

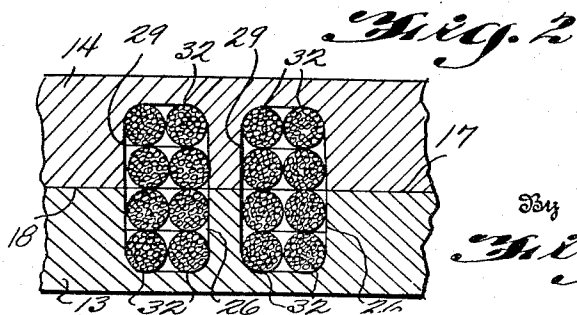
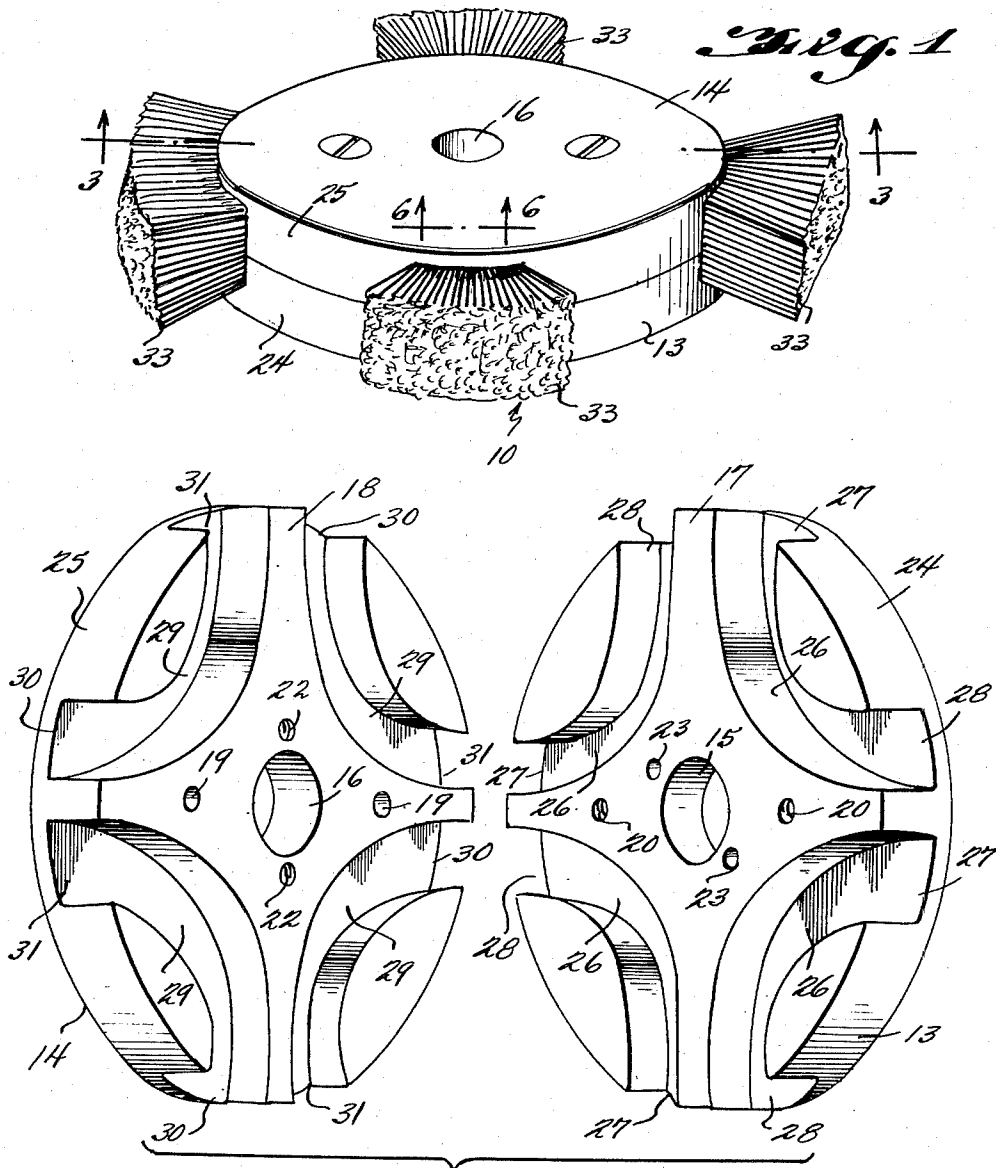
Dec. 6, 1960

