

(No Model.)

2 Sheets—Sheet 1.

M. A. HAMILTON.

WOVEN FABRIC AND PACKAGE MADE THEREFROM.

No. 379,219.

Patented Mar. 13, 1888.

Fig. 1.

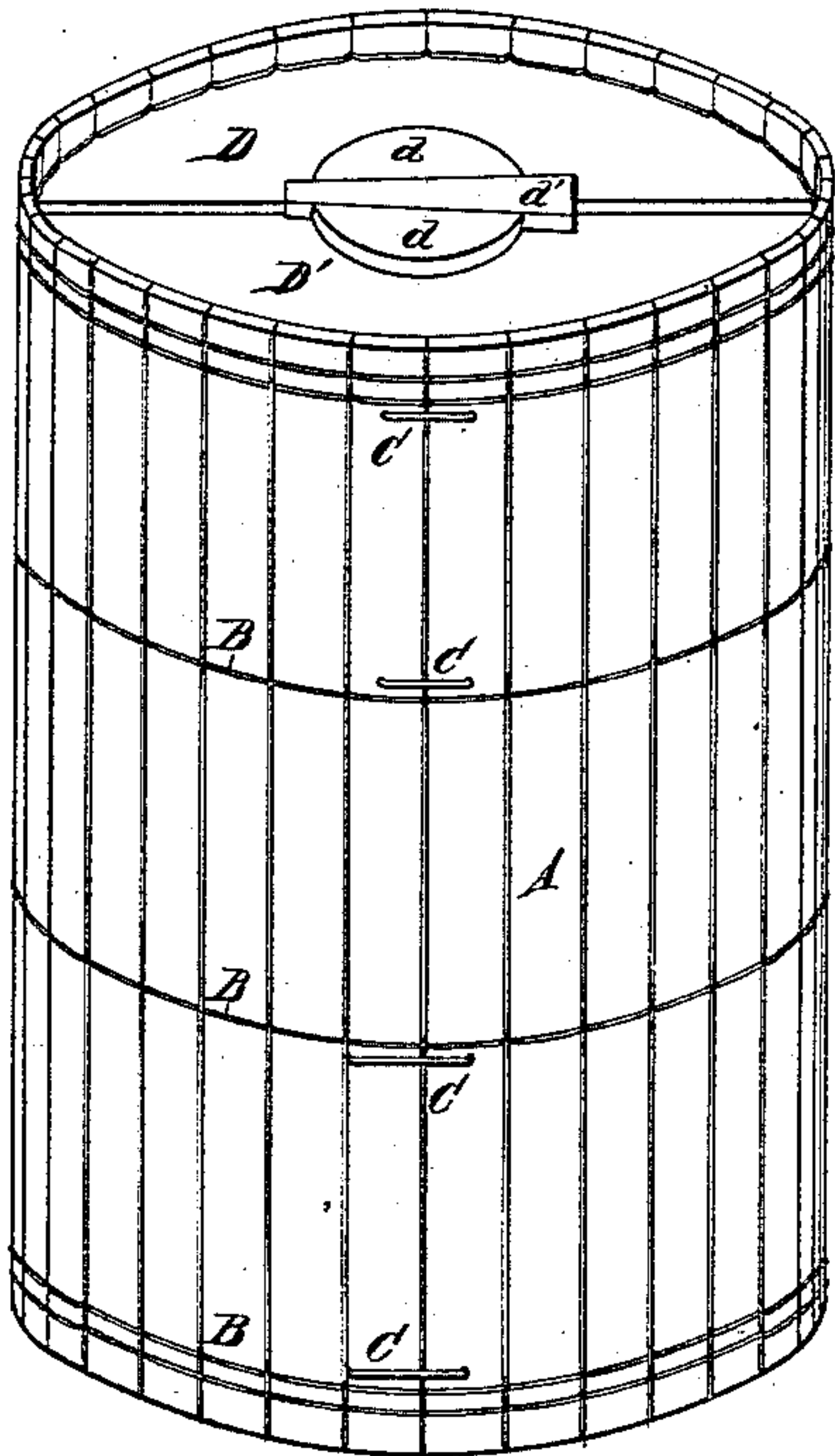


Fig. 2.

