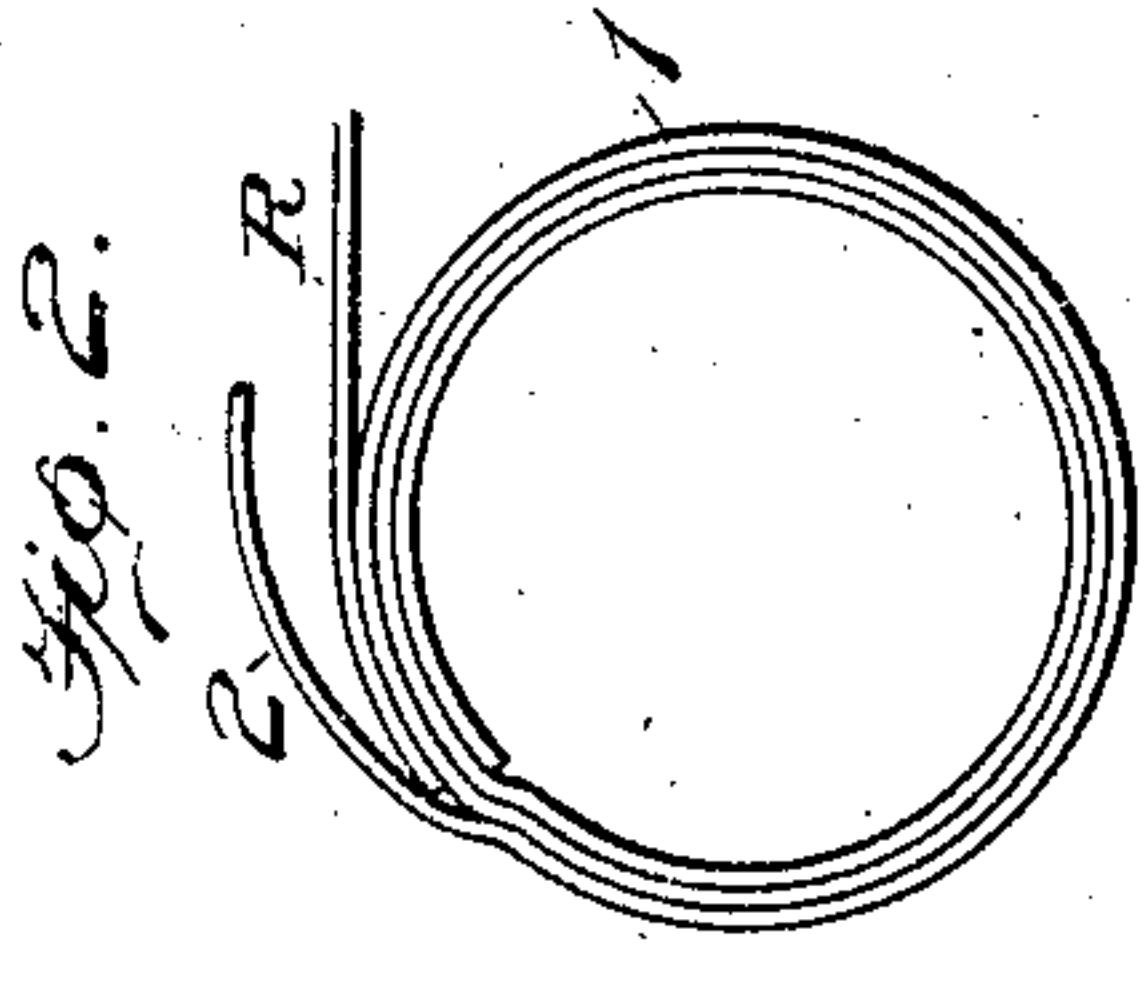
