

No. 731,151.

PATENTED JUNE 16, 1903.

E. ANDREWS.
ROVING CAN.

APPLICATION FILED SEPT. 17, 1897.

NO MODEL.

Fig. 1.

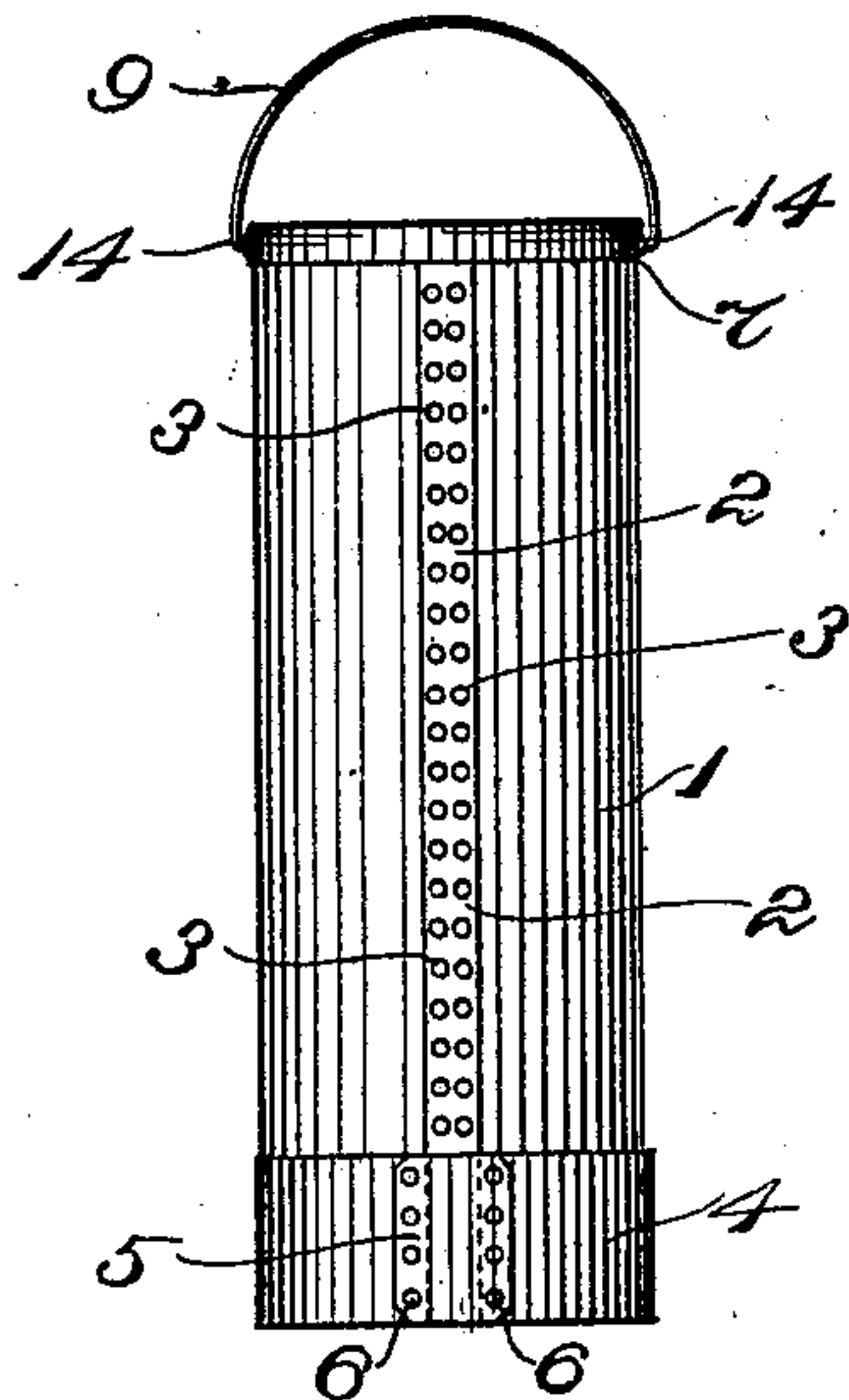


Fig. 2.

