May 10, 1932. I. F. DITTMAR 1,857,240

BUFFER

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FIG. 1.

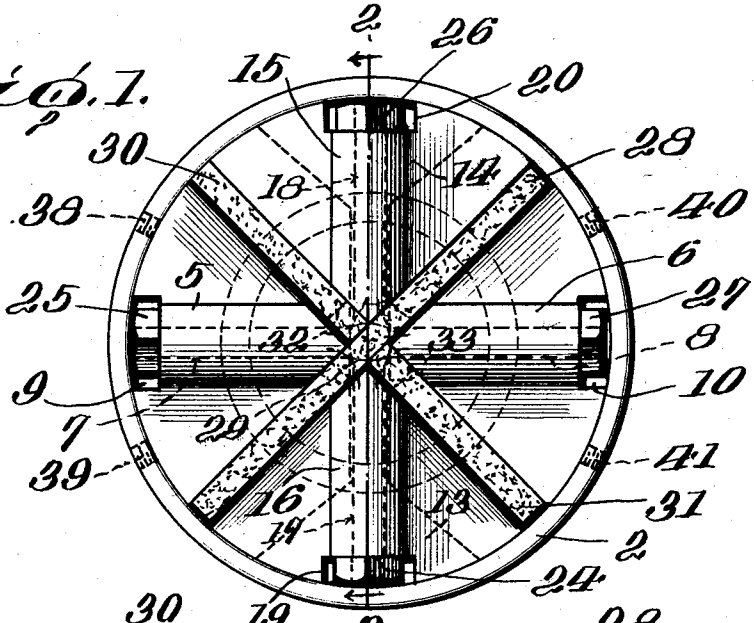


FIG. 2.

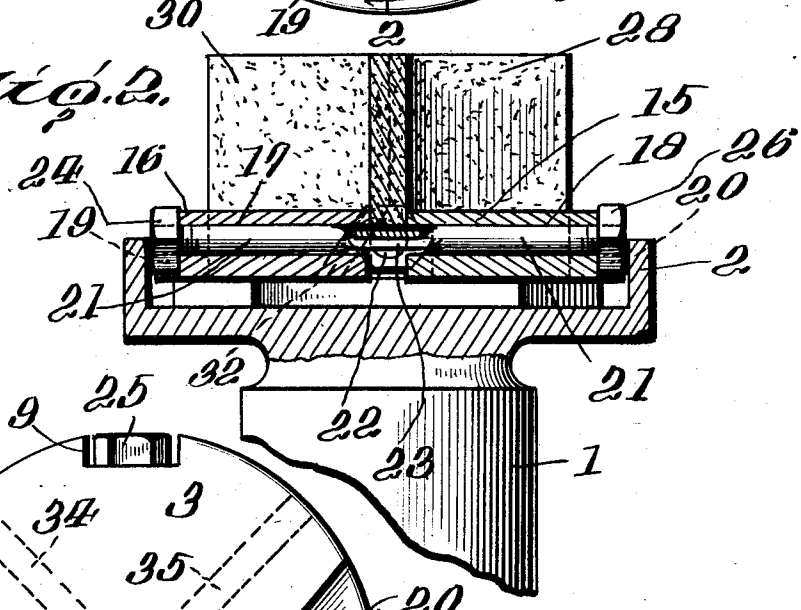
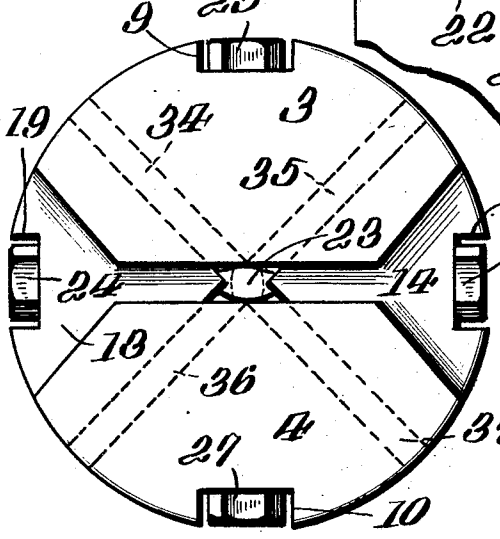


FIG. 3.



