

Jan. 10, 1956

S. L. SRADER
UTILITY CARRIER

2,730,320

Filed Sept. 4, 1953

3 Sheets-Sheet 1

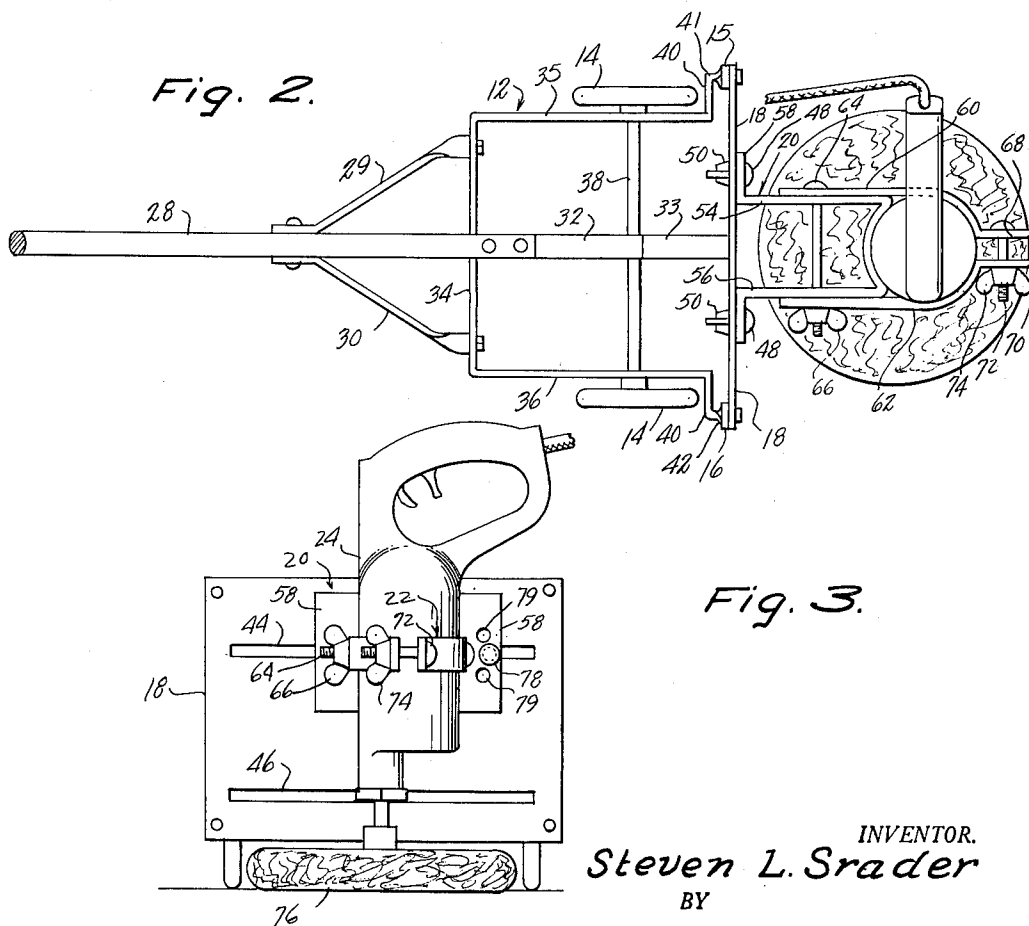
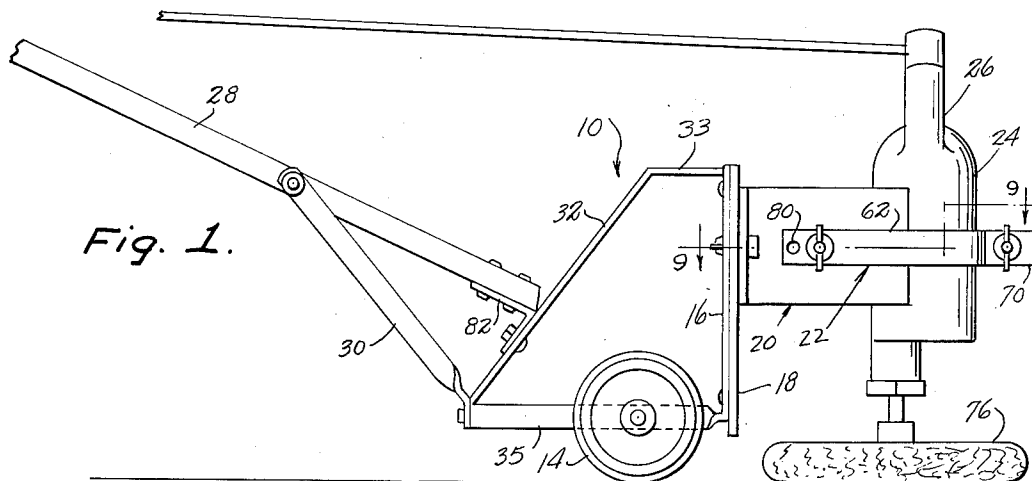
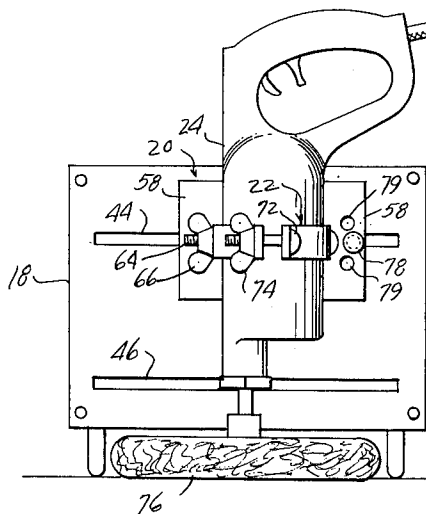