O. N. PEDERSEN
ROTARY WIRE BRUSH

2,962,745

Filed June 11, 1959

2 Sheets-Sheet 1



Inventor
OLAF N. PEDERSEN

Fig. 6 **Kimmel & Crowell**
ATTORNEYS

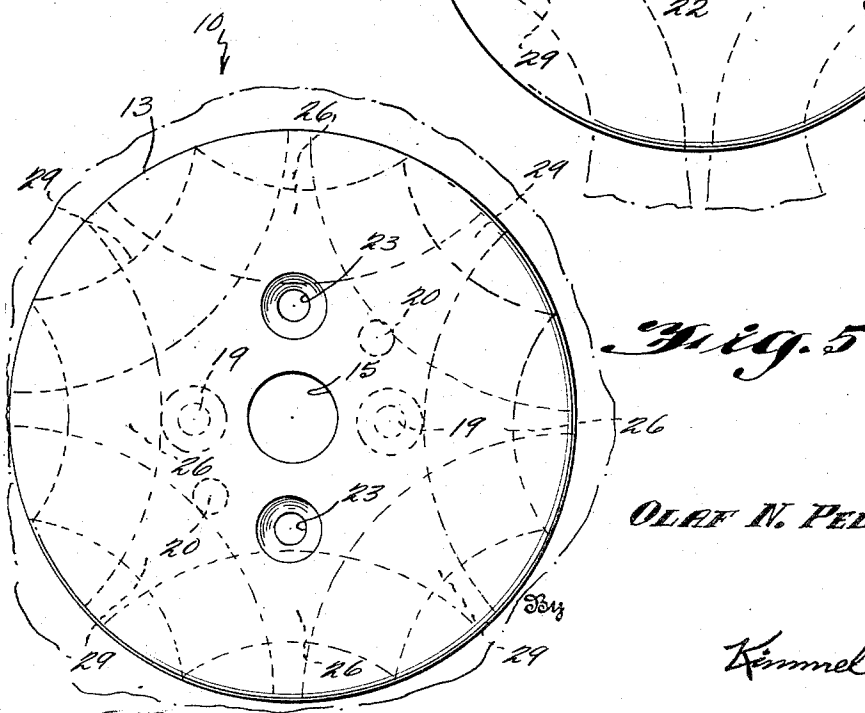
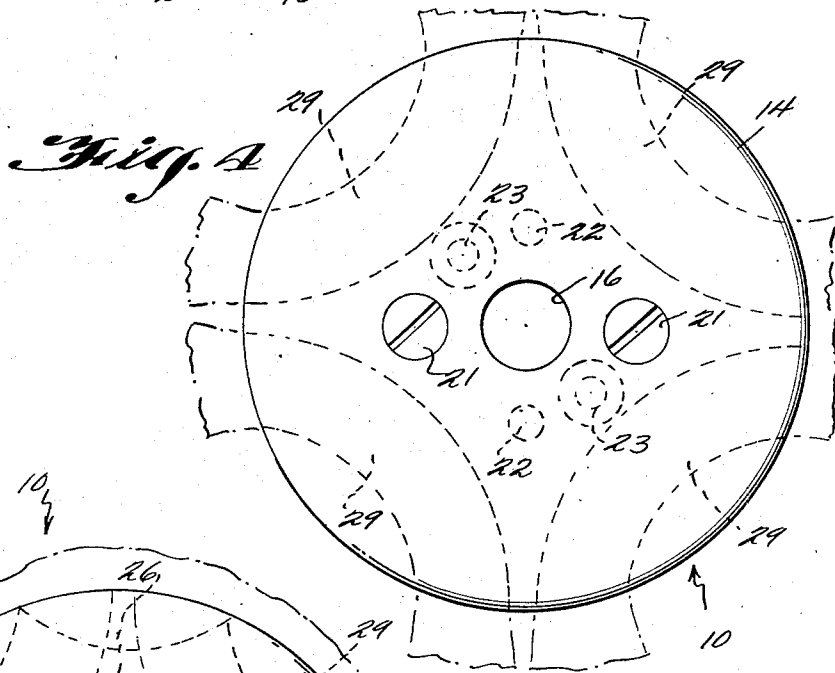
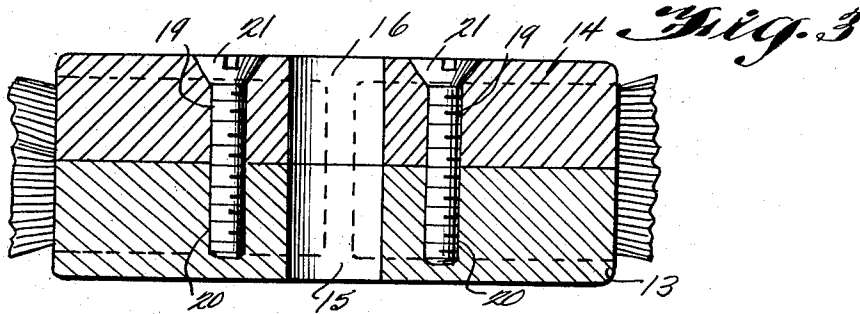
Dec. 6, 1960