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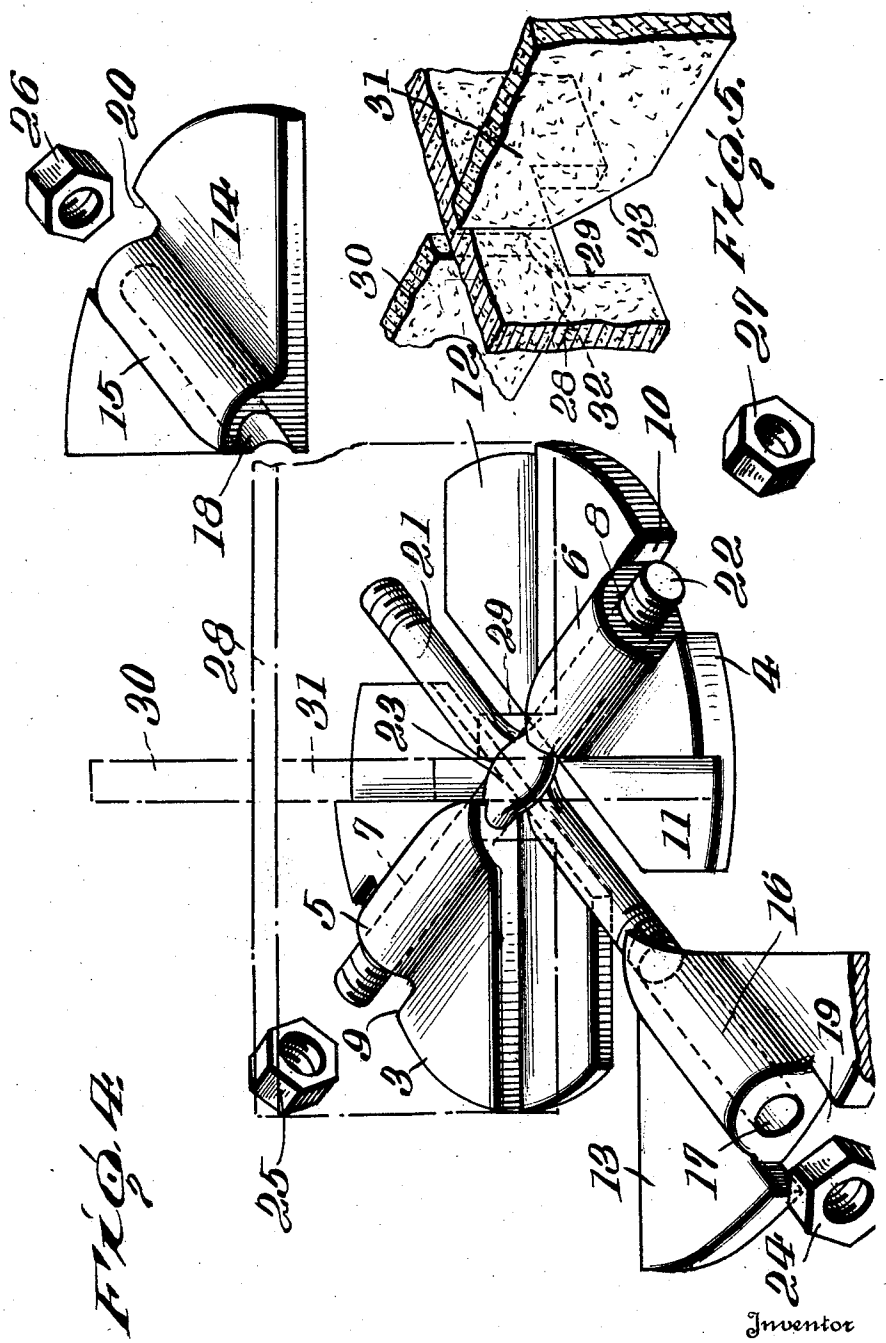


FIG. 4.

FIG. 5.

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UNITED STATES PATENT OFFICE

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BUFFER

Application filed December 7, 1928. Serial No. 324,351.