Fig. 3.



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Fig. 4.

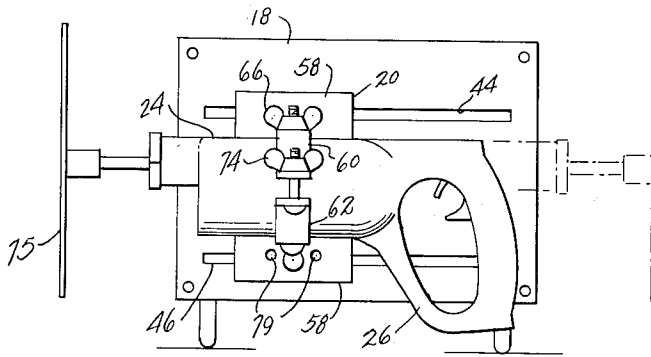


Fig. 5.

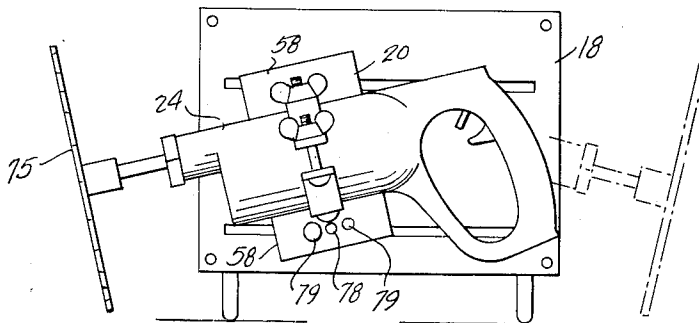


Fig. 6.

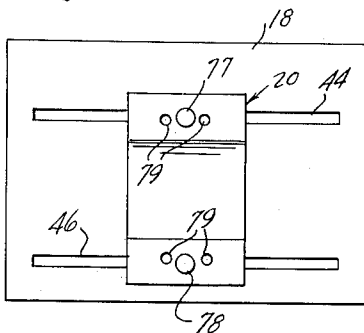
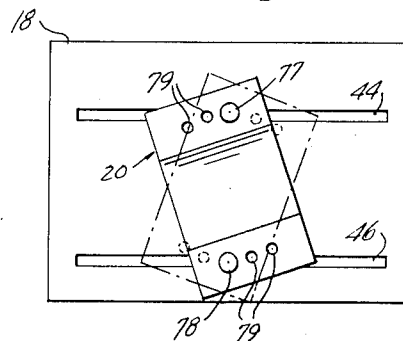


Fig. 7.



