Oct. 2, 1923. 1,469,307

G. R. KELTIE

SANDPAPERING ROLL

Filed Feb. 23, 1922

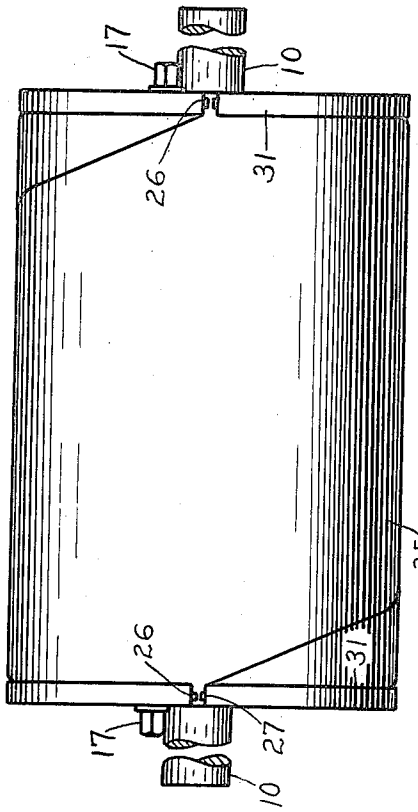

Fig. 1

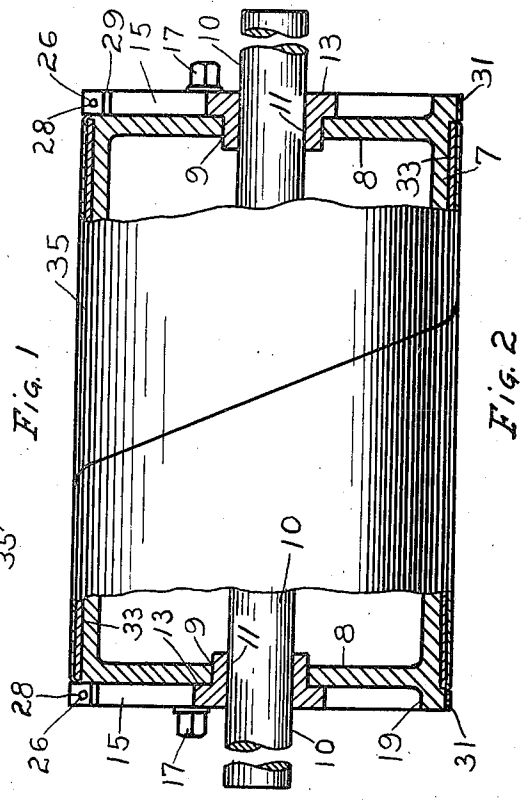

Fig. 2

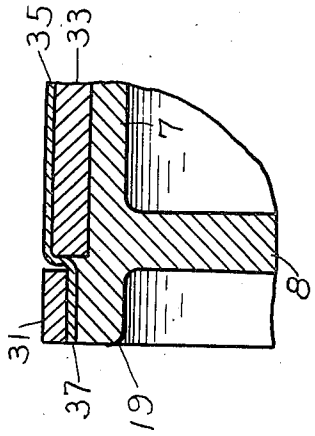

Fig. 4

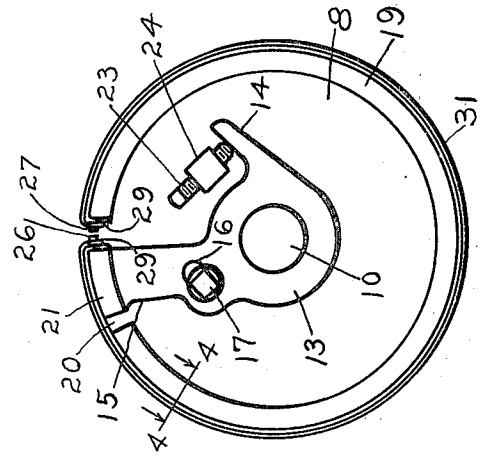

Fig. 3

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UNITED STATES PATENT OFFICE.

