

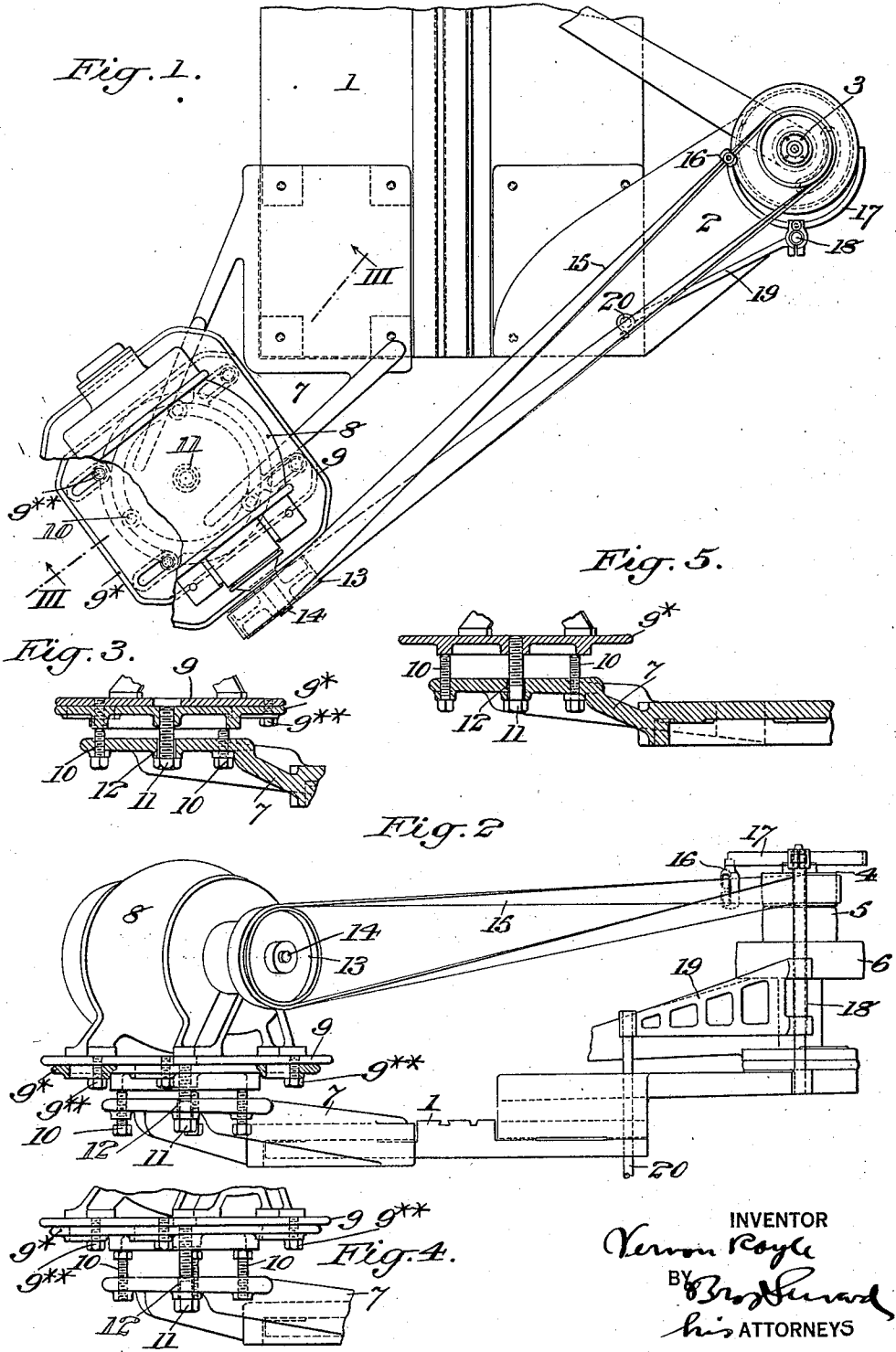
June 19, 1928.

1,674,302

V. ROYLE

ROUTER

Filed Feb. 10, 1926



INVENTOR
Vernon Royle
BY *Broderick*
his ATTORNEYS

UNITED STATES PATENT OFFICE.

VERNON ROYLE, OF PATERSON, NEW JERSEY.

