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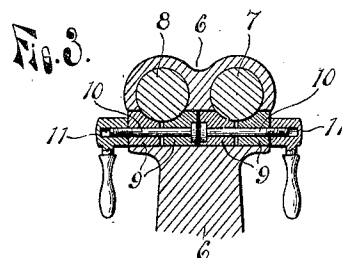
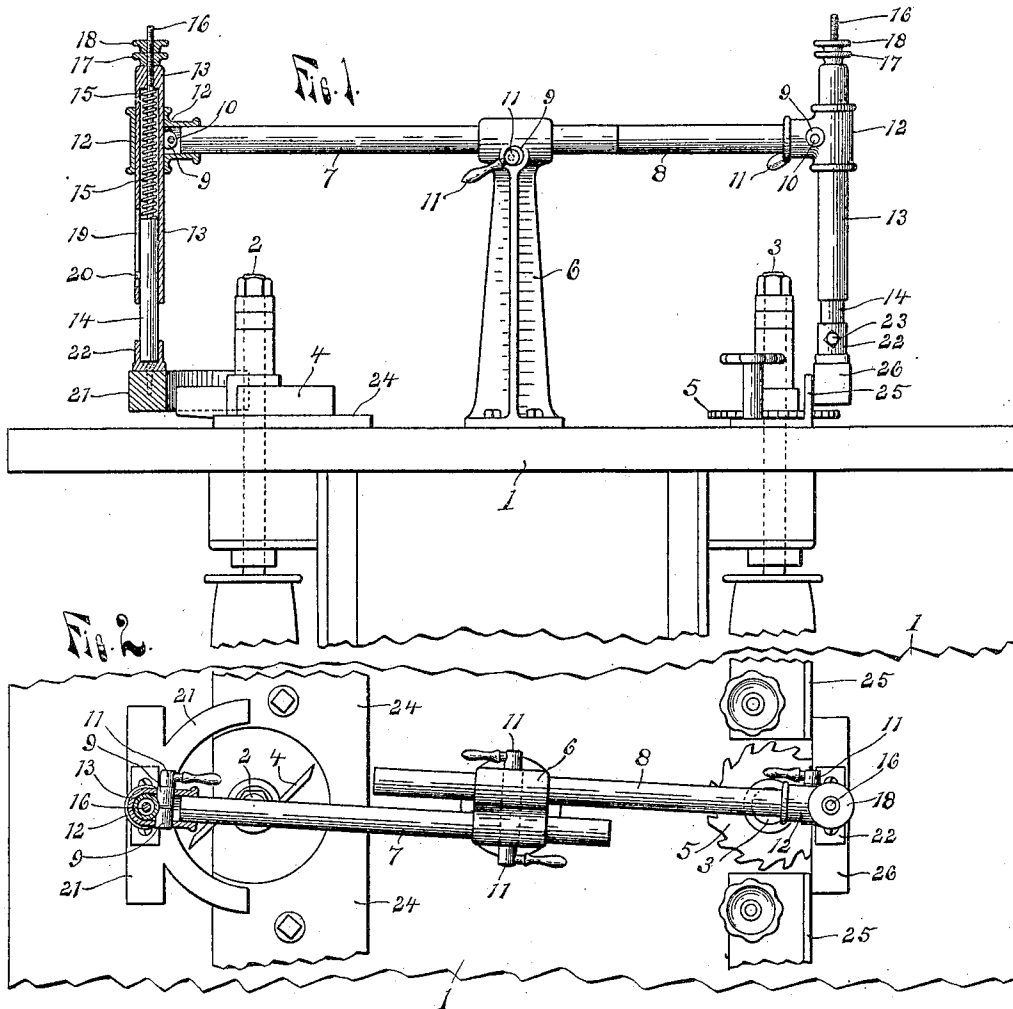
PATENTED JUNE 5, 1906.

H. H. STEER.

COMBINED PRESSER FOOT AND GUARD FOR WOODWORKING MACHINES.

