

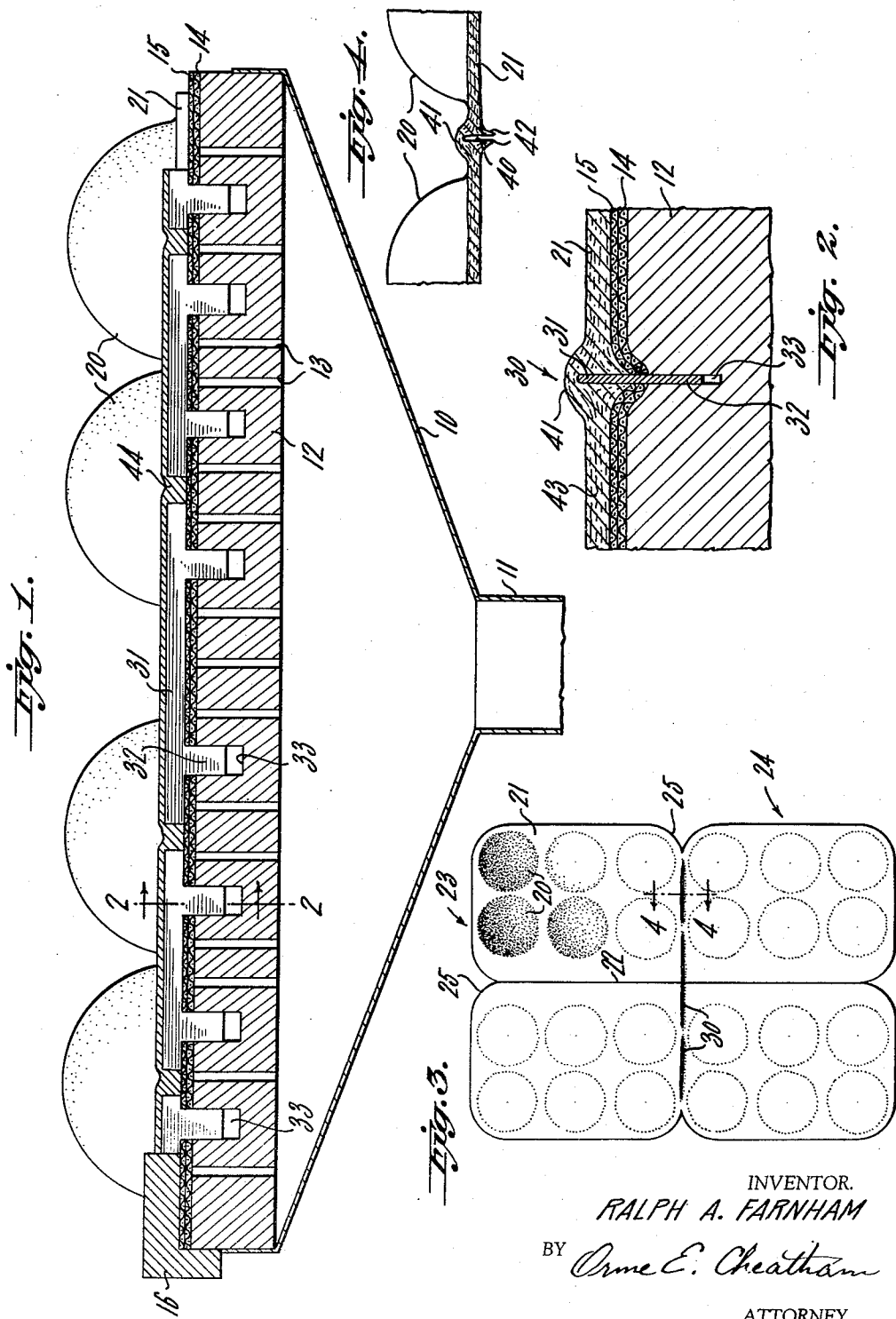
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METHOD AND APPARATUS FOR MAKING FIBROUS ARTICLES

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METHOD AND APPARATUS FOR MAKING
FIBROUS ARTICLES

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2 Claims. (Cl. 92—54)

This invention relates to a method and apparatus for making articles of felted, fibrous materials such as ground-wood, reclaimed newspapers, etc., the articles being of the type disclosed and claimed in my copending application filed concurrently herewith. Such articles are of use in many forms for the packaging and protection of fragile commodities, such as eggs, radio tubes, electric light bulbs, bottles and the like. The object of the present invention is to produce articles of the class described provided with integral means for permitting the separation of each article into a plurality of similar parts whereby a standard size can be manufactured and sold for use in large or intermediate sized packages. The said means are produced in the process of manufacturing the article itself, as distinguished from subsequent operations, whereby advantages are obtained as will presently appear.