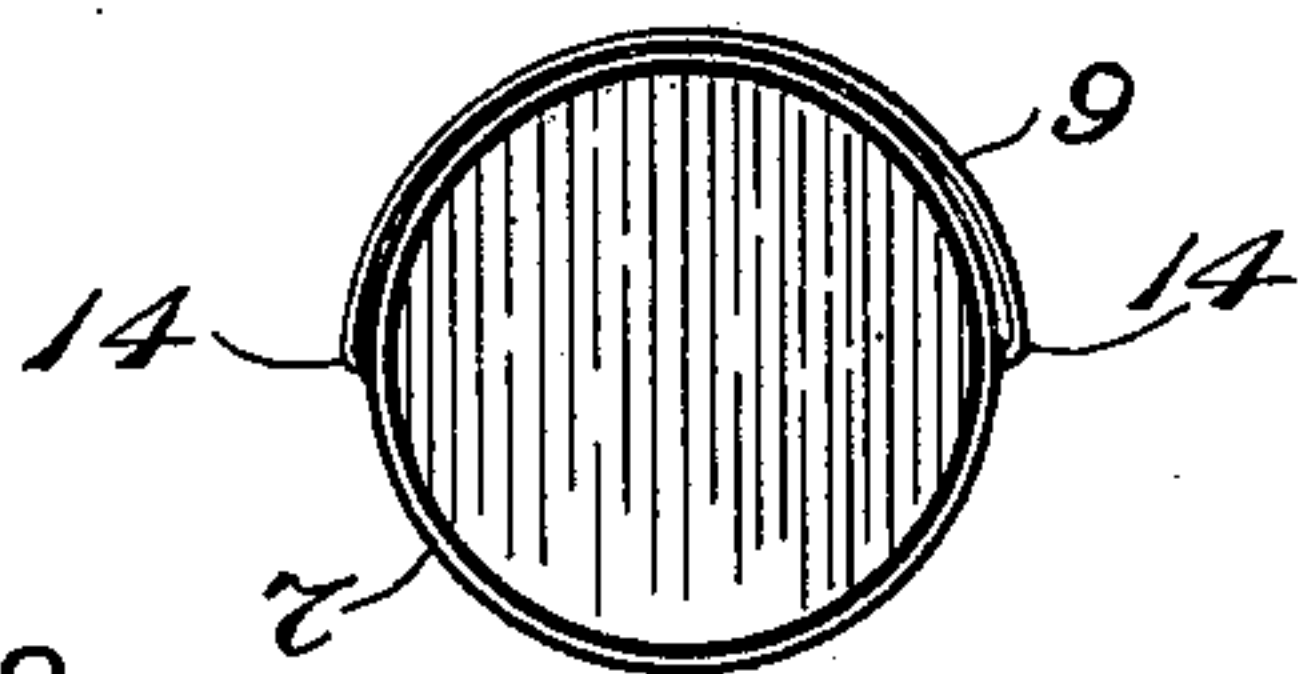


Fig. 3.