APPLICATION FILED MAR. 30, 1905.

3 SHEETS—SHEET 1.



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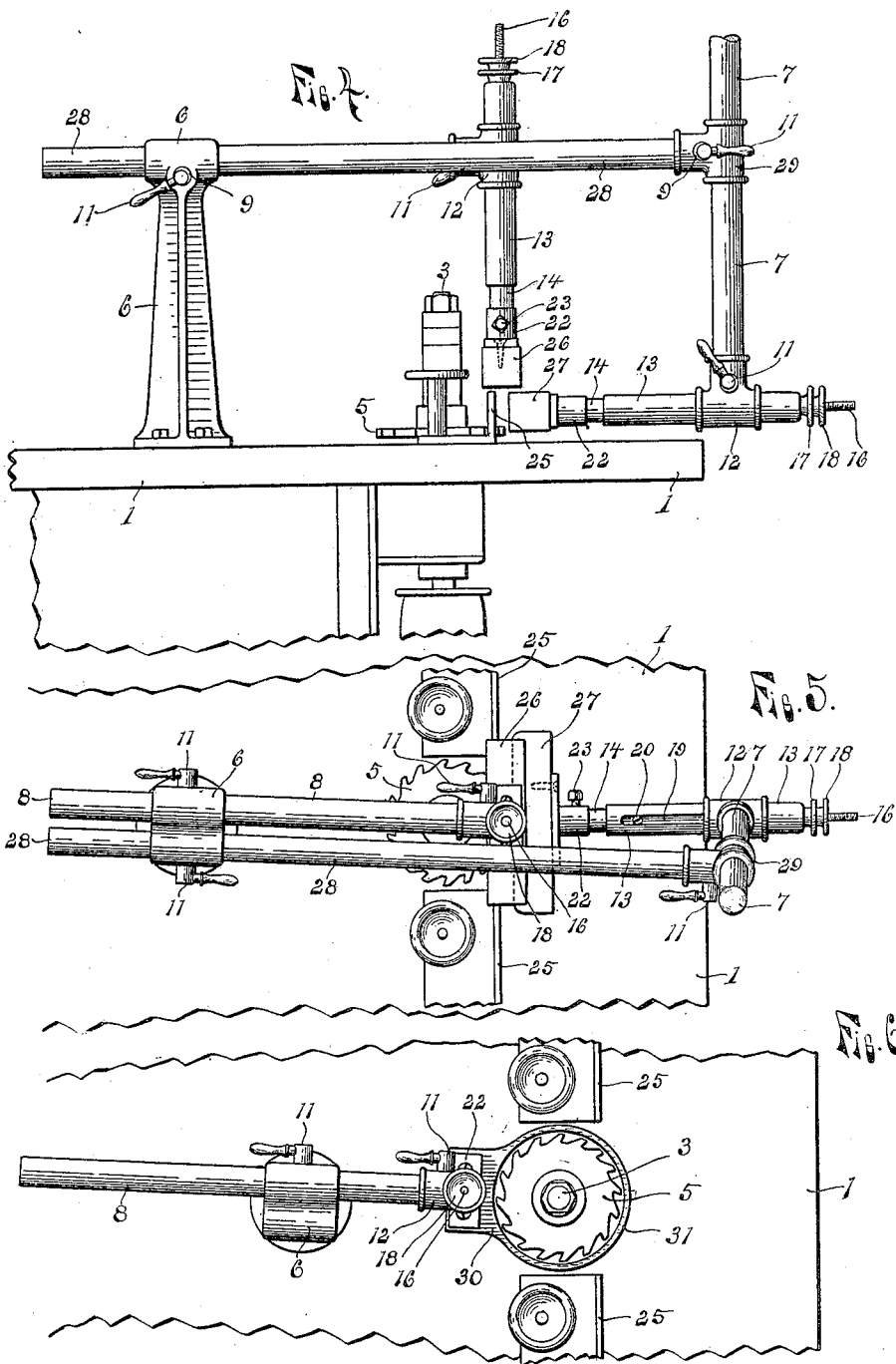
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