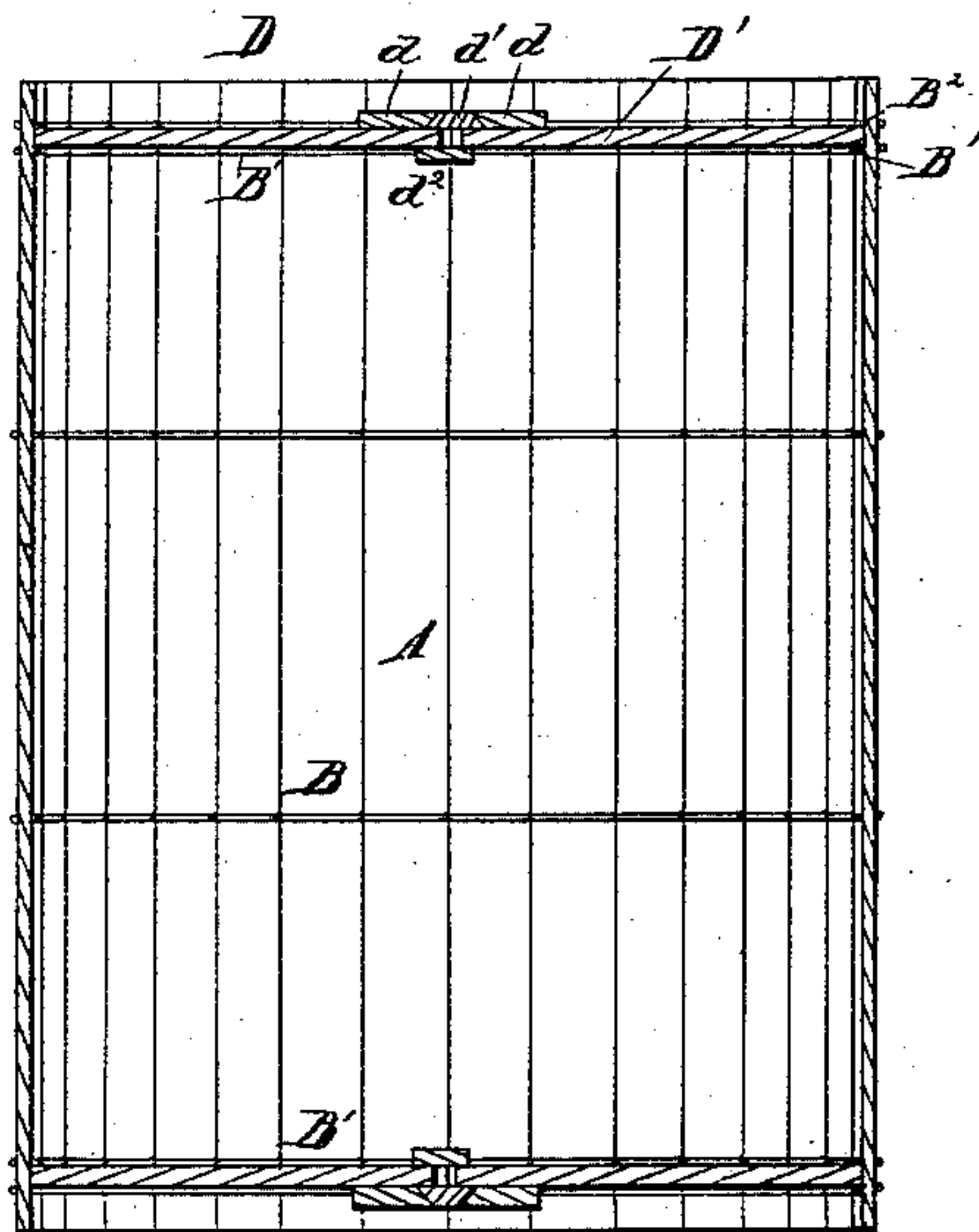


Fig. 3.

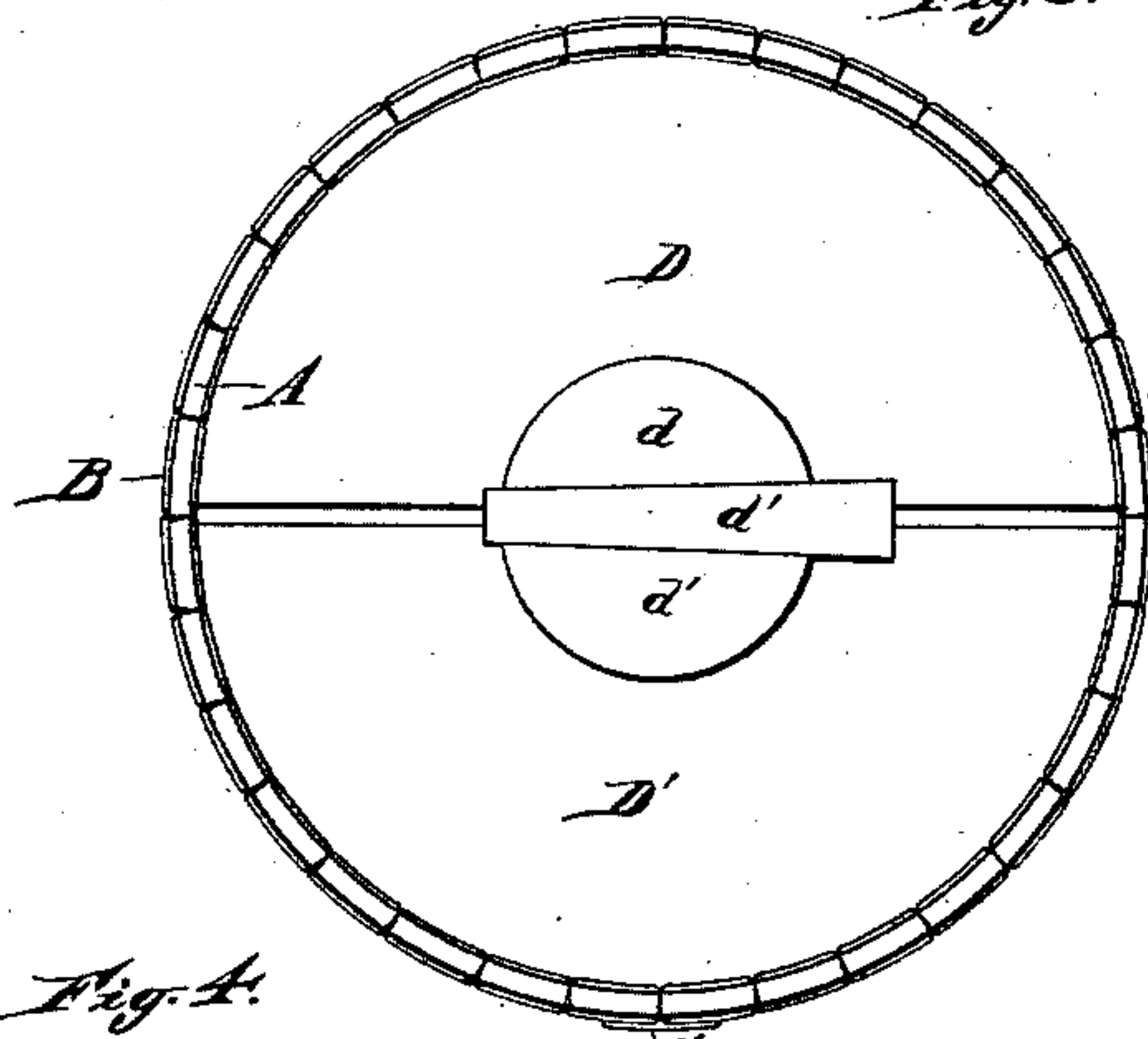


Fig. 4.