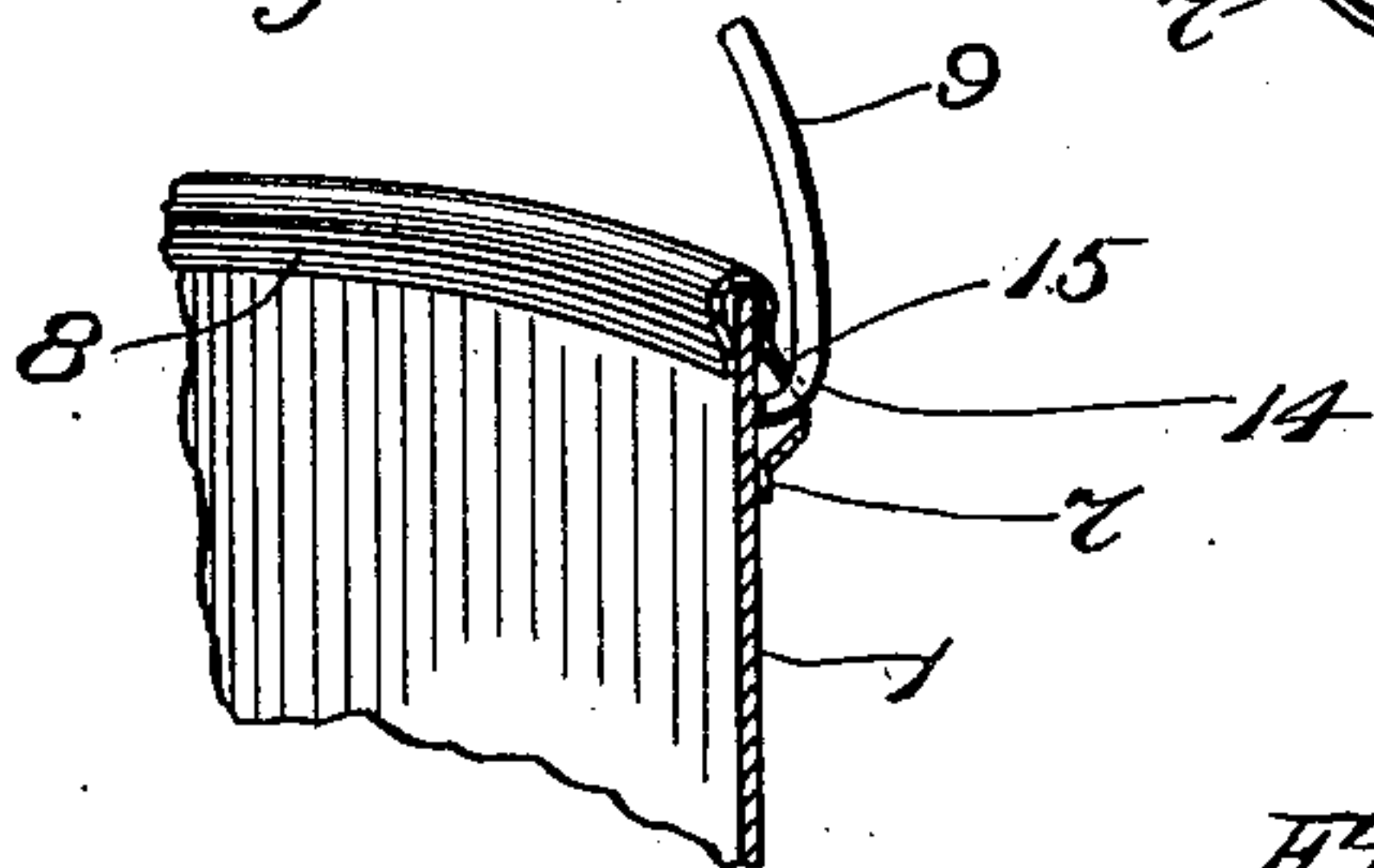


Fig. 4.

