

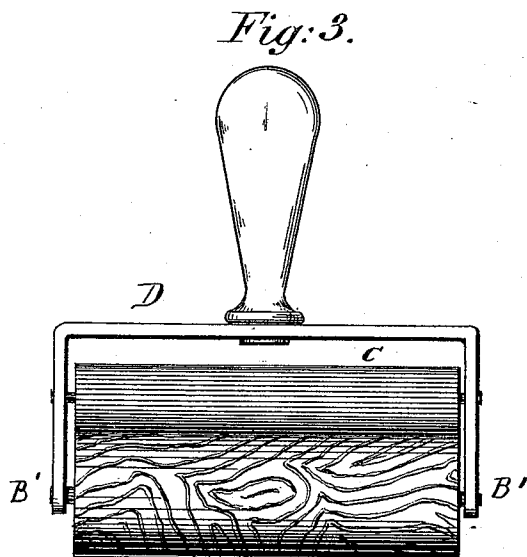
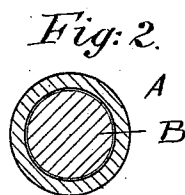
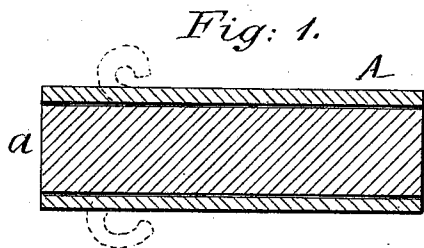
(No Model.)

D. ENGEL & J. KOOB.

PRINTING ROLL.

No. 499,185.

Patented June 6, 1893.



WITNESSES:

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UNITED STATES PATENT OFFICE.

DAVID ENGEL AND JOSEPH KOOB, OF BROOKLYN, NEW YORK.

PRINTING-ROLL.

SPECIFICATION forming part of Letters Patent No. 499,185, dated June 6, 1893.

Application filed July 9, 1892. Serial No. 439,543. (No model.)

To all whom it may concern:

Be it known that we, DAVID ENGEL, a citizen of the United States, and JOSEPH KOOB, a citizen of Germany, both residing at Brooklyn, in the county of Kings, State of New York, have invented certain new and useful Improvements in Printing-Rolls, of which the following is a specification.

This invention relates to improvements in the art of making printing rollers from rubber, gelatine or like material; and the object of our invention is to provide a printing roller of rubber or other elastic material, which is adapted for the purpose of transferring or printing upon paper, cloth, &c., figures, monograms, trademarks and designs of all kinds which roller is seamless and thus produces a perfect imprint.

In the accompanying drawings, Figure 1 is a vertical longitudinal sectional view of the steel roller and the rubber tube formed on the same. Fig. 2 is a transverse-sectional view of the steel roller and the tube formed on the same. Fig. 3 is a side-view of the rubber roller and the inking roller, held in a frame.

Similar letters of reference indicate corresponding parts.

In manufacturing the improved printing rollers, we proceed as follows: The design is engraved on a steel roller A and around this engraved roller a sheet of rubber B about one-eighth of an inch thick is spread and pressed carefully so that the edges of the same are in close contact, and then this sheet of rubber is

vulcanized while on said roller, so as to obtain a soft rubber seamless tube A on the inner surface of which the design is produced. This seamless soft rubber tube is then stripped off and at the same time reversed, as indicated in dotted lines in Fig. 1, and is then provided with the wooden filling B' having suitable end-pivots B². The completed printing roller, with an inking roll C, is mounted in a suitable frame D and is then ready for use.

These rollers can be used for various printing purposes, such as transferring upon paper, cloth, leather, muslin, wood, metal, stone or glass designs, figures, monograms, trademarks of all kinds, patterns, &c.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The method of making seamless rubber printing rollers, consisting in engraving the design upon a roller, closely wrapping a sheet of rubber around the engraved roller, vulcanizing the sheet on the engraved roller, stripping off the seamless rubber tube produced and reversing it at the same time, so as to bring the design surfaces on the outside, substantially as set forth.

In testimony that we claim the foregoing as our invention we have signed our names in presence of two subscribing witnesses.

DAVID ENGEL.
JOSEPH KOOB.

Witnesses:

OSCAR F. GUNZ,
CHARLES SCHROEDER.