No. 732,796. PATENTED JULY 7, 1903.

B. STORM.

SANDER DRUM.

APPLICATION FILED MAR. 21, 1903.

NO MODEL.

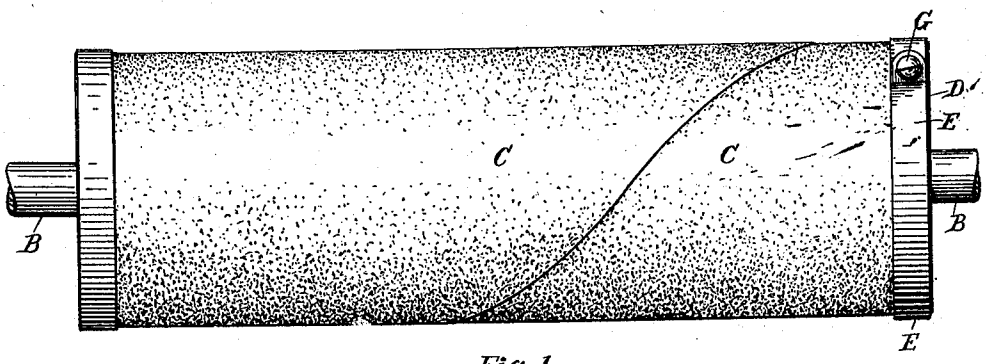



Fig. 1.

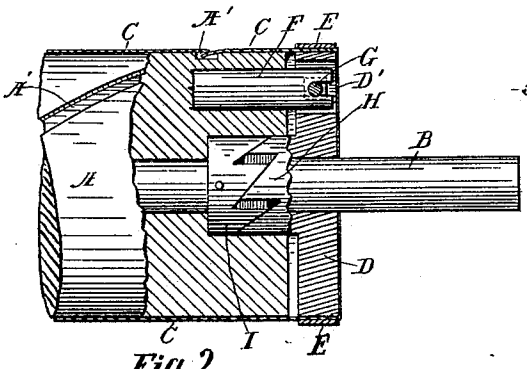



Fig. 2.

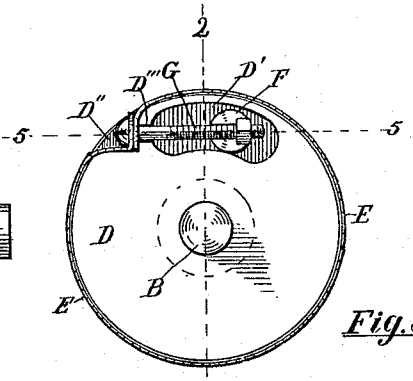



Fig. 3.

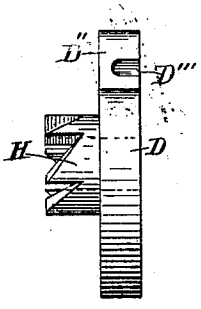



Fig. 4.

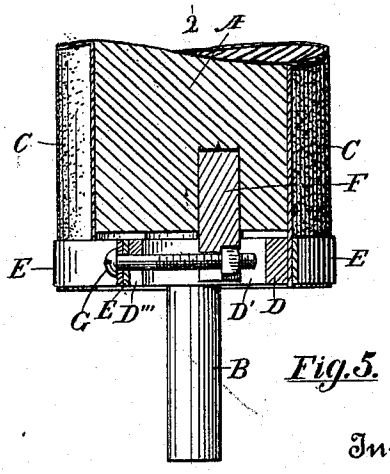



Fig. 5.

Witnesses

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 732,796. Patented July 7, 1903.

# UNITED STATES PATENT OFFICE.

BERNHARD STORM, OF GRAND RAPIDS, MICHIGAN.

## SANDER-DRUM.

SPECIFICATION forming part of Letters Patent No. 732,796, dated July 7, 1903.

Application filed March 21, 1903. Serial No. 148,929. (No model.)

*To all whom it may concern:*

Be it known that I, BERNHARD STORM, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Sander-Drums; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in drums for sandpapering-machines; and its object is to provide improved means for securing and tightening the sandpaper and to provide the device with certain new and useful features hereinafter more fully described, and particularly pointed out in the claims.

My invention consists, essentially, of the combination and arrangement of a cylindrical body or drum, around which the sandpaper is wound spirally, a spirally-movable head, a band surrounding the head and securing the sandpaper thereto, and a screw to tighten the band and adjust the head, and in the combination and arrangement of the various parts of the device, as will more fully appear by reference to the accompanying drawings, in which—

Figure 1 is a side view of a device embodying my invention; Fig. 2, a detail of the same, partially in section on the line 2 2 of Fig. 3; Fig. 3, an end view of the device; Fig. 4, a detail of the adjustable head, and Fig. 5 a detail in section on the line 5 5 of Fig. 3.

