

(No Model.)

G. D. FEAREY.

SANDPAPERING MACHINE.

No. 282,509.

Patented Aug. 7, 1883.

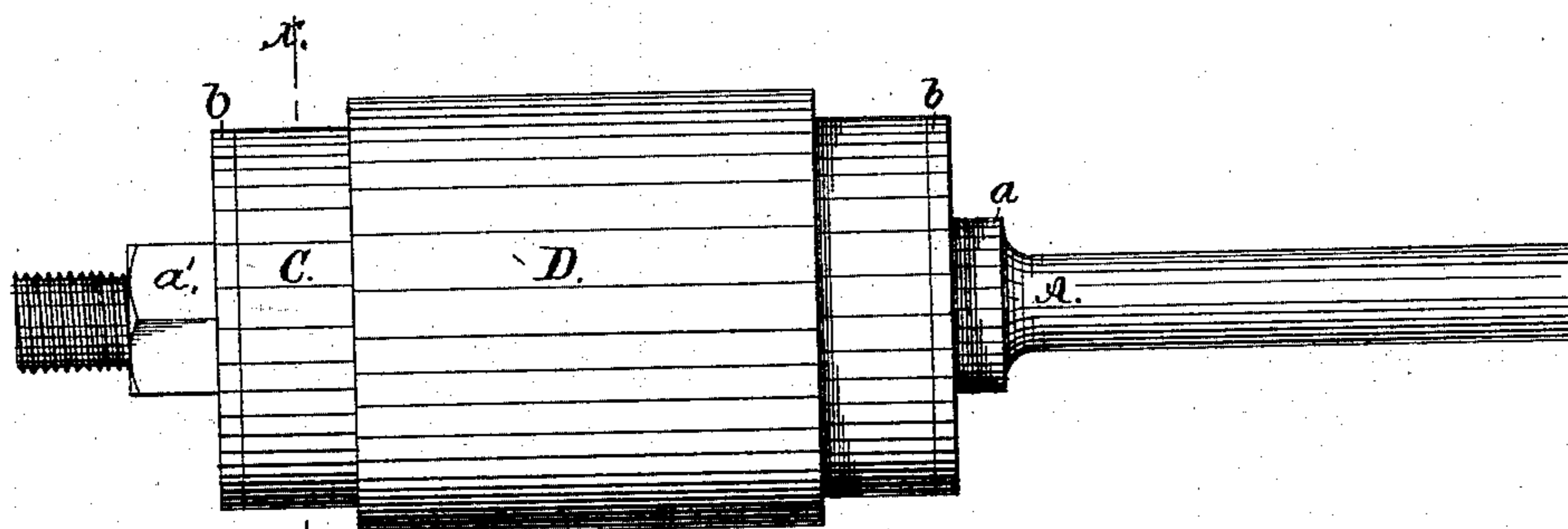


FIG. 1.