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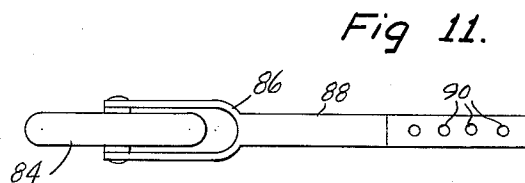
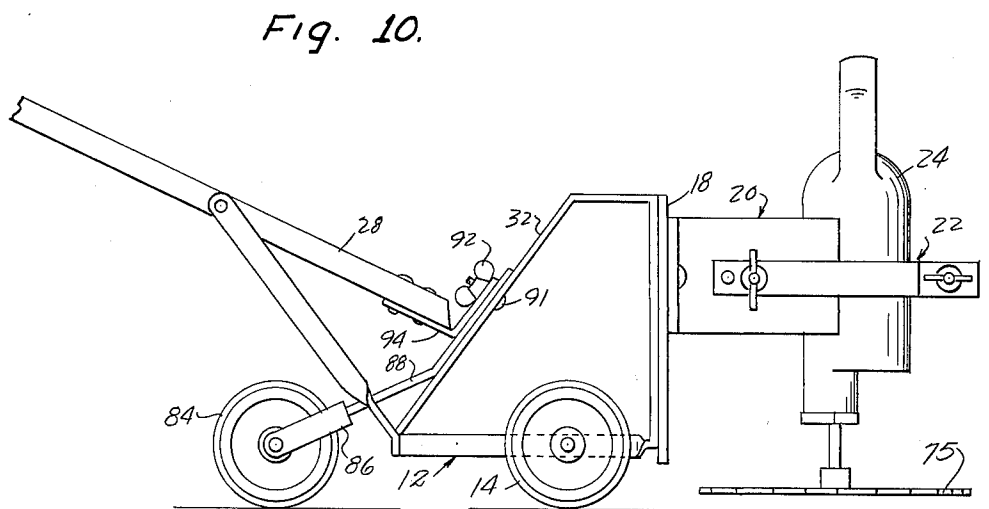
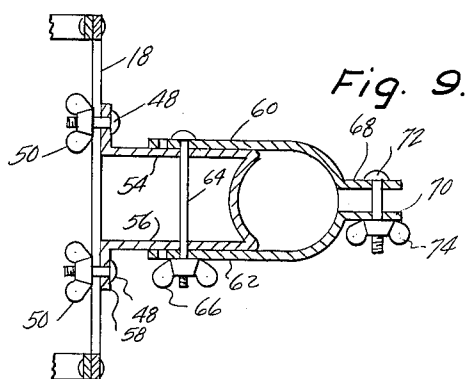
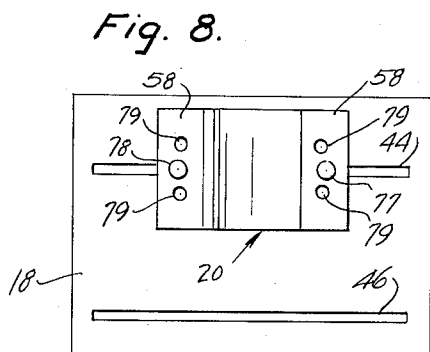
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UTILITY CARRIER

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Application September 4, 1953, Serial No. 378,589

1 Claim. (Cl. 248—16)

This invention relates to utility carriers and more particularly to a wheeled support for a motor driven tool.

It is an object of this invention to provide a simply constructed, wheeled carrier upon which may be supported a motor driven tool, such as a drill, commonly found in the home workshop, and adapt the motor driven tool to function as a sander, buffer, edger or small horizontal circular saw.

It is a further object of this invention to provide the simply constructed tool carrier with means whereby the tool may be adjusted to various positions and also be angularly adjusted with relation to the surface upon which work is to be done.

One of the important objects of this invention is to provide a carrier device which utilizes a motor driven tool, such as a drill, to accomplish the work done by a number of more expensive tools, and to quickly and easily change the work operation of the tool so that a variety of operations may be carried out by the single tool mounted upon the wheeled carrier of the present invention.

Other objects and advantages will become apparent from the following detailed description, forming the specification, and taken in conjunction with the accompanying drawings, in which:

Figure 1 is a side elevational view of the carrier embodying this invention with a motor driven drill carried thereon adapted for a buffing operation;

Figure 2 is a top plan view thereof;

Figure 3 is a front elevational view;

Figure 4 is a front elevational view similar to Figure 3 but showing the motor driven tool in a horizontal rather than a vertical position with respect to the carrier;

Figure 5 is a front elevational view similar to Figure 4 but showing the motor driven tool carried by the carrier adjusted to an inclined position with respect thereto;

Figure 6 is a front elevational view of the mounting plate;

Figure 7 is a view similar to Figure 6 but showing the mounting plate in a tilted position with respect to the front plate of the carrier;

Figure 8 is a front elevational view similar to Figure 6 but showing the mounting plate disposed longitudinally of the front support plate;

Figure 9 is a cross sectional view taken on line 9—9 of Figure 1;

Figure 10 is a side elevational view similar to Figure 1 but showing a modified version of the carrier embodying this invention; and

Figure 11 is a top plan view of the balance wheel shown in Figure 10.

