

April 23, 1957

B. TOCCI-GUILBERT ET AL

2,789,402

BACK PAD

Filed June 14, 1955

3 Sheets-Sheet 1

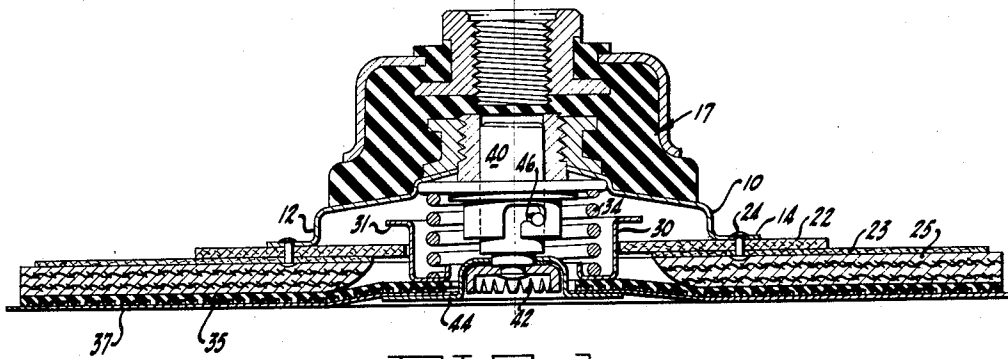


FIG. 1

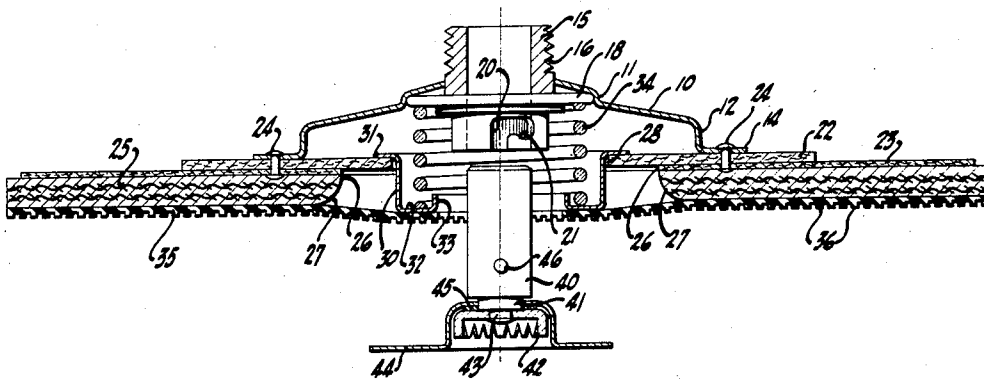


FIG. 2

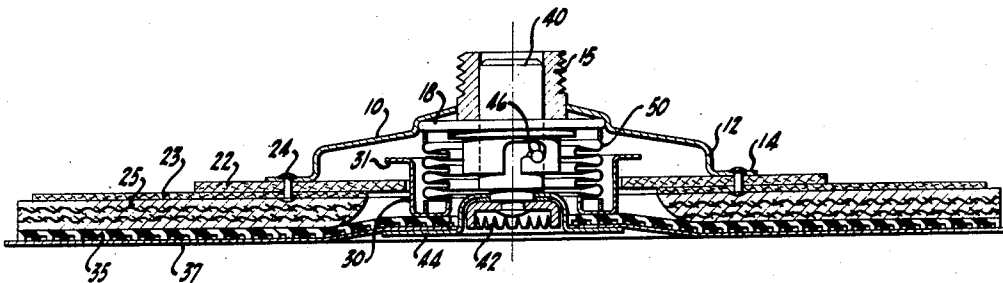


FIG. 3

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FIG 4

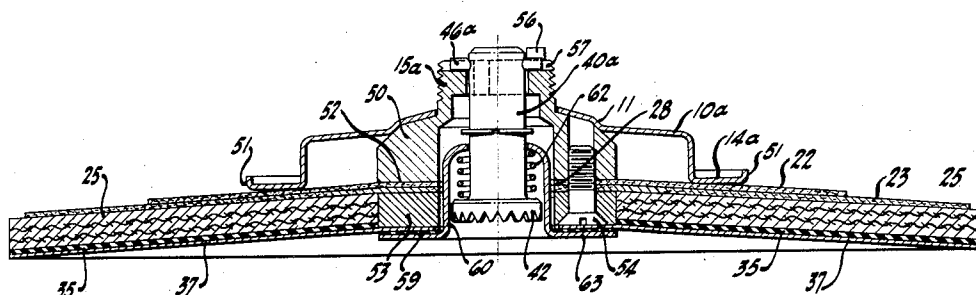
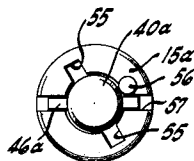


