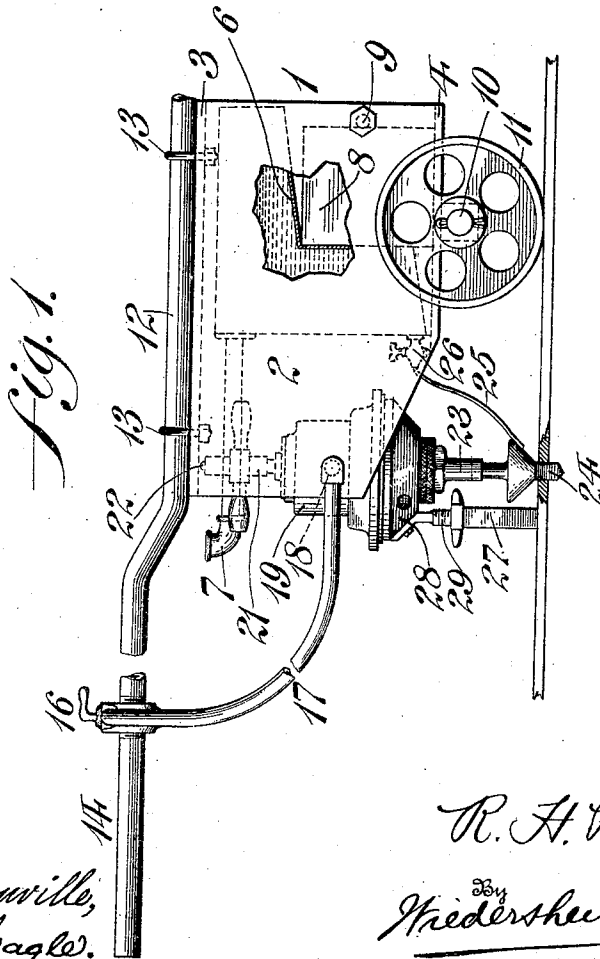
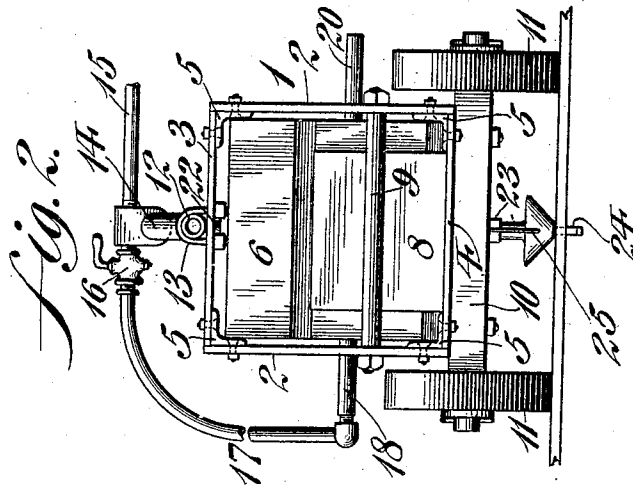


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CARRIAGE FOR PORTABLE PNEUMATIC DRILLS OR OTHER APPARATUS.
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UNITED STATES PATENT OFFICE.

RICHARD H. ROBINSON, OF NEW YORK, N. Y.

CARRIAGE FOR PORTABLE PNEUMATIC DRILLS OR OTHER APPARATUS.

934,418.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed January 7, 1904. Serial No. 188,035.

To all whom it may concern:

Be it known that I, RICHARD H. ROBINSON, a citizen of the United States, residing in the borough of Brooklyn, city, county, and State of New York, have invented a new and useful Improvement in Carriages for Portable Pneumatic Drills or other Apparatus, of which the following is a specification.

My invention consists of a novel construction of a carriage for portable pneumatic or other drilling, counter-sinking, reaming, tapping and other apparatus, which is adapted to be readily manipulated by the operator and affords a convenient support for a portable pneumatic motor which can be readily connected to and detached from said carriage and which may be employed to operate rotary or other tools for various purposes.

My invention further consists in the novel manner of equipping the carriage with an oil supply tank and a counter-balancing device adapted to co-act with the pneumatic motor.

It also consists in the novel combination of a portable carriage, a pneumatic motor and a depth gage adapted to be attached to the motor casing, carriage or its adjuncts, whereby the depth to which the working tool is to be fed or forced can be regulated.

It also consists in the novel manner of supporting and controlling the pressure supply duct and conducting the same to the motor and in the novel manner of supporting the motor with respect to the carriage.

It further consists of other novel features of construction all as will be hereinafter fully set forth.

Figure 1 represents a side elevation, partly in section of a carriage for a portable pneumatic apparatus, embodying my invention. Fig. 2 represents a rear elevation of Fig. 1.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings:—1 designates the frame of a carriage, consisting of the side walls 2, the top portion 3 and the base portion 4, which are secured together by any suitable fastening devices as 5. Within said frame is the compartment or tank 6 which is adapted to receive oil or other suitable or similar material, said tank being replenished by means of the supply pipe 7.

8 designates a weight or counter-balancing device which is adapted to rest upon the rear portion of the base 4 of the carriage, said counter-balancing device being held in

position by means of the rod or brace 9 or other suitable or equivalent means.

The frame of the carriage is suitably mounted upon or secured to the axle 10 upon which are the wheels or rollers 11.

