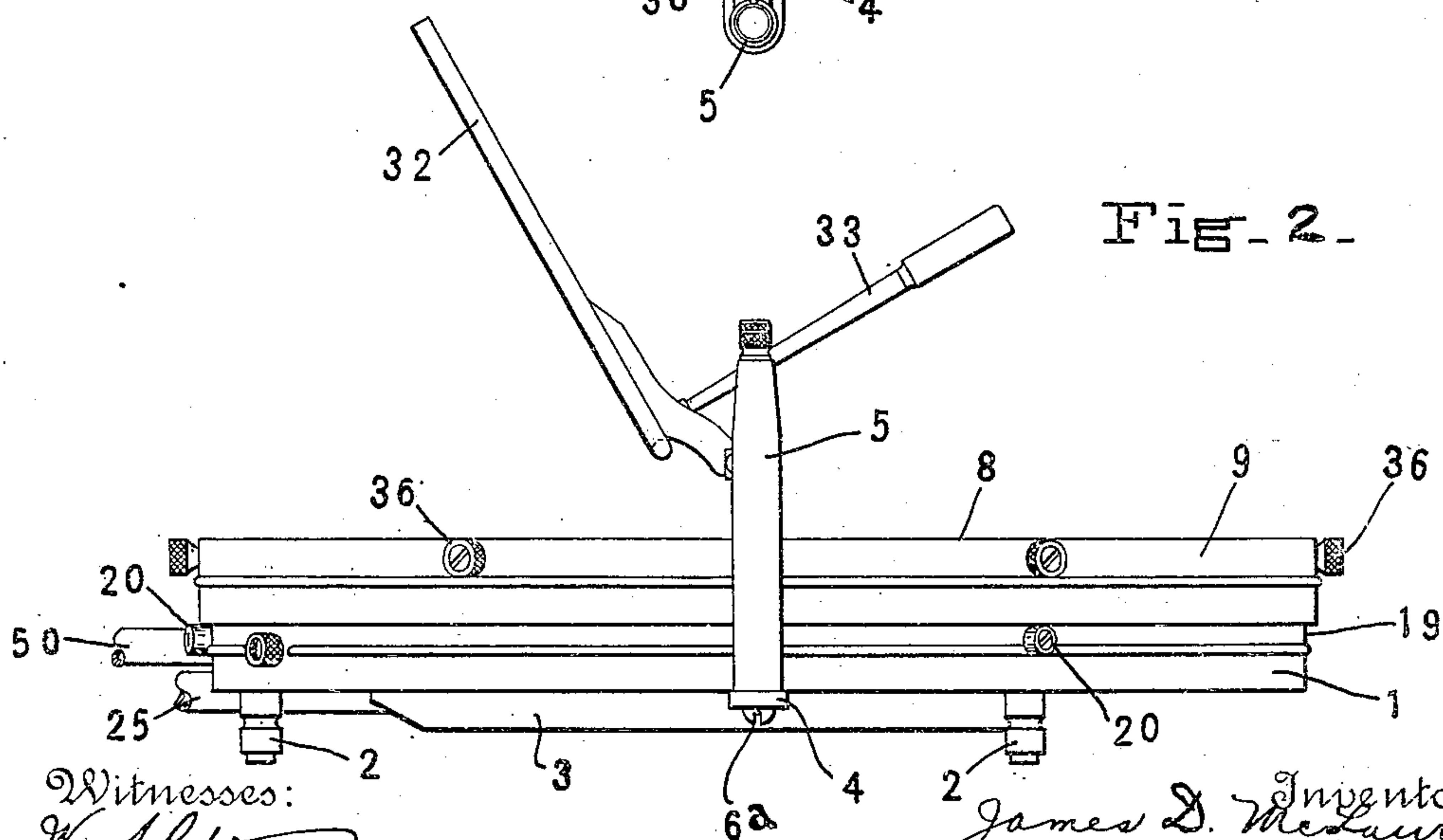