FIG 5

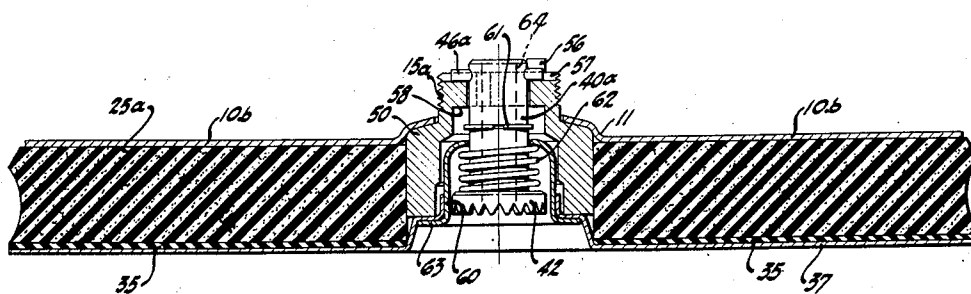


FIG 6

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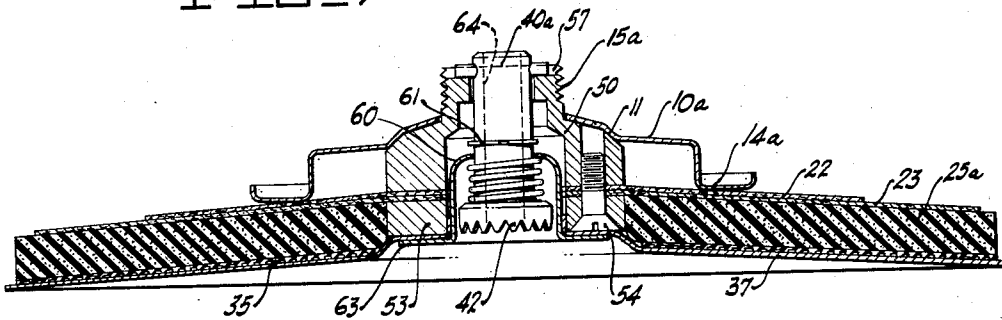
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FIG. 7



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Berne Tocci-Guilbert and Hosmer L. Blum, San Francisco, Calif., assignors to Berne Tocci-Guilbert and Henry Gifford Hardy, jointly as trustees, both of Berkeley, Calif.

Application June 14, 1955, Serial No. 515,328

17 Claims. (Cl. 51—197)

This invention relates to improvements in back pads for supporting abrasive discs for rotary sanders and grinders, and, especially, to such back pads useful in the delicate abrading and blending required in refinishing, as well as finishing decorated surfaces on metallic or other subsurfaces by means of rotating abrasives, which operation is known in the trade as "feathering."

The feathering operation has heretofore been accomplished using the ordinary back pads presently found in the art, having smooth, hard, compact surfaces, supporting a disc of fine grit bonded on a cloth or other fibrous surface. It is to be understood that most abrasive discs comprise a paper or cloth base to which the suitable abrasive is secured by a binder. In the fine grits used in the feathering process, the abrasive disc lacks the rigidity and integrity necessary to maintain its contact against the back pad for optimum operation. While the centrifugal force of the rotation may, under certain conditions, be sufficient to bring this result about, it is not practical to operate at motor speeds of more than 1,300 to 2,000 R. P. M., because the thin mounting of the abrasive tends to slip and wrinkle at high speeds under frictional torque. Once either of these starts, there will be only a slight interval before the abrasive is torn or damaged beyond further use. Likewise if the abrasive disc snags on the work even slightly, it will be instantly destroyed and replacement becomes necessary.

