E. L. Norton,

Impd Shoe Binding,

No. 17445, Patented June 2, 1857.

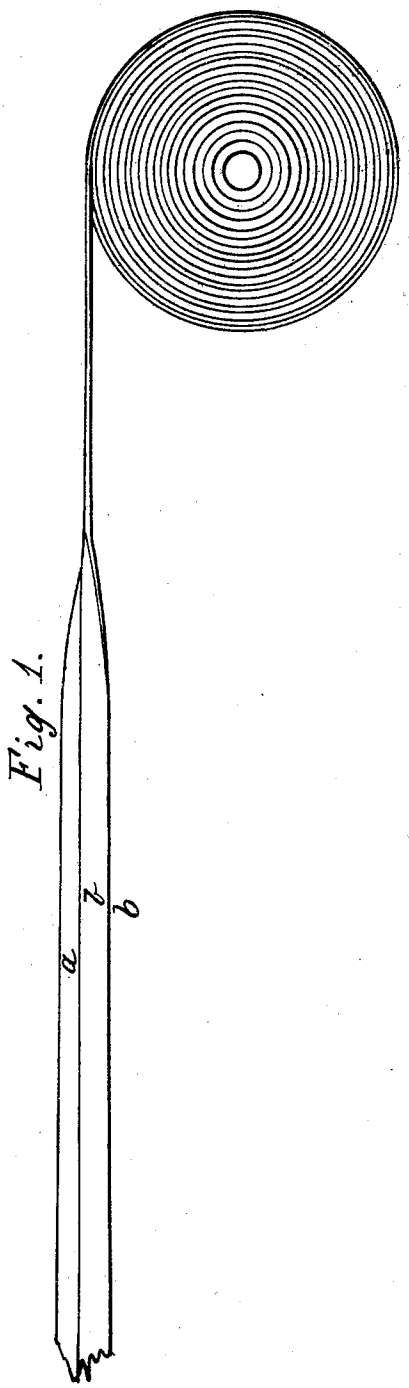


Fig. 1.



Fig. 2

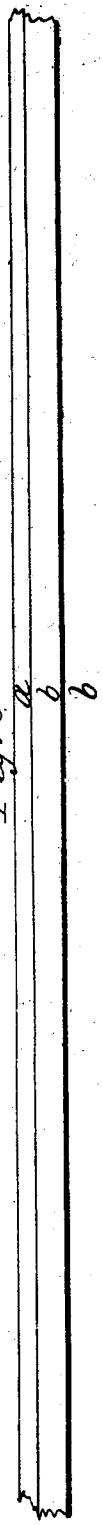


Fig. 3

UNITED STATES PATENT OFFICE.

E. L. NORTON, OF CHARLESTOWN, MASSACHUSETTS.

PROCESS OF MANUFACTURING LEATHER SHOE-BINDING.

Specification of Letters Patent No. 17,445, dated June 2, 1857.

To all whom it may concern:

Be it known that I, EUGENE L. NORTON, of Charlestown, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in the Manufacture of Shoe-Bindings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, which forms part of this specification, and in which—

Figure 1 represents a roll of my improved manufacture of shoe binding; Fig. 2, an edge view of a mode of joining two lengths or pieces thereof.

In the ordinary process of manufacturing shoe binding, the leather, having been previously tanned and reduced to a uniform thickness by any of the well known means for that purpose, is moistened and spread evenly on a flat table. Then a tool called a "striper" (which is frequently a piece of wood to which are affixed at proper intervals pieces of sponge saturated with the coloring liquid) is drawn across the skin, guided by the edge of a ruler, and marks a number of stripes or broad lines corresponding with the number of sponges. The ruler is then moved a sufficient distance for another stroke and so on till the skin is completely marked. The leather is then cut into narrow strips and their ends united together, making one long strip, or the skin is sold entire to be cut by the purchaser, each of the strips when cut presenting on their one side or surface the appearance exhibited in Fig. 3 of the drawing wherein *a* denotes the portion not printed and *b* the portion printed or colored. This is a costly, tedious and objectionable process, as will be hereinafter explained, and by my new and improved process of manufacturing shoe-binding, which I shall now proceed to describe, great facilities are afforded by which the quantity and quality of the manufactured article is increased and improved greatly beyond what it is possible to effect by the common mode of manufacture.

I take the prepared leather and cut it into narrow strips, which I do at one operation by means of circular revolving shears, say, as illustrating a means, the operation of cutting the whole skin requiring less time than to cut one strip by the old method. The strips of leather for shoe-binding, it will be observed and remembered are colored only on one half (more or less) of their breadth, *a*, in Fig. 1, representing the white or unprinted portion and *b* the printed or colored stripe. This coloring I do not make in parallel stripes on the skin before it is cut into strips, but taking the uncolored strips made by cutting the skin or leather as described, and uniting the ends of said strips, say as at *c*, *d*, in Fig. 2, so as to form one long unprinted strip, I cause such long strips to be guided between rapidly revolving rollers one of which is supplied with the coloring matter with which the binding is stained in its passage, or the color may be applied on its passage through the rollers, or their equivalents, by a sponge or a tube flattened at the one end and supplied with coloring matter; but as the method of coloring is or may be analogous to well known methods of cylinder printing no particular description thereof is here needed, the joined strips having one continuous stripe as at *b*, Fig. 1.

Now it will be obvious that by this new process of manufacturing shoe binding the perfection and rapidity of the manufacture are greatly increased and that these machines for cutting and coloring are available only when the color is applied subsequent to the cutting, because, owing to a want of uniformity in the texture of the leather or skin, it shrinks unequally in drying and the printed lines or stripes (in the ordinary process of manufacture) become crooked, rendering it absolutely necessary to cut the skin by hand, as no adjustment of rotating shears could be made to follow in the lines of the color and the skin thus printed and cut (apart from the slowness of the proceeding and crooked character of the stripe) can not be cut to advantage into strips such as, without wasteful trimming, could be joined together in one long piece presenting a straight continuation of its edges and stripe throughout its whole length and at the several junctions, so obviously desirable or essential in "binding" and as, by my improved process of manufacturing said binding, is so perfectly and rapidly attained and thus the quantity and quality of the article increased and improved and the "binding", necessarily so perfect and straight,—the thicker parts of the fleshy side of the leather having been removed by suitable leather splitting mechanism producing uniformity in thickness throughout—may be rolled up into a close, flat, cir-

cular roll of any required length fit for the market and presenting, as before observed, an evenly wide and straight stripe throughout, which the ordinary mode of manufacture, of striping on the skin, and so forth, can not, for reasons before given, produce, and on the subject of economy it is unnecessary to remark, as the comparative cost of the two processes is apparent.

My invention of course is totally distinct from the mere joining of several strips of leather at their ends and running them through machinery to beautify their edges, or splitting the leather to reduce it to a uniform thickness, as common in the manufacture of belts, bands and other articles and my process of manufacturing "shoe binding", which must have the stained, painted or printed stripe and which should be of a uniform continuous width throughout the several strips, is an improvement which bears no analogy.

What I claim, and desire to secure by Letters Patent, is—

The improved process herein described of manufacturing shoe binding by dividing the skin or sheet of leather into strips of equal width, joining them at their ends so as to connect them into one long strip and coloring the same when so formed, the whole being formed of or reduced to a uniform thickness and the fleshy or surplus portions of the leather removed by splitting or otherwise.

In testimony whereof, I have hereunto subscribed my name.

EUGENE L. NORTON.

Witnesses:

M. H. MERRIAM,

J. B. CROSBY.