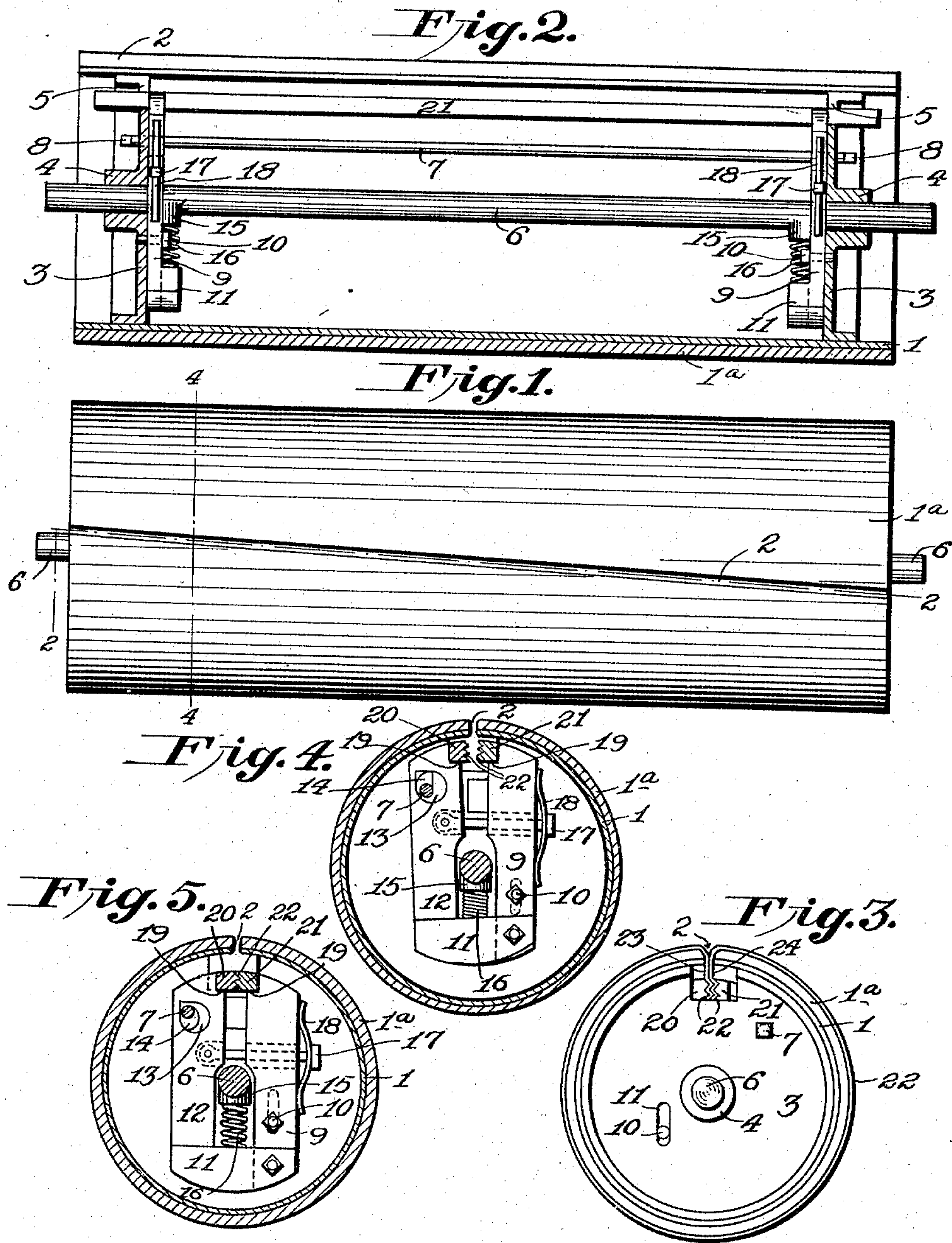


R. & W. STIPE.
 ABRADING ROLLER.
 APPLICATION FILED OCT. 28, 1909.

967,079.