Under these circumstances it has been found desirable upon occasion to temporarily coat the supporting face of the back pad with an adhesive in order to secure the abrasive disc in place. However, this entails not only the extra time of coating and applying the disc to the back pad, but the cleaning of the back pad after every use, which materially shortens the life of the back pad and unduly extends the time of the operation.

In addition, a new type of abrasive disc has recently become available under the name "gritcloth." Gritcloth is generally described as an open-weave fabric, usually cloth or plastic, impregnated with abrasive and binder so that both sides of the disc are available for the feathering or sanding operation. This product has been found to be one of superior characteristics, but, here again, the lack of integrity of the disc, itself, prevents the use which its performance would otherwise deserve. It will be readily understood that it is not practical to coat a back pad with an adhesive even to temporarily hold the gritcloth disc in operating position. The difficulty of holding a gritcloth disc securely to the face of the back pad is reflected by the fact that in use, when such a disc is applied to the work, the frictional torque set up causes the gritcloth to slip. Because gritcloth has both sides coated with abrasive, any slippage which occurs will wear away the face of the back pad at the same rate the abrasive acts upon the working surface, if it does not result in wrinkling or other destruction.

Accordingly, it is an object of the present invention to provide a backing pad which will support all kinds of abrasive discs, including gritcloth, at high rotational

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speeds, without danger or wrinkling or tearing and without the deleterious use of temporary adhesive means.

It is also an object of the present invention to provide a back pad capable of use at substantially higher rotational speeds than possible under present practice.

Another object of the present invention is to provide a built-in slip clutch for holding the abrasive discs, to counteract slippage due to frictional torque.

It is still another object of the invention to provide a back pad with a contact surface for the support of the abrasive, which not only insures a firm grip, but which will provide for the ventilation and relief of frictional heat as well.

It is still another object of the present invention to provide a back pad which will be useful in either standard rotary sanding devices or as an attachment to a feathering motor.

It is a further object of the invention to provide a flexible back pad, laminated throughout its contact area, to provide any degree of flexibility desired for any particular operation.

Another object of the invention is to provide a back pad which is readily adaptable for use with oscillators providing a nutating movement, such as are referred to in United States Letters Patent Nos. 2,486,078, 2,629,990 and 2,633,008.

It is still another object of the invention to provide each and all of these features with a quick coupling nut for retaining the abrasive disc or discs.

Another object is to provide a back pad to secure these benefits while operating either in water or under water.

Still another object is to provide a back pad which will not materially increase in weight while working in or under water.

Further objects are to provide a construction of maximum simplicity, economy, and ease of assembly and disassembly, also such further objects, advantages and capabilities as will fully appear and as are inherently possessed by the device and the invention described herein.

The invention further resides in the combination, construction and arrangement of parts illustrated in the accompanying drawings, and while there is shown therein a preferred embodiment and one variant thereof, it is to be understood that the same are merely illustrative of the invention and that the invention is capable of modification and change and comprehends other details of construction without departing from the spirit thereof or the scope of the appended claims.

Referring to the drawings:

Figure 1 is a vertical section of the back pad of the present invention secured in position on an oscillator and with an abrasive disc secured to the face thereof ready for use;

Figure 2 is a vertical section of the back pad of the present invention detached from either an oscillator or the stub shaft of a motor, without an abrasive disc, and with the quick acting retaining nut withdrawn to show its structure;

Figure 3 is a vertical section of a back pad of the present invention with the retaining nut in the operative position, but with a Sylphon bellows replacing and substituted for the compression spring shown in Figures 1 and 2.

Figure 4 is a vertical section of the back pad with an abrasive disc secured to the face thereof, where the shell is not secured to the backup pad or pads, and where the quick lock pins engage a groove in the coupling end of the hub.

Figure 5 is a top plan view showing the quick coupling locking means.

Figure 6 is a vertical section of a special form of the present invention especially adapted for use in and under water.

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Figure 7 is a vertical section showing a structure similar to that shown in Figure 4, but with a backup pad faced with nonintercellular sponge rubber and especially adapted for use with and under water.