My invention relates to improvements in buffers for strip finishing machines.

The object of my invention is to provide a cleaner or buffer of this character in which the buffing surfaces, in the form of strips arranged on edge, are removably supported in a head whereby they may be readily replaced when worn, and are at the same time tightly held in their adjusted position.

Another object of my invention is to provide a buffer of this character in which the head carrying the buffing strips is readily inserted and held in a chuck carried by the rotating shaft of the machine, whereby the whole buffer can be removed and another inserted in the chuck.

A further object of my invention is to provide a simple, cheap and effective buffer of this character having material advantages over the buffers now in use, and having certain details of structure and combination of parts hereinafter more fully set forth.

In the accompanying drawings:

Figure 1 is a top plan view of my improved buffer mounted in the chuck carried by the buffing shaft.

Figure 2 is a vertical sectional view taken on the line 2—2, Figure 1.

Figure 3 is a bottom plan view of the buffer removed from the chuck.

Figure 4 is a perspective view of the buffer showing the several parts in their separated relation.

Figure 5 is a detail perspective view of the cleaning members.

In the art of floor finishing machines in which buffers are used, it has heretofore been the practice to mount the buffing surfaces on the outer end of the buffer shaft, and having the attaching means for the buffing surfaces formed as a part of the buffer shaft so that when the buffing surfaces become worn it is necessary to stop the machine and remove the buffing surfaces and replace them and properly adjust them in position. This operation takes considerable time and it is the object of this invention to mount the buffing surfaces in a head and the head removably locked in the chuck carried by the outer end of the buffer shaft. By this arrangement it will be seen that a number of buffer heads, having the buffing surfaces properly adjusted, can be kept on hand and when the buffing surfaces become worn and are to be replaced it is only necessary to loosen the said screws and remove the head from the chuck and place another head with new buffing surfaces therein. This operation takes very little time and therefore there is little time lost in replacing the buffer and the buffing surface can be replaced at any time and there is a great saving in time.

Referring now to the drawings, 1 represents the buffer shaft and 2 the chuck carried by the outer end, which as shown, is formed integral with the buffer shaft. The buffer head comprises the two plates 3 and 4 which are constructed exactly alike, having arranged at their centers the upwardly curved thickened portions 5 and 6 having the openings 7 and 8 extending entirely therethrough. The plates 3 and 4 adjacent the outer ends of the outwardly curved portions 5 and 6, are cut away as indicated at 9 and 10 for a purpose hereinafter more fully described. Each of the members 3 and 4 are provided at each end with the counter sunk portions 11 and 12. Resting within the counter sunk portions 11 and 12 of the members 3 and 4 are the V shaped members 13 and 14 which are provided with outwardly curved thickened portions 15 and 16 having openings 17 and 18 extending entirely therethrough. The outer edges of the V shaped members 13 and 14 are cut away as indicated at 19 and 20 for a purpose hereinafter more fully described. The means for locking the members 3, 4, 13 and 14 together in the position shown in Figure 1 comprises two bolts 21 and 22 which have both ends threaded as clearly shown in Figure 4 of the drawings and extend across each other mid way their ends, and are welded together as indicated at 23. While I have shown this construction of attaching means it will be understood that the same could be made in many different ways.

The bolts 21 and 22 extend through the openings 7 and 8 in the members 3 and 4, and also through the openings 17 and 18 in the members 13 and 14, and nuts 24, 25, 26 and