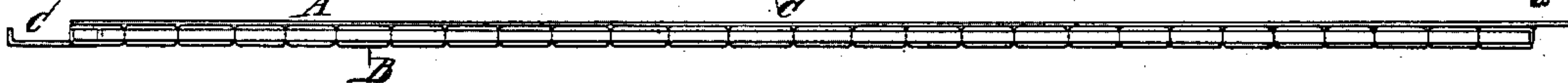
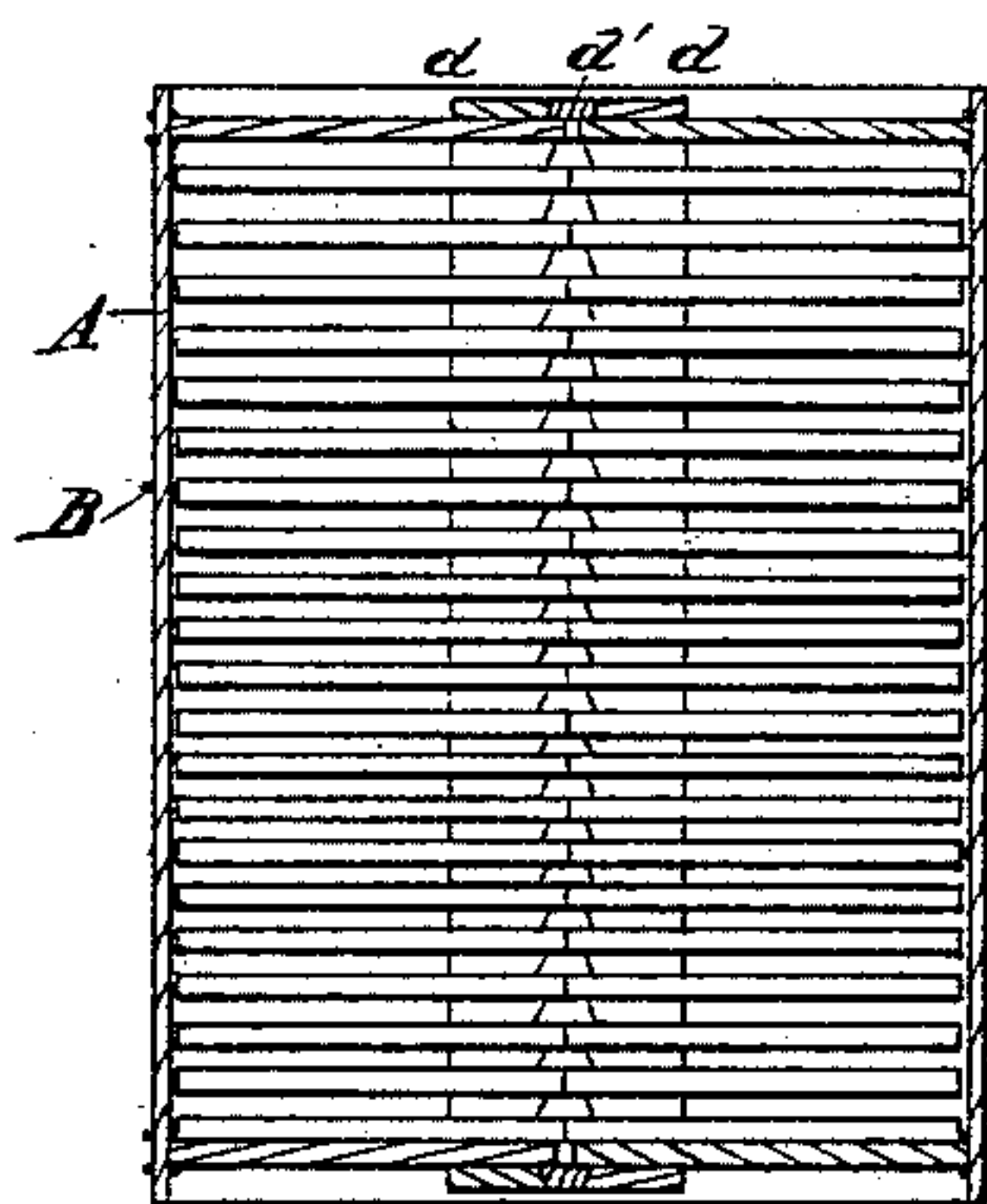


Fig. 5.



WITNESSES

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Fig. 6.