Referring now more particularly to the drawings, wherein like reference numerals indicate like parts in the several views, the back pad of the present invention comprises a shell 10, which may also be referred to as a mounting flange, and is radially stepped downwardly as at 11 and 12 until it terminates in the radial annular flange 14. Axially it abuts and retains within it the hollow cylindrical coupling member 15, the outward and protruding end of which is threaded as at 16 for coupling with an oscillator 17 or the stub shaft of a feathering motor, or a grinding motor (not shown). The coupling member 15 is retained and held in centered position with respect to the shell 10 by an annular ring member 18 whose perimeter fits directly within the shoulder formed by the step 11. By welding the ring member 18 to the shell 10, or by any other suitable means, the mounting member 15 is secured to the shell 10 for rotation therewith. The innermost edge of the coupling member 15 is provided with an axial slot 20 and a turn 21 to provide a bayonet joint.

The radial flange 14 is secured to backup discs 22 and 23, which are of varying diameters and overlap, by means of rivets 24 or any other suitable means. While only two backup discs 22 and 23 are shown in the drawings, it is to be understood that these may vary in number and diameter, depending upon the degree of flexibility or stiffness required in any particular back pad. One or more backup pads may be used, and, obviously, if only one backup pad were used, the diameter of backup pad 22 would be extended to the full outer diameter of that shown and identified as 23. Firmly attached to the face of the backup disc 23 is a felt pad 25 of substantial thickness, which may be treated to be either waterproof or water-resistant without damage to its cushioning function. Nonintercellular sponge rubber 25a may also be used in place of the felt pad 25, and this material is especially useful where the use is to be in water or under water. Nonintercellular sponge rubber is water resistant and will not soak up or hold water. Hence, it will not increase in weight due to picking up and holding water. It will be observed that the inner perimeter 26 of the pad, forming a central aperture, may be rounded in profile, as at 27.

Backup discs 22 and 23 are each provided with a central aperture defined by the inner perimeter 28. Within this aperture is a pressed or stamped pressure ring 30, the inner end of which is an outwardly directed radial flange 31 which bears directly against the upper face of the backup disc 22, adjacent the perimeter 28. The outer end of the pressure ring 30, which extends through the aperture, is bent inwardly to form a substantially flat abutting surface 32 and then inwardly to form the retaining flange 33. Inwardly between the collar 18 of the coupling member 15 and the retaining flange 33 is compression spring 34. Spring 34 constantly urges the retaining ring outwardly and axially until this movement is stopped by the flange 31 abutting the upper surface of the backup disc 22. This extended position is shown in Figure 2.

One of the important features is that the felt pad 25 or sponge rubber pad 25a is faced with piped rubber 35, or any other suitable nonskid surface. The piped rubber 35 has been found very desirable because the many little rubber cylinders 36 contact the abrasive disc and support it during the sanding or feathering operation. This kind of support not only tends to prevent any slippage of the abrasive disc thereon due to frictional torque, but if any slippage tends to develop, the piping will give sufficiently to dissipate any possibility of wrinkling or distorting the surface of the disc. Likewise, the heat generated by the frictional torque in contact with the work surface is dissipated to a large degree through the ventilation provided by the air passages in the piped rubber support 35. The nonskid supporting surface 35 extends from the outer

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perimeter of the pad 25 to the inner perimeter of the pressure ring 30. In this manner the supporting surface 35 bridges the area between the rounded inner perimeter 27 of the pad 25 and the pressure ring 30 to which it is secured. The area in which there is no under support for the facing material 35 provides a flexing zone sufficient to accommodate the range of the compression spring 34 from the locked position shown in Figure 1 to the released position shown in Figure 2, which together illustrate the range.

The quick acting coupler is best illustrated by reference to Figure 2. It comprises a cylindrical member 40 which is adapted to be received with a slip fit within the cylindrical coupling member 15. At its outward end it is provided with a shank 41 of reduced diameter, to which is secured a crown twist button 42 by means of a rivet 43 or any other suitable means. A retaining flange 44 is loosely mounted around the shank 41 with a fiber washer 45 between it and the crown twist button 42. In this manner the crown twist button 42 may be used to rotate the cylindrical member 40 without rotating the retaining flange 44, and vice versa. The member 40 is provided with a radially outward extending pin 46, which pin is intended to be guided in the slot 20 and come to rest in the bayonet joint 21. The locked position of the bayonet joint 21 represents a slight axial return so that the pin will not be jarred out of locked position inadvertently. It is likewise apparent that the action of the spring 34 additionally insures maintenance of the pin 46 in the locked position.