ROUTER.

Application filed February 10, 1926. Serial No. 87,321.

This invention relates to an improvement in routers, and the like, and has for an object to provide better means for mounting the motor constituting the source of power, with respect to the element of the machine receiving the drive from the motor.

Another object consists in providing a universally adjustable mounting for the motor.

Another object consists in providing such a mounting which is conveniently supported from the machine proper so as to facilitate the drive.

Another object consists in providing certain improvements in the form, construction and arrangement of the several parts whereby the above named and other objects may effectively be obtained.

A practical embodiment of the invention is represented in the accompanying drawings, in which

Fig. 1 represents a detail plan view of parts disclosing my invention;

Fig. 2 represents a side elevation of the same;

Fig. 3 represents a detail section taken in the plane of the line III—III of Fig. 1 looking in the direction of the arrows;

Fig. 4 represents a detail elevation showing a modified form of application of my invention.

Fig. 5 represents a view similar to Fig. 3, showing another modified form.

Referring to the preferred form shown in Figs. 1 to 3 inclusive, the work supporting bed, or top, of the router, is represented by 1. It is shown without any apparent means of support because the same is so well understood and established in this art.

A bracket 2 is secured to the bed 1 and projects laterally therefrom to constitute a mounting for a countershaft 3 that supports fast and loose pulleys 4, 5, arranged for engagement with a belt coming from the source of power.

The countershaft 3 also has another pulley 6 fixed thereto, which pulley is adapted for engagement with a belt (not shown) that leads to the driven routing tool.

In this class of machines, the tool rotates very rapidly, and it is a matter of importance that the drive from the source of power shall be effective and free from abnormal conditions or drawbacks. An electric motor may be employed for the source of power, and it is desirable that its pulley

shall be arranged with its central plane of rotation tangential to the periphery of the fast and loose pulleys at the point where the power belt leading from the motor to the said pulleys meets the same. It is also desirable that the top of the motor pulley shall be level with the line of separation between the said fast and loose pulleys. My invention includes means for mounting the motor so that it can attain and maintain this position.

A second bracket 7 is fixed to and projects from the bed 1 of the machine, and has a substantially circular extremity. This bracket is designed for the mounting of the electric motor 8.

Said motor is bolted, or otherwise suitably secured, to a disc 9 which is, itself, secured to a plate 9* by means of cap screws 9** that fit in slots formed in the plate 9* and are threaded into the disc 9. This allows the disc 9, and the motor, to be adjusted toward or away from the pulleys 4, 5, whereby the tension of the belt 15 may be regulated. This disc may be of any suitable form.

The plate 9* is supported by a plurality (in the present instance three) of cap screws 10 that are threaded through the circular extremity of the bracket 7 with their points extending upwardly. The cap screws thus constitute a three-point support for the plate 9* to hold it against downward movement.

A fourth cap screw 11 is loosely fitted in a central aperture 12 in the extremity of the bracket 7 and its point is threaded into the plate 9*, whereby the said cap screw serves as means for holding the plate down on the cap screws 10, because the head of the cap screw 11 limits its upward movement in the bracket.

As a result of the foregoing arrangement, it will be seen that the height of the motor 8 with respect to the pulleys 4, 5, can be regulated by adjusting the screws 10, as a group, and by oppositely adjusting the screw 11. The motor may be rotatably adjusted about a vertical axis by a slight loosening of the said screws and manual turning of the plate 9*. The motor may also be exactly leveled by adjustment of the screws 10, the one with respect to the other, the looseness or play between the screw 11 and aperture 12 allowing the former to yield to changes in relative parallelism between the plate 9* and circular

extremity of the bracket 7. In every case, after the desired adjustment has been obtained, the motor may be locked in said position by firmly tightening the screw 11.

5 A power pulley 13 is fixed to the motor shaft 14, and a belt 15 runs from the said pulley to either the fast pulley 4 or the loose pulley 5. Since the pulley 13 rotates in a vertical plane, and the pulleys 4, 5, in horizontal planes, the belt 15 makes a quarter turn, and this is a desirable drive for this machine.

By reference to Fig. 1 it will be seen that the central plane of rotation of the pulley 13 is tangential to the periphery of the pulleys 4, 5, at the point where the belt 15 comes to them; and, by reference to Fig. 2, it will be seen that the top of the pulley 13 is level with the line of separation between the pulleys 4, 5.