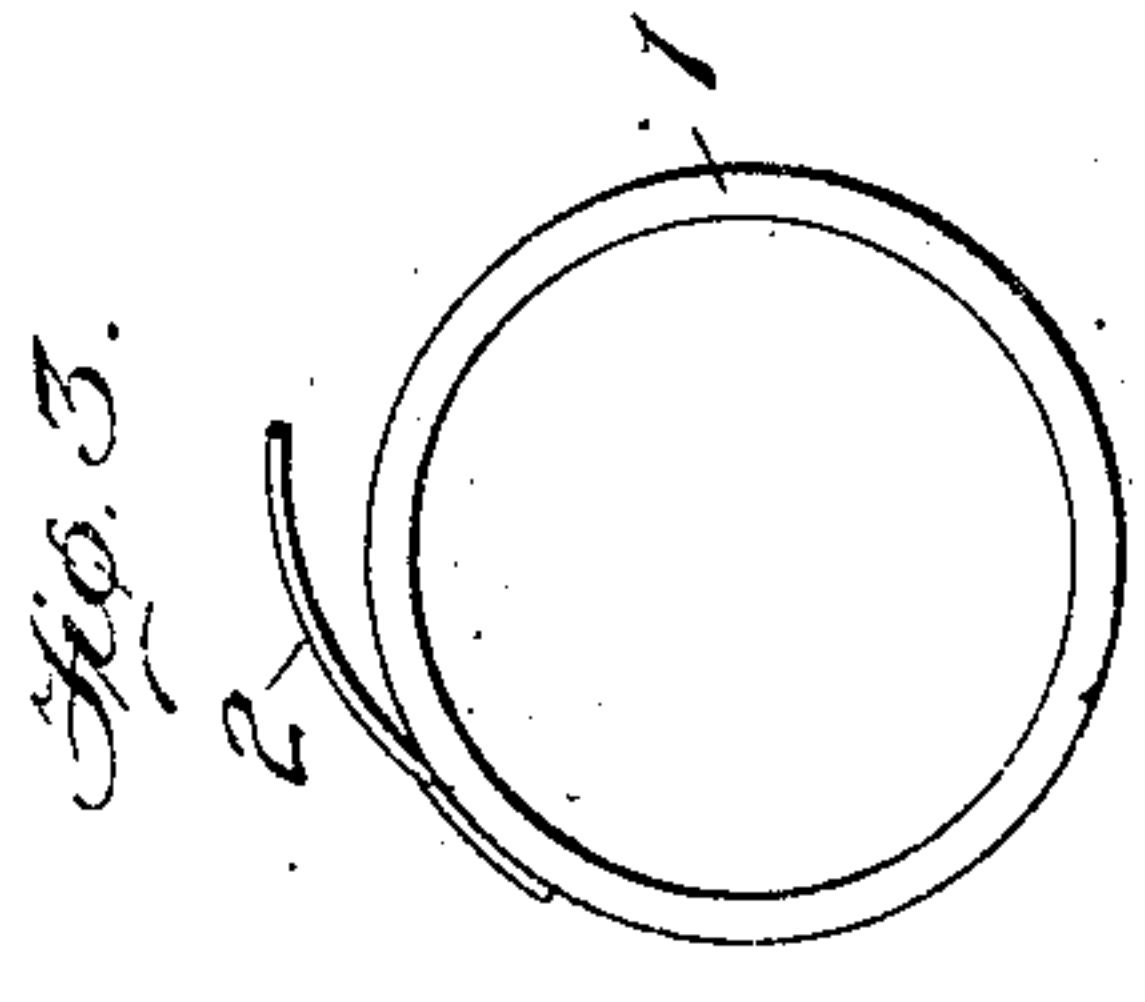
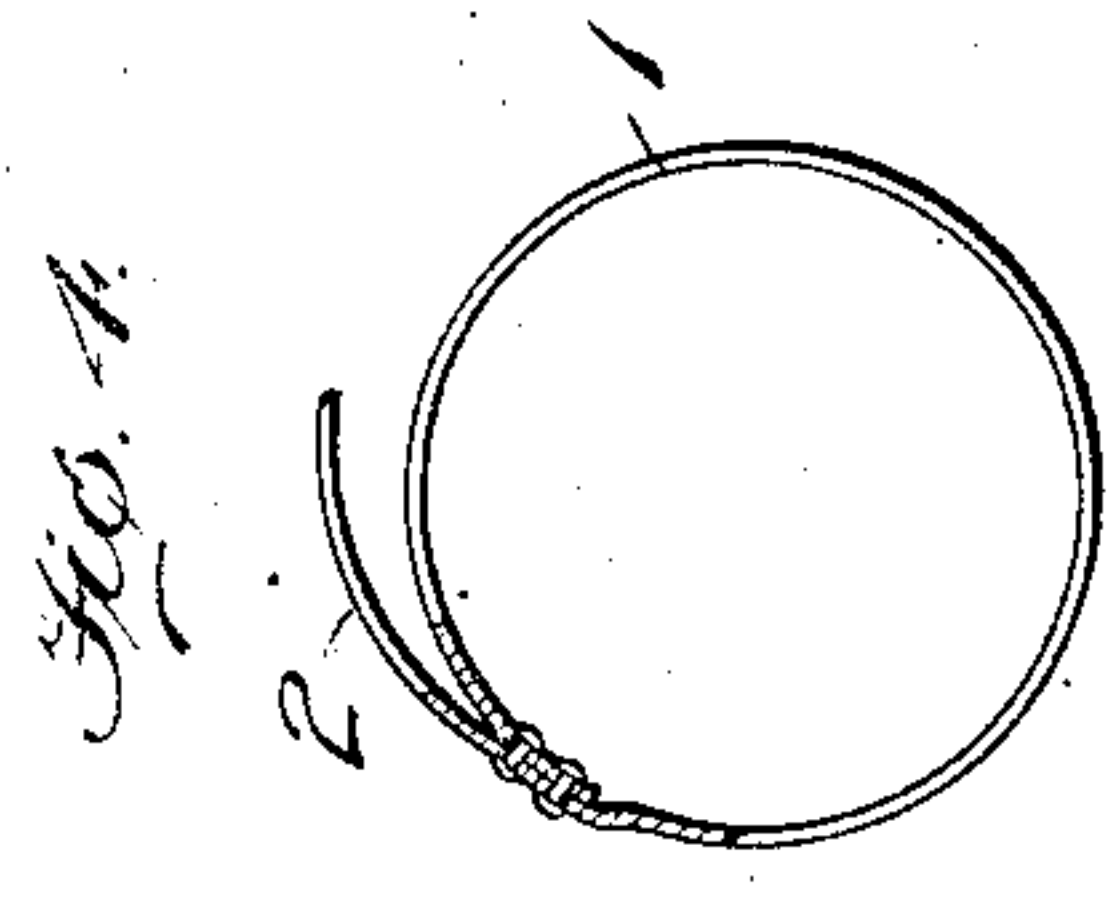
