(No Model.)

S. ROSS, Jr.

SAND PAPER DEVICE.

No. 401,215. Patented Apr. 9, 1889.

Fig. 1.

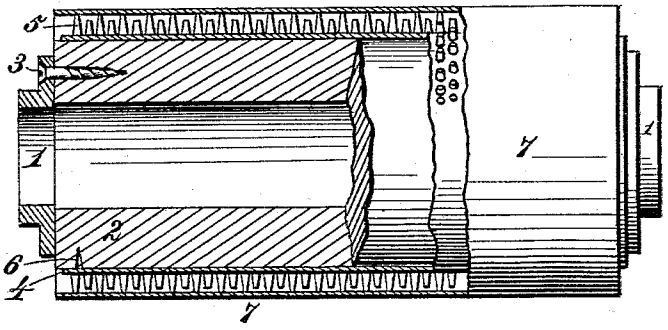


Fig. 2.

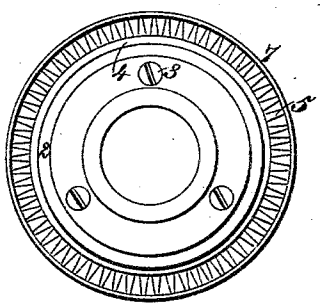


Fig. 3.

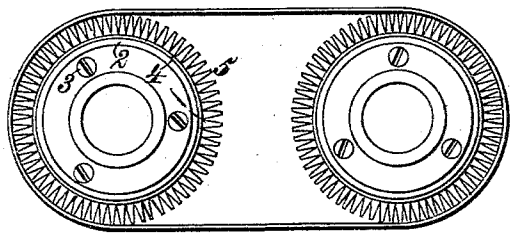
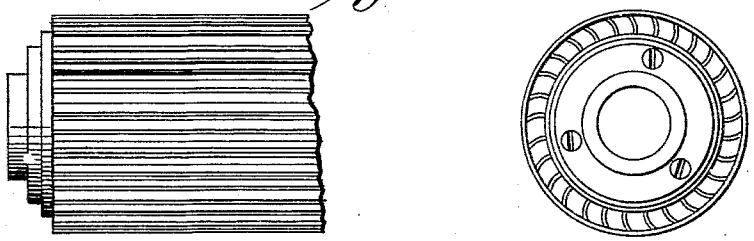


Fig. 4.



Witnesses.
Robt Everett.
J. A. Rutherford.

Inventor
Simon Ross Jr.
By Wood & Boyd
Attys.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

SIMON ROSS, JR., OF LINWOOD, OHIO.

SAND-PAPER DEVICE.

SPECIFICATION forming part of Letters Patent No. 401,215, dated April 9, 1889.

Application filed November 23, 1888. Serial No. 291,719. (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 Linwood, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Sand-Paper Devices, of which the following is a specification.

The object of my invention is to provide a revolving pulley or drum for holding a sand-paper band or belt sufficiently taut to revolve it, at the same time presenting an elastic yielding support for the band and between it and the periphery of the pulley. This support must be sufficiently open to allow a current of air to pass through, so as to keep the sandpaper cool, and thereby prevent the burning of the shoe which is to be sandpapered by the heat of the band. Sand-paper bands have been secured to leather or other fibrous material, so as to make a soft yielding support; but this causes the sand-paper to heat, and so are not sufficiently elastic to cause the paper strongly depressed to quickly resume its natural position. Attempts have been made to make this support of wire; but this is not adapted to sand-paper belts, as it wears out, cuts, or tears the paper rapidly. My device is especially adapted to sandpapering boot and shoe soles, but it may be employed to sandpaper other material.

The various features of my invention are fully set forth in the description of the accompanying drawings, making a part of this specification, in which—

Figure 1 is an elevation of my improvement partly in section. Fig. 2 is an end elevation of the same; Fig. 3, a modification. Fig. 4 is a modified form of the elastic band-support.

In the accompanying drawings I have shown a sandpapering roll of one form illustrating convenience of construction.

1 represents a collar, made of metal, and secured to the drum of cylinder 2 by screws 3.

4 represents a rubber band, carrying a continuous series of elastic rubber projections, 5. This is shown connected to the drum or roller by screws 6.

7 represents an abrasive band, which is forced upon the roll, the elastic projections 5 yielding enough to allow it to be slipped on, and by their recoil press the surface of the abrasive band 7 outwardly and hold the sand-band from turning on the surface. At the same time when pressure is applied to the band 7 these elastic projections 5 will yield to the pressure of the shoe or other material being sandpapered and prevent the sand from being detached, and allow a circulation of air between the sand-paper and roll-surface. As soon as the pressure is removed the elastic projections will recoil, cleaning the sand-paper by knocking out the dust and holding the sand-paper in place, thus furnishing a soft back or support for the sand-paper, preventing it from being doubled, and preventing the friction applied to its surface from unduly wearing or knocking off the abrasive material.

In Fig. 4 I have shown in plan another form of projection, which consists of a continuous series of ribs, made of rubber, the depth of these being sufficient to allow them to yield to the pressure, so as to place a band upon it and to furnish a sufficient backing support, and also to allow a current of air to circulate between the band and pulley. When the abrasive band used in the form shown in Fig. 1 has been worn out, it may be readily detached and another band slipped on in its place. Owing to the elastic character of the projections 5, the pulley or drum carrying the same may be revolved at great rapidity without unduly wearing away the abrasive material.

Prior to my invention a rubber cushion having cells has been arranged to support sand-paper on a traveling belt and on a roll, as in Letters Patent No. 305,068 and No. 257,308; but my invention differs from the prior construction in that the soft-rubber projections extend from the surface of the tubular band in separated lines in such manner as to provide continuous intervening air spaces or passages for the free circulation of air between the surface of the tubular band and the inside surface of the sand-paper, said air passages or spaces being open to the atmosphere at the ends of the cylinder for the admission and emission of the circulating air. This construction is important and advantageous in that while I provide a perfect cushion which holds the sand-paper in proper

position by the extremities of soft-rubber projections alone I preserve the sand-paper in a cooler condition than by the prior devices, and thereby avoid the danger of burning shoes while they are being sand papered.

Having described my invention, what I claim is—

As an improved article of manufacture, the herein-described sandpapering device, consisting of a drum provided with a tubular covering-band fixed thereto and formed integral with a series of inherently-elastic soft-rubber projections extending radially from the surface of the band, separated to provide intervening air-circulating spaces and yieldingly holding and moving a sand-paper band by frictional contact therewith to permit the free circulation of air between the adjacent surfaces of the soft-rubber projections and the sand-paper band, substantially as described.

In testimony whereof I have hereunto set my hand.

SIMON ROSS, JR.

Witnesses:
T. SIMMONS,
WM. F. ROSS.