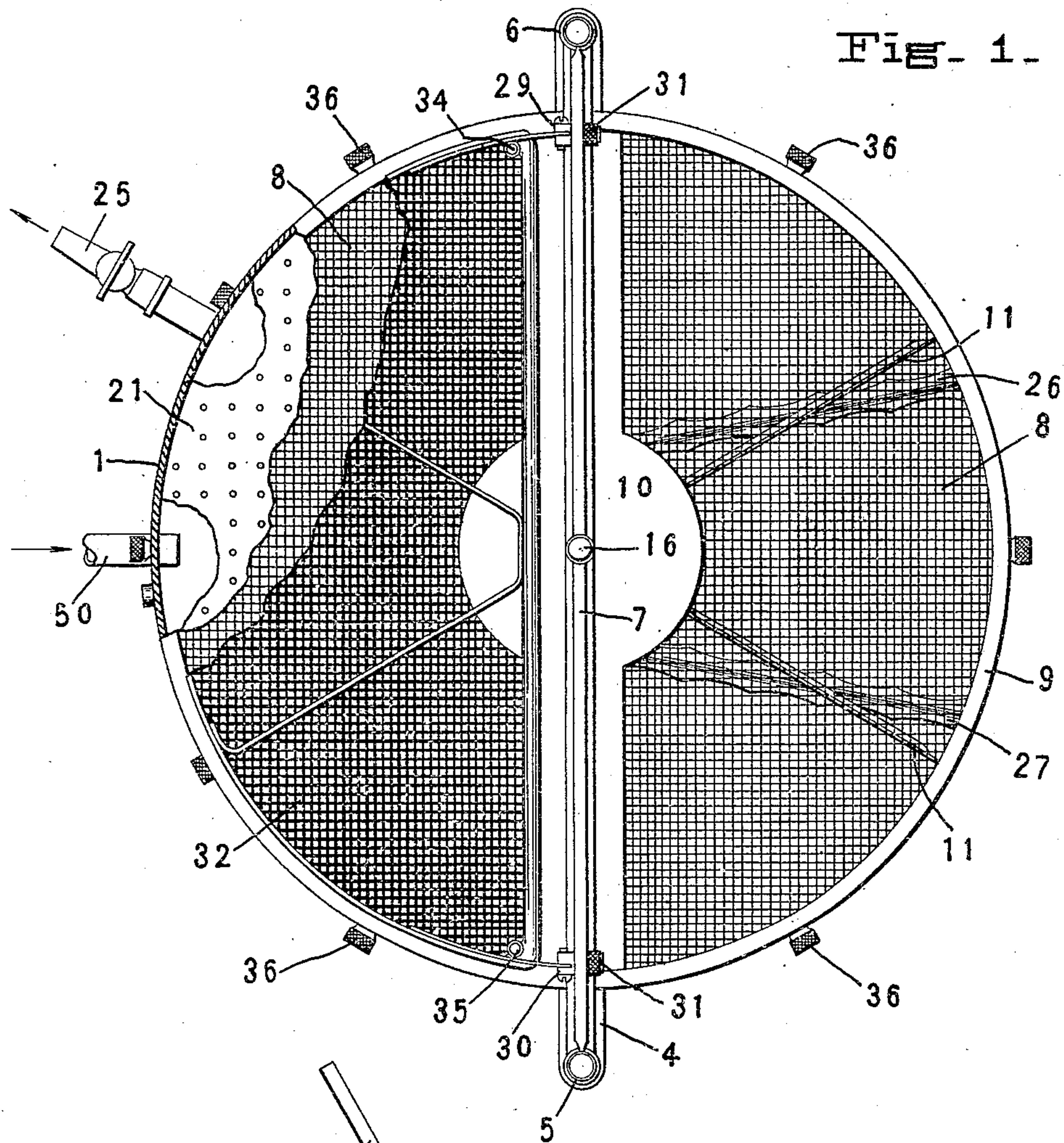