Patented Aug. 9, 1910.



Witnesses

C. Everett Lancaster.
 H. J. Goodrich.

Inventors

Robert Stipe,
 and William Stipe,

By E. C. Shuman,
 Attorney.

UNITED STATES PATENT OFFICE.

ROBERT STIPE AND WILLIAM STIPE, OF OAKLAND, CALIFORNIA, ASSIGNORS OF ONE-FOURTH TO LOUISE D. FIELD, OF SAN FRANCISCO, CALIFORNIA, AND ONE-FOURTH TO A. J. BOITANO, OF OAKLAND, CALIFORNIA,

ABRADING-ROLLER.

967,079.

Specification of Letters Patent.

Patented Aug. 9, 1910.

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To all whom it may concern:

Be it known that we, ROBERT STIPE and WILLIAM STIPE, citizens of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Abrading-Rollers, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to abrading rollers for surfacing machines, and the principal object of the same is to provide means whereby an abrasive sheet may be rigidly but readily detachably secured about the outer surface of the roller.

In carrying out the object of the invention generally stated it will be understood, of course, that the essential features thereof are necessarily susceptible of changes in details and structural arrangements, one preferred and practical embodiment of which is shown in the accompanying drawings, wherein:—

Figure 1 is a view in side elevation of the improved roller. Fig. 2 is a longitudinal sectional view taken on the line, 2—2, Fig. 1. Fig. 3 is an end view. Fig. 4 is a vertical transverse sectional view taken on the line 4—4, Fig. 1, showing the clamping jaws opened. Fig. 5 is a similar view showing the jaws closed.

Referring to said drawings by numerals, 1 designates the body of the improved roller which is preferably formed of cast metal having a covering of rubber or other resilient material 1^a and provided with a longitudinal slot 2 preferably arranged on an incline which communicates with the interior of the roller. The ends of said body are sealed by the flanged disks 3 each provided with a central outwardly projecting hub 4 and with a cut out portion 5 in their periphery. A shaft 6 is provided for each roller, the ends thereof projecting through and beyond the hubs of the end disks 3 so that they may be suitably mounted in the usual journal boxes or bearings of a frame of a surfacing machine, not shown. As will be obvious, the end disks 3, are fast on the shaft 6.

A cam shaft 7 is longitudinally arranged within the roller body 1 the ends thereof projecting beyond the disks 3 and being flattened or squared as indicated at 8 so that they may be readily grasped by a suitable

turning tool. Each end disk 3 has a clamping arm 9 held in slidable contact with its inner surface by means of a bolt 10 that extends transversely of one end of said arm 9 and enters a slot 11 formed in the end disk. Said arm 9 is arranged to one side of the shaft 6 and its end that is provided with the bolt 10 has a pivotal connection with an angular thickened end 11 of a clamping arm 12 arranged on the opposite side of said shaft 6, said arm 12 having its other end provided with a cam opening 13 through which shaft 7 extends and in which the cam 14 carried by said shaft 7 is rotatable to adjust the relative positions of the arms 9 and 12 as will be more fully explained.

The shaft 6, adjacent to the inner surface of each end disk 3, is provided with an outstanding lug 15 which form a seat for one end of a spring 16, the other end of said spring bearing against the thickened angular end 11 of the arm 12 and is constantly exerting a pressure tending to force said angular end away from the shaft 6. A bolt 17 is transversely slidable through the arm 12, and has its projecting inner end pivotally fastened to the arm 9. A spring 18 is interposed between the head of the bolt 17 and the outer edge of the arm 12, said spring exerting a constant pressure tending to draw the arms 9 and 12 together.

As will be observed by reference to Figs. 4 and 5 of the accompanying drawings, the free end of the arms 9 and 12 are located adjacent the slot 2 of the body 1 of the roller and the inner face of each of said ends is provided with a seat 19 for the clamping jaws 20—21, the meeting faces of which are serrated or corrugated, as indicated at 22. Said jaws are formed of elongated strips, one of the same being supported by the two arms 9 which are located at opposite ends of the roller, the other jaw being supported by the similarly located arms 12 and both of said jaws project through the cut out portion of the end disks 3 as shown in Fig. 2.