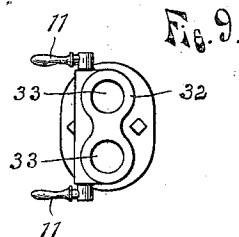
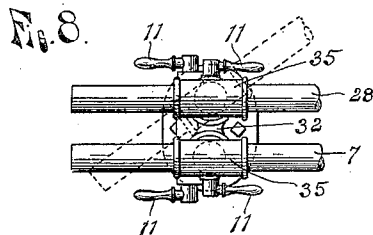
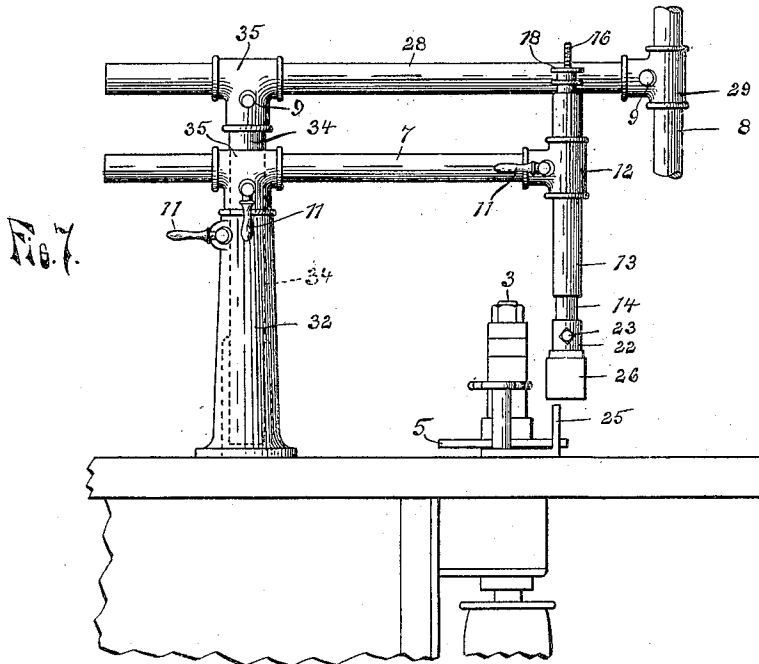
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# UNITED STATES PATENT OFFICE.