J. D. McLAURIN.
MOISTENING MACHINE FOR ADHESIVE MATERIALS.
APPLICATION FILED JUNE 10, 1909.

959,875.

Patented May 31, 1910.

3 SHEETS—SHEET 1.



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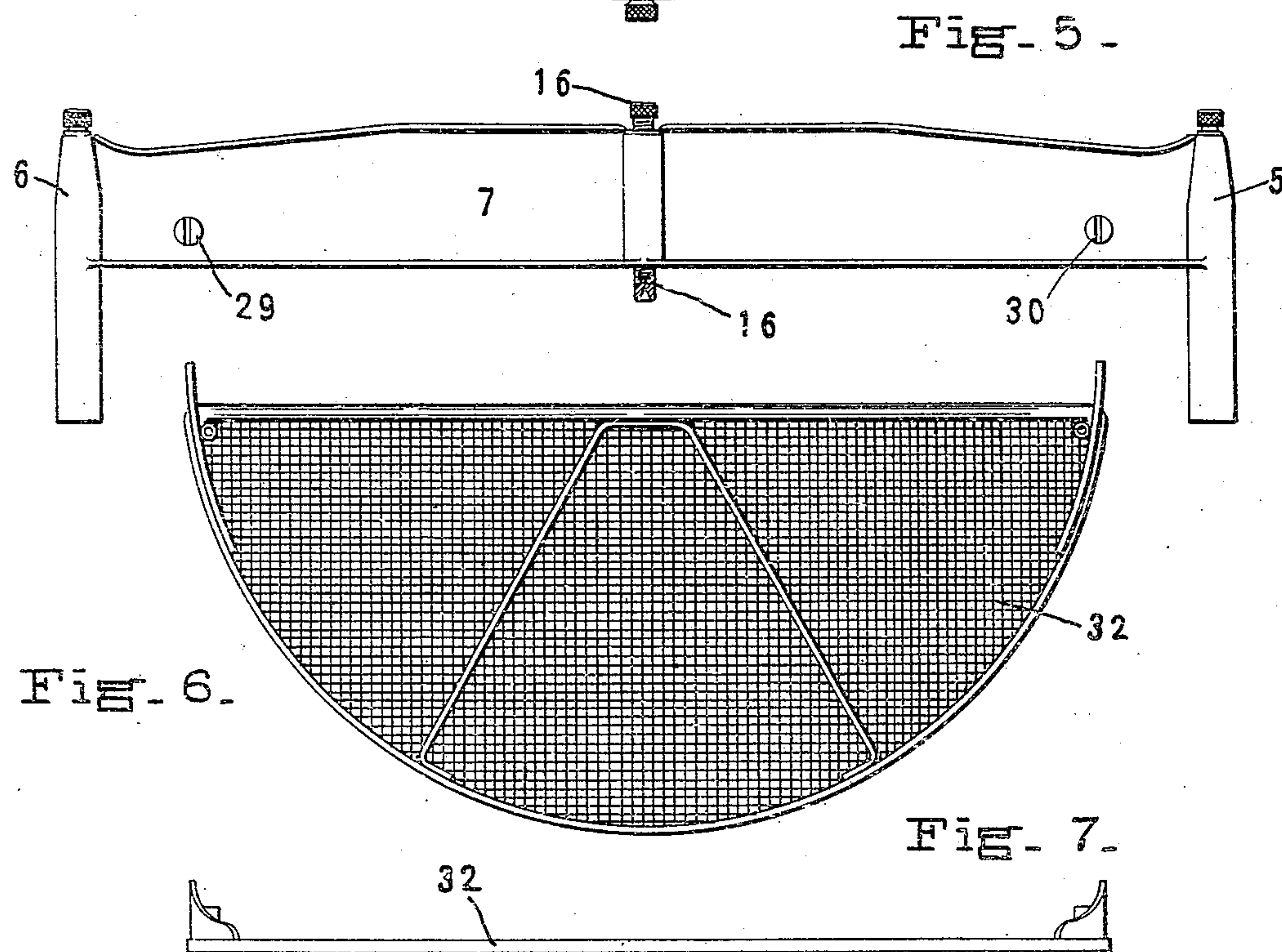
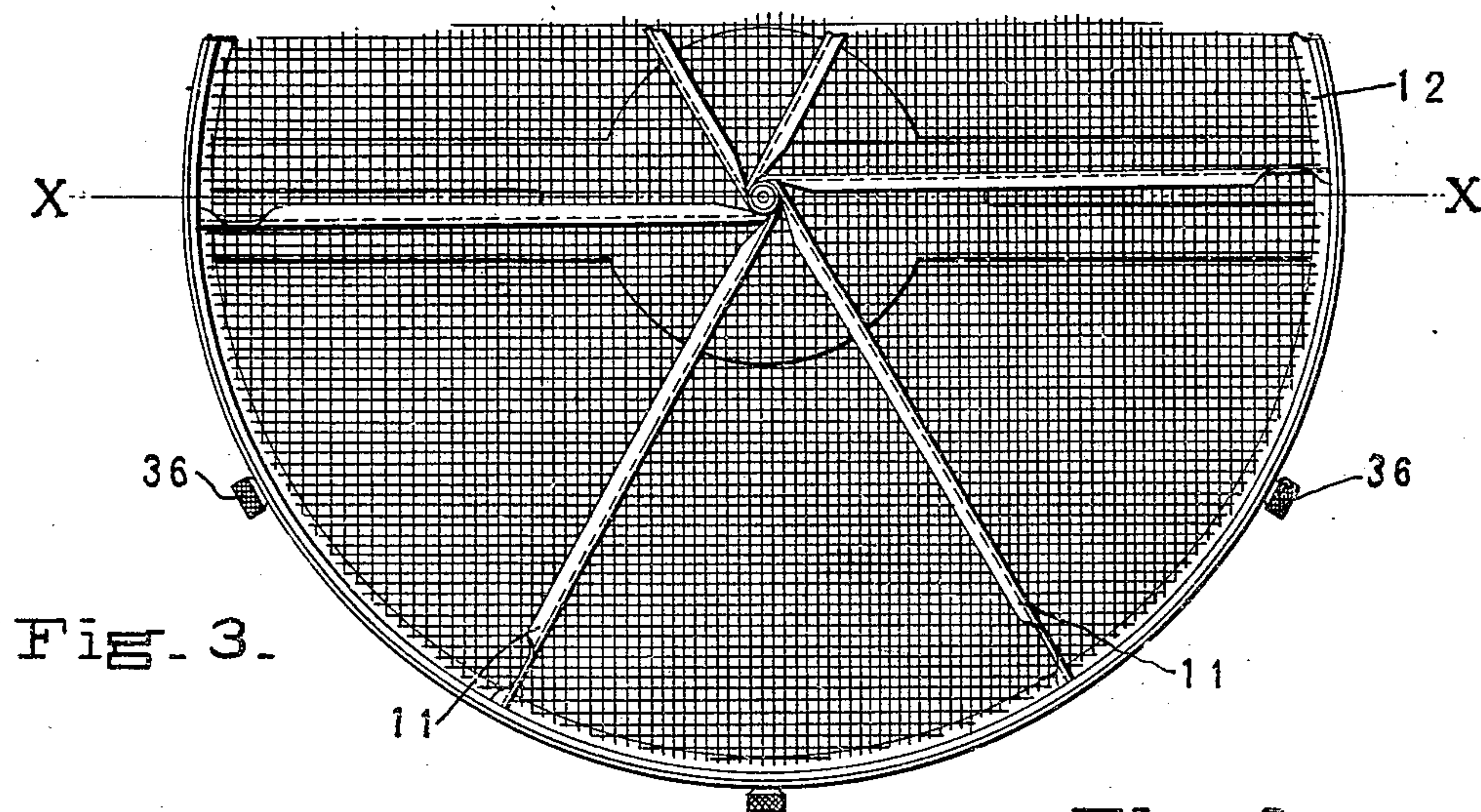
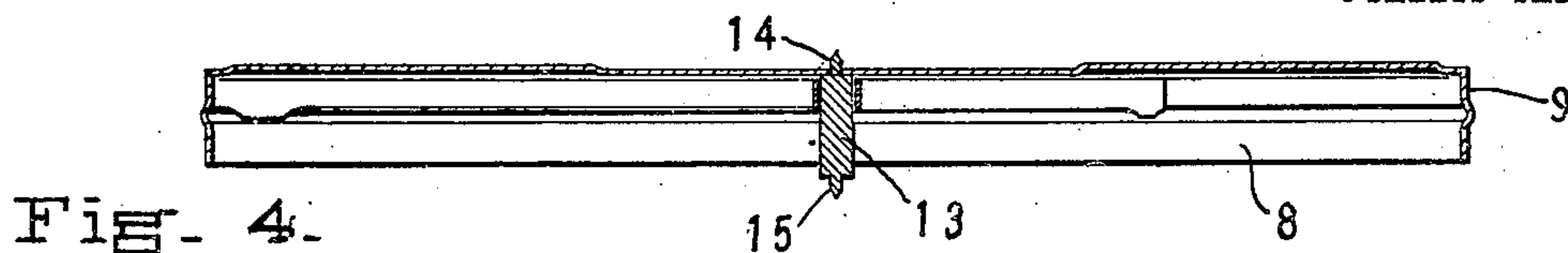
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig. 8.

