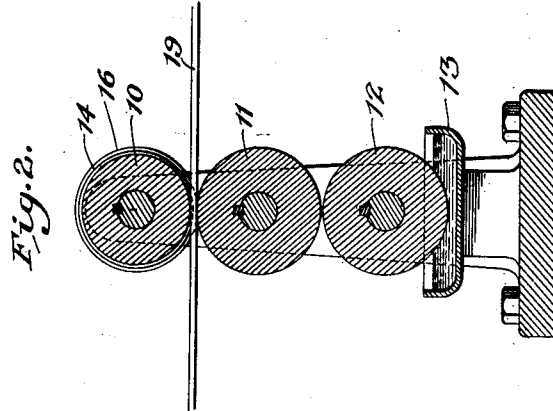
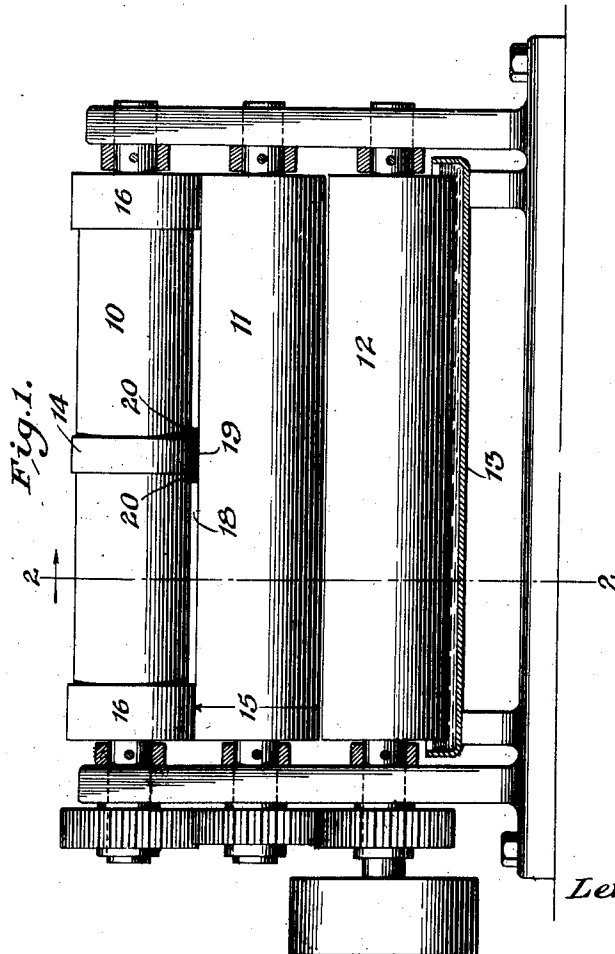


L. M. DIXON.
 PROCESS AND APPARATUS FOR INKING RIBBONS.
 APPLICATION FILED MAR. 1, 1919.

1,364,043.

Patented Dec. 28, 1920.



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PROCESS AND APPARATUS FOR INKING RIBBONS.

1,364,043.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LEWIS M. DIXON, a subject of the King of England, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Process and Apparatus for Inking Ribbons; 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 art of manufacturing typewriter ribbons.

Since the advent of the World War, fibrous material, having selvage edges and used most generally in the manufacture of typewriter ribbons, has become scarce in the extreme. This condition has led manufacturers and inventors to seek a substitute, and this has been found, although certain disadvantages in connection with its use have arisen. The substitute consists in cutting up a sheet of fibrous material or cloth into strips of predetermined length and width, and gumming the longitudinal edges of each strip in order to prevent unraveling of the fibers on the marginal edges. However, after the gum is permitted to dry and the strips subjected to an ink-impregnating treatment, which invariably involves pressure, unless extreme care is taken, and, in fact, even when extreme care is exercised, these hardened gummed edges frequently become fractured, unraveling of the fibers ensues, and the very object sought is defeated. After experimenting with various sorts of contrivances I have finally succeeded in evolving certain means which eliminate the disadvantage to which reference has just been made. Generally, my invention consists of applying pressure differentially with respect to the gummed edges, and the intermediate portion of the fabric strips,—a very light pressure to the gummed edges and a comparatively heavy pressure to the intermediate portion.

One manner in which my invention may be carried out is shown in the accompanying drawings, in which,

Figure 1 is an elevation of the inking mechanism, and

Fig. 2 is a vertical sectional view taken along lines 2—2 of Fig. 1.

Referring more particularly to the draw-

ings, 10 and 11 designate, respectively, upper and lower ink-applying rollers, while 12 denotes the ink-supplying roller rotatable in an ink-pan, as 13. Upper roller 10 is provided with a medial annular extension 14, the actual degree of extension in practice being approximately about one one-thousandth of an inch. The roller 11 has a uniform diameter at 15, and both rollers are provided at their terminals with flanges which serve as spacing means. 16 represents the flanges on the upper roller. In this connection, I wish it understood that it is of extreme importance that the flanges 16 of the upper roller should be so extended that the space 18 between the body portions of the rollers should be slightly greater than the space between the medial extension 14 and the portion 15 of the lower roller. Ink may be supplied to the roller 11 by means of the roller 12, which is illustrated as operating in a conventional type of ink-pan 13.

A ribbon or strip of fibrous material 19 with exaggeratedly shown gummed edges 20, is caused to occupy the position illustrated in Fig. 1, with the annular extension 14 engaging the width of the ribbon, excepting its longitudinal gummed edges 20, and the gummed edges occupying positions immediately adjacent the shoulder of the extension 14 in the space 18. By virtue of this arrangement the maximum degree of pressure is exerted on the major portion of the ribbon, while only minimum pressure is brought to bear on the fragile edges 20. This minimum pressure, however, taken in conjunction with the maximum pressure, occurring between extension 14 and portion 15 of roller 11, which manifestly has a tendency to force the ink outwardly across the marginal edges of the ribbon, and owing further to the principle of capillary attraction, is sufficient to impregnate edges 20 to a degree, for practical purposes, equal to the degree of impregnation of that portion of the ribbon intermediate the edges. As previously intimated, the flanges 16 of the roller or the facing elements are limiting means, always maintaining the rollers and the opposite parts in proper relationship.

What I claim is—

1. The process consisting of impregnating the edges of a strip of fabric with a gum, then impregnating said strip intermediate the gummed edges with ink and applying

pressure to said strip, a heavier pressure to the intermediate inked part than to the marginal gummed part.

2. The process consisting of feeding a
5 fibrous strip having gummed edges to an inking surface and applying pressure to the strip relatively heavier intermediate the gummed edges than on the gummed edges whereby the ink is applied to the intermedi-
10 ate part and thence pressed outwardly into the gummed margins.

3. An apparatus of the character described comprising an ink applying roller and a pressure roller having an annular extension less in width than the strip to be 15 treated, the diameter of the extension being greater than that of the body of the roller whereby a slight pressure is applied to the margins of the strip and a greater pressure is applied to the intermediate part. 20

In testimony whereof I affix my signature.

LEWIS M. DIXON.