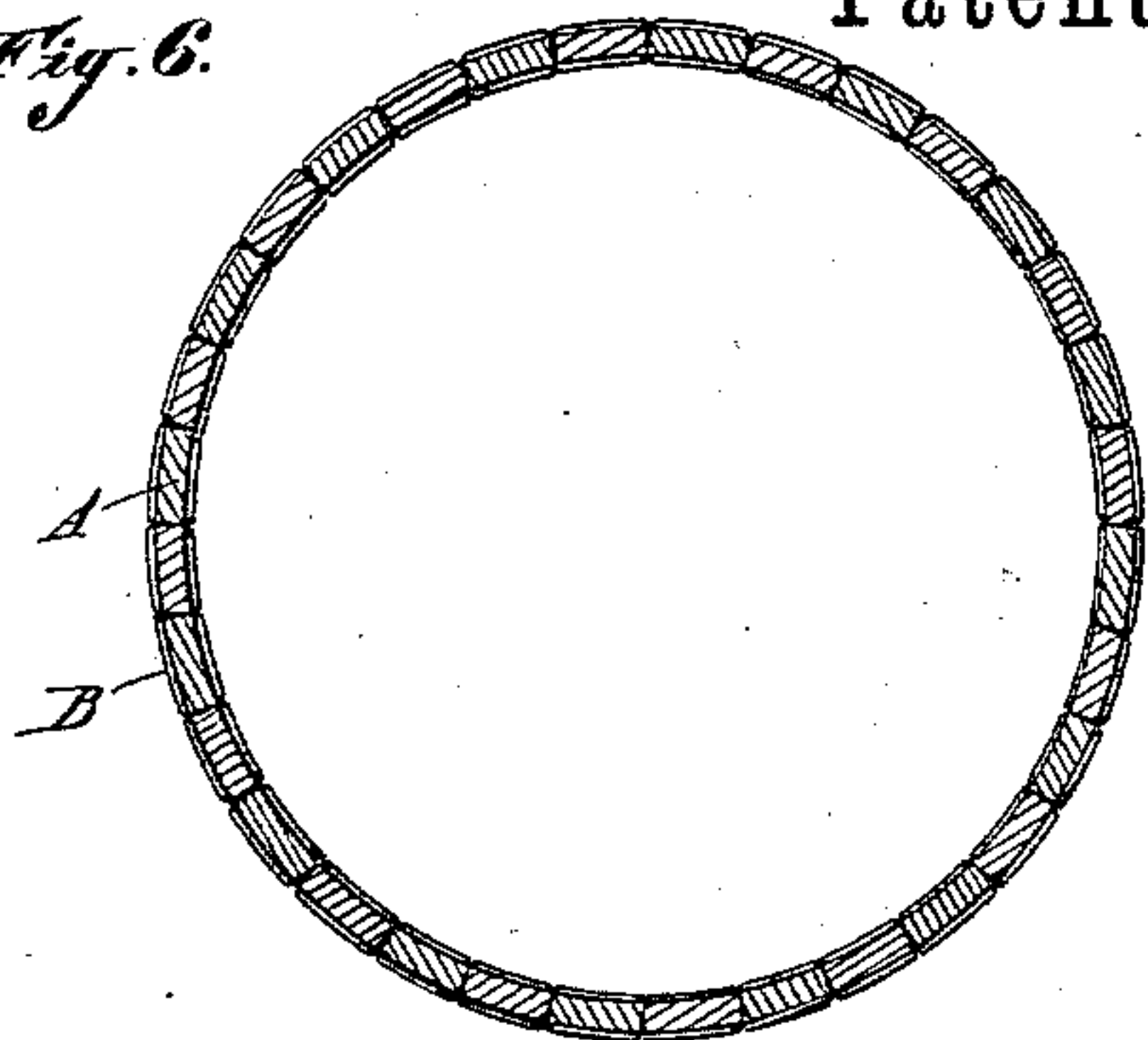


Fig. 7.