HERBERT H. STEER, OF WINDSOR, CANADA.

COMBINED PRESSER-FOOT AND GUARD FOR WOODWORKING-MACHINES.

No. 822,636.

Specification of Letters Patent.

Patented June 5, 1906.

Application filed March 30, 1905. Serial No. 252,987.

*To all whom it may concern:*

Be it known that I, HERBERT H. STEER, a citizen of Canada, residing at Windsor, in the county of Essex and Province of Ontario, Canada, have invented certain new and useful Improvements in a Combined Presser-Foot and Guard for Woodworking-Machines, of which the following is a specification.

This invention relates to a combined presser-foot and guard for woodworking-machines; and its object is to provide a device which is adapted to be used upon machines of this class known as "shapers," "buzz-planers," "rip-saws," &c., having a work-supporting table, a cutter, and a guide for the work adjacent to the cutter, and which device will operate to effectually hold the work against the table and guide and at the same time form a guard for the cutter to prevent the operator from being injured thereby.

It is also an object of the invention to so construct the device that it may be very quickly and easily attached, detached, shifted, or adjusted to accommodate the several kinds, sizes, or shapes of work done on the particular machine to which it is attached and to so support the same as to leave the table unobstructed and not to interfere with the effectual handling of the work by the operator.

A further object is to provide the device with means for regulating the pressure of the presser-foot and to provide a very strong, cheap, and efficient construction having certain other new and useful features, all as hereinafter more fully described, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a device embodying the invention and showing the same in operative position upon the table of a shaper. Fig. 2 is a plan view of the same. Fig. 3 is an enlarged detail showing the head of the supporting-pedestal in cross-section. Fig. 4 is a side elevation of the device arranged to hold the work down upon the table and also against the work-guide. Fig. 5 is a plan view of the same. Fig. 6 is a detail showing a modified form of presser-foot. Fig. 7 is a detail showing a modified form of supporting-pedestal. Fig. 8 is a plan view of the pedestal with the horizontal supporting-shafts in place, and Fig. 9 is a plan view of the pedestal with the vertically-adjustable supporting-shafts removed.

For convenience of illustration the device

is shown secured to the table 1 of a pedestal-shaper having two spindles 2 and 3, to the first of which spindles is secured knives 4 and to the second a circular cutter 5. To the center of the table midway between these spindles is secured a supporting-pedestal 6, provided at its upper end with parallel bearings, through which extend the horizontal supporting-shafts 7 and 8, extending in each direction from the pedestal over the spindles. To securely clamp these shafts in their bearings, so that they may quickly and easily be adjusted, a horizontal hole is provided in the bearing, extending transversely thereof and cutting into the lower sides of the bores of the same, so that when the shafts are in said bearings their lower sides will project into said transverse hole, and in this hole inserting four blocks 9, two for each shaft, the adjacent ends of each pair of blocks being cut away to receive the lower side of the shaft, which projects into the hole in which said blocks are inserted, and the inner block of each pair being provided with a recess in its inner end for the head of a bolt 10, which extends through longitudinal openings in both blocks. There is a slight space between the adjacent ends of each pair of blocks, so that when the blocks are forced endwise toward each other by a handle-nut 11 on the outer screw-threaded end of the bolt the said blocks will engage their shaft and bind the same in its bearings, preventing its turning or endwise movement.

To the outer end of each supporting-shaft is secured a T 12 for a vertical hollow post or shaft 13, which is adjustably secured within its T by the same construction of clamping means as that provided for holding each supporting-shaft in its bearing, consisting of the clamping-blocks 9, bolt 10, and handle-nut 11, as before described. Fitting within the lower end of said post is a plunger 14, movable longitudinally therein and held extended therefrom by a coiled spring 15, interposed between its upper end and the closed upper end of the post, a rod 16 being secured to the inner end of the plunger and extended upward and working loosely through an opening in the post where it is provided on its screw-threaded outer end with a thumb-nut 17 to adjust the plunger in or out, and thus regulate the tension of the spring, at the same time forming a stop to limit the approach of the foot toward the table, so that when the work is removed from beneath the

same the foot will be held away from the table a sufficient distance to permit the work to be readily inserted. A lock-nut 18 is provided to prevent the nut 17 from turning, and near its lower end the post is provided with a longitudinal slot which is engaged by a pin 20 on the plunger to prevent the turning of the plunger in the post.

To engage the upper surface of the work and to form a guide for the knives 4, a presser-foot 21, consisting of a block of wood having a concave side, the axis of which concave coincides with the axis of the spindle, is detachably secured to the lower end of the plunger 14 by a socket 22, secured to the block and attached to the plunger by a set-screw 23. The ordinary guide-board or straight-edge 24 is secured to the table to guide the work to the cutters, the work being held against said guide by the operator and down upon the table with the desired pressure by the presser-foot, which also prevents the operator from accidentally getting his hands in the path of the cutters. As ordinarily arranged for certain kinds of work vertically-extending guides 25 are secured to the table at each side of the circular cutter 5, with the edge of said cutter projecting slightly beyond their contact-face, and to hold the work down a presser-foot 26, consisting of a straight bar of wood, is provided, which foot extends parallel with the vertically-extending guides and is adapted to engage the upper side or edge of the work, which is forced beneath the same by the operator and held by him against the guides. These presser-feet may be made in any form suitable for the work to be done, and the machine upon which the device is used and the supporting-pedestal 6 may be changed to adapt it to be secured to a buzz-planer table, to the table of a rip or crosscut saw, or to any other similar machine.