The cams 14 of the shaft 7 are similar in contour to the cam openings 13 of the disks 3, but smaller in diameter, said cams and openings each having a flat side and a rounded side, so that when said shaft 7 is rotated in one direction, the arm 9 will be forced toward arm 12, causing the jaws 20—21 to interlock, as shown in Fig. 12. When

the jaws 20—21 are interlocked, it will be seen that the cams 14 are in positions where they will not oppose the pressure of the springs 16, whereupon, said arms 9—12 will
5 be forced away from the opening 2 of the roller, as shown in Fig. 5.

Assuming the parts of the roller to be in the position shown in Fig. 3, an abrasive sheet 22 may be readily wrapped around the
10 roller and its end 23—24 tucked through the slot 2 between the clamping jaws 20—21. A partial rotation of the shaft 7 will cause said jaws to clamp said ends together, and a further rotation of said shaft will draw said
15 end well within the roller, thereby tightening the sheet 22 about the roller. A reversal of the operation of shaft 7 will release the sheet 22 so that it may be readily removed from the roller.

20 From the foregoing it will be understood that the improved roller provides means whereby an abrasive sheet may be firmly, but detachably clamped about the roller by a simple rotation of the shaft 7, and also
25 that by the use of the resilient covering 1^a for the body 1, the same will readily yield to all irregularities of the surface being treated, thereby preventing damage being done to the abrasive sheet.

30 What we claim as our invention is:—

1. A roller for surfacing machines comprising a slotted metallic body, a shaft extending there through, gripping jaws disposed on opposite sides of said shaft, and
35 arranged adjacent said slot, a spring pressed bolt for connecting said jaws, and a spring for moving both of said jaws.

2. An abrading roller comprising a slotted body, a shaft extending through said body,
40 oppositely disposed arms adjacent to each end of said body and provided with gripping jaws, a bolt connecting said arms, a spring carried by said bolt and tending to force said arms together, and means carried
45 by said shaft and tending to force said gripping jaws away from the slot in said body.

3. An abrading roller comprising a slotted body, heads therefor, a shaft extending through said heads, a cam extending through

said body and having its ends projecting 50 through the heads thereof, arms slidably mounted on said heads and disposed on opposite sides of said shaft, an angular end carried by one arm and pivotally connected to the other arm, a gripping jaw carried by 55 each arm and held in opposed relation to the slot in the body, cams carried by said cam shaft and adapted to operate said levers, a spring for normally holding said jaws together, and a spring for moving said arms radially of said shaft.

4. A roller comprising a body having a diagonally arranged slot, abrading material surrounding said roller and having its ends passed through said slot, a shaft extending 65 through said roller, arms on opposite sides of said shaft, gripping jaws carried by said arms for engaging with the ends of the abrading material passed into said roller, means for locking said jaws together and 70 for moving the same radially of said shaft, springs normally tending to hold said jaws in gripping relation, a second set of springs tending to remove said jaws from said slot.

5. A roller comprising a slotted body, 75 abrading material surrounding said body and having its ends passed through the slot, heads for each end of said body, a shaft passing through said body and fast with said heads, a pair of arms slidably mounted on 80 each head and disposed on opposite sides of said shaft, gripping jaws carried by said arms for engaging with the ends of the abrading material, a cam for operating one of said arms to grip or release the ends of 85 the abrading material, a spring pressed bolt pivoted to one arm and pivotally connected to the other arm tending to hold said arms in gripping relation, and a spring carried by said shaft for moving said arms radially 90 thereof.

In testimony whereof we hereunto affix our signatures in presence of two witnesses.

ROBERT STIPE.

WILLIAM STIPE.

Witnesses:

H. C. SCHROEDER,

A. J. BOITANO.