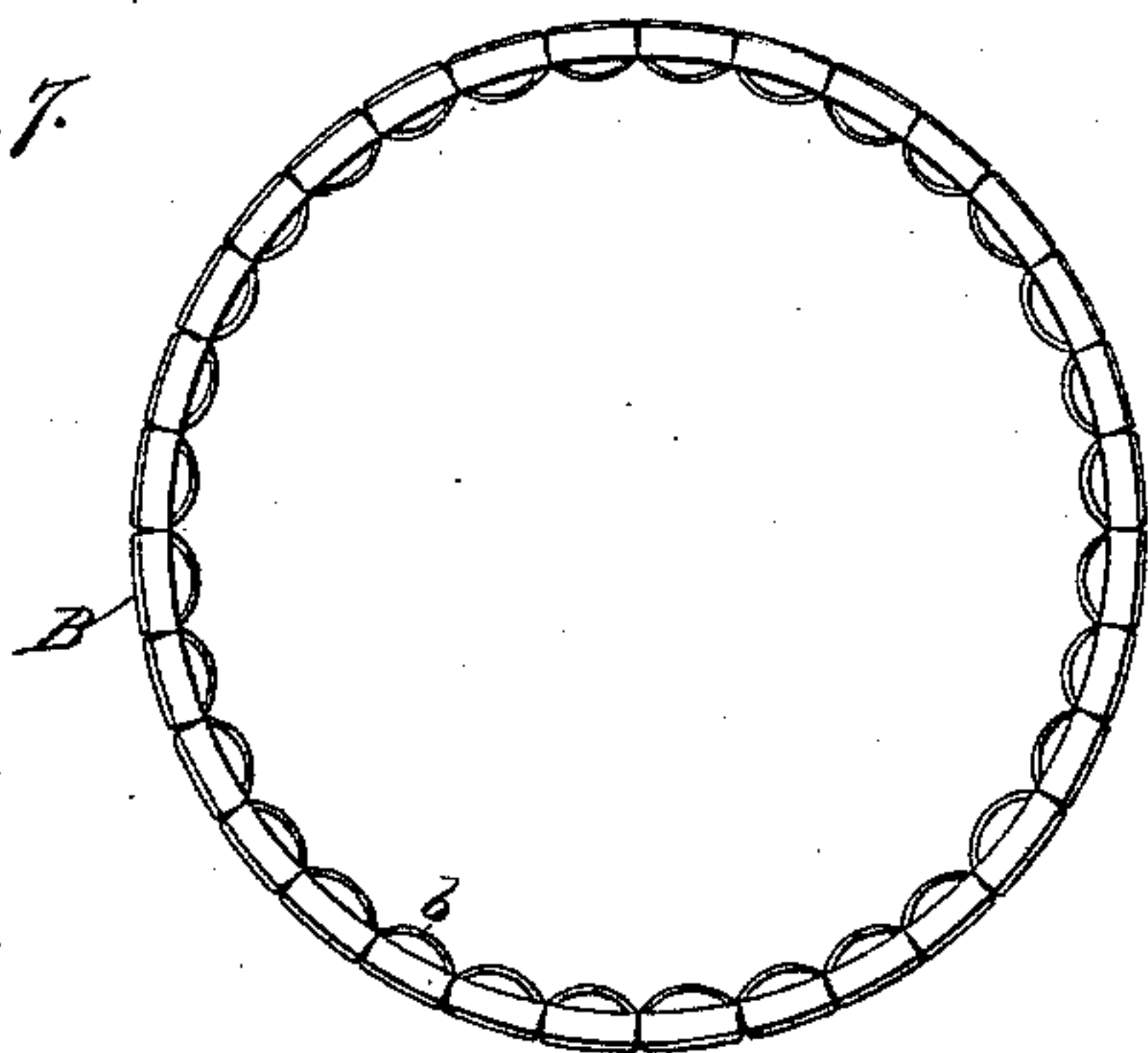


Fig. 8.

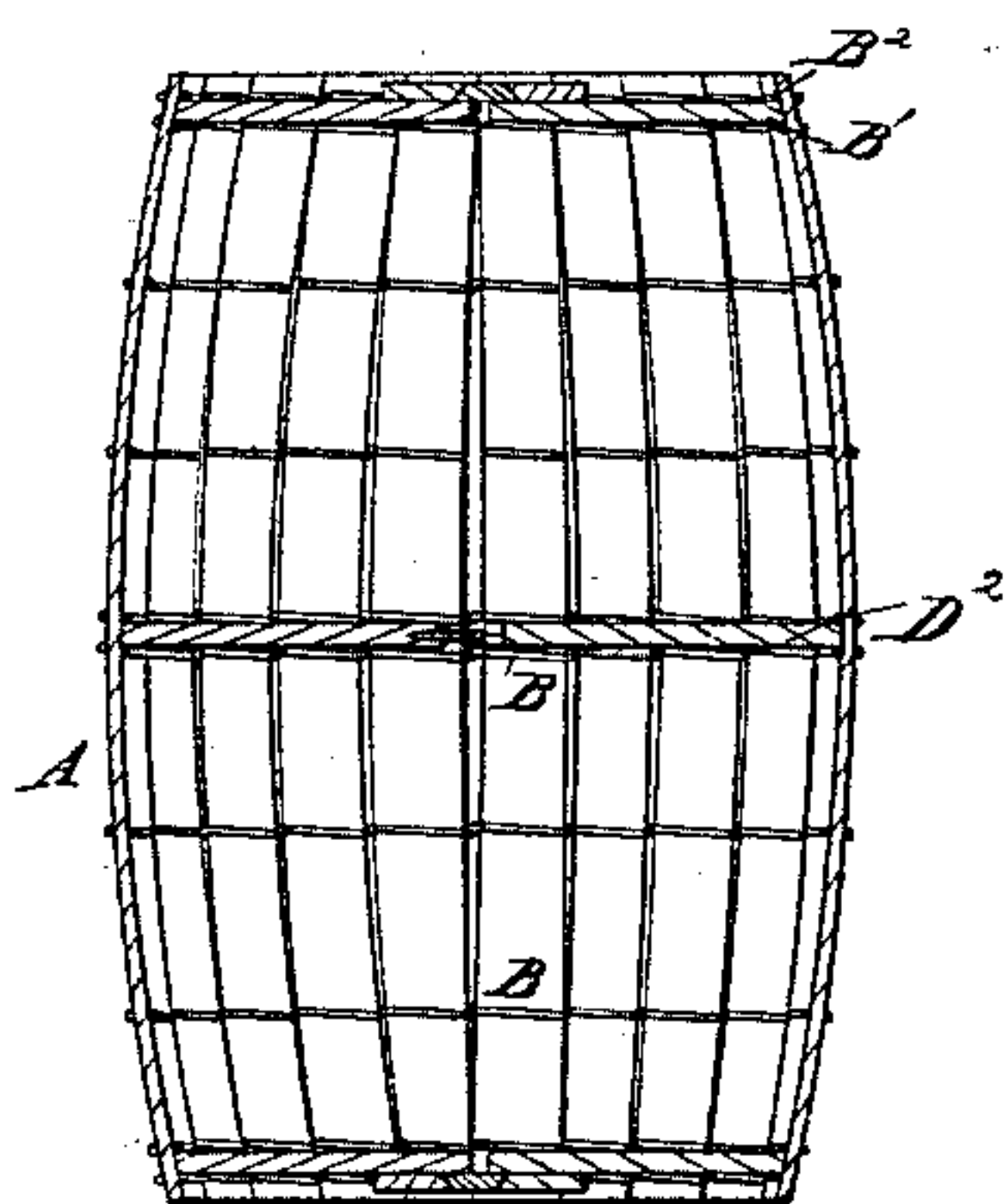


Fig. 9.