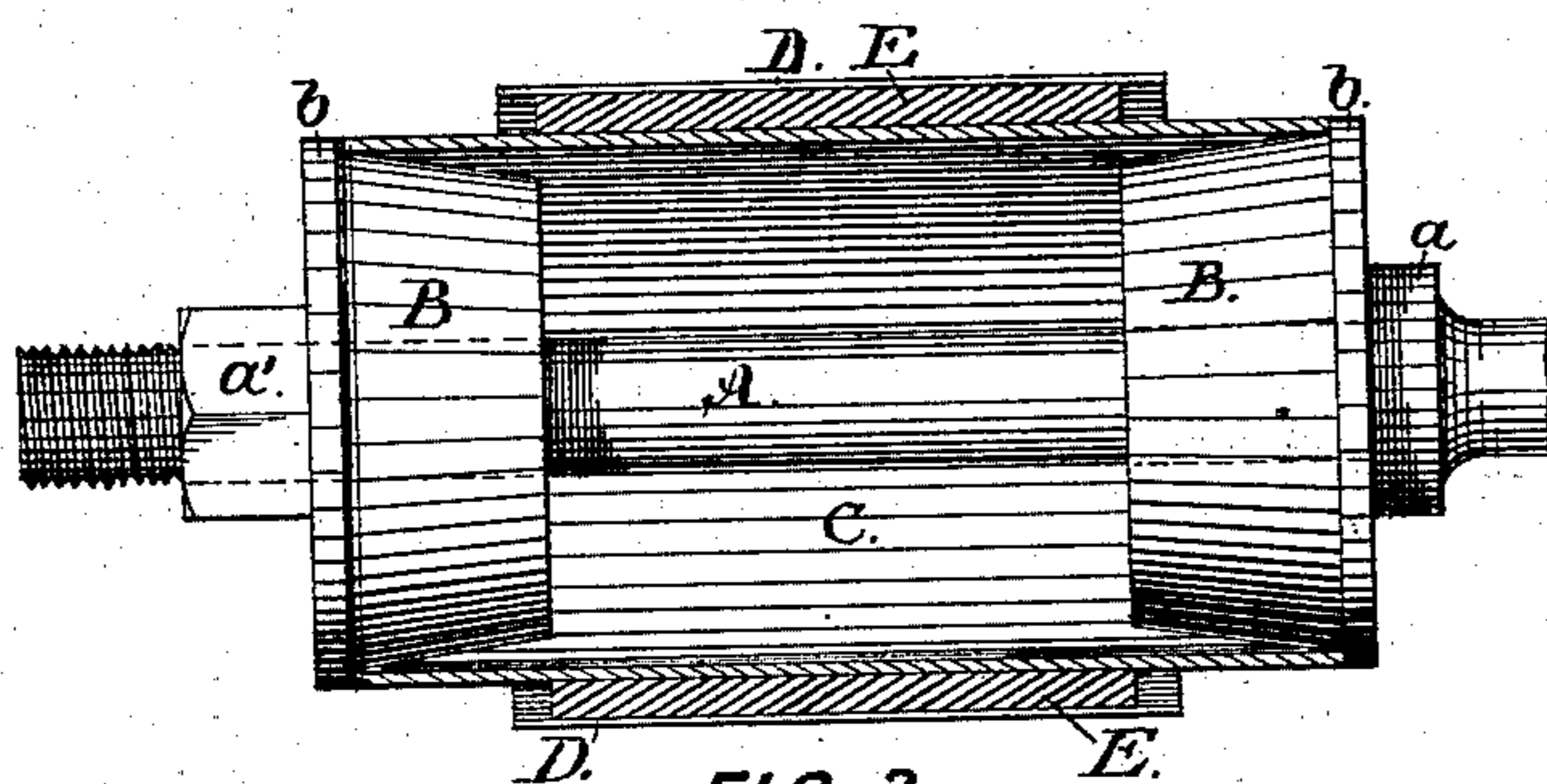


FIG. 2.