The invention will be apparent from a study of the accompanying drawing and the following specification wherein like parts are referred to by like numerals throughout:

Fig. 1 is a cross-section through one of the moulds of a suction-moulding machine, such as disclosed in Letters Patent No. 1,967,361, issued to Ellis C. Healy on July 24, 1934, and having my invention applied thereto;

Fig. 2 is a cross-section on an enlarged scale taken on line 2—2 of Fig. 1;

Fig. 3 is a plan view of an article made in accordance with my invention; and

Fig. 4 is a cross-section on an enlarged scale taken on line 4—4 of Fig. 3.

The apparatus of my invention comprises a mould having a closed drainage collector 10 communicating with a pipe 11 by means of which suction can be created within the mould, or the atmospheric pressure balanced or overcome within the mould, as is well known in the art. A plate 12, provided with a plurality of perforations 13, is supported by the collector and is covered by a screen or screens shaped to the contours of the article to be manufactured. Preferably, a coarse, form-retaining, backing screen 14 is supplied, and the backing screen is covered by a fine-mesh, facing screen 15 which provides the proper texture to retain the fibres and cause them to be felted into a layer of the thickness desired. A frame 16 is preferably provided to form the outline of the article being moulded.

As the mould is dipped into a suspension of fibres, etc., and suction applied thereto the fibres are deposited in a layer 21 of substantially uni-

form thickness and density upon the surface of the facing screen. If an article, such as shown in Fig. 2, is being manufactured the screens are shaped to provide pockets 20 and a hinge 22, while the frame 16 is shaped to form a rectangular article having rounded corners and reentrant edge portions 25.

My invention comprises a blade 31, or series of blades 31, mounted on the surface of the screen and extending normally thereto, dividing the mould into a plurality of parts. The result of using this construction is that the article being formed is divided into a plurality of parts 23 and 24 by a line of weakened areas 30. The blades are preferably mounted on the mould by means of integral legs 32 extending into and snugly fitting pockets 33 in the plate 12. Preferably, the pockets are longer than the legs so that the blades can be adjusted as to height and, if desired, the surface of the plate may be grooved so that the blades and the portion of the screens embraced thereby may be depressed as shown in Fig. 2. It is apparent that, when the height of the blades is properly set, a thin layer of felted fibres will be formed over the top of the blades.

A mould embodying my improvement produces an article formed of fibres 43 felted into a layer of substantially uniform thickness and density. A thin layer 41 of substantially the same density bridges a groove 40 at one side of the article, the groove being formed by the blade 31. If the screen is depressed, as shown in Fig. 2, a pair of spaced projections 42 will be formed at the opposite side of the article. The blades could be contiguous across the article but a slight spacing is preferable in order that strengthening portions 44 may be formed as shown.

Articles made in accordance with my invention are of sufficient strength to be used as an entirety, and may be torn or broken along the line of weakened areas to provide a plurality of smaller articles.

Advantages over the prior art are numerous. Mere compression of the fibres is inadequate since a compressed area is of much greater density than the surrounding areas, and the article cannot be torn as permitted in accordance with my process. Cutting, scoring and abrading were tried and it was found that the depth of grooves so formed could not be controlled, with the result that the articles were either incapable of being used as a whole or could not be torn as desired. Perforations, if close enough to permit tearing from hole to hole, so weakened the article as to render it incapable of use as a whole

With the present invention the articles may be used as desired.

Having described the preferred form of my invention, it is obvious that changes in arrangement and detail may be made within the scope of the following claims which are thought to express my invention.

I claim:

1. Apparatus for manufacturing articles of the class described comprising, a suction mould having a screen upon which the article is moulded, and a blade mounted upon the surface of the

screen and extending normally thereto, the blade having an integral leg extending into a closely fitting socket in the mould.

2. Apparatus for manufacturing articles of the class described comprising, a suction mould having a screen upon which the article is moulded, and a plurality of blades mounted upon the surface of the screen and extending normally thereto, the blades having integral legs extending into closely fitting sockets in the mould.

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