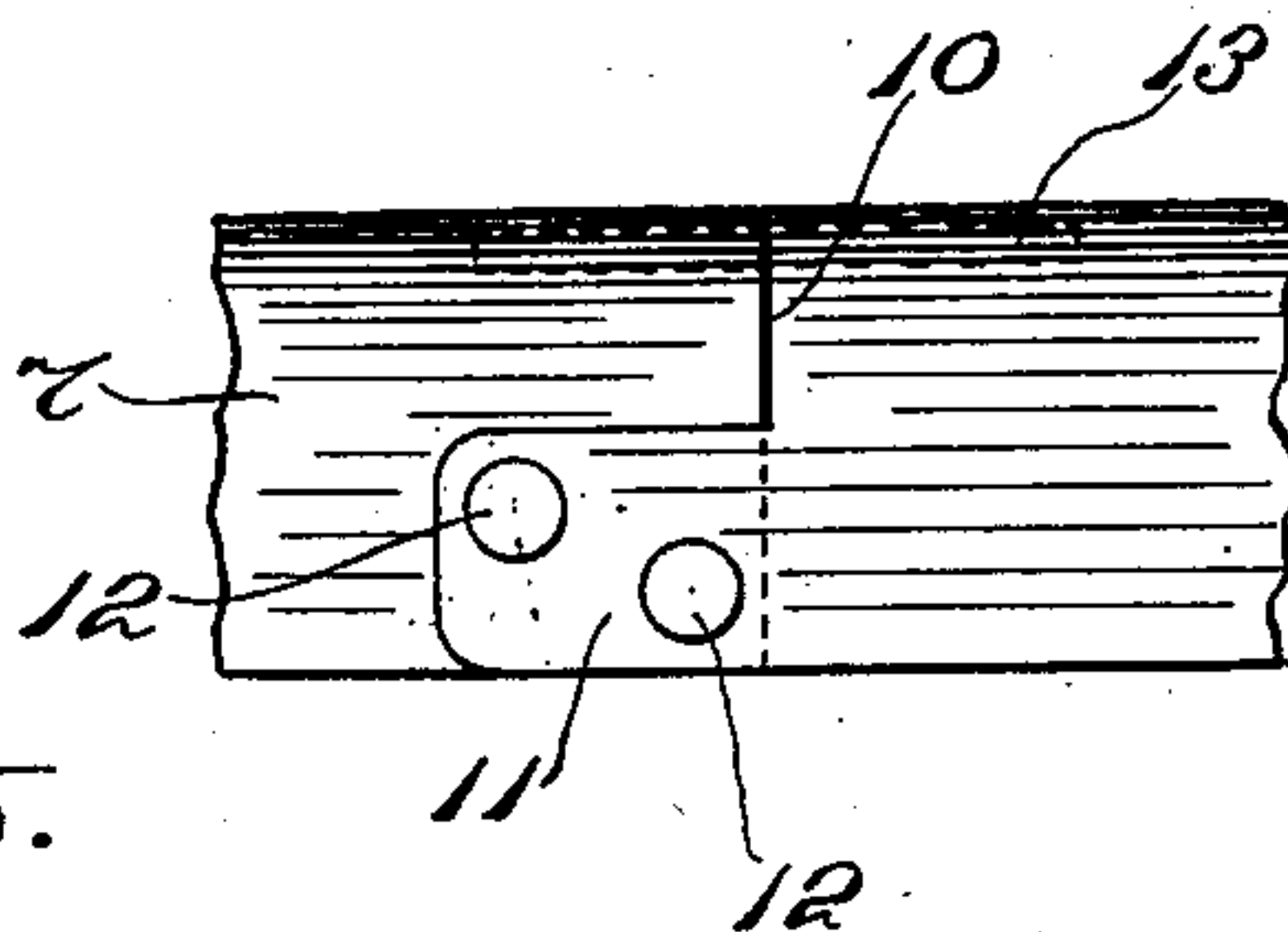
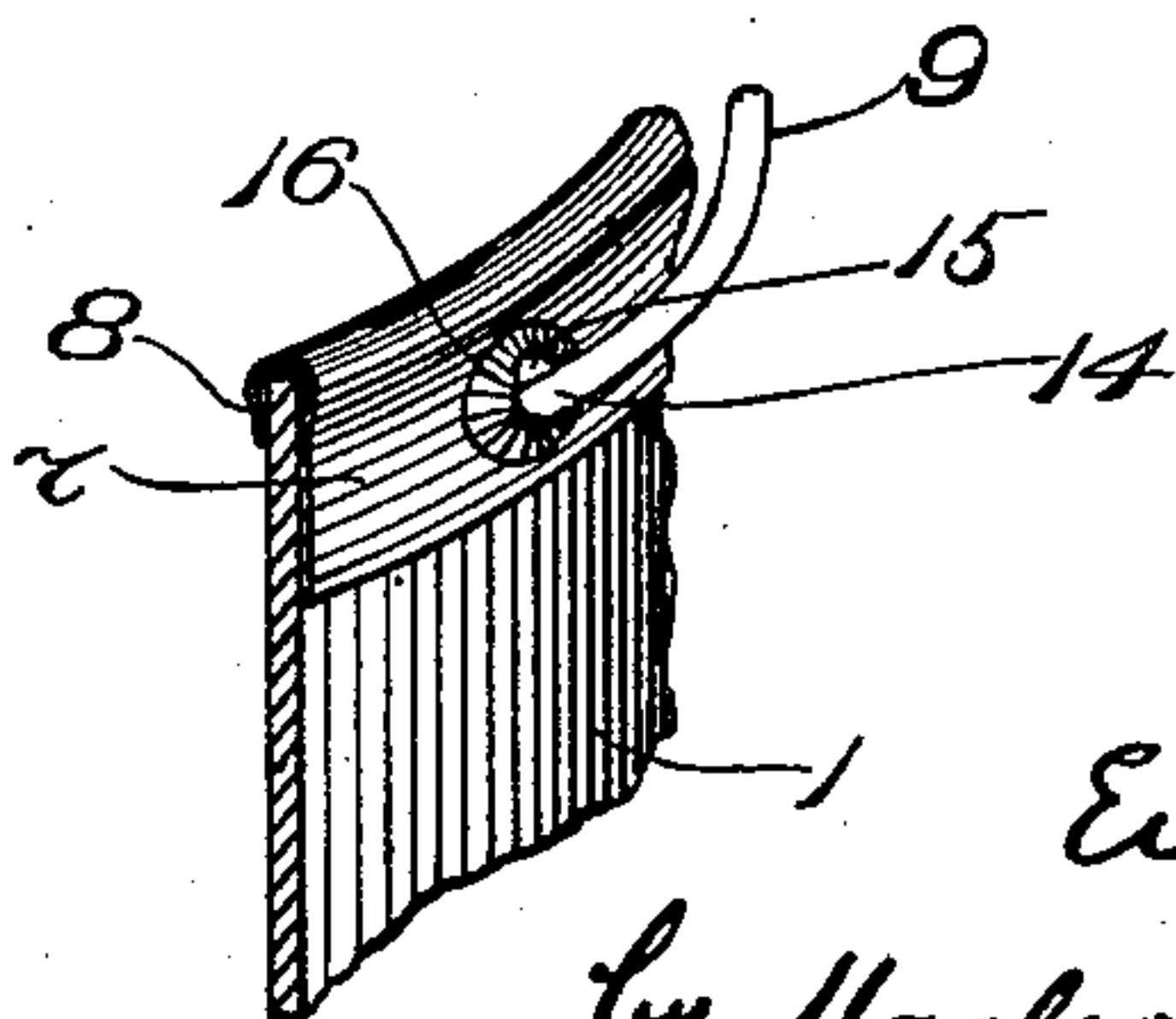