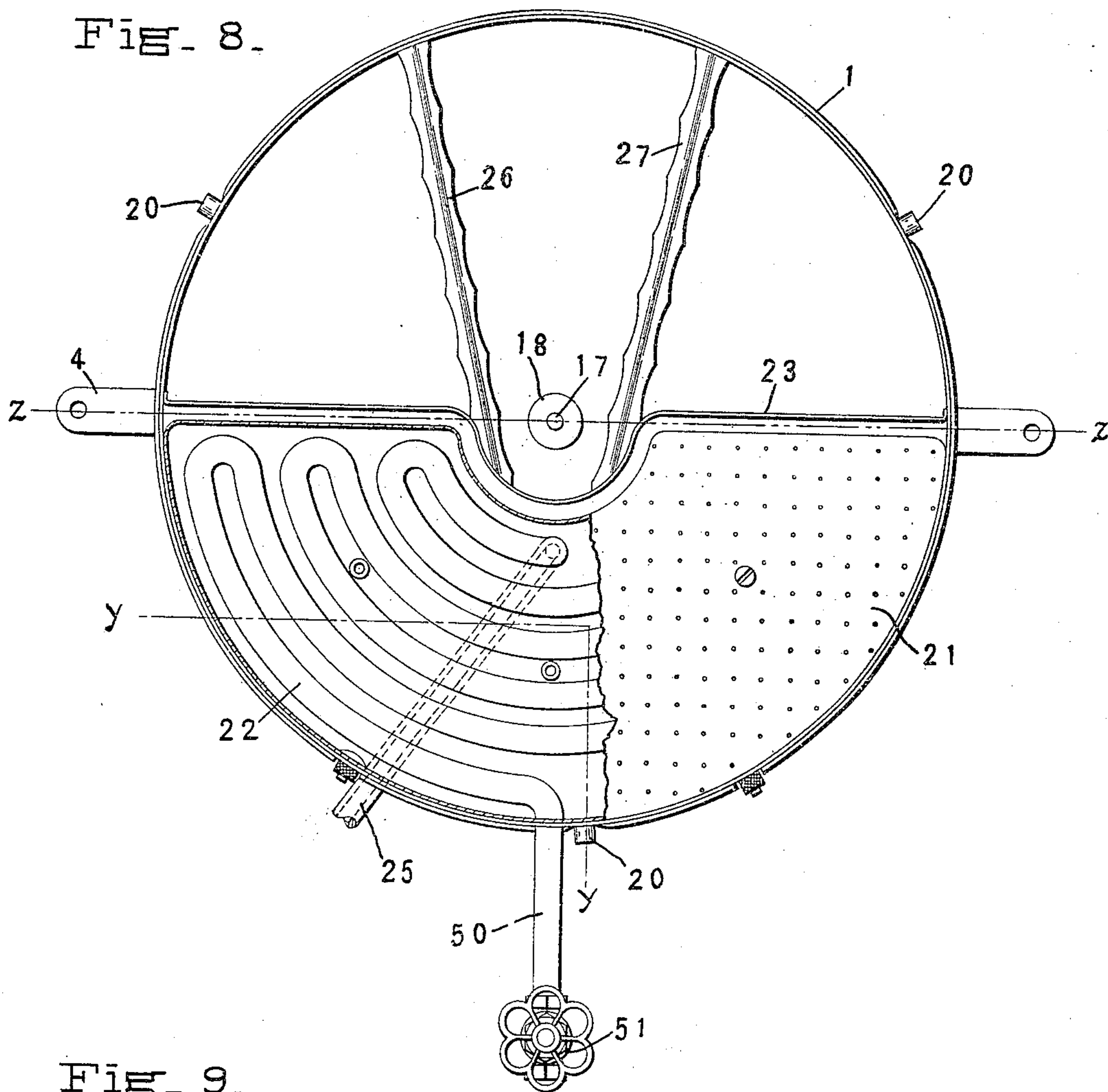


Fig. 9.

