Feb. 3, 1942. A. W. MALL 2,271,944

CARRIAGE FOR MOTORS

Filed April 25, 1940 2 Sheets-Sheet 1

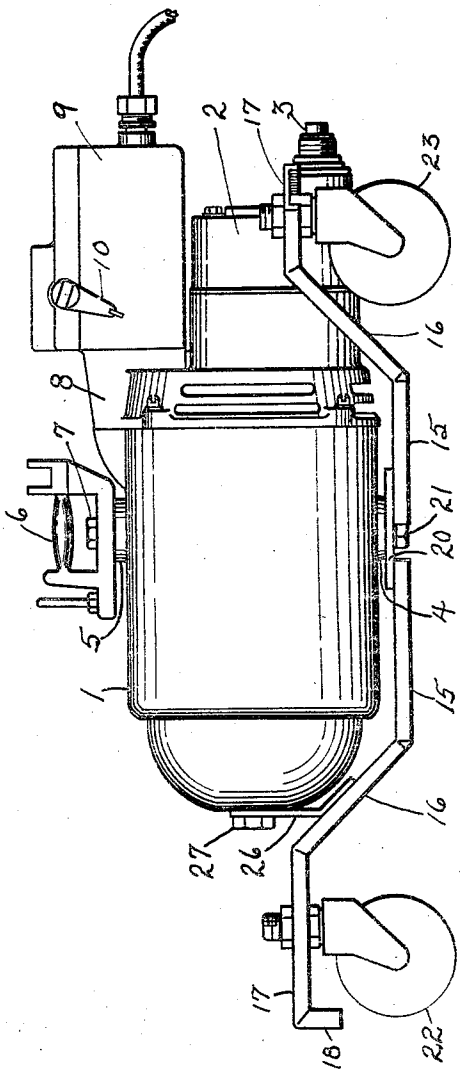


FIG. 1

INVENTOR
Arthur William Mall
BY Albert Latta
ATTORNEY

Feb. 3, 1942. A. W. MALL 2,271,944

CARRIAGE FOR MOTORS

Filed April 25, 1940 2 Sheets-Sheet 2

Fig. 2

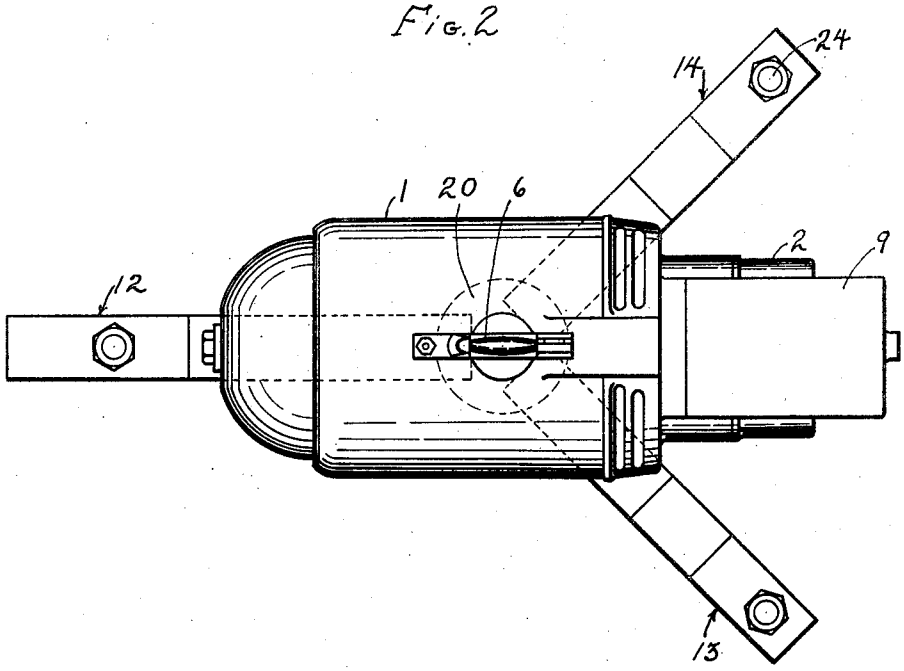
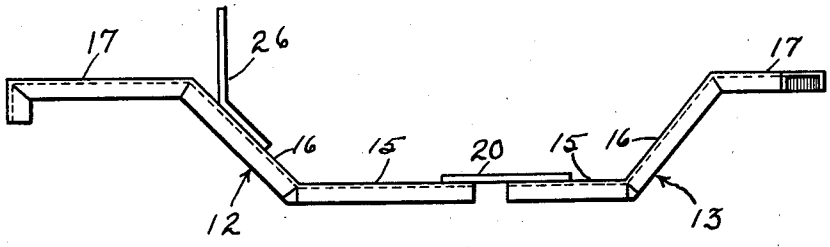


Fig. 3



INVENTOR
Arthur William Mall
BY Albert Latta
ATTORNEY

Patented Feb. 3, 1942 2,271,944

UNITED STATES PATENT OFFICE

2,271,944

CARRIAGE FOR MOTORS

Arthur William Mall, Flossmoor, Ill.