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

EMERY ANDREWS, OF KENNEBUNK, MAINE.

ROVING-CAN.

SPECIFICATION forming part of Letters Patent No. 731,151, dated June 16, 1903.

Application filed September 17, 1897. Serial No. 651,980. (No model.)

To all whom it may concern:

Be it known that I, EMERY ANDREWS, a citizen of the United States, residing at Kennebunk, in the county of York and State of Maine, have invented certain new and useful Improvements in Roving-Cans, of which the following is a specification, reference being had therein to the accompanying drawings.

As is well known to those who are skilled in the art of manufacturing fibrous materials, cotton, wool, and other fibers, the fibrous materials in the course of being prepared to be spun pass through a succession of machines, each of such machines performing one step or operation pertaining to the process of preparation. At a comparatively early stage in the said process the fibers under treatment are formed into a loosely-compacted ribbon-like collection of continuous length, known as a "sliver" or "roving," the material retaining this form throughout the subsequent treatment until by a twisting operation it has been converted into yarn. As the sliver or roving issues from the discharging devices of the machine in which it is first formed it flows into a temporary receptacle in the form of a tall cylinder known as a "roving-can" or "sliver-can," into which it is laid in overlying and overlapping coils and in which it remains for a short time, being transported in such so-called "can" to the next machine in the series. The feeding devices of the latter machine draw the roving or sliver out of the can, while at the discharging side of this machine the material again flows out in the form of roving or sliver which is coiled into another can placed in readiness to receive it, and so on throughout the series of machines until the material receives its twist. These temporary receptacles or holders for roving or sliver must be smooth and free from projections, roughness, or cracks on the upper edges or rims thereof; otherwise the loosely-compacted and but slightly-coherent roving or sliver in drawing out of a can and passing over the upper edge or rim thereof into a machine will catch and tear or break. The delicate character of the roving or sliver causes it to catch in the least obstruction. The cans are subjected to a great deal of hard usage in a mill, and consequently must be constructed with especial care to guard

against becoming so injured through usage as to damage the roving or sliver.

One object of my invention is to provide a roving-can or sliver-can with a rim of improved character and construction which shall be free from tendency to damage the roving or sliver and free from liability to become injured by hard usage, so as to occasion such damage.

The sliver or roving which the can is designed to receive and hold temporarily is of an elastic nature. As the sliver or roving flows into the can it is pressed down from time to time. When the can is full, there is a tendency on the part of the compressed material within the same to expand, rise above the rim of the can, and fall over the latter. When this happens, injury results to the silver or roving, with consequent waste of the latter.

Another object of my invention is to provide an improved retainer by means of which the contents of a full can of sliver or roving will be prevented from rising and falling over.