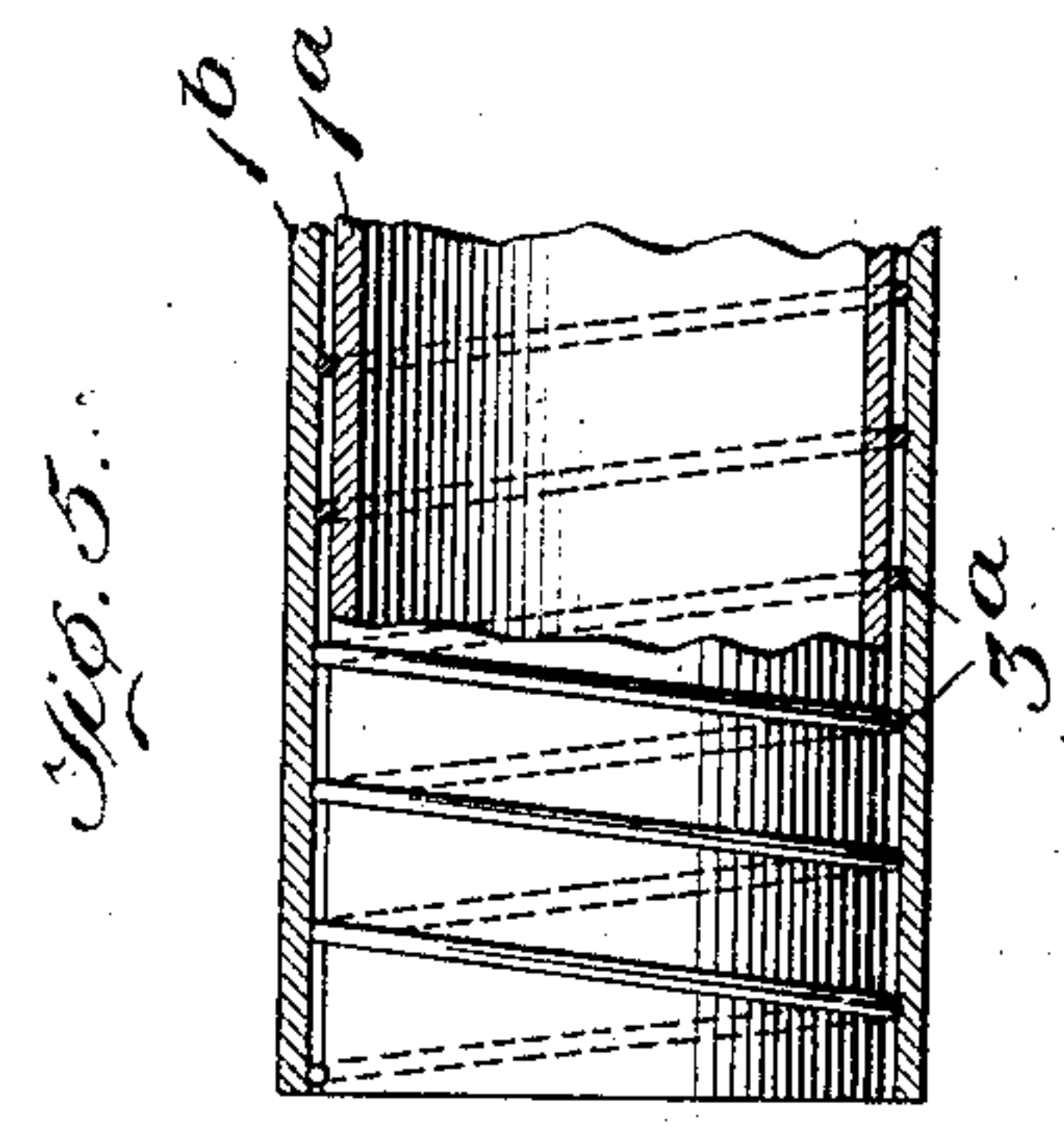