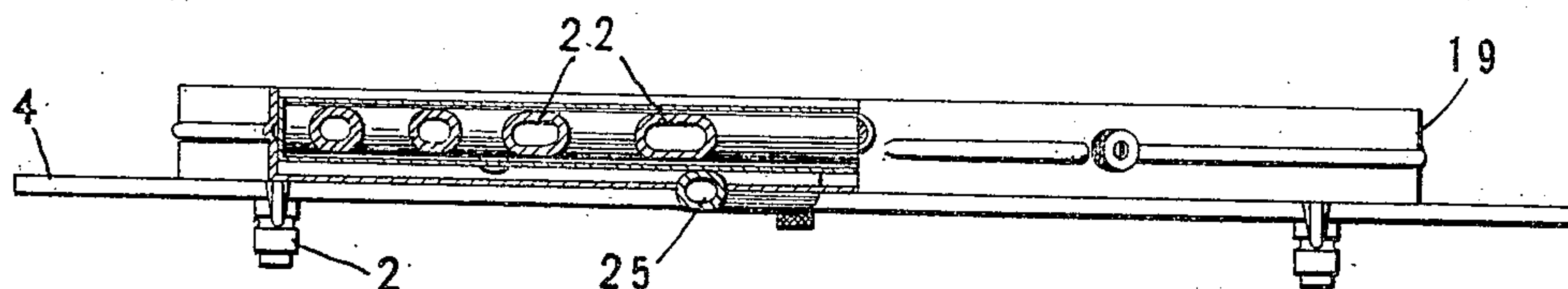
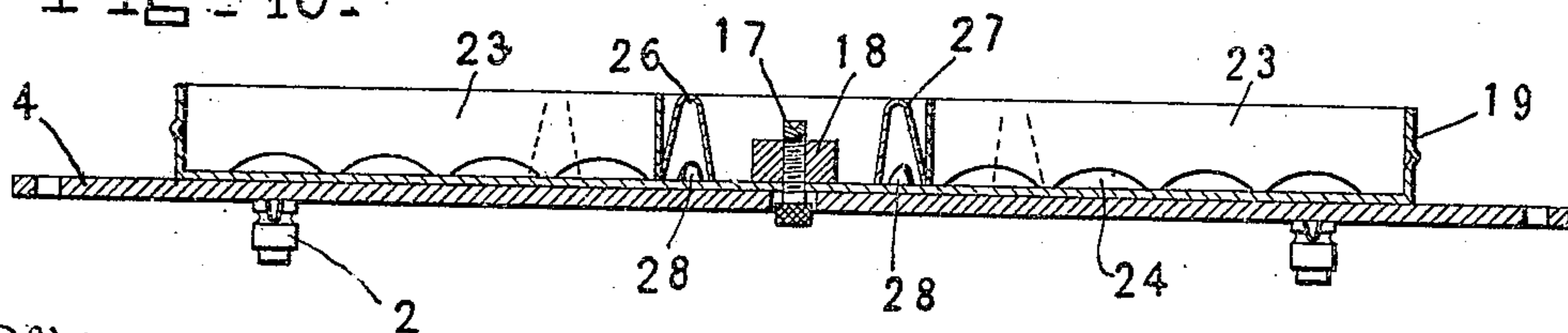


Fig. 10.



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UNITED STATES PATENT OFFICE.

JAMES D. McLAURIN, OF NEW YORK, N. Y.

MOISTENING-MACHINE FOR ADHESIVE MATERIALS.

959,875.

Specification of Letters Patent.

Patented May 31, 1910.

Application filed June 10, 1909. Serial No. 501,433.

To all whom it may concern:

Be it known that I, JAMES D. McLAURIN, a subject of King Edward VII of Great Britain, now residing in New York, in the county of New York and State of New York, (whose post-office address is 154 Nassau street, New York, N. Y.,) have invented certain new and useful Improvements in Moistening-Machines for Adhesive Materials, of which the following is a full, clear, and exact description whereby any one skilled in the art may make and use the same.

The invention, as indicated by its title, relates to machines for moistening adhesive materials or more properly materials which are to be applied by adhesive means, said adhesive being borne upon or forming a part of the material.

The objects of the invention are to provide a simple and compact device in which the proper degree of moistening may be secured for the material bearing the adhesive without removing any appreciable portion of the adhesive during the moistening operation.

A further object is to provide a device in which the operator may have before him a supply of properly moistened adhesive materials, while a second portion of said material is being properly moistened.

A still further object is to provide a means for retaining the material in proper form during the moistening operation, and a still further object is to provide a device in which the material under treatment and the treated material are so related in the machine that the operator may use the device without inconvenience from heat, vapor or the like.

Referring to the drawings: Figure 1 is a plan view of the device. Fig. 2 is a view in side elevation of the device shown in Fig. 1. Fig. 3 is a bottom plan view of the receiving and moistening table. Fig. 4 is a cross sectional view on the line $x-x$ of Fig. 3. Fig. 5 is a front elevation of the cross-shield and support. Fig. 6 is a top plan view of the clamping shield. Fig. 7 is an edge view of the clamping shield shown in Fig. 6. Fig. 8 is a plan view of the base with a vapor box and appurtenant parts partially broken away and illustrating a modified arrangement for producing heat

and vapor. Fig. 9 is a sectional view of the base on the line $y-y$ of Fig. 8. Fig. 10 is a central sectional view through the base on the line $z-z$ of Fig. 8.

The device hereinafter described is designed particularly for use in moistening adhesive labels or other materials bearing adhesive, which are designed to be applied as binders, stays or for ornamental purposes in various manners.