12 designates a rod or bar preferably made hollow for purposes of lightness and which is secured in proximity to the top 3 or other portion of the frame of the carriage by means of the straps or fastening devices 13, although it is apparent that other equivalent fastening means may be employed, it being apparent that said pipe 12 is extended, as at 14, so as to form a handle for the purpose of manipulating the apparatus, said handle serving also as a support for a pipe 15, whereby motive fluid, as steam or compressed air, is conducted through the controlling valve 16 and pipe 17 to the handle 18, which leads the fluid to the motor contained in the cylinder or casing 19, which may be any of the approved forms of rotary or reciprocating engines. It will be apparent that the pipes 15 and 17 and the valve 16 may be supported and arranged differently from the position shown, without departing from my invention.

20 designates the operating handle which is opposite the handle 18, it being apparent that the motor cylinder 19 is secured in position by the handles 18 and 20 passing through the side walls 2, said handles being preferably in threaded engagement with said motor cylinder.

21 designates the force feed device usually employed for forcing the motor in the casing 19 forwardly, the same consisting of a threaded stem and feed nut provided with handles, the construction and operation of which will be familiar to those skilled in the art, it being apparent that the point 22 of the force feed, is adapted to contact with the under side of the top 3 of the frame of the carriage.

In the construction shown in Fig. 1, I have shown merely the casing 19 of the motor, which as stated may be of any approved form, although I have in the present instance shown the same as exteriorly conforming to the structure of the well known Keller rotary motor, constructed in accordance with the Keller patent, No. 710,782, it being apparent that the rotation of the motor is imparted by the intervention of suitable gearing or power transmission devices to the chuck or tool holder 23 into which the de-

sired working tool 24 may be inserted. I have deemed it unnecessary to show or describe the construction of the motor, gearing and their adjuncts, as the same form no part of my present invention.

It will of course be understood that the motor or its inlet handle or cylinder 19 may be provided with a suitable reversing valve as is customary in tools of this character. I have not deemed it necessary to show or describe the same in detail, as its construction will be apparent from the Keller patent aforesaid.

In the present instance I have shown the working tool as being a countersinking device, the construction of which is familiar to those skilled in the art, provision being made for conducting oil to the countersinking device from the tank 6 by means of the pipe 25 having the valve 26 therein, whereby the flow of oil can be regulated according to requirements.

27 designates a depth gage, which is adapted to be secured to a suitable part of the apparatus, as the gear casing 28, the position of said depth gage being regulated by manual adjustment upon the threaded stem 29.

It will be understood that in place of the countersink 24, a drill may be used, or a reamer, a tap, a revolving brush or any other of the rotary working tools, which are used in conjunction with rotary or reciprocating motors of the general character referred to.

The operation is as follows:—The operator manipulates the carriage by means of the handle 14 somewhat after the manner of a wheelbarrow and when it is desired to apply the working tool, as the countersink shown in the drawings, to the desired point, the same can be readily done by wheeling the carriage and its adjuncts to the spot desired, whereupon by the manipulation of the valve 16, the motive fluid can be conducted to the motor and the operation of the motor and the countersink or other tool regulated at will. The device is held in the desired position by the passage of the handles 18 and 20 through the sides 2 as trunnions and thereafter screwing the point of the force feed device 21 against the top 3 at the point 22 and the depth to which the countersink drill, reamer, tap or other tool may enter the work is regulated by the depth gage 27, which as will be readily apparent, can be screwed toward or away from the casing 28, whereby the depth to which it is desired to feed the tool can be regulated, so that all the operations performed will be uniform and can be effectively and speedily accomplished without requiring especial attention on the part of the operator.

I am aware that it has heretofore been

proposed to support reciprocating pneumatic hammers from a yoke or other massive rigging but so far as I am aware I am the first to provide a practical device for supporting a portable pneumatic motor adapted for the uses hereinabove referred to and my claims are to be interpreted with corresponding scope.

By the use of the counterbalancing device and motor on opposite sides of the axle, the weight of the motor and its adjuncts can be equalized and as the chamber therefor is formed by recessing the oil tank 6, the exterior size or dimensions of the carriage are not unduly increased.

My invention is particularly applicable for use upon plane or other surfaces, wherein a great many holes are to be drilled, countersunk, tapped or reamed, and it will be apparent that changes may be made in the manner of supporting the compressed air motor and its adjuncts and in the construction of the carriage which will occur to those skilled in the art and I do not therefore desire to be limited in every instance to the exact construction I have shown and described and it will also be apparent that while I have referred to the motor as being operated by compressed air, any other form of motor can be employed.

It is evident that various other changes may be made by those skilled in the art, which may come within the scope of my invention and I do not therefore desire to be limited in every instance to the exact construction herein shown and described.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a device of the character named, a carriage having side walls, a pneumatic motor disposed between said side walls, diametrically opposite connections mounted on the side walls of said carriage and forming trunnions on which said motor may turn, a rotary tool carried by said motor, the working zone of said tool being beneath said carriage, a handle, and means supported by said handle and connected to one of said trunnions for admitting motive fluid to the motor.

2. In a device of the character named, a carriage frame having side walls and a top, a motor, trunnions extending from said motor casing through said side walls and a feed screw on said motor adapted to contact with said top, and thus retain said motor in fixed position relative to said carriage.

RICHARD H. ROBINSON.

Witnesses:

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