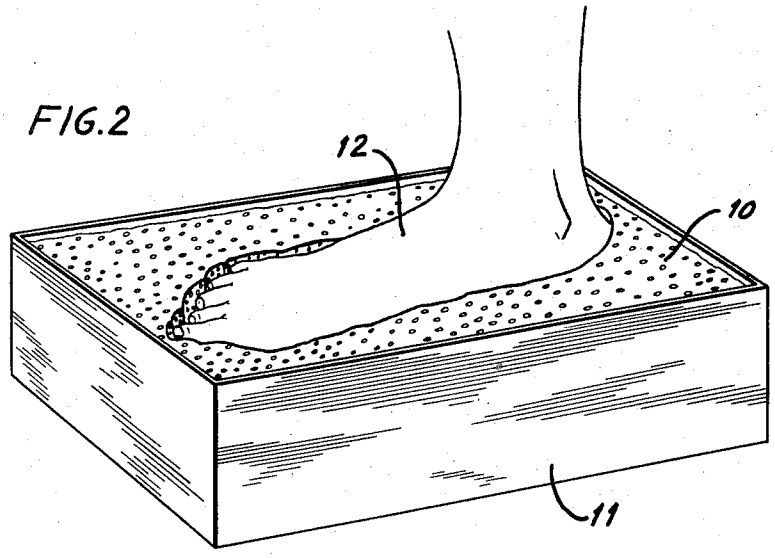


FIG. 2



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MOLDING AND CASTING PROCESS

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1 Claim. (Cl. 18—55.05)

My invention relates to a new process for making casts with the use of a phenolic foam as I will describe hereinbelow. The usual method for making casts of objects, particularly parts of the human body, involves the use of a substance, such as plaster of Paris, involving many disadvantages. In the first place, if we are dealing with a member of the human body, such as a foot, the plaster of Paris must be mixed precisely so that it will harden within a given time or else the patient will be kept waiting too long to his discomfort and possible injury.

It is, therefore, an object of my invention to provide a new method for forming casts or molds in which the mold material is instantaneously available without mixing. It is a further object of my invention to make a mold which can be processed from dry material obviating the discomfort and messiness which is associated with the material of plaster of Paris.

I accomplish these objects by the use of a phenolic foam in my process for making molds or impressions. In the accompanying drawings Figure 1 is a perspective view of a box containing a quantity of phenolic foam;

Figure 2 is a perspective view of the box shown in Figure 1, with the foot of a person pressed into the foam for the purpose of forming the mold.

Similar numerals refer to similar parts throughout the several views. The phenolic foam **10** may be contained in a cardboard box **11** or a box of suitable material. I make no claim for the material of the foam. It is manufactured from foamable resin and may be made in varying densities by varying the ingredients. When it is compressed, the crushing action of the compression breaks down the cells of the foam and it will not spring back. It is therefore an ideal substance for making a mold of any object which is pressed into it. It will retain the exact configuration of the object. This type of foam may be

obtained commercially from various companies in the United States.

While it may be used in many ways as a molding device, I will illustrate its use in this specification in a process for making casts of feet **12**. The foam **10** is set up in a box **11** of a suitable size to receive a human foot **12**. The foot **12** is then placed over the foam at right angles to the patient's leg and in this position is pressed into the foam **10**. The foot **12** may then be removed from the foam **10** immediately. Since the pressure of the foot **12** on the foam **10** breaks down the cells of the foam **10** and they do not spring back into position, a perfect mold of the foot has been made. A solution of plaster of Paris is then poured into the mold and allowed to harden or the mold form may be sprayed or painted with a varnish to fix it in position.

It will be appreciated that in my process the plaster of Paris solution may be permitted to harden as quickly or slowly as desired. After the plaster of Paris cast is removed from the mold, it is a perfect reproduction of the bottom of the foot **12**.

While I have described the preferred form of my invention, the foam may be used in many different ways for making molds and casts without departing from the essential process of my invention and I therefore wish to be protected within the limits of the claim following.

Wherefore, I claim:

A process of obtaining an exact mold of any member of the body, which comprises preparing a block of set phenolic resinous foam; then placing the block of set foam, of a type which becomes stiff when set and will retain the impression of a form impressed thereon on a platform; then taking the member of the body of which it is desired to obtain a mold and impressing same into the set foam in order to make a negative impression; then lifting the said member of the body out of the negative impression so formed; then pouring a solution adapted to be hardened, into the negative impression thus formed in the set foam, and permitting the aforesaid solution to harden into an exact positive mold.

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