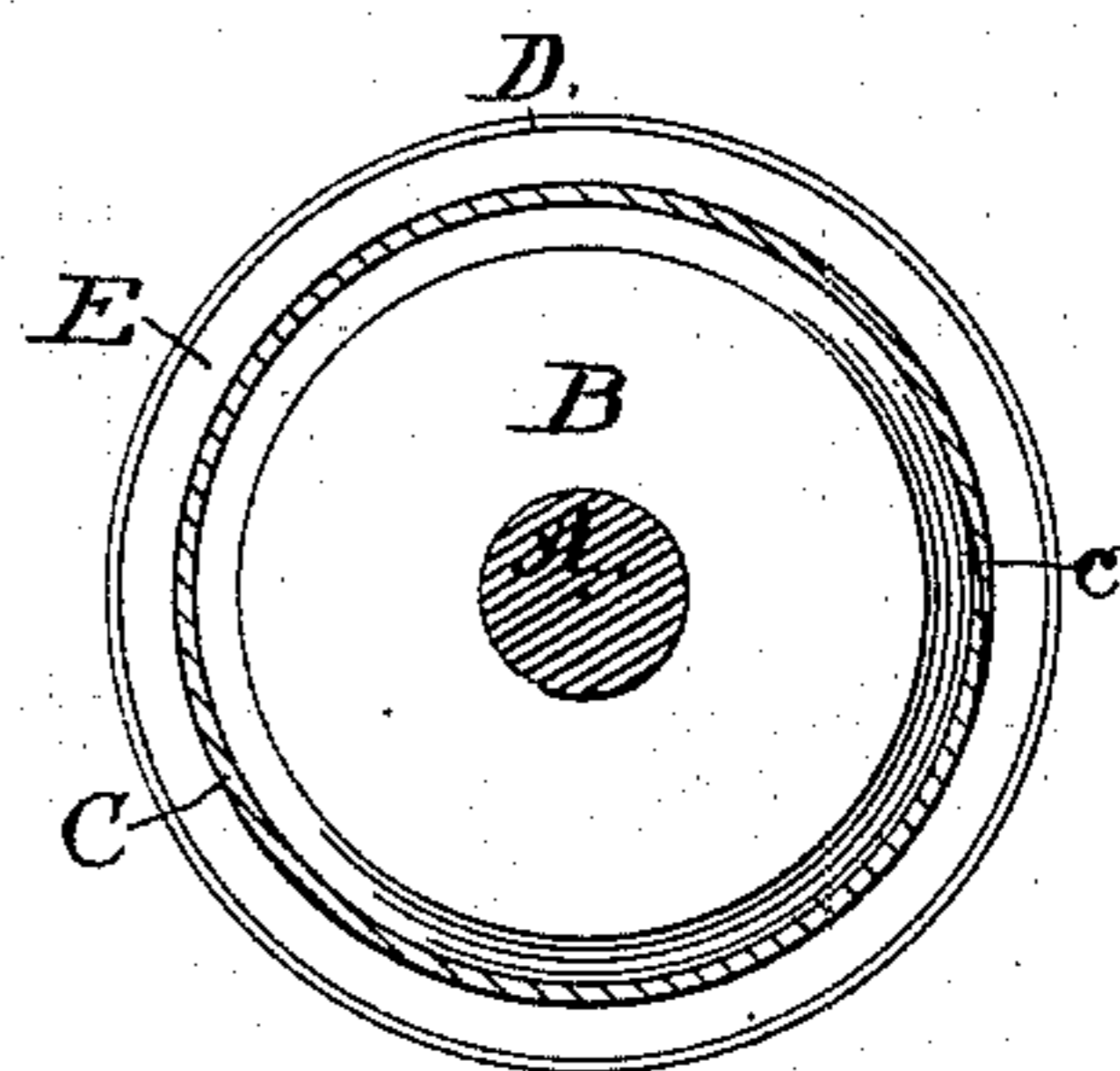


FIG. 3.

Witnesses:

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UNITED STATES PATENT OFFICE.

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SANDPAPERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 282,509, dated August 7, 1883.

Application filed June 5, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE D. FEAREY, of the city and county of Albany, and State of New York, have invented certain new and useful Improvements in Sandpapering-Machines, of which the following is a full and exact description.

This invention relates to sandpapering-machines.

10 It consists in the combination of a shaft and the coniform heads fitted thereon, one of said heads being fixed and the other movable longitudinally on said shaft, with an expansible cylinder provided with a longitudinal scarf-joint, and fitted on said heads, and a sand-paper sleeve and interposed cylindrical packing.

15 It also consists in coniform heads, each provided with annular flanges, one of said heads being fixed and the other movable, in combination with a shaft on which they are mounted, an expansible cylinder, and a sand-paper sleeve and interposed packing.

20 The object of my improvement is to provide a cylindrical body for sustaining an intact sleeve of sand-paper that will not yield to external pressure, nor be affected by the heat generated by the operation of sandpapering; and a further object of my improvement is to dispense with the clamping-jaws, tacks, and other usual modes of securing sand-paper to a cylinder. These objects I attain by means of the mechanism illustrated in the accompanying drawings, which form part of this specification, and in which—

35 Figure 1 is a side elevation of my improvement; Fig. 2, a longitudinal section of the outer cylinder, with the shaft and coniform heads shown in elevation; Fig. 3, a transverse section of the same at the line *xx* of Fig. 1.

40 As represented in the drawings, A is the shaft or spindle for carrying the cylinder, to which a rotatory motion may be imparted by any suitable means. Said shaft is provided with an enlargement or collar, *a*, and at its outer end with a screwed portion for receiving a nut, *a'*; B, coniform heads fitted to the shaft A, and provided with flanges *b* at their largest ends; C, expansible cylinder, made of metal, wood, or other suitable material possessing sufficient strength,

rigidity, and elasticity for the purpose. Said cylinder is provided with a longitudinal joint, as at *c* in Fig. 3, which I preferably make of the overlapping or "scarf" form for the purpose of preserving an even unbroken convex surface to the cylinder, and, when required, the outer surface of the cylinder may be roughened for the purpose of producing sufficient adhesion for the elastic cushion that is fixed thereon; D, a cylindrical sleeve of sand-paper, and E a cylindrical sleeve of felt, or other material suitable for forming an elastic cushion between the cylinder C and the sand-paper sleeve D. One of the heads B is fixed on the shaft A against the collar *a*, as shown in Figs. 1 and 2. The sand-paper sleeve D is slipped over the felt sleeve E, and then both are passed over the expansible cylinder, which is compressed diametrically for that purpose, until the sand-paper sleeve is centrally located on said cylinder. The cylinder C, if it has been removed from its place, is next replaced, and the second head B and nut *a'* are fixed on the spindle A. Then, by screwing down the nut *a'* the coniform heads B will, by an internally-applied pressure, cause the cylinder C to expand in diameter inside of the sleeves D and E until said sleeves are held so firmly that they will rotate with the spindle A' and withstand any ordinary resistance that such machines are subjected to.

I am aware that india-rubber cylinders adapted to expand when compressed endwise have heretofore been used in sandpapering-machines; but such cylinders are open to the objection that the endwise compression causes them to bulge out and lose a true cylindrical form, and those cylinders are also open to the further objection that the heat generated by the operation of sandpapering heats the rubber and causes it to glaze the work operated on, so that it is executed very imperfectly.

I claim as my invention—

1. The combination of shaft A and the coniform heads B, fitted thereon, one of said heads being fixed and the other movable longitudinally on said shaft, in combination with an expansible cylinder, C, provided with a longitudinal scarf-joint, *c*, and fitted on said heads, and a sand-paper sleeve, D, and interposed

cylindrical packing E, substantially as set forth.

2. The coniform heads B, each provided with annular flanges b, one of said heads being fixed and the other movable, in combination with a shaft, A, on which they are mounted, an expansible cylinder, C, sand-paper

sleeve D, and packing E, substantially as set forth.

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Witnesses:

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