In placing an abrasive disc 37 on the supporting nonskid face 35, the quick coupling member is first removed. When the disc 37 is in place, the cylindrical portion 40 of the quick coupler is passed through the central aperture of the abrasive disc and inserted into the coupling member 15. At the same time the member 40 is rotated by the crown twist button 42 so that the pin 46 will engage and travel in the axial channel 20. The pressure, exerted axially on the crown twist button 42 is such that the inner face of the retaining flange 44 bears against the abrasive disc and at the end of the full travel of the pin 46 it is rotated by means of the twist button 42 in the locked position in the bayonet joint 21. The locked position is shown in Figures 1 and 3 and in this manner the abrasive disc 37 is retained in operating position against the supporting face 35. It will be observed that in the locked position the pressure ring member 31 is moved axially inwardly against the action of spring 34. This insures a tight grip at the central portion of the abrasive disc 37 between the pressure ring surface 32 and the retaining flange 44. It will also be observed that in the locked position, the central portion of the back pad is countersunk, which countersinking extends to the curved inner perimeter 27 of the pad 25. Obviously, any degree of countersinking may be obtained by the appropriate positioning of the pin 46, or otherwise.

In Figure 3 the structure shown is identical with that shown in Figures 1 and 2, with the exception that a Sylphon bellows 50 has been substituted for the spring 34. There appear to be certain conditions where a Sylphon bellows-type pressure is preferable to that of the compression spring 34.

Referring now to Figure 4, it will be observed that the external coupling portion 15a is made integral with the hub member 50. The hub member 50 is so shaped that it conforms to the shape of the shell 10a and the shoulder portion 11 which it supports. The shell 10a is secured, in any suitable manner, to the hub portion 50 for rotation therewith. The radial flange 14a of the shell 10a terminates with an upturned flange 51 and is not secured in any way to the backup pad or pads 22 and 23. It merely supports the pad or pads 22 and 23 at the place of contact and thus permits greater flexibility in use than if it were secured by the rivet 24 or any other means.

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The backup pads 22 and 23 are also supported on their inner side adjacent the internal perimeter 28, by the face 52 of the hub member 50. On their outer side they are held by ring member 53, which is substantially a mere continuation of the hub 50 and which is secured to the hub 50 by a plurality of countersunk screws 54. The felt pad 25 (or nonintercellular sponge rubber pad 25a) extends inwardly up to and abuts the ring member 53, so that the outer surface of the piped rubber facing 35 continues in the same line and becomes the outer face of the ring member 53.

The abrasive disc 37 is shown in position on the back pad, ready for operation.

The abrasive disc is retained in the operative position in a manner similar to that shown in Figures 1, 2, and 3. However, in the form shown in Figures 4, 5, 6, and 7 the cylindrical member 40a slidably moves in the coupling portion 15a of the hub member 50. In this instance, therefore, the cylindrical member 40a has the locking pin 46a extending diametrically through and projecting at both sides adjacent its outer end. Accordingly, to accomplish the axial sliding movement of the cylindrical member 40a in and out of locked position, the coupling member 15a is provided with inwardly directed radial slots 55, which accommodate the outward extensions of pin 46a. In the locked position shown in Figures 4, 5, and 6, the pin 46a has been rotated counterclockwise so that one projecting portion has come against stop 56, whereby the pin 46a is then directed into the end groove 57 and held there by compression spring 62. As in the other forms, the crown twist button 42 is the means provided for pressing and rotating the cylindrical member 40a in and out of the locked, operative position.

The cylindrical member 40a passes through a central aperture in a deep drawn retaining member 60 which has a diameter in the draw sufficient to receive and permit free rotation of the crown twist button 42. On the cylindrical member 40a, between an inner shoulder 58 of the coupling portion 15a and the aperture in the deep draw of the retaining member 60, is a split ring 61 which acts as a stop against the shoulder for inward axial movement of the twist button and cylindrical member 40a and against the member 60 in the released position. The cylindrical member 40a is constantly urged toward the released position by the compression spring 62 which bears on the inner face of the deep draw of the retaining member 60 and the inner face of the crown twist button 42.

