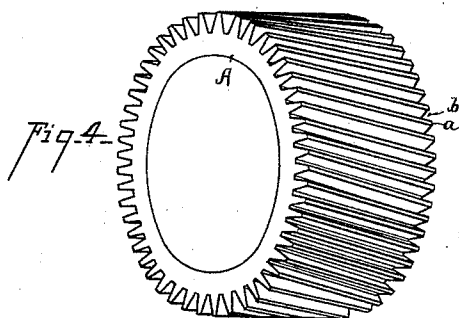
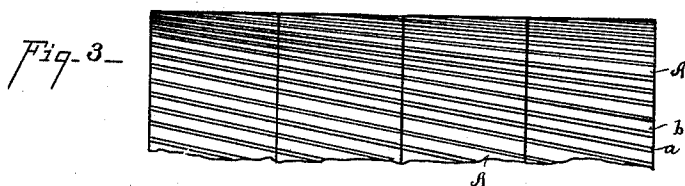
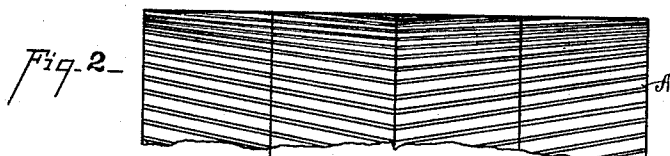
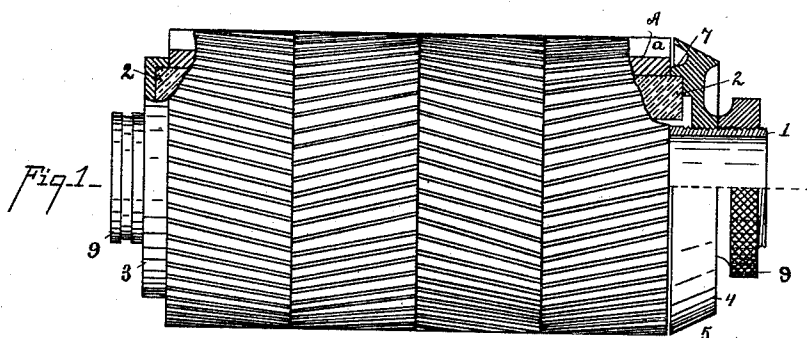


(No Model.)

S. ROSS, Jr.
SAND PAPER ROLL.

No. 431,997.

Patented July 8, 1890.



Witnesses

C. Miles

T. Simmons

Inventor

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UNITED STATES PATENT OFFICE.

SIMON ROSS, JR., OF CINCINNATI, OHIO, ASSIGNOR TO THE ROSS-MOYER MANUFACTURING COMPANY, OF SAME PLACE.

SAND-PAPER ROLL.

SPECIFICATION forming part of Letters Patent No. 431,997, dated July 8, 1890.

Application filed April 2, 1890. Serial No. 346,301. (No model.)

To all whom it may concern:

Be it known that I, SIMON ROSS, Jr., a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Sand-Paper Rolls, of which the following is a specification.

My invention relates to a new method of constructing sand-paper rolls. It consists of an endless hollow cylinder with ribs and grooves on the peripheral surface.

The object of the invention is, first, to provide a better support for the sand-paper; second, to construct the roll of sections so that any desired length of roll may be employed. The third object of the invention is to avoid the danger of scratching the sand-paper and making the support more flexible by having the ribs run diagonally over the face of the roll, all of which will be fully set forth in the description of the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation, partly in section, of the roll in position for use. Fig. 2 is a sectional elevation of a part of the roll, showing different method of combining the sections. Fig. 3 is a similar section showing still another form of combining the sections. Fig. 4 is a perspective view of one of the cylindrical rolls.

1 represents the sleeve forming the axle-bearing for the roller-shaft.

2 represents segmental supports. The preferred form of constructing these is to provide eccentrics on the periphery of the sleeve and expand the segmental supports 2, as shown and described in my application of October 31, 1889, Serial No. 328,761.

3 4 represent a collar at either end of the roll, which are screw-threaded to engage with the threads on sleeve 1. Collar 4 is provided with a bevel or conical face 5, which will be hereinafter explained.

A represents a cylindrical roll provided with ribs *a* and grooves *b*, and the preferred form of these ribs and grooves is spiral. The object of the spiral form is to prevent undue yielding of the rib directly across the face of it, making, as it were, a diagonal cut which

leaves the surface smoother than with a straight rib.

In Letters Patent No. 401,215, granted me April 9, 1889, a flexible-rubber band covering is attached to the cylindrical roll. As this band was made in the form of a split ring, the corrugations necessarily had to be straight and the flexible band had to be rigidly secured to the support, which was attended with some difficulty; but by making the rubber below the ribs of considerable thickness and of cylindrical form it can be readily placed on the rolls, stretched so as to slip on, and by contraction will adhere to the surface of the roll and make a better and firmer support. In addition to this I am enabled by the use of this endless cylindrical roll to make it of several sections. There are several advantages to be accomplished by this: First, if one piece becomes injured or a flaw contained in it only one section need be rejected; second, as many sections may be employed as the desired length of roll, and it is much easier put on and off, and no waste is made in cutting and fitting different length rolls. The shape of the ribs *a* is preferably narrow at the bottom and wide at the top, and the grooves *b* are of reverse order, wider at the bottom and narrower at the top. This makes a better support.

In Fig. 2 I have shown the diagonal ribs inclined from the center outward—that is, two sections of the diagonals run to the left, and in the opposite sections the diagonals run to the right. In Fig. 1 I have shown them alternately right and left, and in Fig. 3 they are all shown diagonal, running from left to right across the several sections. The method of combining these ribs is not material, as it furnishes the diagonal support for the sand-paper and makes smoother work than where straight ribs and grooves are employed.

In Fig. 1 I have shown a shoulder 7 on the collar 2, abutting against the edge of the rubber ring A, so as to furnish a lateral support and for holding the rubber on the roll. 9 represents lock-nuts of the usual form of construction, which engage up against the collars 3 and 4. As these rolls employ a tubular band instead of split rolls, it is desirable to

have some means of slipping the sand-paper band upon the roll. For this purpose I have made the large collar 4 with the bevel or cone shaped face 5, which assists in spreading the paper so that it will slip on easily.

Having described my invention, what I claim is—

1. A sand-paper roll composed of the cylinder 2 and a series of independent elastic cylindrical rings A abutting against each other and each provided with a series of ribs *a* and intermediate grooves *b*, and stretched upon the cylinder, substantially as described.

2. A sand-paper roll composed of the cylinder 2 and a series of independent elastic cylindrical rings A stretched on the cylinder and each provided with spiral ribs *a* and continuous spiral grooves *b*, substantially as described.

In testimony whereof I have hereunto set my hand.

SIMON ROSS, JR.

Witnesses:

T. SIMMONS,
C. W. MILES.