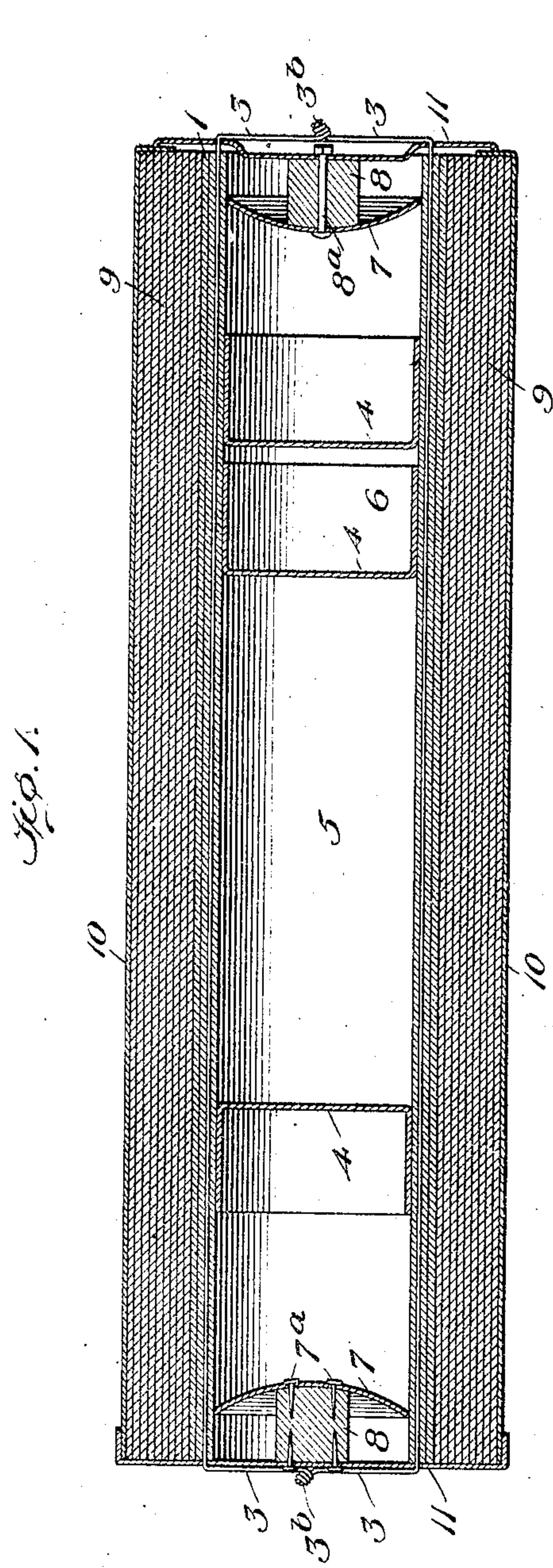