The invention consists in certain features of construction which first will be described with reference to the accompanying drawings, showing a roving-can embodying the same, and afterward the invention will be particularly pointed out and distinctly defined in the claims at the close of this specification.

In the drawings, Figure 1 is a view showing in elevation a roving-can embodying my present invention. Fig. 2 is a plan view thereof, the roving-retainer being shown in a horizontal position instead of in the intermediate or vertical position in which it is shown in Fig. 1. Fig. 3 is a sectional detail through the cone-shaped bearing of the retainer, showing the rim of the can in position on the top edge of the body thereof. Fig. 4 is a detail showing the reinforced joint of the rim. Fig. 5 is a perspective showing the manner of securing the roving-retainer to the rim and also simple means of detaining the said retainer in its intermediate or vertical position. In said figure the retainer is shown in an inclined position.

Having reference to the drawings, 1 designates the can-body, which is formed, preferably, of an oblong sheet of flexible material of any suitable character—such, for example,

as paper-board, leatheroid, or the like—the same being bent into cylindrical form and its lateral edges butted together.

2 is a joining-strip, which may be formed of the same material as the can-body and which is applied to the exterior surface of the can-body lengthwise of the joint formed where the edges of the body meet or abut. The joining-strip 2 overlies the said edges of the body 1. Lines of rivets or other suitable securing devices 3 are passed through the material of the can-body and that of the joining-strip at each side of the said joint formed by abutting edges of the body 1. By means of this riveted or otherwise-secured joining-strip placed as above described the can-body is held securely in its cylindrical form, while a smooth interior surface at and adjacent the joint is obtained. A reinforcing-band 4 is applied to the exterior of the can-body and designed to receive the wear which is incident to the use of the can. One or more of these reinforcing-bands, located at different heights on the can-body, may be employed if deemed desirable or the width of the band may be varied. Usually it will be found sufficient to apply a single band to the lower end of the can-body, as shown in the drawings, the said band being proportioned about as shown in Fig. 1. The band applied where shown is usually termed in practice a "kicking-band." The lateral edges of the band 4 do not meet when the band is in place on the can-body, since it is not desirable that there should be a projection at any point on the exterior of the can, such as would result if the band 4 were caused to overlap or overlie the joining-strip 2. To avoid any projection, the band 4 is formed of a proper length to permit the edges thereof to meet or butt against the opposite edges of the strip 2, since the band 4 and strip 2 are preferably formed from material of substantially the same thickness. When the band 4 is in place on the can, its exterior surface is substantially flush with the surface of the strip 2. For the purpose of securely uniting the edges of the band I employ a uniting-strip 5, formed from thin strong material—such, for example, as sheet metal. The strip 5 bridges or overlies the strip 2 and the edges of the said strip 5 overlap the edges of the band 4 and are secured thereto by rivets 6, which pass through the material of the said strip 5 and of the band 4. Any well-known securing means may be employed in place of the rivets 6.

The can is provided with a bottom of usual character, secured in the well-known manner in the lower end of the can-body.

To the upper edge of the can-body I apply a flanged rim 7, which is substantially hook-shaped in cross-section, as shown in Fig. 3. This rim covers and protects and finishes the said edge and is preferably somewhat rounded at its upper portion to constitute a beading, which improves the finish and increases the strength of the construction. In order to secure a smooth interior surface at the top of

the can, which will not catch the fibers of the roving or other material placed within the can, I form the inner flange 8 of the rim 7 shorter or narrower than the outer flange thereof, as indicated clearly in Figs. 3 and 5, and bend or set the free edge of the said flange 8 against the inner surface of the can-body. This prevents the existence of any opening or the exposure of a rough edge or the like, by which the fibers might be caught. The outer flange of the rim 7, which projects downwardly against the outer surface of the can-body, is made wider or deeper than the flange 8 in order to secure strength, stiffness, and stability, as also to insure a firm attachment for the roving-retainer 9. The rim 7 is preferably formed from a strip of sheet metal, and in order to secure a perfect joint where the ends of the rim are brought together I butt the said ends, as shown in Fig. 4 at 10, one end being provided or formed with an ear or extension 11, (see Fig. 4,) which overlaps the other end and is secured firmly thereto by rivets 12 or other suitable securing devices. This construction provides a smooth joint without break or ridge on the upper or beaded portion of the rim, while the ends of the rim are effectually united or secured together. In order to further strengthen the joint, I place within the hollow beaded or upper portion of the rim a reinforce or bridge-piece 13. (Indicated in dotted lines, Fig. 4.) The piece 13 is of sufficient length to bridge the joint as well as to afford a bearing for the said piece within the hollow beaded portion of the rim sufficient to give the joint great rigidity and strength. To prevent the bridging-piece 13 from moving relatively to the joint 10, it may either be soldered or otherwise suitably secured within the rim. I have found in practice that it is sufficiently held in place by forming a notch or recess in the upper edge of the can-body, into which the bridging-piece 13 will fit and in which it will lie when the rim is secured to the body. In order to attain the best results, the butted edges of the rim which form the joint 10, Fig. 4, are soldered together and the bridging-piece 13 is soldered within the hollow of the rim. A joint formed as above described is quite as strong, in my opinion, as any other portion of the rim. When the rim is applied to the top of the can, it is pressed by rolls or the like firmly against the can-walls, the edge of the interior flange being set, as previously described, against the interior surface of the top of the can. The rim is thus firmly secured in place.

