C. H. DAVIDS.

INK DIVIDING BAND FOR ROLLERS.

APPLICATION FILED FEB. 24, 1908.

1,086,142. Patented Feb. 3, 1914.

Fig. 1.

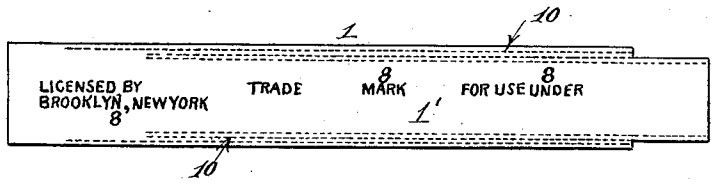


Fig. 2.

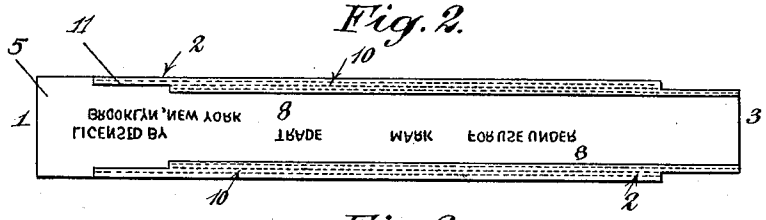


Fig. 3.

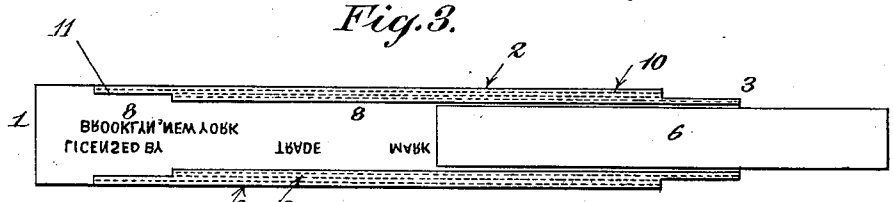


Fig. 4.

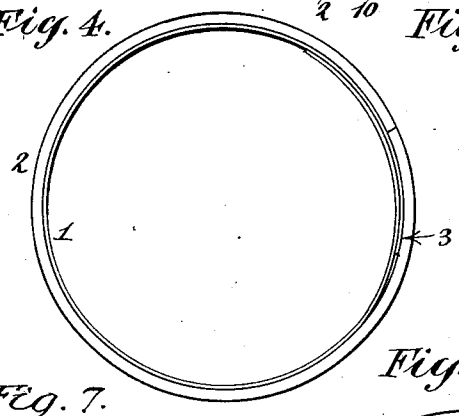


Fig. 5.

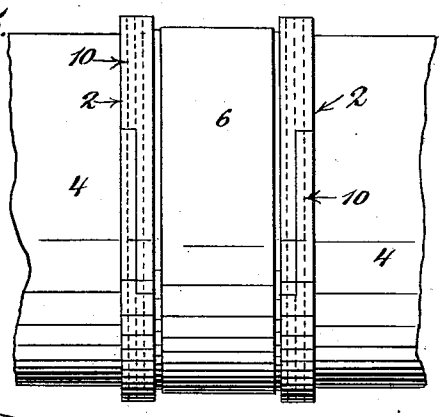
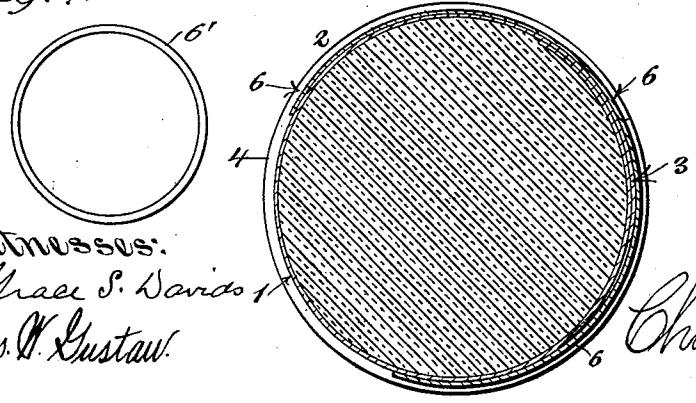


Fig. 6.

Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES H. DAVIDS, OF BROOKLYN, NEW YORK, ASSIGNOR TO N-M-C-R COMPANY, A CORPORATION OF NEW YORK.

INK-DIVIDING BAND FOR ROLLERS.

1,086,142. Specification of Letters Patent. Patented Feb. 3, 1914.

Application filed February 24, 1908. Serial No. 417,479.

To all whom it may concern:

Be it known that I, CHARLES H. DAVIDS, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Ink-Dividing Bands for Rollers, of which the following is a specification.

In a general way, this invention relates to improvements upon that set forth and described in Letters Patent No. 793,934, granted to Frederick Hunter, of Brooklyn, New York, on the 4th day of July, 1905, for constrictors for inking-rollers; and my invention comprises such improvements as were found necessary to the practical and satisfactory operation of the so-called "constrictors" of said Hunter.

Said improvements comprise riding-ridges which are both compressible and extensible, and which will neither cut nor abrade contacting surfaces nor crack nor break because of change of curvature; which, also, can be readily and securely fastened to a metallic or other band though the latter be, as is required, sufficiently rigid transversely to enable them to properly withstand a radially outward pressure of the material of which is made the rollers upon which said bands are mounted; also said bands, so improved that they will conform readily to varying curvatures; also, such preparation of the inner surfaces of said bands as would prevent them from slipping, either endwise or circumferentially of the rollers on which they were properly fastened; also, improved means for binding said bands upon inking-rollers; all of said improvements being hereinafter fully set forth and described.

