Jan. 15, 1946. S. A. CROSBY 2,393,089

RUBBING PAD FOR POLISHING MACHINES

Filed Sept. 13, 1944

Fig. 1.

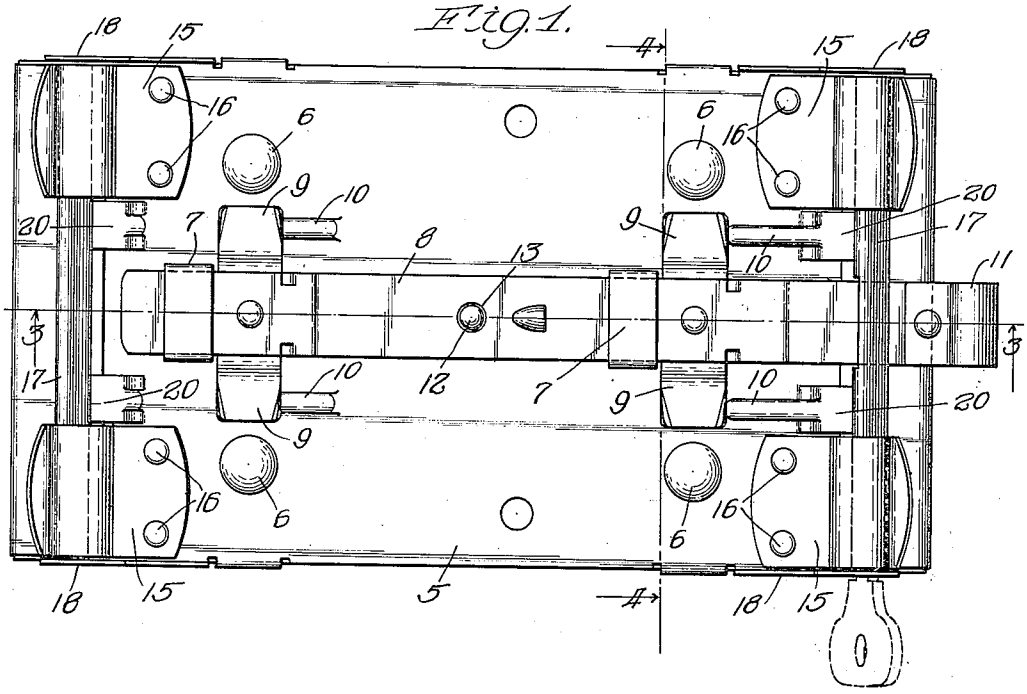


Fig. 2.

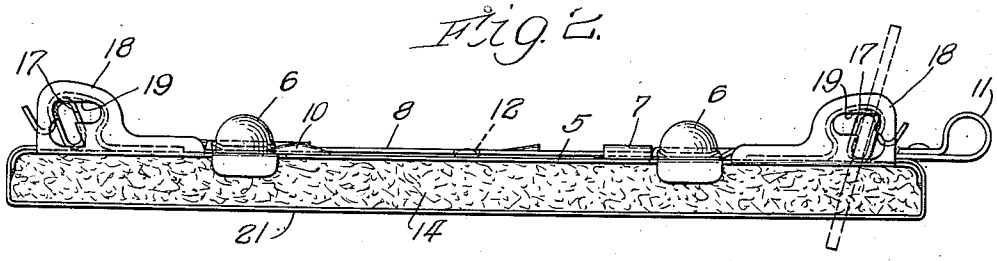


Fig. 3.

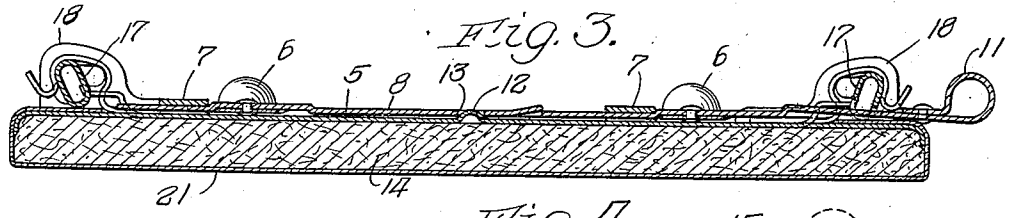
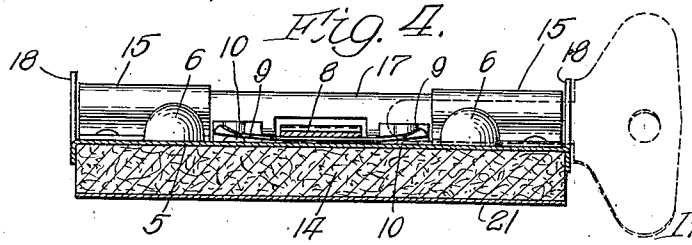


Fig. 4.



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RUBBING PAD FOR POLISHING MACHINES

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Application September 13, 1944, Serial No. 553,833

4 Claims. (Cl. 51—189)

This invention relates to rubbing pads, and more particularly to an improved rubbing pad which may be used on small power driven sanders for polishing machines.

The primary object of the invention is to provide an improved tensioning and gripping mechanism for holding a strip of abrasive material on the device.