GEORGE R. KELTIE, OF WOONSOCKET, RHODE ISLAND, ASSIGNOR, BY MESNE ASSIGNMENTS, TO AMERICAN WRINGER COMPANY, INC.

SANDPAPERING ROLL.

Application filed February 23, 1922. Serial No. 538,746.

To all whom it may concern:

Be it known that I, GEORGE R. KELTIE, a citizen of the United States, residing at Woonsocket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Sandpapering Rolls, of which the following is a specification.

My invention relates to rolls for sand papering machines. Such machines are purposed to smooth the surfaces of boards and pieces of wood.

In such machines rolls have heretofore been faced with sand paper, and it has been attempted to employ as a backing for such paper a felt material, but in practice it was found that any corner of the board or piece passing intermediate the roll and the feed bed which happened to penetrate the sand paper mutilated, tore, and otherwise destroyed the felt.

The essential objects of the present invention are to furnish a tough and yielding cushion or backing for the paper, and insure a uniform character of backing at every point beneath the paper; to afford a substantial and impervious cushion; and to prolong the life of the roll.

To the above ends essentially my invention consists in such parts and in such combinations of parts as fall within the scope of the appended claim.

In the accompanying drawings which form a part of this specification,

Figure 1 is a top plan view of a roll embodying my invention,

Figure 2, a side elevation of the same partly in central section,

Figure 3, an end view of the roll, and

Figure 4, a section on line 4—4 of Figure 3.

Like reference characters indicate like parts throughout the views.

The body of the roll may be of any form convenient for receiving and carrying the sand paper and its backing. In this instance the roll is of hollow or drum form and of iron or other metal. It comprises a side portion 7 and end walls 8 provided with a central hole 9 to admit the roll shaft 10 surrounded by hubs, bushings, or rings 11 integral with circular plates 13, each having a lateral finger 14, and an arm 15 provided with an arcuate slot 16 to admit therethrough a clamping screw 17 threaded in the end wall. In this instance the ends of the roll body or side extend beyond the end walls 8 forming flanged portions 19. A segment of each flange is cut away to form a recess 20 to admit the arcuate upper end or segment 21 of the arm 15. The cam is axially adjustable in the recess by virtue of a set screw 23 engaging the finger 14 mounted in a stud 24 fast to each end wall. In the edge face of each arm is a pin 26 adjacent a pin 27 in the end face of the flange 19. These pins pass loosely through perforations 28 in inturned ends or ears 29 on the ends of clamping rings 31.

The drum portion 7 forms the metallic core of the roll. As seen in Figures 2 and 4, the roll is provided peripherally with a depression to receive a layer or backing soon to be described. Vulcanized in said depression to its face is a cylindrical flexible or compressible layer or backing 33 of uniform thickness throughout composed of rubber entirely covering the core. Over this layer is tightly fixed a facing or layer 35 of sand paper. In the present instance the sand paper sheet is wound spirally around the rubber layer, its corners being perforated and passed over the projections 26 and 27 prior to the application of the rings 31 which bind the outer margins 37 of the paper sheath against the flanges 19. This described means of fixing the paper layer to the core is not exclusive. It is necessary only that the sand paper sheath be at every point in perfectly tight engagement with the rubber layer. The use of felt required that after the felt had been placed upon the roll the shell be expanded to tighten the felt thereon. When a rubber layer is substituted for the felt, shell expanding means in the roll are unnecessary.

The core is formed with a surrounding peripheral depression, as seen best in Figure 4 in which the layer or backing 33 is seated and held against endwise displacement.

I claim:—

In a roll for sand papering machines, a tubular core, having a peripheral depression, a cylindrical rubber layer embracing the core and seated in said depression, and a spirally disposed sheath of sand paper wound around said layer and means embracing the ends of said sand paper to retain the same in place, the rubber layer being vulcanized to the core.

In testimony whereof I have affixed my signature.

GEORGE R. KELTIE.