27 are screwed upon the threaded ends of the bolts 21 and 22 within the cut away portions 9, 10, 19 and 20, for forcing the plates 3, 4, 13 and 14 inwardly in a radial direction. The buffing surfaces are preferably of fabric but can be made of any desired material, and it has been found that old belting makes a very effective buffing surface. The buffing surface is made in three parts and comprises the strip 28 which extends entirely across the buffer, as shown in Figure 1 of the drawings, and the lower edge of the same is cut away as indicated at 29 so as to bridge across the welded connection 23 of the two bolts 21 and 22. Two radial buffing surfaces 30 and 31 extend radially from the center of the buffing surface 28, and having their lower inner corners cut away as indicated at 32 and 33 to allow for the welded connection 23 of the bolts 21 and 22. These buffing surfaces 28, 30 and 31 rest within the radial grooves 34, 35, 36 and 37 formed between the members 3 and 4 and 13 and 14, as shown in dotted lines, Figure 3, and by tightening the nuts 24, 25, 26 and 27 the members 3, 4, 13 and 14 are all forced radially inwardly clamping the buffing surfaces 28, 30 and 31 between the members 3, 4, 13 and 14, and holding them in the position shown in Figures 1 and 2 of the drawings. The nuts 24, 25, 26 and 27 are within the cut away portions 9, 10, 19 and 20 of the members 3, 4, 13 and 14 so that they are within the periphery of the buffer formed by the plates, whereby the head fits closely within the wall of the chuck. The chuck is provided with four openings in its outer periphery in which are arranged the screws 38, 39, 40 and 41. The set screws 38 and 39 engage the member 3 and the set screws 40 and 41 engage the member 4, whereby the whole head is locked in the chuck and can be readily removed by loosening the screws. By this structure it will be seen that the whole head is placed in the chuck with the buffing surfaces assembled and locked in their adjusted position so that it only requires a minute or so to place a new buffer head in the chuck.

While in the specification I have described my invention as a buffer, it is especially adapted to be used in connection with means for finishing strips of lumber and is in reality a cleaning or finishing wheel.

Having thus fully described my invention what I claim is:—

1. A buffer comprising a cross-shaped member having the ends of the arms of the member threaded, radially movable plate members mounted on the arms, buffing material arranged between said radially movable members and nuts on the arms of said cross-shaped member for moving the radially movable members inwardly and clamping the cleaning strips between the edges of said radially movable members.

2. A buffer of the character described comprising a head composed of four radially movable substantially V-shaped members, strips of buffing material between the opposing edges of said members and projecting beyond the faces of said members, cross bolts passing through said members and upon which said members are slidably mounted and nuts mounted on said bolts for forcing said members inwardly to clamp the buffing material between the opposing edges of said radially movable members.

3. A buffer of the character described comprising four radially arranged members, two segments mounted on two oppositely arranged radial members and having counter sunk portions, and two segments mounted on the other two radially arranged members and resting upon the counter sunk portion of the first two segments, and buffing strips supported by the counter sunk portion having their edges clamped between the walls of the countersunk portions and the edges of the last named segments.

4. A buffer of the character described comprising four radially arranged members, two segmental members mounted on two oppositely arranged radial members and having counter sunk portions radially arranged and having their outer edges cut away around the radial members, two segmental plates mounted upon the other two radial members and resting upon the counter sunk portions of the first two members and having their outer edges cut away around the radial members, and buffing strips arranged on edge and resting upon the counter sunk portions and clamped between the walls of the counter sunk portions and the segmental members mounted upon the counter sunk portions, and nuts on the radially arranged members within the cut away portions thereof.

5. A buffer of the character described comprising two bolts having both ends threaded; said bolts being crossed and welded together at their centers, segmentally arranged members movably mounted on said bolts, buffing strips mounted on edge between the abutting walls of the segmentally arranged members, and nuts on said bolts for moving the segmentally arranged members inwardly and clamping the buffing strips between said abutting walls.

6. A buffer of the character described comprising a shaft, a circular chuck rigidly carried by the upper end of the shaft, a buffer head comprising four radially arranged threaded arms having four segments one arranged on each arm, and radially movable thereon to form a circular member adapted to fit within said chuck, buffer strips arranged in radial planes with the lower edges between the abutting faces of the segments, and clamping nuts on said threaded arms for moving the segments inwardly and clamping

the strips between the same and means for securing the buffer head in the chuck.

7. A buffer comprising a cross-shaped member, the arms of said member having threaded ends, a plurality of segmental members mounted to move independently on the arms of said cross-shaped member, said segmental members having converging side walls adapted to engage buffing members arranged between the opposing edges of the said segmental members and nuts mounted on the threaded ends of said arms for clamping said buffing members along their edges between said members.

In testimony whereof I hereunto affix my signature.

IRVIN F. DITTMAR.