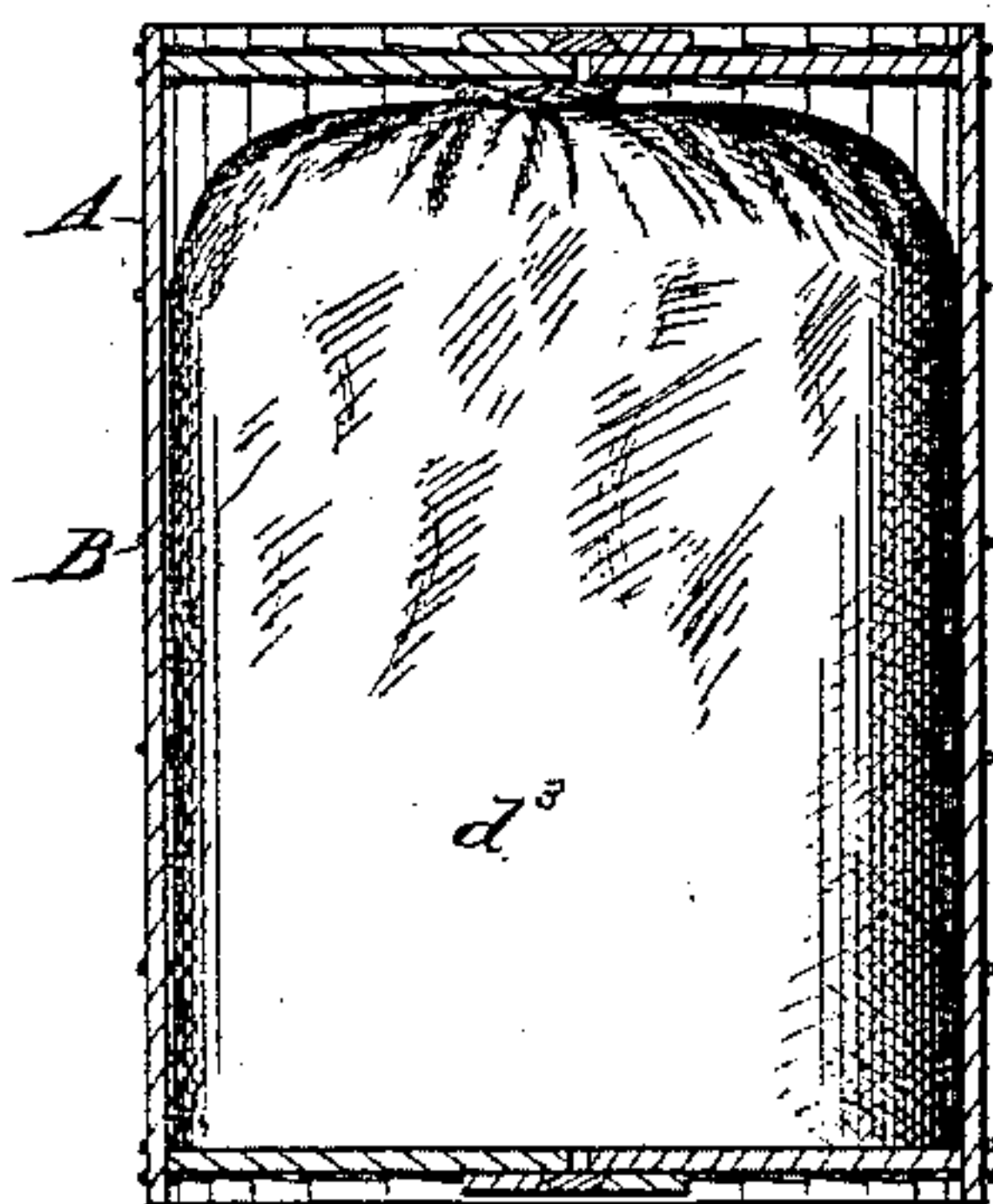


Fig. 10.