Like letters refer to like parts in all of the figures.

A represents any suitable drum, consisting of a cylinder having a spiral groove A′ in its surface; B, a shaft in the axis of the drum; C, a suitable strip of sandpaper wound spirally on the drum and having its edges opposite the groove A′ and its ends surrounding the heads D, one or both of which heads are spirally adjustable on the shaft B. I prefer to make both heads adjustable, and thus tighten the sandpaper from the middle toward each end; but in some cases one head may be fixed with satisfactory results. To secure the sandpaper to the heads, I provide each head with a detachable band E, preferably a strip of metal, having openings in its respective ends. To tighten the band around the head and to secure the sandpaper thereto, I provide the head with a triangular recess D″ in its periphery and bend the ends of the band, as shown in Fig. 3, with one end turned inward against one side of the recess and the other end bent at an angle to fit the inner angle of the recess and overlapping the first-named end. Through the openings in the ends of the band is inserted a screw G to tighten and hold the band. This screw also serves to adjust the head and tighten the sandpaper about the cylinder, for which purpose a segmental opening D′ in the head and near one side of the same is provided, and within this opening is a stud F, inserted in the end of the cylinder A and rotative therein, and the screw G extends within the opening D′ and is provided with a nut inserted in the stud F. To permit of ready detachment of the band, this screw and nut are inserted in a laterally-open recess D″ in the head and a similar recess in the end of the stud F. To provide for the spiral movement of the head, I provide the head and drum with opposing spiral surfaces, preferably as follows: Fixed on the shaft B and located in a chamber in the end of the cylinder A is a collar I, having any convenient number of spirally-inclined surfaces in its outer side, and a boss H on the head D is provided with corresponding oppositely-inclined surfaces to engage the collar, whereby as the head D is turned by the screw G the said head is moved spirally and away from the end of the cylinder, this movement corresponding to the spiral direction of the sandpaper on the drum. The sandpaper is thus effectually tightened thereon without disturbing the relation of the edges to the groove A′.

I thus provide a simple and very effective device not liable to get out of order and quickly and easily adjusted.

I have shown the preferred form of my device; but it is obvious that various modifications may be adopted without departing from my invention.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of a drum, a spirally-movable head, opposing spiral surfaces on the

drum and head, means for attaching sandpaper to the head, and means for adjusting and holding the head.

2. The combination of a drum, a shaft in the axis of the drum, a head spirally movable on the shaft, a band surrounding the head, and a screw to simultaneously tighten the band and adjust the head.

3. The combination of a drum having a spiral groove in its surface, a head having a spiral movement corresponding to the direction of the groove, a band surrounding the head, and a screw inserted in the band and head, and engaging a stud in the drum.

4. The combination of a drum, a shaft in the axis of the drum, a head spirally movable on the shaft, a collar fixed on the shaft and having a spirally-inclined surface, a boss on the head having an oppositely-inclined surface engaging the collar, means for attaching sandpaper to the head, and means for adjusting and holding the head.

5. The combination of a drum, a shaft in the axis of the drum, a head rotative on the shaft and having a segmental opening near one side, a band surrounding the head, a stud inserted in the end of the drum and projecting within the opening, and a screw inserted in the ends of the band and projecting within the opening and also engaging the stud.

6. The combination of a drum, a spirally-movable head having a recess in its periphery, and a segmental opening near one side, a band surrounding the head and bent to fit said recess and also having overlapping perforated ends, a screw inserted in the openings of the band and the opening in the head, and a stud in the drum and projecting within the opening in the head and also engaged by the screw.

7. The combination of a drum, a shaft in the axis of the drum, a head rotative on the shaft and having a triangular recess in its periphery, and a segmental opening near one side and a laterally-open recess connecting the triangular recess and the opening, a band surrounding the head, and having end openings and bent to fit the triangular recess, a stud in the drum and having an end recess to receive a screw, and a screw inserted in the ends of the band and in the recesses and openings.

8. The combination of a drum having a spiral groove, a shaft in the axis of the drum, a head spirally adjustable on the shaft and having a triangular recess and a segmental opening, a collar fixed on the shaft and having spiral surfaces, a boss on the head, and having opposing spiral surfaces engaging the collar, a band surrounding the head and having overlapping perforated ends in the recess, a stud in the drum and extending within the opening in the head, and a screw engaging the band and stud, to tighten the band and adjust the head.

In testimony whereof I affix my signature in presence of two witnesses.

BERNHARD STORM.

Witnesses:
LUTHER V. MOULTON,
PALMER A. JONES.