Application April 25, 1940, Serial No. 331,612

1 Claim. (Cl. 280—35)

My invention relates to a motor and carriage for motors assembly of the portable type used principally for grinding operations.

One object of the invention is to provide a motor mounting which will not interfere with the body of the operator when he is carrying the machine about.

Another object is to provide the motor mounting with legs having a limited resiliency in proportion to the over-all weight of the machine.

A further object is to provide a mounting for the motor which will cause the machine to "tag-along" readily after the operator.

A still further object is to provide a low center of gravity for the machine whereby tipping is prevented.

Other objects and advantages of the invention will be apparent upon reading the specification and claim, and upon examination of the drawings in which:

Fig. 1 is a side elevation of the motor and motor mounting;

Fig. 2 is a plan view of the same; and

Fig. 3 is a side elevation view of the support legs alone.

In the preferred embodiment of my invention I have provided a motor-housing 1 having an electric motor therein. I have shown a geared-head type of motor in which a train of gears is enclosed in the gear housing 2 for increasing the speed of the drive shaft 3, however, it is to be understood that any type of electric motor may be used and I do not wish to be limited to the type shown.

Formed integrally with the exterior wall of the motor housing and on the underneath side thereof is a boss 4. Diametrically opposite this boss 4 is a boss 5 also formed integrally with the exterior wall of the motor housing. A carrying handle 6 is secured to boss 5 by means of a bolt 7. The handle 6 is located substantially centrally of the over-all mass of the machine so that the machine is balanced when being carried by the operator. An arm 8 preferably integral with the motor housing 1 supports the switch box 9 which has a control lever 10 for turning the switch on and off.

The supporting legs 12, 13 and 14 are formed of continuous strips of channel steel and each leg has two bends throughout its longitudinal length thereby providing each leg with a horizontally extending portion 15, an upwardly extending portion 16 and a second horizontally extending portion 17. The leg 12 is provided at its outer end with a vertically extending portion 18 which serves as a bumper guard. It can be seen that a recession is defined by the upwardly extending portions 16 of the legs. By mounting the motor within this recession, I have made it possible to lower the center of gravity of the entire machine to a point closely adjacent the floor level, thereby assuring that the machine will not tip over when in use.

By bending the legs in the manner shown I have not only made it possible to lower the center of gravity of the machine, but I have also imparted a limited resiliency to the legs. The resiliency of the legs is in an up and down direction and whenever the machine is dropped by the operator the legs serve as shock absorbers and minimize injurious consequences. The legs, however, are not so resilient that the motor will strike the floor when dropped. The legs have sufficient load strength to support the weight of an average man in addition to the motor.

When the machine is in use, a flexible shaft (not shown) is driven by the drive shaft 3 and a tool attachment is secured to the free end of the flexible shaft.

At the free end of each leg I have provided universal swivelling casters 22, 23 and 24. By using this type of caster in combination with the three-legged supports, I have provided a machine which will readily "tag along" after the operator whenever he pulls on the flexible shaft. To facilitate this "tag along" feature of the machine I have made the leg 12 longer than the legs 13 and 14. By making the leg 12 longer than the other two legs the machine responds more readily to sidewise pulls. This is due to the caster 22 serving somewhat as a pivot while the other two casters are moving sidewise in the direction of the pull. The inner ends of each of the legs 12, 13 and 14 are welded to a steel ring 20 which is secured to the boss 4 by means of the bolt 21. Thus it can be seen that I have provided a simple and inexpensive method of securing the supporting legs to the motor housing.

At the rear end of the motor housing I have provided a bracket 26 which is welded at one end to the leg 12 and secured at the other end to the motor housing by means of a bolt 27, thereby providing additional support for the motor relative to the legs.

By locating the leg 12 in longitudinal alignment with the motor housing I have assured that in the rear region of said housing there are no projections extending laterally beyond the side walls of the motor housing. Thus, when the operator picks up the machine by the handle 6,

the smooth round surface of the side wall of the motor housing is the only part of the machine which rests against the operator's body. This feature facilitates the portability of the machine, because, when the machine is resting against the body of the operator, the burden of carrying the machine is reduced. If the machine were constructed so as to be uncomfortable when resting against the operator's body, then he would be forced to hold the machine away from his body and allow his arm alone to carry the total burden of the weight of the machine.

Having thus described my invention what I claim is:

A carriage for a motor comprising, a locating disc, three separate strap legs, each having an end secured to the locating disc, one leg extending outwardly from said disc in longitudinal alignment with the axis of the motor, the other two legs extending outwardly from said disc in an angular direction relative to the axis of the motor, each of said legs having a portion extending normally horizontally, each leg being bent at a predetermined location to form a normally upwardly extending portion, each leg also being bent at a second predetermined location to form another horizontally extending portion, said disc providing a centrally located point for supporting substantially the entire gravity load of the motor, an arm secured to the longitudinally aligned leg and also detachably secured to the non-working end of the motor to help support the gravity load of the motor, said angularly extending legs defining a space into which the working end of the motor protrudes, and surface engaging means secured to the free ends of the legs.

ARTHUR WILLIAM MALL.