Referring to the drawings, and particularly to the form shown in Figures 1 to 9, a carrier of this invention is generally indicated at 10. From an overall viewpoint, the carrier 10 comprises a base 12 which is supported above the ground upon a pair of oppositely disposed wheels 14, the base 12 being provided with a pair of upstanding strap supports 15 and 16 which carry a motor mount comprising a front plate 18 transversely adjustably

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carrying a motor mounting bracket 20 which in turn has secured thereto a motor clamp generally indicated at 22. The motor housing 24 is adapted to be clamped and held in the motor clamp 22, the motor housing being a portion of a motor driven tool, such as a drill 26, preferably of the electric type. A handle for moving the wheeled carrier 10 is shown at 28 and is secured to the carrier by a pair of braces 29 and 30 and to a centrally disposed strap support 32.

Referring now more specifically to the carrier structure, it will be seen that the base 12 is a strip of flat bar material, preferably metal, of generally U-shape. The bight portion 34 of the base 12 has the ends of the braces 29 and 30 secured thereto adjacent its ends, and this portion of the carrier may be referred to as the rear portion, since the handle 28 extends laterally away therefrom and the direction of normal use of the carrier will be toward the front strap supports 15 and 16.

It should be noted that the strap bar material constituting the base 12 is disposed with its wide surface in a vertical plane and the sides 35 and 36 extend in spaced parallel relation and right angularly to the bight 34 of the base 12. The wheels 14 are fitted on a rod axle 38 which is inserted through holes, which are axially aligned, in the sides 35 and 36 of the base 12 intermediate the ends of the sides but more closely adjacent the front thereof. The wheels 14 are, of course, disposed outwardly of the sides 35 and 36 in the normal manner. The base 12 is provided with an inset portion for the wheels 14 which comprises a right angularly and laterally extending portion 40 parallel to and in the same horizontal plane as the bight 34 on each of the sides 35 and 36. The bar material which forms the laterally extending portions 40 of the sides 35 and 36 is twisted as at 41 and 42 on the respective sides 35 and 36 and is bent upwardly to provide the front strap supports 15 and 16. From the foregoing, it will be seen that the base 12 including the extensions 40 and the front strap supporting members 15 and 16 constitute one strip of flat bar material formed into these various elements.

The front plate 18 is secured to the strap supports 15 and 16 by any suitable means such as bolts or rivets, the front plate 18 being a generally rectangular, relatively narrow piece of material which may be metal or wood. The plate 18 extends longitudinally approximately from one of the strap supports 15 to the other of the strap supports 16 and extends in the other direction from adjacent the top of each of the supports 15 and 16 to slightly below the bottom of the supports, as clearly seen in Figure 1. The front plate 18 is provided with a pair of spaced parallel slots 44 and 46 extending transversely of the plate and from adjacent one vertical edge to adjacent the other vertical edge. As shown in Figure 3, the motor mount bracket 20 is secured to the front plate 18 by a pair of similar bolts 48 in the slot 44 so that the mount 20 is adjustable transversely of the plate 18. The bolts 48 are secured in position on the motor mount 20 and in their extended position through the slot 44 of the front plate 18 by nuts 50, which may be wing nuts or the usual hex or square nut. The motor mount bracket 20 comprises a single length of flat bar material having a considerably greater width than the flat bar material constituting the base 12 and vertical strap supports 15 and 16, and is formed into a generally U-shaped member in which the bight 52 is concavely arcuate so as to complement the cylindrical housing 24 of the drill 26. Each of the legs 54 and 56 of the motor mount bracket 20 is provided with a right angularly laterally projecting ear or lug 58 which is suitably apertured to receive the bolt 48.