In the drawing, Figure 1, is a view of the inside, and Fig. 2, is a view of the outside of a flattened band which is complete except that it has no binder; Fig. 3, is the same as Fig. 2, except that a binder is shown partly attached to the band; Fig. 4, is a side elevation of a complete band; Fig. 5, is a front elevation of a complete band; also showing a part of a roller, broken away, projecting from either side of said complete band, and Fig. 6, is a transverse section of a roller and of a complete band applied thereto. Fig. 7 is a modified form of the binder on a reduced scale.

The term "complete band" used herein is intended to apply only to an ink-dividing band assembled in all its parts and ready for use.

Reference characters are alike throughout the drawing.

Ordinarily, my complete improved ink-dividing band comprises a two-ended band 1, preferably made of thin and comparatively flexible material; the latter being, preferably, metal, and said metal being, preferably, aluminum, because of the incorrodibility thereof. Howbeit; whatsoever material be used therefor, the band 1, should be of sufficient flexibility to permit it, without cracking or breaking, to adapt itself to the varying curvatures which are assumed by the different parts of the periphery of a roller when in use; while it should also be sufficiently rigid, transversely, to withstand the radially outward pressure upon it of the material of which the roller is made.

Riding-ridges 2, made of some material, preferably leather, which is both extensible and compressible to a sufficient degree to adapt them to withstand, without cracking or breaking, the varying curvatures which are assumed, as aforesaid, by the different parts of the periphery of the roller, as also by the bands 1 and by the said riding-ridges themselves, are attached in some suitable manner, preferably, by sewed seams, to said bands 1. The riding-ridges are secured to the bands by stitching through the bands and riding-ridges.

A suitable binder may be used for the purpose of holding a complete band closely around an inking-roller 4, on which it is mounted. Under ordinary conditions a binder comprising a bandage 6, which is preferably made of a textile fabric which is coated on one side with an adhesive cement, preferably made of rubber and a suitable solvent, and coated on the other side thereof with a suitable protective element, preferably glue or isinglass, which is insoluble in any hydrocarbon, is preferred for use for the purpose mentioned. Under other conditions, such, for instance, as widely varying temperatures, elastic binders, such, for instance, as suitable rings 6′, preferably of rubber, may be used as binders as shown by Fig. 7. Or, if preferred,

rings or bandages made of elastic webbing, and, if the former, suitably coated on both sides, may be used as binders.

This invention also provides means for transversely locking the ends of a band so that they will retain their respective normal positions axially of the roller 7; said means comprising a tongue 3, which, in the form of said locking-means shown herein, is formed on the band 1 by cutting away a part thereof and a part of each riding-ridge 2 at either side of said band 1; said tongue 3 being suitably adapted to fit into and transversely engage a lock 11, which, in the form shown herein, is formed near the other end of the band 1 by cutting away an inward part of each riding-ridge 2. A circumferentially adjustable device is thus formed that serves to transversely lock the ends of the band 1 in alinement, one with the other, and also serves as an adjusting device; that is to say, a device that permits a complete band to be so adjusted circumferentially as to fit rollers of different diameters.

This invention also provides a table 5, so-called, for preventing the shoulders which are formed in the band 1 at the root of the tongue 3 from cutting or otherwise injuring the surface of the roller 4. Said table 5, preferably, comprises a nude prolongation of the band 1 beyond the lock 11, and, preferably, is of sufficient length to project beyond the shoulders referred to, even though the band 1 be used at the full limit of its adjustment.

This invention also provides means for preventing the complete bands from slipping, in any direction, from the positions in which they are placed on the rollers. Said means comprise a specially prepared inner surface 1′ of the band 1; such special preparation consisting, preferably, of a suitable roughening of the surface 1′. In the form of the latter shown herein, the surface 1′ thereof is roughened, so to speak, by a suitable lettering, such, for instance, as that shown at 8 in the drawing; such lettering being preferably stamped so that the obverse thereof is shown in relief on the surface 1′; said lettering in relief thereby providing the band 1 with suitable means for so engaging the roller 4 as to prevent the complete band from slipping or sliding on said roller.

This invention also provides improved means for securely attaching the riding-ridges 2 to the bands 1; said means comprising sewed seams 10. Said seams are made in the ordinary manner, preferably by means of a sewing machine; ordinary threads and needles being used for the purpose.

I claim as new and as my invention—

1. In an ink dividing band, a band having a roughened inner surface, riding ridges of flexible material sewed to the exterior of said band and adjacent the edges thereof, an end of said band being abruptly narrowed forming a tongue, the other end of the band having an abruptly widened recess between said ridges for receiving said tongue.

2. In an ink dividing band, a band of thin metal, strips of flexible and slightly resilient material stitched to the band, means for securing the ends of said band in fixed relation to each other, and means for securing said band against movement on the surface of an ink roller.

3. In an ink dividing band, a band of thin metal having a roughened inner surface, a leather riding ridge stitched through said band adjacent its edges, and a strip of textile fabric treated with an adhesive substance for securing the ends of the band in fixed relation to each other.

4. In an ink dividing band, the combination of a band, riding ridges thereon, locks formed by the riding ridges at one end of the band and a tongue partly formed by the riding ridges at the opposite end of said band, said tongue adapted to coact with the locks.

5. In an ink-dividing band, the combination of a band 1 and a binder; the latter being coated on one side with a substance which is insoluble in a hydrocarbon.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHAS. H. DAVIDS.

Witnesses:
GRACE S. DAVIDS,
JOS. W. GUSTAW.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."