The member 60 has a radial peripheral flange 63 which bears against the outer surface of an abrasive disc 37 to hold the same in operative locked position. There are times, however, when it is desirable to insert a rubber washer or ring 59 to bear against the abrasive disc 37 and receive the wear, rather than the flange 63. It is likewise to be observed that the retaining member 60 is free to rotate around the member 40a. This slip-clutch permits the necessary creep under rotational torque to prevent the wrinkling or tearing of the abrasive disc.

The device shown in Figure 6 is particularly useful for surfacing or grinding when the same is done in or under water. The shell 10b after the step 11, extends outwardly substantially to the full diameter of the pad. Nonintercellular sponge rubber 25a is secured to the shell 10b for rotation therewith. The hub 50, instead of being in two parts as in Figure 4, which includes the ring 53, is in a single unitary piece with the coupling end 15a. The nonintercellular sponge rubber 25a will not pick up or hold water as will intercellular sponge, either natural or synthetic, and, thus, there is no increase in the weight due to the pick up of water when working either in or under water with the device. As the broken lines 64 show, the member 40a may be made with a central bore which acts as a through-pass for water to the wet pad.

It is apparent that the conventional retaining nut could be used in place of the quick acting twist lock retaining

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means by having the threads of the retaining nut shank cooperate with internal threads at the inner end of the coupling member 15.

Figure 7 shows a unit which has a coupling structure similar to that shown in Figure 4, but has a backup disc 23 faced with nonintercellular sponge rubber 25a as shown in Figure 6. The member 40a is also shown with a central bore 64 which is a through-pass for water, making this particular unit suitable and available for use with and under water.

The present application is a continuation-in-part of our earlier filed application, filed April 5, 1955, under Serial No. 499,406, now abandoned.

We claim:

1. A back pad for abrasive discs and the like comprising a mounting shell, a coupling member for attaching to a driving means secured for axial rotation with said shell, a backup disc having a central opening and bearing against the periphery of said mounting shell, a ring member outwardly securing said backup disc to said coupling member adjacent the central opening for rotation therewith, a retaining member having a peripheral flange for bearing against an abrasive disc and holding it against independent movement between said ring member and said member, said retaining member being mounted for independent slight rotational movement resulting from frictional torque providing a slip clutch, pressure means within said shell and coupling member, passing through and retained by said retaining member, and twist lock means on said pressure means cooperating with said coupling member for quick attachment to and detachment from said coupling member.

2. A back pad for abrasive discs and the like comprising a mounting shell, a coupling member for attaching to a driving means secured for axial rotation with said shell, a backup disc having a central opening and bearing against the periphery of said mounting shell, a ring member outwardly securing said backup disc to said coupling member adjacent the central opening for rotation therewith, a relatively soft pad secured to the outer surface of said backup disc, a retaining member having a peripheral flange for bearing against an abrasive disc and holding it against independent movement between said ring member and said member, said retaining member being mounted for independent slight rotational movement resulting from frictional torque providing a slip clutch, pressure means within said shell and coupling member, passing through and retained by said retaining member, and twist lock means on said pressure means cooperating with said coupling member for quick attachment to and detachment from said coupling member.

3. A back pad for abrasive discs and the like comprising a mounting shell, a coupling member for attaching to a driving means secured for axial rotation with said shell, a backup disc having a central opening and bearing against the periphery of said mounting shell, a relatively soft pad secured to the outer surface of said backup disc, a piped rubber surface secured to the outer face of said pad, a retaining ring for bearing against an abrasive disc and holding it against independent movement, said retaining ring being mounted for independent slight rotational movement resulting from frictional torque providing a slip clutch, pressure means within said shell and coupling member, passing through and retained by said retaining ring, and twist lock means on said pressure means cooperating with said coupling member for quick attachment to and detachment from said coupling member.