O. N. PEDERSEN
ROTARY WIRE BRUSH

2,962,745

Filed June 11, 1959

2 Sheets-Sheet 2



Inventor
OLAF N. PEDERSEN

Kimmel & Crowell
ATTORNEYS

1

2,962,745

ROTARY WIRE BRUSH

Olaf Nedland Pedersen, 1100 Haring Road, Metairie, La.

Filed June 11, 1959, Ser. No. 819,664

1 Claim. (Cl. 15—198)

The present invention relates to a rotary wire brush and particularly to such devices which are adapted to be power driven by a light portable grinder motor.

The primary object of the invention is to provide a rotary wire brush in which wire cable strands are clamped in a holder to form a rotary wire brush which takes a small motor power to operate, and also gives a striking effect on the surface to which applied.

Another object of the invention is to provide a rotary wire brush having a pair of annular socketed clamping plates with a plurality of wire cable strands releasably clamped therebetween.

A still further object of the invention is to provide a rotary wire brush in which the wires can be readily replaced when worn by a simple disassembly and reassembly operation.

Another object of the invention is to provide a rotary wire brush which can be adjusted to two working positions with the bristles on opposite sides of the brush offset from each other.

Other objects and advantages will become apparent in the following specification when considered in light of the attached drawings, in which:

Figure 1 is a perspective view of the invention;

Figure 2 is a perspective view of the clamp plates shown in separated condition;

Figure 3 is an enlarged fragmentary vertical cross section taken along the line 3—3 of Figure 1, looking in the direction of the arrows;

Figure 4 is a plan view of the invention shown in one position of adjustment;

Figure 5 is a view similar to Figure 4 with the plates in a second position of adjustment; and

Figure 6 is an enlarged fragmentary vertical section taken along the line 6—6 of Figure 1, looking in the direction of the arrows.

Referring now to the drawings in detail wherein like reference characters indicate like parts throughout the several figures, the reference numeral 10 indicates generally a rotary wire brush constructed in accordance with the invention.

The wire brush 10 includes a pair of annular steel plates 13, 14 having central bores 15, 16 extending respectively therethrough and arranged for axial alignment when the plates 13, 14 have their inner faces 17, 18 respectively in engagement. The bores 15, 16 are adapted to engage over an arbor, or shaft (not shown) of a motor so that the brush 10 may be revolved thereby.

The plate 14 has a pair of bores 19 arranged in equi-spaced parallel relation to opposite sides of the bore 16. The plate 13 has a pair of threaded bores 20 arranged in equi-spaced parallel relation to the bore 15. The bores 19 have their axes intersecting an extended diameter of the bore 16. The bores 20 have their axes intersecting an extended diameter of the bore 15. The bores 19, 20 are respectively spaced apart an equal distance so that with the inner faces 17, 18 of the plates 13, 14 in contacting relation, and the bores 15, 16 in

2

axially aligned relation, the bores 19 may be positioned in aligned relation to the bores 20. With the bores 19, 20 in aligned relation, threaded bolts 21 can be threaded therethrough to clamp the plate 13 and the plate 14 together, as illustrated in Figure 3. The plate 14 has a pair of threaded bores 22 positioned on opposite sides in equi-spaced parallel relation to the bore 16. The bores 22 have their axes intersecting an extended diameter of the bore 16 which lies at right angles to the extended diameter of the bore 16 intersecting the axis of the bores 19. The bores 22 are spaced substantially closer to the bore 16 than the bores 19. The plate 13 has a second pair of bores 23 arranged in spaced parallel relation to the bore 15 on opposite sides thereof. The axes of the bores 23 intersect at extended diameter of the bores 15 arranged at a 45 degree angle to the extended diameter intersecting the axes of the bores 20. The bores 23 are spaced substantially closer to the bores 15 than the bores 19—20, and are as compared to the bores 22, 23 equi-spaced apart.