A suitable belt shifting device, including a strap 16, a yoke 17, slide rod 18, skeleton arm 19, and treadle rod 20, is provided for causing the belt 15 to engage either the fast or loose pulley, as desired. The specific form of this mechanism, which is well known, constitutes no part of this invention.

Referring to Fig. 4, it will be seen that the parts are the same as described in connection with Figs. 1 to 3 inclusive, but there is a slight difference in application, in that the screws 10 are reversed so that their heads stand up against the bottom of the plate 9*. This provides for an increased elevation of the said plate, and hence, of the motor it carries. The operation of the parts is the same as in connection with the disclosure of Figs. 1 to 3 inclusive.

Referring to the form shown in Fig. 5, the construction and operation are the same as the form shown in Figs. 1 to 3 inclusive, except that the disc 9 and cap screws 9** are omitted. The motor is bolted or otherwise suitably secured directly to the plate 9*, without any sliding adjustment thereupon.

It will be understood that various changes may be resorted to in the form, construction, and arrangement of the several parts without departing from the spirit and scope of my invention, and hence I do not intend to be limited to the details herein shown and described except as they may be included in the claims.

What I claim is:

1. In a router, or the like, a mounting for the motor, said mounting including vertically movable means for urging the motor upwardly and vertically movable means for urging it downwardly to aforesaid means, said downwardly urging means being located within said upwardly urging means.

2. In a router, or the like, a mounting for the motor, said mounting including a vertically movable set of devices arranged in an annular path for urging the motor

upwardly, and another vertically movable device centrally disposed with respect to said annular path for urging the motor downwardly to aforesaid set of devices.

3. In a router, or the like, a mounting for the motor, said mounting including a vertically movable set of screws arranged in an annular path for urging the motor upwardly, and another vertically movable screw centrally disposed with respect to said annular path for urging the motor downwardly to aforesaid set of screws.

4. In a router, or the like, a mounting for the motor, said mounting including a vertically movable set of reversible devices arranged in an annular path for urging the motor upwardly, and another vertically movable device centrally disposed with respect to said annular path for urging the motor downwardly to aforesaid set of devices.

5. In a router, or the like, a mounting for the motor, said mounting including a vertically movable set of reversible screws arranged in an annular path for urging the motor upwardly, and another vertically movable screw centrally disposed with respect to said annular path, for urging the motor downwardly to aforesaid set of screws.

6. In a router, or the like, a bracket, a motor supporting plate, and means for mounting the plate on the bracket, said means including a vertically movable set of screws threaded into the bracket and abutting the plate, and a vertically movable screw loosely traversing but limited against upward movement in the bracket and threaded into the plate.

7. In a router, or the like, a bracket, a motor supporting plate, and means for mounting the plate on the bracket, said means including a set of screws threaded into the bracket and abutting the plate, and a screw loosely traversing but limited against upward movement in the bracket and threaded into the plate, said set of screws being disposed in an annular path, and said other screw being located at the center of said path.

8. In a router, or the like, a mounting for the motor, said mounting including a disc to which the motor is secured, a plate to which the disc is secured for slidable adjustment in a horizontal direction, and means for supporting the plate while permitting vertical and circumferential adjustment thereof.

9. In a router, or the like, a bracket, a plate, means for mounting the plate on the bracket, said means including a set of screws threaded into the bracket and abutting the plate, and a motor carrying disc mounted for slidable adjustment on the plate.

10. In a router, or the like, a bracket, a plate, means for mounting the plate on the bracket, said means including a set of screws

threaded into the bracket and abutting the plate, and a screw loosely traversing but limited against upward movement in the bracket and threaded into the plate, and a motor carrying disc mounted for slidable adjustment on the plate.

11. In a router, or the like, a bracket, a plate, means for mounting the plate on the bracket, said means including a set of screws threaded into the bracket and abutting the plate, and a screw loosely traversing but

limited against upward movement in the bracket and threaded into the plate, said set of screws being disposed in an annular path, and said other screw being located at the center of said path, and a motor carrying disc mounted upon the plate and having a bolt and slot connection therewith.

In testimony that I claim the foregoing as my invention, I have signed my name this ninth day of February, 1926.

VERNON ROYLE.