In using adhesive labels and binders, it has been common practice to moisten the adhesive by passing its surface over a moistening pad or applying moisture such as water thereto. In so moistening the adhesive, a great quantity thereof is removed from the material or label, and furthermore, if a sufficient quantity of moisture is thus applied to partially dissolve the adhesive, said adhesive is not only removed by the abrasive action of the moistening pad, sponge, or other device, but the label must be closely compressed against the package or material to which it is applied and held under compression until the adhesive has again set. Where labels or materials of considerable thickness and body and having a gummed surface are thus moistened, they almost invariably curl as they dry out and are thus often worked loose from the package, which it is desired to seal or to apply a label or adhesive material. This is particularly true, unless the material bearing the adhesive is firmly compressed against the surface to which it is applied and held there until thoroughly set.

In using labels or stickers for sealing packages, it is common practice for the operators to apply the stickers or labels to the package by first passing the adhesive surface over a moistening pad and then pressing the label upon the package. In order to earn a living wage, these operators are compelled to handle a great many packages and it has been found that it is practically impossible to secure efficient work owing to the fact that the operators will not compress the stickers or labels upon the packages for a sufficient period to permit the adhesive to set. Furthermore, it has been found that in the highest quality of gummed labels, a great percentage of the gum is thus removed from the labels by passing them over the moisteners. It is impractical to

immerse the labels, as the adhesive will then dissolve in the bath in which they are immersed.

It is the principal object of the present invention to obviate as far as possible these disadvantages and provide an economic means for thoroughly moistening by semi-digesting the adhesive and material which bears it.

In using the machine hereinafter defined, the operator places the dry adhesive materials in the machine where they are thoroughly moistened to the exact and proper degree and ready for immediate use requiring no loss of time for compressing the labels upon the packages. While the operator is applying labels so treated, other labels are being subjected to the moistening operation.

Referring to the drawings, the numeral 1, denotes the base which is in the form of a receptacle and for convenience rests upon legs or standards 2. As the base is made from light metal, stiffeners 3, may extend transversely thereof and in conjunction with the supports 2, and a cross-bar 4 provide a light though very stiff base or receptacle.

Extending upwardly from the cross-bar 4, are supports 5, 6, shown herein as secured through the cross-bar 4, by suitable screws 6^a. These uprights, support a cross-frame 7, which extends across the axial line of the base and overlies the receiving and moistening table 8. This table 8, is also formed of an annular band of metal 9, provided with a transverse member 10, and radially projecting spokes 11. Overlying the radially projecting spokes and secured to an inturned flange 12, is a fine mesh netting and overlying this netting is the transverse plate 10, the whole structure forming a perforated table to receive the material to be moistened. Centrally arranged with reference to this table is a hub 13, provided with cone bearings 14, 15, the former coöperating with an adjustable cone-stud 16, and the latter resting in an adjustable cone bearing 17, which projects through a central boss 18, at the center of the base 1. The table 8, is slightly larger in diameter than the upwardly extending flange 19 of the base and in order to provide easy rotation for the table without liability of cramping upon the cone-bearings, a series of rolls 20, are arranged upon the exterior of the base and in position to act as a support for the lower edge of the rim of the table. Obviously, the cone-bearings may be adjusted vertically to the required degree to give perfect and easy running qualities to the table during its rotation.

The base 1, is provided at one side of its center line with a perforated moistening box 21, which is of substantially semicircular form as illustrated in Fig. 8, and is

connected either directly with a steam-pipe as illustrated in Figs. 1 and 2, which pipe will discharge its steam into the vapor box or is provided with a suitable heating coil 22, as indicated in Fig. 8. In either case, the vapor box 21, which is located on one side of the center of the base, and occupies substantially an entire half thereof, forms a means for projecting warm vapor through the perforations on its upper side and through the screen of the receiving and moistening table or so much of said screen as rests over the vapor box.

As shown herein, there is a partition 23, extending across the base and about the central stud and bearing 18, 19. This partition, at its lower edge, is provided with drainage openings 24, which permit the condensed moisture to be drained off through a drain-pipe 25, and as the vapor box is slightly raised above the bottom of the base 1, the condensed vapor, which may accumulate in the base, may be readily withdrawn.

In Fig. 8, the vapor box is shown as of the same construction as used in Fig. 1, and illustrates a means of securing hot vapor from the vapor box by the use of a steam-coil or other heating coil which may be arranged therein. In case such a steam coil or electric heater is to be used, the vapor box would be partially filled with water and the heat from the coil would then evaporate the water, securing the necessary steam or vapor for moistening the materials. As a further means of stiffening the base, sheet metal bars of U-form 26, 27, are extended across one half of the base and secured to the dividing partition 23. These stiffeners are also provided with drainage openings 28 at their lower edge, so that the entire bottom of the pan or base may be readily drained.

