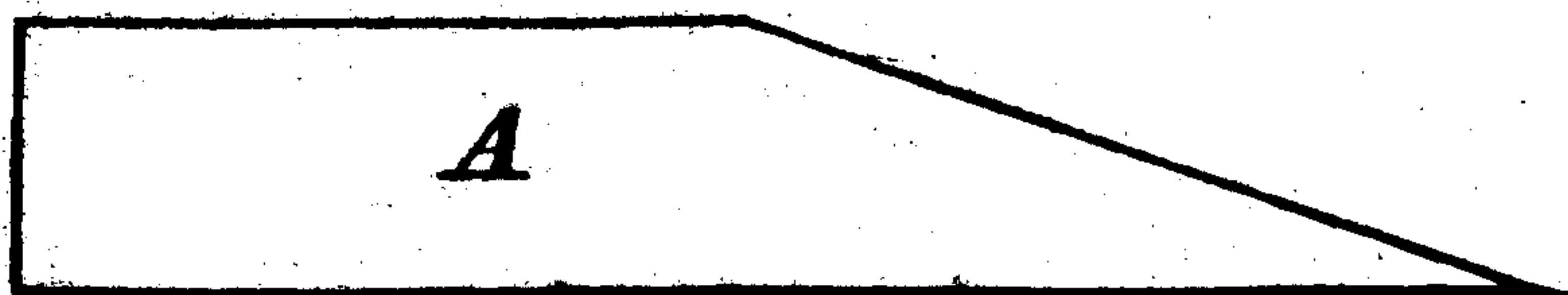


A. McCAUSLAND.
PAPER COP TUBE.

No. 17,746.

PATENTED JULY 7, 1857.



*TAKEN FROM PATENT OFFICE REPORT
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UNITED STATES PATENT OFFICE.

ALEXANDER McCAUSLAND, OF PROVIDENCE, RHODE ISLAND.

PAPER-COP TUBES.

Specification of Letters Patent No. 17,746, dated July 7, 1857.

To all whom it may concern:

Be it known that I, ALEXANDER McCAUSLAND, of Providence, in the county of Providence and State of Rhode Island, have
5 invented a new and improved mode for the construction of the machines known as "Paper cop-tubes," used on mule-spindles in cotton-spinning and upon spindles shaped like mule-spindles; and I do hereby declare
10 that the following is a full, clear, and exact description of the construction and operation of the same.

The mode of construction of my tube is as follows: Cut a strip of paper into the shape
15 of the drawing hereto annexed (marked A), and which is hereby made a part of this specification, the same varying in length as the size of the tubes may require, and having one of its edges cut straight and the other
20 edge cut straight for about two (2) inches from the base or large end of the strip, and being from that point cut taperingly until it comes to a point at the other end of the
25 strip with the opposite straight edge. The length of the strip may vary from ten (10) to twelve (12) inches, more or less, according to the required size of the tube to be constructed. The tube may be made from any
30 kind of paper as may be desired, although brown Manila paper is the kind most generally used. In order to complete the construction of the tubes as improved by me, the strip of paper is to be moistened with
35 paste at one of its sides, then the base or larger end of the strip is wound first by hand once round a spindle and the spindle is then carefully turned until the whole is wound up, the winding being made tight enough to
40 cause the papers to adhere through its whole extent.

By this process the tube is produced shaped in the form of a truncated cone, and being about six (6) times more or less thicker at the base or larger end than at the top; and
45 the bore remains the same size throughout.

The mode of the practical operation of this

tube upon spindles is precisely similar to that of the old form of the paper cop tubes, upon which they are an improvement.

The improvement which results from my
50 invention in the working of these tubes is as follows: Whereas in the course of the working of the old tubes it is customary to use them as long as they will last, and owing to their construction they are not calculated
55 for endurance, because as the tubes are the same size at both ends, and thinly made, they are always split by being used a few times on the mule or shuttle spindle, and in using the tubes afterward the split or torn
60 parts prevent the yarn from running off freely on account of the adhesion of the thread or yarn, as the case may be, to the split or torn portions of the tube, consequently both tube and yarn are thrown
65 away as waste.

Now, by my improvement it is effected that, owing to the increased thickness of the base or larger end of the tube, which is first
70 put upon the spindle, from necessity, on account of the tapering shape of the tube, it is impossible to split them by ordinary use; and, owing to the tapering shape of the tube, as described above, the yarn will in all cases
75 run off it much more easily than it does off of the original ones, thereby saving immense waste, both in the amount of yarn and thread now thrown away and in the number of tubes themselves now necessarily used.

What I claim as my invention, and desire
80 to secure by Letters Patent, is—

The paper cop tube made of a strip of paper of the form represented in the diagram A in the manner described, whereby greater strength is given to the base of the
85 tube, while the desired conical form is at the same time attained.

ALEXANDER McCAUSLAND.

Witnesses:

THOMAS S. ANTHONY,
JAMES M. RISSLEY.