In order to secure a motor driven tool, such as tool 26, or a motor itself, the motor clamp, generally indi-

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cated at 22, is provided. Motor clamp 22 comprises a pair of similar but oppositely disposed members 60 and 62 each of which are secured to the motor mount bracket 20 by a bolt 64 which passes through aligned and registering apertures in the members 60 and 62 and the legs 54 and 56 of the motor mount bracket 20, with the members 60 and 62 being in face-to-face relation with the outer faces of each of the respective legs 54 and 56. The bolt 64 is provided with a wing nut 66 so that each of the clamp members 60 and 62 can be securely fastened upon the associated legs 54 and 56 of the motor mount bracket 20. The ends of each of the clamp members 60 and 62 remote from the ends secured to the motor mount bracket 20 are arcuately formed so as to complement the curvature of a motor housing, such as motor housing 24, and are further provided with terminal lug extensions 68 and 70 which extend in spaced parallel relation to each other and generally parallel to the sides of the members 60 and 62 with regard to that portion of the members which is secured to the respective legs 54 and 56 of the motor mount bracket 20. The members 60 and 62 are preferably formed from some inherently resilient strap material so that upon tightening of a bolt 72 passing through aligned holes in the lug extensions 68 and 70, by turning of a wing nut 74, the housing of a motor, such as motor housing 24, of a tool or motor will be securely clamped.

It will be noted in Figures 1 to 3 that the tool 26 is mounted in a vertical position with regard to the surface upon which the wheels 14 ride, and the tool or motor as the case may be, has an implement rotatably mounted therein, such as the buffing bonnet 76, so that the desired work operation may be performed upon the desired surface. It will also be observed, that the vertically mounted tool 26 may be transversely adjusted with respect to the front plate 18 by loosening the nuts 50 and sliding the motor mount bracket transversely of the front plate 18 in the slot 44 to the desired position and then tightening each of the nuts 50.

With reference to Figure 4, the motor mount bracket 20 is disposed in a position rotated 90° from the position it assumed in Figures 1 to 3, and the bolts 48 now pass through slots 44 and 46 so that each of the bolts 48 will be adapted to ride in one of the slots 44 and 46. As a consequence, the tool 26 is now disposed in a horizontal position with regard to its longitudinal axis and the implement which may be an edger or a toothed saw blade, indicated as 75, will be disposed for rotation in a vertical plane as compared to its disposition for rotation in a horizontal plane in Figures 1 to 3. The implement 75 will be transversely adjustable since the bolts 48 riding in respective slots 44 and 46 may be moved within those slots transversely of the front plate 18 so that the desired distance between the vertical edge of the front plate 18 and the implement 75 can be selectively adjusted. In Figure 4, the implement 75 is shown as extending to the left of the front plate 18; however, the tool 26 may be so placed in the clamp 22 so as to have the implement 75 project from the right hand side of the front plate 18, as shown in dotted lines in Figure 4.

The carrier 10 has further versatility as illustrated in Figures 5, 6 and 7 in that the motor mount bracket 20 is provided with a plurality of apertures in spaced circumferential relation to either side of the apertures 77 and 78 through which the bolts 48 pass to secure the mount bracket 20 to the front plate 18 in Figures 1 to 4. This plurality of apertures, indicated at 79, are also adapted to receive a bolt 48 in order to secure the mount bracket 20 to the plate 18. When the bolts 48 pass through diametrically aligned apertures 79, the motor mount bracket 20 will assume an angular relation with respect to the front plate 18, and as a result the tool or motor will be similarly inclined so that the implement carried thereby can be tilted as illustrated in Figure 5 when the mount bracket 20 is angularly disposed with relation to the front plate 18 as indicated in

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solid lines in Figure 7. As in the case of the mounting of the tool or motor in Figure 4, the implement 75 may be disposed to either the right or left hand side of the front plate 18 as indicated in dotted lines in Figures 5 and 7. It will be noted that the apertures 78 and 79 at the lower portion of the mount 20, as seen in Figures 6 and 7, and the aperture 77 with its adjacent apertures 79 constitute diametrically opposed groups of openings circumferentially spaced concentric about the center of the mounting bracket 20. It will be evident that the motor mounting bracket 20 can be angularly disposed with relation to the front plate 18 when in its relation to the front plate 18 as shown in Figures 1 to 3 and 8. Also, as seen in Figure 9, the ends of the clamp members 60 and 62 which are in face-to-face relation with the legs 54 and 56 respectively of the motor mount bracket 20 are provided with an additional hole 80 so that an adjustment is afforded whereby various size motors or drills may be accommodated by the motor clamp 22.