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 MANDREL FOR REELING READY ROOFING FABRICS.
 APPLICATION FILED DEC. 28, 1908.

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MANDREL FOR REELING READY-ROOFING FABRICS.

No. 925,425.

Specification of Letters Patent.

Patented June 15, 1909.

Application filed December 28, 1908. Serial No. 469,539

To all whom it may concern:

Be it known that I, BENJAMIN G. CASLER, a citizen of the United States, residing at Tonawanda, in the county of Erie and State of New York, have invented certain new and useful Improvements in Mandrels for Reeling Ready-Roofing Fabrics; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to the construction of mandrels or reels for reeling ready roofing fabrics, and the like, and has for its main object the production of a mandrel or reel which will facilitate the engagement therewith of the leading end of the fabric, avoid the bending, curling or buckling of the edges and corners of the fabric, and insure the proper alinement of the fabric and tension thereon and the production of a perfect roll.

Other objects of my invention relate to the construction of a mandrel or reel, which will constitute in itself a receptacle for the asphaltum cements, nails, tin caps, &c., needed in making the laps required in the application of the roofing fabrics.

A further object of my invention is the provision of means for closing the ends of the tubular mandrel or reel and adapting it for use on the present forms of reeling machines; and a still further object is the provision of means for securing the end caps after the fabric has been reeled on the mandrel and is ready for shipment.

Heretofore, several methods of reeling ready-roofing fabrics for the market have been practiced, all of which are more or less objectionable, or expensive, or both.

In some cases the fabric is reeled on an iron mandrel which mandrel is subsequently withdrawn, and the ends of the roll closed by plugs to protect said ends and retain the inclosures of cement, nails, &c., which latter require separate receptacles. In this method of reeling for shipment it is difficult to securely fasten the end plugs and end caps which complete and protect the roll of fabric, and retain the contents of the roll.

Another method has been to provide a light wood mandrel comprised of disk heads and longitudinally disposed slats, but with this device it has been difficult to secure a true running mandrel which would insure a

perfect roll, besides which it is frequently necessary to bend or curl the corners of the leading end of the fabric to insure its engagement with the mandrel, and after the engagement of the mandrel and fabric is effected it is difficult if not impossible to correct any errors of alinement in reeling without great loss of time in stopping the mandrel and roofing machine, which reduces the capacity of the roofing machine. Furthermore such reels being of light material are frequently broken, and a perfect roll is difficult to obtain.