4. A back pad for abrasive discs and the like comprising a mounting shell, a coupling member for attaching to a driving means secured for axial rotation with said shell, a backup disc having a central opening and bearing against the periphery of said mounting shell, a nonintercellular sponge rubber pad secured to the outer

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surface of said backup disc, a piped rubber surface secured to the outer face of said pad, a retaining ring for bearing against an abrasive disc and holding it against independent movement, said retaining ring being mounted for independent slight rotational movement resulting from frictional torque providing a slip clutch, pressure means within said shell and coupling member, passing through and retained by said retaining ring, and twist lock means on said pressure means cooperating with said coupling member for quick attachment to and detachment from said coupling member.

5. A back pad for abrasive discs and the like comprising a mounting shell, a coupling member for attaching to a driving means secured for axial rotation with said shell, a backup disc having a central opening and bearing against the periphery of said mounting shell, a nonintercellular sponge rubber pad secured to the outer surface of said backup disc, a piped rubber surface secured to the outer face of said pad, a retaining ring for bearing against an abrasive disc and holding it against independent movement, said retaining ring being mounted for independent slight rotational movement resulting from frictional torque providing a slip clutch, a threaded retaining nut cooperating with said coupling member and retaining ring for securing an abrasive disc for rotation therewith.

6. A back pad for abrasive discs and the like comprising a mounting shell, a coupling member for attaching to a driving means secured for axial rotation with said shell, a backup disc having a central opening and bearing against the periphery of said mounting shell, a relatively soft pad secured to the outer surface of said backup disc, a piped rubber surface secured to the outer face of said pad, a retaining ring for bearing against an abrasive disc and holding it against independent movement, said retaining ring being mounted for independent slight rotational movement resulting from frictional torque providing a slip clutch, a threaded retaining nut cooperating with said coupling member and retaining ring for securing an abrasive disc for rotation therewith.

7. A back pad for abrasive discs comprising a mounting shell, a coupling member for attaching to a driving means secured axially for rotation with said shell, a backup disc having a central aperture secured to said mounting shell, a pressure ring within said central aperture having a stop thereon for limiting its outward movement, pressure means within said shell and retained by said pressure ring urging the latter outwardly, a relatively soft pad for the under surface of said backup disc, a nonskid surface for said pad extending over the entire area from the perimeter and attaching centrally to the pressure ring, and a twist bayonet lock means cooperating with said coupling member to retain an abrasive disc against said nonskid surface for rotation with said back pad.

8. A back pad for abrasive discs comprising a mounting shell, a coupling member for attaching to a driving means secured axially for rotation with said shell, a backup disc having a central aperture secured to said mounting shell, a pressure ring within said central aperture having a stop thereon for limiting its outward movement, pressure means within said shell and retained by said pressure ring urging the latter outwardly, a relatively soft pad for the under surface of said backup disc, a nonskid surface for said pad extending over the entire area from the perimeter and attaching centrally to the pressure ring, and a threaded retaining nut cooperating with said coupling member to retain an abrasive disc against said nonskid surface for rotation with said back pad.

9. A back pad for abrasive discs comprising a mounting shell, a coupling member for attaching to a driving means secured axially for rotation with said shell, a plurality of backup discs having a central aperture secured to said mounting shell, a pressure ring within said central aperture having a stop thereon for limiting its out-

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ward movement, pressure means within said shell and retained by said pressure ring urging the latter outwardly, a waterproof pad for the under surface of said backup discs, a nonskid surface for said pad extending over the entire area from the perimeter and attaching centrally to the pressure ring, and a twist bayonet lock means cooperating with said coupling member to retain an abrasive disc against said nonskid surface for rotation with said back pad.

10. A back pad for abrasive discs comprising a mounting shell, a coupling member for attaching to a driving means secured axially for rotation with said shell, a plurality of backup discs having a central aperture secured to said mounting shell, a pressure ring within said central aperture having a stop thereon for limiting its outward movement, pressure means within said shell and retained by said pressure ring urging the latter outwardly, a nonintracellular sponge rubber pad for the under surface of said backup discs, a nonskid surface for said pad extending over the entire area from the perimeter and attaching centrally to the pressure ring, and a twist bayonet lock means cooperating with said coupling member to retain an abrasive disc against said nonskid surface for rotation with said back pad.

