H. S. STARK.

TYPEWRITER RIBBON.

APPLICATION FILED JUNE 12, 1919.

1,392,458. Patented Oct. 4, 1921.

Fig. 1.

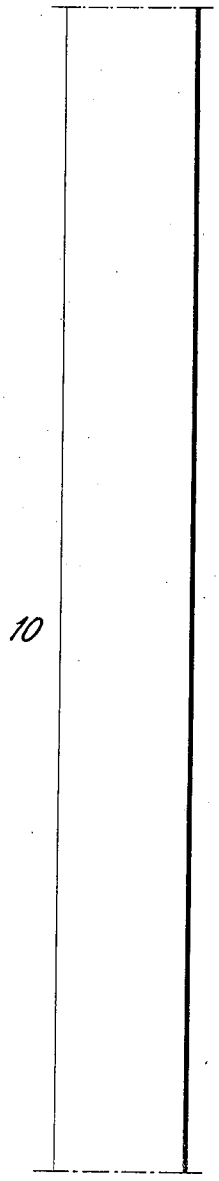


Fig. 2.

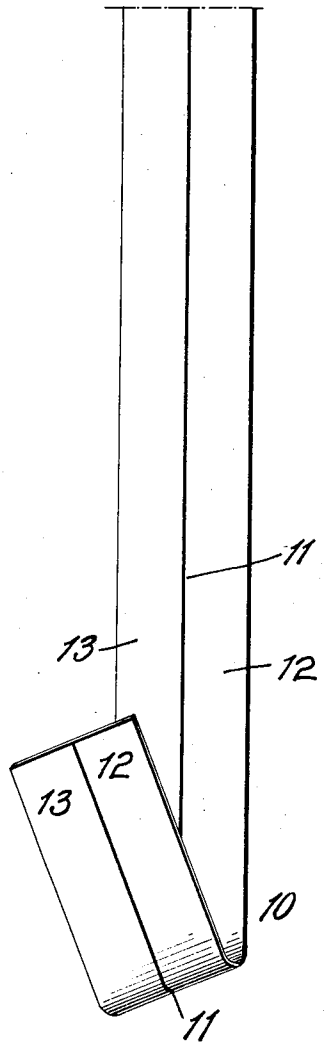
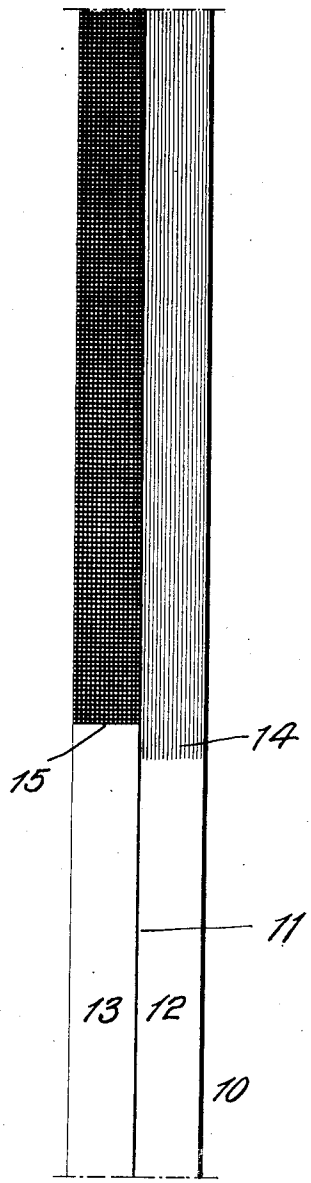


Fig. 3.



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HARRY S. STARK, OF PARK RIDGE, NEW JERSEY, ASSIGNOR TO MITTAG & VOLGER, INCORPORATED, OF PARK RIDGE, NEW JERSEY, A CORPORATION OF NEW JERSEY.

TYPEWRITER-RIBBON.

1,392,458. Specification of Letters Patent. Patented Oct. 4, 1921.

Application filed June 12, 1919. Serial No. 303,607.

To all whom it may concern:

Be it known that I, HARRY S. STARK, a citizen of the United States, and resident of Park Ridge, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Typewriter-Ribbons, of which the following is a specification.

