

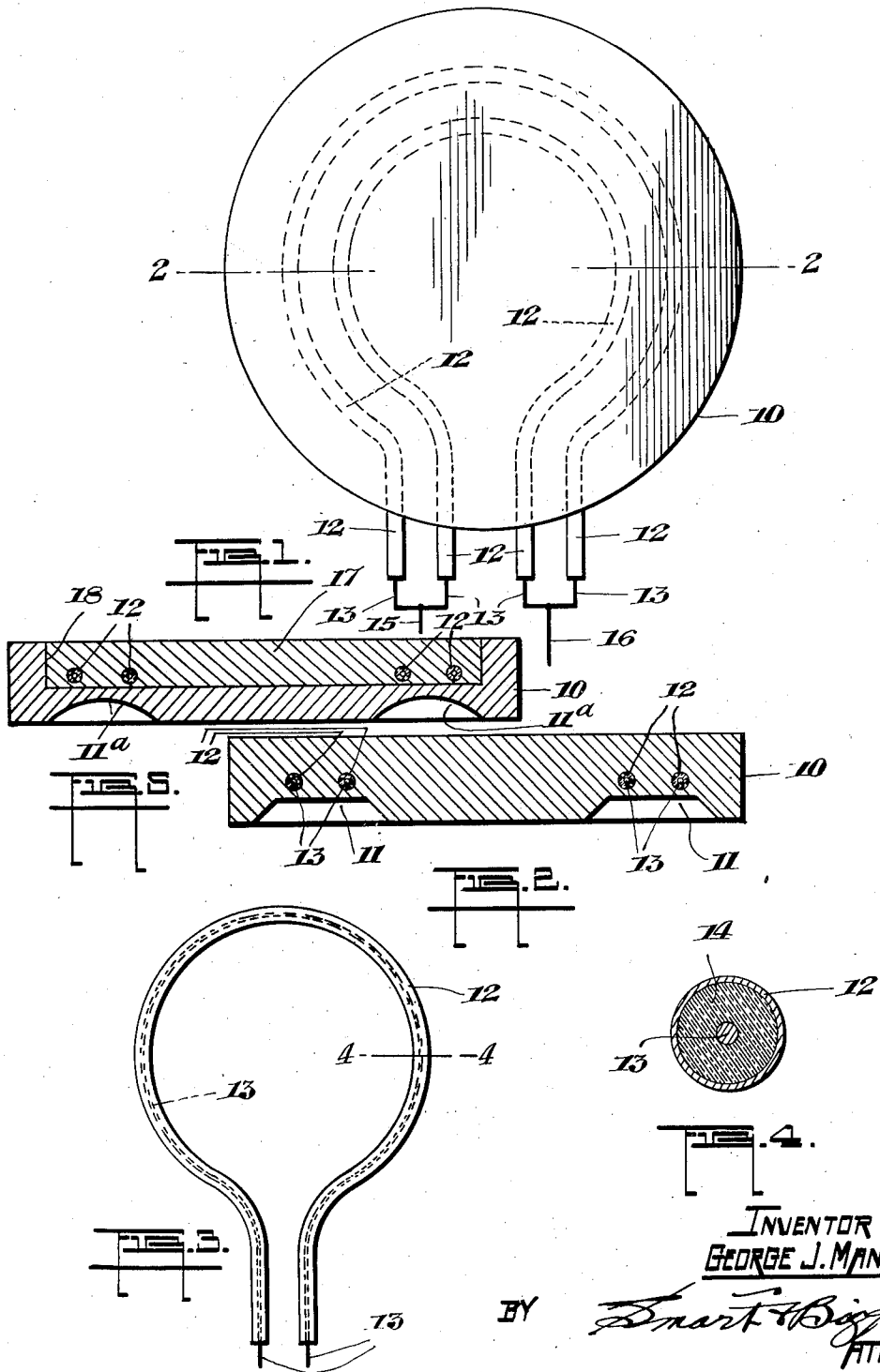
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HEATED DIE FOR DRYING FIBROUS ARTICLES

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## HEATED DIE FOR DRYING FIBROUS ARTICLES

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1 Claim. (Cl. 219—37)

This invention relates to improvements in heated dies for drying pressed fibrous articles and the object of the invention is to devise an improved form of heated die for use in drying thin fibrous articles such as dishes, containers and such like whereby the working surfaces of the die may be uniformly and effectively heated.

The invention consists in the construction and arrangement, all as hereinafter more particularly described, and illustrated in the accompanying drawing in which,

Figure 1 is a plan view of the die constructed in accordance with the present invention.

Figure 2 is a section on the line 2—2 of Figure 1.

Figure 3 is a detached plan view of a novel form of heating element used in the improved die.

Figure 4 is a section on the line 4—4 of Figure 3, to an enlarged scale.

Figure 5 is a section taken similarly to Figure 2 showing a modified construction.

In the drawing like characters of reference indicate corresponding parts in the different figures.

In the form illustrated in Figures 1, 2, 3 and 4, a cast metal heating die is indicated by the numeral 10 and the working faces of the die by the numeral 11.

The heating element used consists of a metal tube 12 of heat resistant material such as nichrome and extending through this tube is a wire 13 of high resistance material such as nichrome. The tube 12 is filled with an insulating medium 14 such as manganese salt, so that, while the wire 13 extends through the tube 12, it is insulated therefrom.

In constructing a die in accordance with the present invention, the tube 12 is cast within the body of the die 10 so as to be completely embedded therein and is disposed within the die adjacent to the working surface 11 thereof.

If desired, several tubes 12 may be employed as many as may be desired effectively to heat the working faces 11 of the die and the ends of the wires 13 will be connected to electrical leads 15 and 16 from a suitable source of current supply which might be either alternating or direct current. If more than one tube 12 were used, the individual ends of the wires 13 therein would be connected in parallel, as shown in Figure 1.

The construction shown in Figure 5 is very similar to that already described except that in this case instead of the tube 12 being cast into the integral body of the die 10 it is cast into a separate portion 17 which portion fits into a re-

cess 18 in the body of the die. By this construction the portion 17 with the heating element therein is removably carried by the die 10 so that it may be used with a number of different dies. In Figure 5 the working face 11<sup>a</sup> of the die is of slightly different shape than that shown in Figure 2. When the portion 17 is fitted in the die it virtually forms part of the body thereof.

In operation the heat is conducted from wire 13 through the insulating medium 14 to the tube 12 and thence to the body of the metal of the die and by suitably positioning the tubes within the body of the die the working surfaces thereof may be uniformly heated.

The improved manner of heating the die according to the present invention forms an extremely satisfactory heated die for use in the drying of thin fibrous articles such as plates, dishes, and such like.

As many changes could be made in the above construction and many apparently widely different embodiments of my invention, within the scope of the claim, constructed without departing from the spirit or scope thereof, it is intended that all matter contained in the accompanying specification and drawing shall be interpreted as illustrative and not in a limiting sense.

What I claim as my invention is:—

A metal die of the character described comprising a body portion having a working face, a shaped localized portion of which is to be heated, the reverse side of the die formed with a recess overlying the portion of the working face to be heated, a metal insert adapted to detachably fit within the recess, an electric heating element embedded within the insert and electrically insulated therefrom, said heating element shaped to adjacently overlie and conform in parallelism to the shaped localized portion of the working face to be heated thereby, said heating element comprising a metal tube and a high resistance wire extending therethrough and insulated therefrom by an insulating material filling the tube.

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