As stated hereinbefore, the sliver or roving which the can is designed to receive and hold is of an elastic nature and in consequence of being pressed down and more or less compacted while the can is being filled there is a tendency on the part of the said sliver or roving when the can is full to rise above the rim of the can and fall over the side. With the object in view of preventing the rising and

escape of the roving, and thus in a measure increasing the capacity of the can, I combine with the can a retainer which may be placed over the roving, when desired, after the can is filled, and which may be placed in a horizontal position to one side, as shown, Fig. 2, and out of the way during the filling operation. Such a retainer is shown at 9, it being connected with the rim of the can, as indicated at 14, and being formed to extend across the top of the can above the contents of the latter, so as to prevent such contents from unduly rising and escaping. In consequence of being journaled or pivotally secured the retainer is free to be swung to either side out of the way during the filling or emptying of the can and of being given an intermediate position when the can is full, to thereby prevent the expansion and escape of the contents of the can. In some cases it is desirable that the retainer should have combined therewith a detent whereby to hold the same in its operative or intermediate position aforesaid. Various means of detaining the retainer in the desired position may be employed. I have illustrated in Fig. 5 a simple contrivance for this purpose, which consists of a simple notch at 15 in the upper portion of the cone-shaped boss or bearing 16, which is pressed or otherwise formed in the rim and which is perforated at the top or apex of the cone to permit the introduction of the bent end of the retainer 9. The notch 15 is formed above and adjacent the hole or perforation which receives the bent end or journal portion of the retainer, and the retainer being preferably formed of wire having some spring or resiliency it may be readily sprung into position on the rim, and it is also caused to enter and remain in the said notch 15 by reason of its said spring or resiliency. It may, however, by slight lateral pressure be forced out of the said notch and swung down out of its intermediate or vertical position. This method of securing the retainer, as also of detaining it in its intermediate position, is simple and effective. The cone-shaped bearing 16 is readily formed by pressing the

metal of the rim outwardly by means of a die or the like, and the use of a detached bearing which would require to be secured to the rim is avoided.

What I claim is—

1. A roving-can having a metallic rim covering the edge of the can-body, with the ends of such rim butted together, and the bridge-piece located within the hollow upper portion of the rim and bridging the joint, the said edge of the can-body having a notch that receives the bridge-piece and thereby prevents displacement thereof, substantially as described.

2. A roving-can having a metallic rim covering the edge of the can-body with the ends of such rim butted together, and soldered, and a reinforce or bridge-piece soldered within the hollow upper portion of the rim and bridging the joint, substantially as described.

3. A roving-can having a metallic rim covering the edge of the can-body with the ends of such rim butted together, one of the said ends having an ear or extension overlapping the other end and riveted thereto, and a reinforce or bridge-piece located within the top portion of the rim and bridging the joint, substantially as described.

4. A roving-can having a metallic rim covering the edge of the can-body and a roving-retainer pivotally connected to the said rim, and movable to one side during the filling of the can and over the mouth of the can to bear on the roving when the can is full to prevent the expansion and escape of the contents of the can, the ends of the said retainer being journaled in projections formed in the rim and integral therewith and the said projections having a notch in the edge of the aperture therein to detain the retainer in its position over the mouth of the can, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EMERY ANDREWS.

Witnesses:

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WM. A. MACLEOD.