The present invention is an improvement on the tensioning and gripping mechanism shown in my application Serial No. 504,855, filed October 4, 1943.

The invention is illustrated in a preferred embodiment in the accompanying drawing in which—

Figure 1 is a top plan view of a rubbing pad embodying the invention; Fig. 2, a side elevational view of the same; Fig. 3, a vertical sectional view taken as indicated at line 3—3 of Fig. 1; and Fig. 4, a transverse vertical sectional view taken as indicated at line 4—4 of Fig. 1.

In the embodiment illustrated, a thin steel backing plate 5 is provided with upwardly struck dome-like detents 6, positioned to fit into sockets which may be provided on the driving head of a machine, not shown. The backing plate has a pair of keepers 7 to hold a slidable latching bar 8, on which flexible fingers 9 are mounted. The backing plate also has upwardly extending ribs 10, so that when the latching bar is drawn rearwardly by its handle 11, the fingers will be flexed upwardly and held in a position from which they may be readily moved into gripping engagement with suitable nibs provided on the driving head, not shown.

The backing plate may be provided with a detent 12 to engage a socket 13 in the latching bar 8, when it is in latching position, to prevent accidental disengagement.

A suitable felt pad 14 may be cemented to the bottom face of the backing plate 5. In order to properly tension a strip of fabric or abrasive such as sand paper around the pad, a special gripping and tensioning mechanism is provided at each end of the backing plate. It will be understood that it is only necessary to have a fastener device at one end, if a suitable tensioning and gripping device is provided at the other. However, it is preferred to use duplicate mechanism at each end, so that either may be used as a gripping device and the other as the tensioning device.

A pair of inverted U-shaped spring keepers 15 are riveted to the backing plate at each end, as indicated at 16. This cantilever support provides open jaws into which the ends of the strip may be inserted. A tubular oval-shaped metal tumbler member 17 is confined by said keepers and held against axial movement at each end by guide members 18. These members may be formed integrally with the backing plate 5, and are in the form of upwardly extending ears provided with L-shaped guide slots 19 to permit a screw driver or suitable key, indicated by dotted lines, to be inserted into the ends of the tumbler member 17.

The backing plate is provided with upwardly extending stops 20, to limit the rearward oscillation of the bottom portion of the tumbler. The loop portions of the spring keepers 15 are slightly larger in their top portion than in the mouth adjacent to the backing plate. Accordingly, when the left tumbler member is rotated clockwise from the positions shown in Figs. 2 and 3, it turns up completely out of contact with the abrasive strip 21. This leaves an open space, and facilitates insertion or removal of the end of the strip. After the strip has been inserted, the tumbler is turned so that it will engage the strip, press it against the backing plate, and pull it towards the center of the backing plate until the tumbler strikes the stops 20. During this movement, the upper edge of the tumbler swings across the slot and snaps into the position shown in Fig. 2, holding the strip firmly in position.

An important feature of the present improvement is the provision of the L-shaped slots 19 in the guide members 18. These slots limit the oscillation of the key between the tumbler gripping and a non-gripping position with respect to the stops. As the oscillation of the key is so limited, there is no danger of carelessly turning the top of the tumbler against the stops 20 and damaging the spring keepers 15.

While the rubbing pad illustrated is intended primarily for use on a power driven rubbing machine, it will be understood that the improved gripping and tensioning mechanism can be used on hand operated rubbing pads, or other devices where a tensioning and gripping mechanism is needed.

The foregoing detailed description is given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, for some modifications will be obvious to those skilled in the art.

I claim:

1. A rubbing pad for a polishing machine, comprising: a backing plate provided with means for securing it to a polishing machine; means for securing one end of a strip of abrasive material to one end of said plate; and tensioning means

at the other end of said plate for gripping and tensioning said strip about one face of the backing plate including a flattened hollow tumbler member adapted to engage the strip frictionally to press it against said backing plate, a spring member housing said tumbler and adapted to urge the tumbler against the strip, and an angularly slotted fixed guide member near the end of the tumbler, the slot in said guide member being shaped to permit insertion of a key into said tumbler and limit oscillation of the key between a strip gripping and a non-gripping position.

2. A device as specified in claim 1, in which a guide member is provided near each end of the tumbler member, said guide members serving as abutments to prevent axial movement of said tumbler.

3. A device as specified in claim 1, in which the backing plate is made of metal and an integrally formed guide member is provided at each end of the tumbler member and are in the form of upwardly extending ears.

4. A rubbing pad for holding a strip of abrasive material, comprising: a backing plate; means for fastening said strip near one end of said backing plate; and key-operable tensioning means at the other end of said plate for gripping and tensioning the strip about one face of the backing plate, said tensioning means having an oval shaped hollow tumbler member adapted to be turned on edge to engage the abrasive strip frictionally and press it against the backing plate, a spring member for yieldingly urging said tumbler towards the plate, and angularly slotted guide members fixed to said plate at each end of the tumbler, the slots in said guide member being substantially L-shaped to permit insertion of a key into said hollow tumbler and limit the oscillation by the key between a strip gripping and a non-gripping position.

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