11. A back pad for abrasive discs comprising a mounting shell, a coupling member for attaching to a driving means secured axially for rotation with said shell, a plurality of backup discs having a central aperture secured to said mounting shell, a pressure ring within said central aperture having a stop thereon for limiting its outward movement, pressure means within said shell and retained by said pressure ring urging the latter outwardly, a nonintracellular sponge rubber pad for the under surface of said backup discs, a piped rubber surface for said pad extending over the entire area from the perimeter and attaching centrally to the pressure ring, and a twist bayonet lock means cooperating with said coupling member to retain an abrasive disc against said piped rubber surface for rotation with said back pad.

12. A back pad for abrasive discs comprising a mounting shell, a coupling member for attaching to a driving means secured axially for rotation with said shell, a plurality of backup discs having a central aperture secured to said mounting shell, a pressure ring within said central aperture having a stop thereon for limiting its outward movement, pressure means within said shell and retained by said pressure ring urging the latter outwardly, a nonintracellular sponge rubber pad for the under surfaces of said backup discs, a piped rubber surface for said pad extending over the entire area from the perimeter and attaching centrally to the pressure ring, and a threaded retaining nut cooperating with said coupling member to retain an abrasive disc against said piped rubber surface for rotation with said back pad.

13. A water resistant back pad for abrasive discs and the like comprising a combined mounting shell and backup disc, a coupling member for attaching to a driving means secured for axial rotation with said shell and having an axial bore therethrough, a nonintercellular sponge rubber pad secured to the outer face of said shell and surrounding said coupling member, a piped rubber surface secured to the outer surface of said pad, a retaining ring for holding an abrasive disc between it and said coupling member, pressure means within the bore of said coupling member retained by said retaining ring, and twist lock means on said pressure means and cooperating with said coupling member for quick attachment and detachment from said coupling member.

14. A water resistant back pad for abrasive discs and the like comprising a combined mounting shell and backup disc, a coupling member for attaching to a driving means secured for axial rotation with said shell and having an axial bore therethrough, a nonintercellular sponge rubber pad secured to the outer face of said shell and surrounding said coupling member, a piped rubber

surface secured to the outer surface of said pad, a retaining ring for holding an abrasive disc between it and said coupling member, pressure means within the bore of said coupling member retained by said retaining ring having an axial bore therethrough, and twist lock means on said pressure means and cooperating with said coupling member for quick attachment and detachment from said coupling member.

15. A water resistant back pad for abrasive discs and the like comprising a combined mounting shell and backup disc, a coupling member for attaching to a driving means secured for axial rotation with said shell and having an axial bore therethrough, a nonintercellular sponge rubber pad secured to the outer face of said shell and surrounding said coupling member, a piped rubber surface secured to the outer surface of said pad, a retaining ring for holding an abrasive disc between it and said coupling member, and a threaded retaining nut cooperating with said coupling member and retaining ring for securing an abrasive disc for rotation therewith.

16. A backing pad for an abrasive disc or the like comprising a mounting shell, a coupling member threaded for attachment to a driving means, retained for axial rotation with said shell and having an axial opening therethrough, a backup disc having a central opening registering with said axial opening, the perimeter of said opening being countersunk with respect to the plane of the disc, a relatively soft pad secured to the outer surface of said backup disc, a piped rubber facing secured to the outer surface of said pad, a ring corresponding with said central opening with screws therethrough for threaded engagement with said coupling member securing the intervening members together, and quick releasing locking means passing through the axial opening and engaging said coupling member in the locked position, for holding an

abrasive disc to the piped rubber facing for rotation therewith.

17. A backing pad for an abrasive disc or the like comprising a mounting shell, a coupling member threaded for attachment to a driving means, retained for axial rotation with said shell and having an axial opening therethrough, a backup disc having a central opening registering with said axial opening, the perimeter of said opening being countersunk with respect to the plane of the disc, a relatively soft pad secured to the outer surface of said backup disc, a piped rubber facing secured to the outer surface of said pad, a ring corresponding with said central opening with screws therethrough for threaded engagement with said coupling member securing the intervening members together, a resilient washer corresponding with said central opening for bearing against the abrasive disc when in operating position, and quick releasing locking means passing through the axial opening and engaging said coupling member in the locked position, having an outward radial flange for bearing against said resilient washer for holding an abrasive disc to the piped rubber facing for rotation therewith.

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