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E. N. DAULTON

TABLE ROLL FOR PAPER MACHINES

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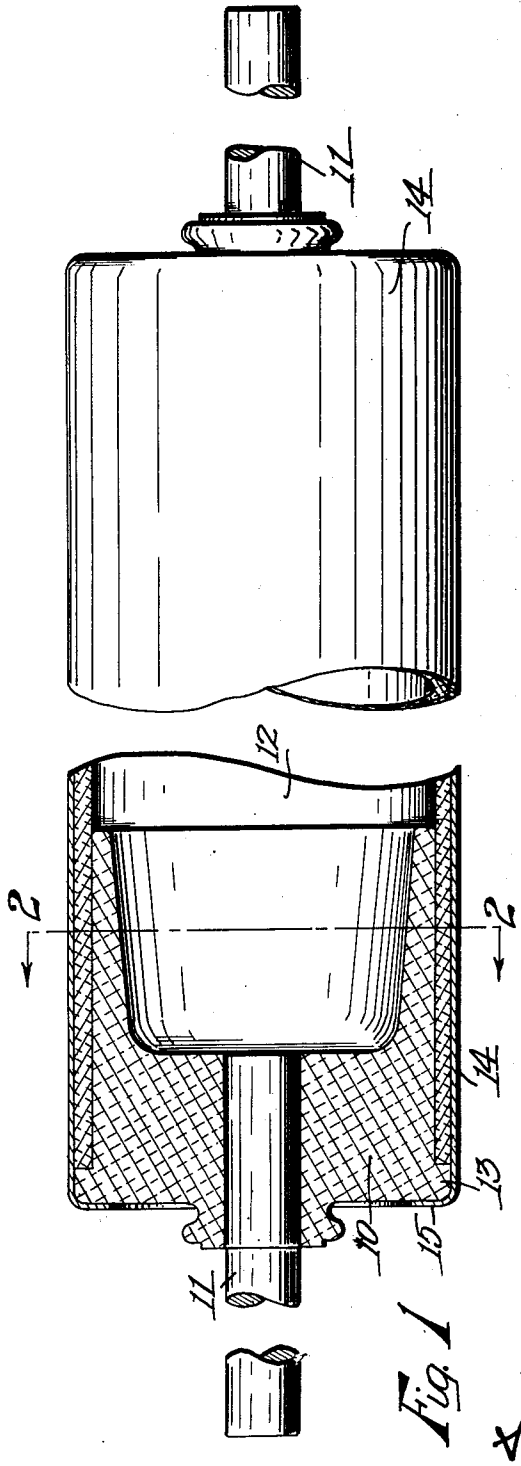


Fig. 1

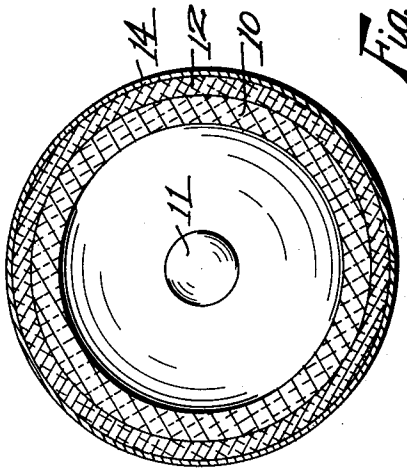


Fig. 2

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UNITED STATES PATENT OFFICE.

ERNEST N. DAULTON, OF FITCHBURG, MASSACHUSETTS.

TABLE ROLL FOR PAPER MACHINES.

Application filed January 26, 1925. Serial No. 4,663.

To all whom it may concern:

Be it known that ERNEST N. DAULTON, a citizen of the United States, residing at Fitchburg, in the county of Worcester and State of Massachusetts, has invented a new and useful Table Roll for Paper Machines, of which the following is a specification.

This relates to a roll of composite construction particularly adapted for use in paper making machines. In such machines a wide perforated metal screen or belt is drawn over a plurality of supporting rolls during the operation of the machine. It is necessary that these rolls shall be very accurately formed and that they shall present a very smooth and perfectly finished surface. Any slight defect in the surface of the roll will cause very rapid wear and deterioration of the metal screen and will also produce irregularities in the product of the machine.

It is the object of my invention to provide an improved table roll which may be cheaply and easily restored to satisfactory working condition after it has become worn or defective.

A further object is to provide a roll which is light in weight and relatively inexpensive to manufacture.

My invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claim.

A preferred form of the invention is shown in the drawings in which

Fig. 1 is a side elevation of my improved roll, partly in section; and

Fig. 2 is a sectional end elevation, taken along the line 2—2 in Fig. 1.

Referring to the drawings, my improved roll comprises a pair of heads 10 having short shafts or journals 11 firmly fixed therein. The heads 10 are connected by a relatively heavy metal sleeve or cylinder 12 which is preferably forced onto the heads 10 and which may be additionally secured thereto in a convenient manner.

In the preferred form of my construction, the heads 10 and sleeve or cylinder 12 are formed of aluminum and the shafts or journals 11 are formed of steel. The heads 10 may be provided with flanges or shoulders 13 at their outer sides against which the ends of the cylinder 12 may abut.

A relatively thin tube or sleeve 14 is closely fitted over the cylinder 12 and forms the wearing surface of the roll. The ends 15 of the tube 14 may be drawn in over the ends of the heads 10 by a spinning or pressing operation so as to provide a smooth rounded corner at each end of the working surface of the roll. The sleeve 14 is preferably formed of brass which is readily smoothed and polished and which is found to be the most satisfactory material for use in paper machine rolls.

A paper roll formed as above described is much lighter than the rolls heretofore commonly used and is also very readily kept in satisfactory working condition. As soon as the brass outer covering of the tube 14 becomes damaged in any way, this covering may be easily removed and a new covering may be placed on the roll, by which procedure the roll is practically restored to its original condition.

My improved roll is found to be of advantage also on account of its light weight which renders it more easily rotatable. A light roll presents less resistance to rotation and therefore the wear of the metal screen or belt which is supported thereon is correspondingly reduced.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claim, but what I claim is:—

A table roll comprising a pair of heads, journals for said heads, a relatively heavy cylinder permanently secured to said heads, and a relatively thin metal tube mounted on said cylinder and having its end portions forced inward over the ends of said cylinder heads, said tube forming the outer wearing surface of said roll.

In testimony whereof I have hereunto affixed my signature.

ERNEST N. DAULTON.