The bores 22, 23 are adapted to be positioned in aligned relation with the inner faces 17, 18 of the plates 13, 14 in contacting relation and the bores 15, 16 in axially aligned relation. In order to align the bores 22 with the bores 23, the plates 13, 14 must be revolved about their axes 45 degrees with respect to each other, which will move the bores 19, 20 out of registry with each other. With the bores 22, 23 in registry, the bolts 21 can be extended therethrough to clamp the plates 13, 14 together in angularly adjusted position.

The plate 13 has a peripheral edge 24 and the plate 14 has a peripheral edge 25. Four segmental shaped slots 26 are formed in the face 17 of the plate 13 with the opposite ends 27, 28 thereof opening through the peripheral edge 24 of the plate 13. The slots 26 are of generally rectangular cross section, as can be clearly seen in Figure 6.

The plate 14 is provided with four segmental shaped slots 29 opening through the inner face 18 thereof and having the opposite ends 30, 31 thereof opening through the peripheral edge 25 of the plate 14. The slots 29 have a substantially rectangular cross section, as can be clearly seen in Figure 6, and are formed in exact conformity to the slots 26 so that with the bolts 21 extending through the bores 19 and the threaded bores 20, each slot 26 exactly overlies a slot 29. With the bores 22 aligned with the bores 23, each slot 26 is offset 45 degrees with respect to its companion slot 29.

Four relatively short lengths of stranded wire rope 32 are positioned in each of the grooves 26, 29 with the terminal ends 33 of the wire rope strands 32 extending beyond the peripheral edges 24, 25 of the plates 13, 14. With the plates 13, 14 clamped together with the grooves 26 overlying the grooves 29, the wire rope strands 32 form four circumferentially spaced brushing elements extending continuously across both of the peripheral edges 24, 25 of the plates 13, 14.

With the plates 13, 14 clamped together with the bores 22 and 23 in aligned relation, the terminal ends 33 of the wire rope strands 32 in the slots 26 are offset 45 degrees with respect to those in the slots 29 so that a relatively continuous brushing action is obtained, however still being discontinuous in alternate fashion on opposite sides of the wire brush 10.

The present wire brush 10 can be mounted on a shaft of any motor or flexible drive cable and can be reversed so that even wear is obtained on the strands of wire rope 32 on both sides of the wire brush 10. The relatively solid plates 13, 14 provide a fly wheel action which permits a uniform operation of the device with much less strain on the motor. With the particular arrangement of the plates and the wire strands clamped

3

therein, a considerable less power is required for the work accomplished than would be the case wherein the bristles extend outwardly from the complete perimeter of the brush.

It can also be clearly seen that ordinary scrap wire rope can provide a ready source of supply for replacement bristles for the present invention without involving undue expense.

Having thus described the preferred embodiment of the invention, it should be understood that numerous structural modifications and adaptations may be resorted to without departing from the scope of the appended claim.

What is claimed is:

A wire bristle brush comprising matching circular plates to be clamped in registering face-to-face engagement, each of said plates having a central circular opening for passage of a shaft therethrough, the opposed faces of each of said plates having a plurality of mating arcuate grooves formed therein, with the ends of each groove opening through the periphery of its respective plate, a wire rope strand positioned in each of said grooves with the ends of each strand projecting radially

4

beyond the peripheries of said plates, one of said plates being formed diametrically of said central opening thereof and at equal radial distances therefrom with a pair of threaded bores, said one plate also being formed diametrically of said opening and equally spaced between said threaded bores, but at a different radial distance from said opening, with a pair of unthreaded bores extending through said plate, the other of said plates being formed with correspondingly positioned bores with the threaded bores thereof adapted to register with the unthreaded bores of said one plate and the unthreaded bores thereof adapted to be moved into registration with the threaded bores of said one plate, and bolts extending through one set of said unthreaded bores and into the threaded bores of the other plate, whereby said plates may be angularly adjusted relative to one another for increasing the spread of said bristles circumferentially of said plates.

References Cited in the file of this patent

UNITED STATES PATENTS

1,009,335	Olson	Nov. 21, 1911
2,763,257	Asbury	Sept. 18, 1956