To correct the defects of the present practice, I provide a mandrel or reel with a projecting flap or tongue to take over the leading end of the roofing fabric, and with heads or end closures whereby it is adapted for use in a reeling machine and such a construction embodies the main feature of my invention.

I preferably form or construct the mandrel or reel as a tube or hollow cylinder combining therewith cups or disks whereby the interior is divided into separate compartments for the reception of the asphaltum cement, nails, &c., required for laying the roofing, and such a construction embodies a second feature of my invention.

In order to close the ends of the tubular mandrel or reel I provide cup shaped spring metal disks, and blocks therefor which may constitute the means of holding the mandrel in the reeling operation, and subsequently serve for the attachment of the end caps when the roll is completed, and such a construction embodies a third feature of my invention.

There are other, minor, features of invention, embracing particular combinations and features of elemental construction, all as will hereinafter more fully appear.

In the drawings chosen for the purpose of illustrating my invention, the scope whereof is pointed out in the claims, Figure 1 is a longitudinal central section of a mandrel or reel embodying my invention with the ready roofing fabric reeled thereon for shipment. Fig. 2 is an end view of the tubular mandrel or reel as made of several plies of light weight paper, by rolling and pasting, the free end of the blank constituting a flap or tongue for engaging the leading end of the fabric to be rolled. Fig. 3 is an end view of a hollow

mandrel or reel, made from a single ply heavy paper board or from paper pulp, the flap or tongue pasted thereon or otherwise attached thereto. Fig. 4 is an end view of a hollow mandrel or reel formed from sheet metal, riveted to produce the flap or tongue, and Fig. 5 is a sectional view of a hollow mandrel comprised of an inner and outer paper sleeve and an interposed stiffening coil of wire.

Like symbols refer to like parts wherever they occur.

I will now proceed to describe my invention more fully so that others skilled in the art to which it appertains may apply the same.

In the drawings, 1 indicates a hollow mandrel or reel of suitable material, preferably several plies of paper, said mandrel provided on its exterior with a projecting flap or tongue 2, adapted to engage and retain the leading end of the fabric which is to be reeled on the mandrel.

3, 3 indicate wires inserted between the plies of the mandrel at the time of the formation thereof, or otherwise embedded in the body of the mandrel and said wires may extend beyond the ends of the mandrel for purposes which will hereinafter appear. These wires serve to reinforce and stiffen the mandrel, and if desired may be coiled therein as indicated at 3^a in Fig. 5 of the drawings, in which case the hollow mandrel may be formed of an inner sleeve 1^a and outer sleeve 1^b cemented together by means of a hard cement in which the coil 3^a is embedded. It is, however, preferred to carry said wires 3, 3 through between the plies of the mandrel without coiling, as thereby a continuous blank can be used in forming the hollow mandrel, and the wires may be subsequently used for splitting the hollow mandrel when its contents are to be removed.

4, 4 indicate a series of cups, preferably of paper, whose external diameter substantially equals the interior diameter of the hollow mandrel in which they are to be inserted, and the same, or equivalent means, may be employed as partitions to divide the interior of the mandrel into a compartment 5 for the reception of the cementitious matter, and a compartment 6 for nails, &c., employed in applying the roofing fabric to the roof.

If the paper cups 4, 4 are used to form the partitions with the hollow mandrel, paste is applied thereto and they are inserted consecutively and properly located. The cement for the lap joints is introduced either hard, or as a liquid in cans, between the insertion of the first and second partition, and the nails, &c., between the insertion of the second and third partition—or in reverse order, if desired.

7, 7 indicate sheet metal spring disks, adapted to be forced within and used to close

the ends of the hollow mandrel, and 8, 8 blocks secured thereto and constituting the means for securing the mandrel in position in the machine while reeling the roofing fabric thereon.