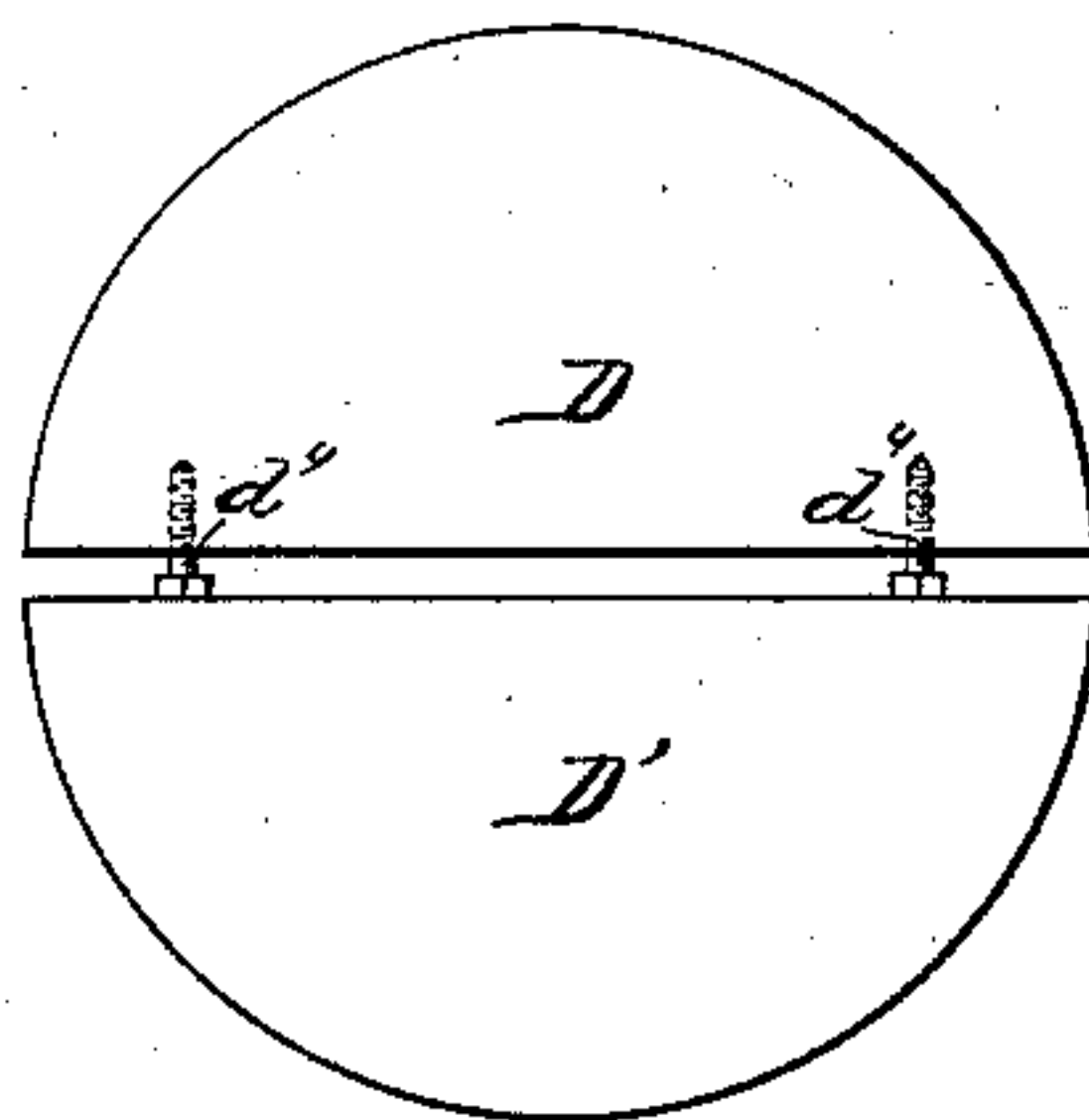
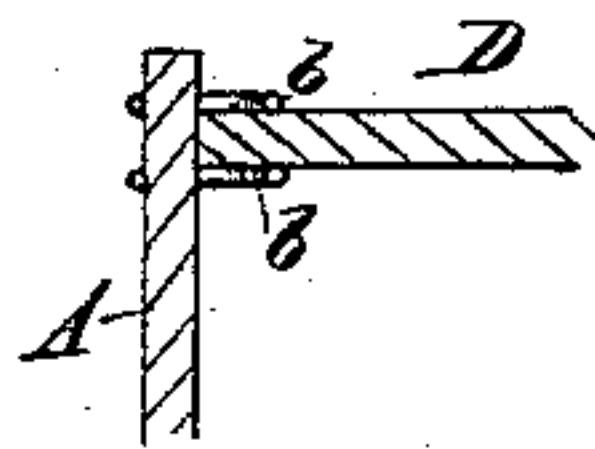


Fig. 11.



WITNESSES

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WOVEN FABRIC AND PACKAGE MADE THEREFROM.

SPECIFICATION forming part of Letters Patent No. 379,219, dated March 13, 1888.

Application filed March 7, 1887. Serial No. 230,023. (No model.)

To all whom it may concern:

Be it known that I, MILTON A. HAMILTON, of Detroit, county of Wayne, State of Michigan, have invented a new and useful Improvement in Woven Fabrics and Knockdown Packages Made Therefrom; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention consists of the combinations of devices and appliances hereinafter specified, and more particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a barrel or keg embodying my invention. Fig. 2 is a sectional view of the same. Fig. 3 is a plan view illustrating the means of expanding the head. Fig. 4 represents the shell of the barrel or keg knocked down for shipment. Fig. 5 illustrates how the heads may be packed for shipment. Fig. 6 is a horizontal section through the body of the barrel. Fig. 7 illustrates the top of the barrel with the head removed, showing how the wires may be projected upon the interior to serve as a croze for retaining the head. Fig. 8 represents a bilge barrel with one or more inner partitions. Fig. 9 shows the barrel provided with a lining of paper or fabric when it is designed for use in shipping flour or other dry merchandise that would be liable to sift out between the slats. Fig. 10 shows a modification of the expansion-head; Fig. 11, a separate view illustrating the manner of forming a croze-channel of two adjacent protruding wires.

It is the purpose of my invention to construct a neat, strong, and inexpensive package of various forms—round, square, &c.—which can be readily reduced to a knockdown condition, and which can be readily made up again in completed form for use.

In the accompanying drawings I have illustrated my invention as applied to the construction of barrels and kegs; but I would have it understood that the invention is equally applicable, with modifications, to the construc-

tion of various other articles, which in their specific forms will constitute the subject-matter of other applications, and hence, although I have illustrated the invention as so applied to the construction of barrels and kegs, I would have it understood that I do not limit myself alone thereto, as I desire also to cover my invention more generically in this application.

As applied specifically to the construction of barrels and kegs, it is the purpose of my invention to produce a cheap, simple, and strong barrel or keg designed for the packing or shipment of fruits, vegetables, flour, nails, or other merchandise, said barrel being capable of reduction to a knockdown condition for storage or shipment, and admitting also of being readily assembled into the form of a barrel or keg when it is desired for use, and without the necessity of the employment of hoops or nails.

To this end, A represents a series of slats woven together by strands of wire B. These wire strands may be located at suitable intervals along the length of the barrel or keg, and the slats, as well as the wire, may be made heavier or lighter, according to the strain that is apt to be thrown upon them in use for any particular purpose.