Arranged upon the cross-shield and support 7, are pivot-blocks 29, 30, which are preferably removable from the cross-bar, but are clamped thereto by thumb-nuts 31. These pivot-blocks form a pivotal support for a retainer 32, which is of substantially semicircular form and may be raised or lowered by a hand lever 33, which may be applied to either side by screwing it into one or the other of the sockets 34, 35. This semi-circular retainer, as shown herein, consists of a frame covered with netting of fine mesh and serves to hold the material flat upon the receiving and moistening table.

The receiving and moistening table is provided at convenient points with insulated handles 36, by which the table may be rotated.

From the above description, it will be seen that the base comprises two sections, one of which contains the perforated vapor box and that the receiving and moistening table extends over both sections of the base. With the parts in the position illustrated in

Fig. 1 and with the operator at the right of the table, a proper quantity of adhesively treated material is placed upon the upper surface of the moistening table. The lever 5 33, is then tilted, raising the retainer 32, and the table is rotated 180°, carrying the materials over the vapor box and below the retainer 32. Said retainer is then dropped upon the materials and it holds them lightly 10 compressed against the screen surface of the table. The hot vapor passing through the inlet pipe 50, passes up through the perforations of the vapor box and through the action of heat and moisture partially re- 15 duces the gum and moistens the gum of the label to a sufficient degree to insure its adhering to any surface when applied. When the labels are properly treated, the table is again revolved 180°, bringing the pre- 20 pared and moistened labels before the operator, and carrying the unmoistened labels over the vapor box. With the labels so treated, the operator may apply them as rapidly as possible, and they will adhere, 25 upon being smoothed down upon a surface, without curling or breaking off. This is due to the partial digestion of the material, as well as the gum applied thereto, from the moist heat of the vapor box. The cross- 30 shield and support 7, is preferably of a sufficient height to protect the operator from the moisture passing upwardly through the vapor box.

Of course, the inlet pipe may be con- 35 trolled in any desired manner, as by a hand valve 51, illustrated in Fig. 8, or by any automatic means which will give the required degree of heat and moisture through the vapor box.

Obviously, the details of the device might be varied to a considerable extent without departing from the spirit or intent of the invention which contemplates a means of 40 subjecting dry materials to the action of heated vapor, while the operator is using material so treated. Obviously, the preparation and use of the materials with this machine is continuous, and there is no loss of gum from the adhesive materials. Said 45 materials, however, are completely and uniformly moistened and reduced to such condition that in drying out there will not be such an uneven shrinkage as to cause warping and detachment of the labels.

55 What I claim as my invention and desire to secure by Letters Patent is:

1. In a device of the character described, a base-piece provided with a vapor box or 60 chamber, a movable perforated table operatively arranged with reference to said base and vapor box, whereby heated vapor may be passed through a limited area of said

table, and means for moving said table whereby a portion thereof may be projected over said vapor box. 65

2. In a device of the character described, a base, a vapor box located therein, means for supplying heated vapor to said vapor box and a perforated carrier operatively 70 arranged with reference to said base and vapor box, and having a portion of its area projecting over said vapor box, said carrier and vapor box being relatively movable whereby vapor may be passed through a 75 limited area of said carrier.

3. In a device of the character described, a base forming a support, a rotary carrier mounted thereon, and means appurtenant to the base for passing a warm vapor through a limited area of the rotary carrier. 80

4. In a device of the character described, a base forming a receptacle, a perforated rotary carrier centrally pivoted with reference to the base, a vapor box located in the base, and means for supplying heated vapor 85 to said vapor box.

5. In a device of the character described, a base-piece forming a receptacle and divided into compartments, a vapor box arranged in one of said compartments, a mov- 90 able receiving and moistening table operatively mounted with reference to the base and vapor box, said table being perforated, and means for supplying heated vapor to the vapor box. 95

6. In a device of the character described, a base-piece, a frame overlying said base-piece, a perforated moistening table intermediate the frame and base-piece and bearing a central pivot, an adjustable bearing 100 intermediate the base-piece and frame, and means for passing heated vapor through the perforated table.

7. In a device of the character described, a base-piece provided with a vapor box or 105 chamber, a movable perforated table operatively arranged with reference to said base and vapor box whereby heated vapor may be passed through a limited area of said table, and a perforated retainer operatively 110 mounted above said table and adapted to hold the material thereon.

8. In a device of the character described, a base of cylindrical form, anti-friction rolls projecting from the periphery thereof, a 115 rotary table concentrically pivoted with reference to said base and provided with a flange surrounding said base and resting upon said anti-friction rolls and a vapor box operatively arranged within the base.

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