In the drawings, two forms of connection between the spring metal disks 7 and blocks 8 have been shown, either of which or any equivalent thereof may be adopted at the will of the user.

At the left of Fig. 1 of the drawings the connection has been shown, simply in the form of nails 7^a passing through the spring metal disk 7 and into a wood block 8, while at the right of said figure the connection between the disk and block has been shown as a bolt 8^a and nut, and in this latter construction the block 8 may be of metal if desired, and the bolt and nut may be used to spring or spread the disk 7 so as to cause it to clamp the interior walls of the hollow mandrel. At this stage of its construction the mandrel is complete for insertion into the machine for the reception of the roofing fabric 9, which is to be spooled thereon, and said reeling is done as follows: The mandrel having been inserted in its proper position in the machine with relation to the conveyer belt of the roofing machine, the leading end of the fabric to be reeled or spooled thereon is inserted under the flap or tongue 2, as indicated at R, Fig. 2, and the reel is set in motion. As, in practice, the reel is caused to rotate at greater speed than the travel of the conveyer belt which carries the fabric from the roofing machine, the slack of the fabric, which has resulted from the loss of time incident to the removal of one roll and the insertion of a new reel, is rapidly taken up with a jerk which insures the alinement of the fabric as the leading end of the fabric though engaged by the flap or tongue is at first free to shift or adjust itself with relation thereto. After this preliminary alinement the roofing fabric is rapidly spooled on the reel under uniform tension so as to prevent disarrangement, and a perfect roll will be produced.

9 indicates the ready roofing fabric which has been reeled upon the mandrel, as hereinbefore noted, and 10 the outer cover or paper wrapper thereof. After reeling the fabric on the mandrel, and previous to storage or shipment of the roll, it is desirable and customary to protect the ends of the rolls by end caps or covers, as at 11, Fig. 2. In my construction said end caps 11 may be secured in either one or more of several ways, that is to say by nails which pass through the cap 11 into the block 8, where the block 8 is of wood, as indicated at the left of Fig. 1 of the drawing, or by passing the bolt 8^a through the end cap 11, if the block is of metal. If this last method is adopted, the cap 11 may be countersunk to bring the nut flush with the end of the roll. The end caps 11 may also be

secured by passing therethrough the wires 3, 3, and twisting said wires together as indicated at 3^b.

After the removal of the ready roofing fabric from the reel or mandrel, for laying the roofing, access may be readily had to the cement, &c., in the interior of the mandrel, by using the wires 3, 3 to split or separate the mandrel longitudinally.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A reel or mandrel provided with a projecting flap or tongue and having end bearings or heads whereby it is adapted for use in a reeling machine.

2. A tubular reel or mandrel provided on its interior with partitions which divide it into separate compartments.

3. A tubular reel or mandrel having longitudinally disposed wires embedded therein.

4. A tubular reel or mandrel provided on its interior with a series of partitions, and having longitudinally disposed wires embedded therein.

5. A tubular reel or mandrel, provided on its interior with a plurality of cups having diameters corresponding with the interior diameter of the mandrel, secured therein and constituting partitions therefor.

6. A tubular reel or mandrel provided on its exterior with a projecting tongue or flap, and having its interior divided into separate compartments by a series of cups.

7. The combination with a tubular reel or mandrel, of spring disks and a blocks for closing the ends of said mandrel.

8. The combination with a tubular reel or mandrel, of spring disks and blocks for closing the ends of the mandrel, and end caps for protecting the ends of the roll of fabric.

9. The combination with a tubular reel or mandrel, of longitudinally disposed wires embedded therein, and end caps secured by said wires.

10. A tubular reel or mandrel composed of a series of plies of paper, having reinforce wires embedded therein, and provided with a projecting flap or tongue.

11. A tubular reel or mandrel having a peripheral flap or tongue and closed ends forming bearings whereby the reel is adapted for use in a reeling machine.

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

BENJAMIN G. CASLER.

Witnesses:

OLA. B. CASLER,
A. P. LAWTON.