The fabric is provided with wire fastenings or other suitable clips, C, at its edges, so that the cylinder may be opened out into a flat form for shipment, and when in use the clips may be brought into play to firmly unite the edges and to sustain them against strain from within. In order to retain the heads in place, the slats might, if desired, be provided with a regular groove or croze. I form this croze by two adjacent weavings of wire, as shown at B' B², the heads being embraced at the edges between these weavings of wire.

Where the wire is employed, as above explained, to retain the heads, the thickness of the wire itself may be sufficient to accomplish the purpose; but I may cause the inner portions of each wire strand to project into the barrel slightly, and thus constitute a ledge or croze of greater depth without materially reducing the strength or rigidity of the fabric along this line. Such interior projections are indicated at b, and I would have it understood that each of these inner strands may be thus

projected, or there may be only an occasional projection *b*.

D D' represent the adjacent portions of one of the heads. *d* represents dovetailed cleats upon each section of the head, and *d'* a dovetailed wedge adapted to engage the said cleats and expand the two sections of the head formed against the cylinder. One of the sections may have a piece, *d*², connected with its under side, if desired, so as to lap over the opening between the two sections D D' when the barrel is in use. I would have it understood, also, that a similar head may be located as a partition midway the length of the barrel or keg; or there may be two or more such partitions so located, if desired, where the weight of the contents would be apt to injure the underneath portions. Such intermediate partitions may be expanded into place, the same as above described, and are indicated at D² in the drawings.

For the ordinary purposes of a fruit or vegetable package the barrel or keg is sufficiently closed; but if it is for use as a flour-barrel, or for any other merchandise liable to sift through, and consequently requiring a tight package, I purpose in such case to line the interior with Manila or other paper, as shown at *d*³, Figs. 4 and 9. This barrel or keg is well adapted both for the manufacturer, the shipper, and the purchaser. The packages can readily be unlocked and flattened out into developed form for shipment by the maker or for return by the purchaser, and in that event the pieces constituting the heads may be packed into a single barrel or keg, since it is only necessary to contract the expansible heads in order to enable them to be piled one upon another inside the barrel or keg, as shown in Fig. 5.

The interior lining of paper or other fabric may consist simply of an ordinary paper bag, if desired, although I do not limit myself to the manner of locating and engaging said lining within the barrel.

To construct a bilge barrel, as shown in Fig. 8, it is only requisite to weave the fabric of slats and wire more loosely intermediate of the ends of the slats, so as to permit the expansion-head being inserted into the interior of the barrel at or near the center to press outward the fabric, the fabric being woven tight at its ends.

As shown in Fig. 10, the head may be expanded by means of screws *d*⁴, engaged in one of the partitions or edges of the parts composing the head, the heads of said screws bearing against the adjacent edge of the upward head, permitting the expansion of the head by the operation of the set-screws.

I do not wish to limit myself to any particular means of expanding the heads.

The hooks or clips C are permanently engaged at one end upon one of the outer slats of the fabric, as shown in Fig. 4, and the opposite ends may be engaged through the ad-

jacent slat when brought together in forming the barrel, as shown in Fig. 1; or the outer end of said hooks may be extended, as shown in Fig. 4, to engage over the farther side of the adjacent slat when the fabric is brought together in the formation of the barrel. By permanently engaging these clips with the fabric, as shown in Fig. 4, they are never liable to be lost in knocking down the package.

The process of weaving the slats with the wires is such that the said wires lap past each other simply at each edge of the slats without twisting.

What I claim is—

1. A barrel having a body comprising slats connected by interwoven wires provided with clips C, rigidly secured at one end upon one of the outer slats of the body, and also having expansible heads, substantially as described.

2. A barrel or keg the body of which consists of slats woven together side by side with wire strands, crozes at their ends formed by two adjacent weavings of wire, and in connection therewith expansion-heads, substantially as and for the purposes described.

3. A barrel or keg made of slats woven together side by side with strands of wire, crozes at their ends, and expansion-heads, said crozes being formed by adjacent weavings of wire, said wires upon the interior of the barrel or keg being caused to protrude inwardly in loops opposite each or opposite several of the slats, substantially as and for the purposes described.

4. A barrel or keg composed of slats woven together side by side with wire strands, crozes formed at their extremities by adjacent weavings of wire, and expansion-heads, the cylinder of said barrel or keg lined with paper or other fabric, substantially as and for the purposes described.

5. A fabric designed for employment in the construction of packages, said fabric consisting of slats of wood woven together with a warp of wires, B, said wires projected in loops at desired points or intervals from the surface of the slats, substantially as and for the purposes described.

6. A fabric for the construction of packages, said fabric constructed of slats woven with a warp of wire and provided with clips or hooks to fasten the edges of said fabric when brought adjacent to each other in making up the package, said clips having a fixed engagement at one end upon one of the outer slats of said fabric, substantially as described.

7. A barrel having a body formed of a fabric of normally-straight slats woven with a warp of wires, the warp-wires intermediate of the ends of the body being loosely woven, and having means for expanding the center of the body to form the bilge, substantially as described.

8. A barrel or keg consisting of a body constructed of slats woven together with a warp of wires provided with clips C, having a fixed

engagement at one end upon one of the outer
slats of which the body is constructed, and in
combination therewith expansion-heads, said
slats provided with a raised croze, said body
5 and heads being held in place solely by the
engagement of the clips and the expansion of
the heads, substantially as described.

In testimony whereof I sign this specification
in the presence of two witnesses.

MILTON A. HAMILTON.

Witnesses:

N. S. WRIGHT,

M. B. O'DOHERTY.