The invention pertains to typewriter or writing-machine ribbons of the kind commonly known as bichrome, trichrome, etc., ribbons, these ribbons having adjacent parallel stripes of variously colored inks extending longitudinally thereof. It is well known that typewriter ribbons possessing only one color, or a solid color ribbon, are prepared with an ink which is superior to the inks employed in the manufacture of plural colored ribbons this being due to the fact that the ink for solid color ribbons contains a sufficient quantity of anilin base and oil, with a pigment, to render the soluble base contained in the oil flowable or capable of movement through the fabric of the ribbon, so that the ribbon, for a certain period, renews itself in respect to the ink at points at which the type may partially deprive the ribbon of its ink. It has been found impracticable to prepare bichrome or plural colored ribbons with the same character of ink used in making solid color ribbons, because of the flowable character of the ink used in solid color ribbons and which, if employed in plural color ribbons, results in the inks along the line of division between the colors flowing across the line and into one another, whereby there would not be a perfect line of demarcation between the colors.

The object of my invention is to provide means for the production of plural colored ribbons with the use of inks having the quality of the ink employed in the manufacture of one-color or solid color ribbons, without danger of the soluble base in the adjacent parallel bars of ink flowing across the line of division between said bars, and in carrying out my invention I start with a strip of the usual textile fabric commonly employed in the manufacture of writing machine ribbons and I apply to this strip, at the appropriate place, a longitudinal line of glue, shellac or other oil-repellent which serves to subdivide the ribbon into longitudinal sections, to which I thereafter apply the differently colored inks in the usual way. The longitudinal line of glue or the like permeates through the textile strip and serves as a barrier to prevent the ink placed on one section of the strip from flowing into the ink placed on the other section thereof, said line thus preserving the true division between the bars of ink and at the same time permitting me to use in the manufacture of the ribbons, inks of desirable and efficient character employing the requisite quantity of the soluble base and oil. The main purpose of my invention is to provide a superior quality of plural-colored writing-machine ribbons.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which:

Figure 1 is an elevation of a portion of a strip of textile fabric of the character used in making typewriter ribbons, said strip in this instance being in its initial condition or without ink;

Fig. 2 is a corresponding view, partly in perspective, of the same strip of fabric after having had the dividing line of glue or other oil-repellent applied thereto, and

Fig. 3 is an elevation of the same strip after having had inks in two colors applied thereto, said colors affording longitudinal ink-stripes or bars separated from each other by the line of glue or oil-repellent.

In the drawings, 10 denotes a strip of textile fabric of the kind commonly employed in the manufacture of typewriter ribbons, and 11 a line of glue, shellac or other oil-repellent applied to the strip and subdividing the same into parallel longitudinal sections 12, 13, upon which inks in varying colors, as 14, 15, are applied.

I illustrate my invention as embodied in a ribbon intended to bear two longitudinal stripes or bars 14, 15 of ink, and this character of ribbon is commonly called a bichrome ribbon. Many of these multi or plural-colored ribbons possess three stripes or bars of ink and others a larger number of stripes, but my invention may be understood from the embodiment thereof in or to a bichrome ribbon.

The first step in the manufacture of the ribbon is to provide the plain textile strip 10, and then by means of rollers or otherwise the longitudinal line 11 of glue or the

like is applied to the strip 10, the glue extening entirely through the strip, as indicated in Fig. 2, and subdividing the strip into parallel sections,—in the present instance two sections.. The differently colored inks 14, 15 are then applied upon the strip 10 in the usual manner, one color being on one longitudinal section of the strip and a different color being on the other longitudinal section of the strip and said inks extending from the outer edges of the strip to the dividing-line 11, as shown in Fig. 3, thereby completing the ribbon.

I have indicated my invention as a typewriter ribbon, but I desire it understood that I include in such designation ribbons for all writing-machines, such as typewriting, bookkeeping, adding and similar machines.

My invention differs materially from the prior efforts with reference to multicolored ribbons. My purpose is to employ the usual textile fabric of uniform weave and also an ink of good flowing quality so that the ribbon may be of value and of lasting quality and character, and in carrying out my invention I use a quality of ink which has not heretofore been successfully employed on multi-colored ribbons and I prevent the flow into each other of the bars of flowable color by the thin impervious line of glue 11 applied to and penetrating through the fabric.

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

A writing-machine ribbon of customary textile weave having adjacent parallel longitudinal stripes or bars of differently colored inks, and an applied narrow dividing line between the same of glue serving as an oil-repellent and adapted to prevent the merging of the bars of color at their adjacent edges into one another, said lines of glue penetrating the fabric of the ribbon.

Signed at New York city, in the county of New York and State of New York, this 11th day of June, A. D. 1919.

HARRY S. STARK.

Witnesses:

ARTHUR MARION,

CHAS. C. GILL.