Referring now to the handle 28 and its attachment to the carrier 10, it will be noted, as previously described, that a pair of braces 29 and 30 extend in divergent relation from the handle 28 and are secured at their other ends to the bight portion 34 of the frame or base 12. The end of the handle 28 adjacent the strap support 32 has secured to its under surface an angle plate 82, one leg of which is secured to the handle end while the other leg of the angle plate is secured on the strap support 32, as by a nut and bolt or any other suitable means. The strap support 32 is secured at one end to the bight portion 34 of the base 12 centrally intermediate the ends of the bight portion 34 and extends upwardly and inclined toward the front plate 18. The other end of the strap support 32, indicated at 33, extends laterally from the inclined portion of the support 32 toward the front plate 18 and is disposed parallel to the legs or sides 35 and 36 of the base 12 and is secured at its end centrally intermediate the front plate 18. Thus, the strap support member 32 not only carries the handle 28 thereon but is also a rigidifying or reinforcing member so as to rigidly maintain the front plate 18 in its regular relation with the base 12.

Figures 10 and 11 show the addition of a balance wheel 84 to the structure previously described in connection with Figures 1 through 9. As clearly seen in Figure 11, the wheel 84 is axially rotatable within the legs of a fork 86. Fork 86 carries an upwardly and forwardly extending tongue 88 provided adjacent its end remote from the fork 86 with a plurality of spaced apertures 90 adapted to register with an opening in the reinforcing support 32 and secured thereto by a bolt 91 passing through registering openings and clamped thereon by means of a wing nut 92. An angle plate 94, similar to the angle plate 82, has one leg thereof secured to the end of the handle 28 and the other leg extending laterally therefrom in a direction away from the wheel 84 and adapted to overlie the tongue 88, this latter leg of the angle plate 94 being provided with a suitable opening therethrough in register with the opening in the reinforcing support 32 so that the bolt 91 also passes through the opening in the leg of the angle plate 94 overlying the tongue 88. Thus, the handle 28 as well as the tongue 88 may be secured to the support 32. Since the tongue 88 is provided with a plurality of spaced openings 90, it will be apparent that the wheel 84 may be raised and lowered selectively by passing the bolt 91 through the desired one of the plurality of the openings 90. The addition of the selectively adjustable balance wheel 84 to the carrier will provide greater stability, since a three point suspension will result, the wheels 14 forming the other two points of suspension, and the implement, which may be one of the various types mentioned previously, can be more readily maintained in the desired horizontal rotational plane, as shown in Figure 10, or in a vertical rotational plane as shown in Figure 4.

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From the foregoing, it will be evident that there has been provided a utility carrier of simple yet rugged construction, which in effect comprises an accessory for a hand drill of the ordinary type so as to make that hand drill more versatile and perform the function and work of a number of other machines which, if purchased independently, would demand a considerable capital outlay. In addition, the carrier of the present invention permits use of the ordinary hand drill to carry its attached implement for rotation in either a vertical or horizontal axis of rotation. Also, various adjustments, of a simple nature, may be quickly effected so as to most effectively use the implements secured to the drill or motor carried by the present invention. For instance, in use as a trimming edger, the blades of the edging implement may be so tilted as to get the optimum effect and result from its use. Inclusion of a third, or balance, wheel imparts stability to the carrier and maintains the implement in its desired relation to the work to be acted upon.

It will be also evident that the carrier is light in weight, as well as simple in construction, since the supporting structure is formed of strips of flat bar material and requires no elaborate reinforcing other than the single reinforcing support, shown by the length of strap material 32. The tool 26 illustrated in the various figures of the drawing is the ordinary quarter inch drill commonly found in the home workshop, but a larger drill may be employed or a motor provided with a chuck or similar device to hold the working implement may be used.

While there are shown and described the preferred embodiments of the invention, it is to be understood that the structure is susceptible to change and modification within the practicability of the invention and therefore should be limited only by the scope of the claims appended hereto.

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What is claimed is:

In a utility carrier having a base, an adjustable motor mount comprising an upstanding plate adapted to be mounted upon one end of the base of the carrier, said plate having a pair of vertically spaced transverse slots therein, a motor mounting bracket having means adapted to engage the motor of a tool and a motor clamp removably secured to said bracket for clamping a motor thereon, said motor mounting bracket having means for attaching said bracket to the plate, said means being comprised of an element overlying each of said slots, each element having apertures therethrough in diametrically opposed relationship to the apertures in the other element, the centers of said apertures being on a curve whose center is coincident with the center of the bracket, and a bolt means passed through the slot, and a selected aperture in each of said elements to hold the bracket and plate in a selected position, said slots extending a distance greater than the distance between diametrically opposed apertures whereby said bolt means may be passed through only one slot.

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