In Figs. 4 and 5 is illustrated the manner in which the device may be used to hold the work down upon the table and also up against the vertically-extending guides, this arrangement being specially useful when the work is set on edge, it being only necessary for the operator to feed the work through and the possibility of his injuring himself in the operation being entirely eliminated. The presser-foot attached to the supporting-shaft 8 is arranged to press upon the upper edge of the work substantially the same as before or, as shown, may be arranged above the upper edges of the guides when the work is wide enough to extend above said guides; but the supporting-shaft 7 and its post 13, before shown in use in conjunction with the knives 4 at the other side of the table, are provided with a presser-foot 27, similar to the foot 26, and are arranged to hold said foot in engagement with and pressing in a horizontal direction upon the side of the work to hold the same against said vertical guides 25.

To so arrange the parts, the shaft 7 is removed from its bearing in the pedestal 6, and a supplementary shaft 28, having a T 29 on one end similar to the T 12, is inserted therein and extends parallel with the shaft 8, with its end to which the T is secured extending past the end of the shaft 8 some distance. The shaft 7 is then inserted in a vertical position in the T 29 and adjusted therein to bring the presser-foot 27 on its now horizontally-extending post 13 in contact with the work at the desired point. The presser-foot 26 is held directly opposite of the cutter by its supporting-shaft, the pedestal 6 being set so that said shaft extends at an angle directly over the center of said cutter, and the presser-foot 27 may be held directly opposite said foot 26 by tilting the shaft 7 out of the perpendicular, the shaft 28 being turned in its bearing to so tilt the said shaft, and the presser-foot 27 being adjusted to a horizontal position. It is evident that in cases where the shaft 7 is long enough it may be used in place of the shaft 28 and a short shaft provided in the place in which the shaft 7 is shown.

In Fig. 6 is shown a foot 30, consisting of a block to which is secured the socket for attaching the same to the plunger 14 and a ring 31 of a size to just fit over the knives and allow the same to be revolved therein. The supporting shaft and post are adjusted to bring the same at the inner side of the cutter or between the cutter and pedestal, so that the post is entirely out of the operator's way, and the ring supported by said post extends to protect the hands of the operator and being held down by a spring-pressure upon the work prevents the same from slipping or being jerked out of the hands of the operator. To make the device still further adjustable, a supporting-pedestal 32 (shown in Figs. 7, 8, and 9) may be provided, said pedestal being formed with two vertical bores 33 to receive the supporting-shafts 34, which are rotatable and vertically adjustable therein. These vertically-adjustable supporting-shafts are held in any position to which they are adjusted in their pedestal by clamping means constructed the same as those previously described and shown for holding the other parts, and said shafts are each provided with a T 35 on its upper end to receive the horizontally-extending supporting-shafts, which are also adjustably held therein by the same construction of clamp.

By providing the supporting-shafts, which are vertically and independently adjustable in their pedestal, either pressure-foot with its horizontal supporting-shaft may be raised to any desired height or may be swung around over the table to any point, as shown in dotted lines in Fig. 8, thus obviating the necessity of removing one of said horizontal shafts from its bearing and inserting it in the

opposite direction when it is desired to use both presser-feet at one side of the table, and also greatly facilitating the manipulation and adjustment of the device.

5 The horizontal supporting-shafts and vertical posts carried thereby are all adjustable longitudinally and rotatable in their bearings, and the presser-feet are secured to the plungers by a set-screw, thus making the device  
10 adjustable and greatly aiding the operator in attaching, detaching, changing, or adjusting the same to suit the different kinds of work. The clamping-blocks securely hold the parts in any position to which they may be ad-  
15 justed and may be quickly released to permit the vertical or horizontal supporting-shafts to be turned or moved longitudinally to throw the presser-foot out of the way in changing the knives, and the presser-foot  
20 may be as quickly raised or turned without affecting its adjustment relative to its post by releasing the clamp which holds said post in its T. The entire device may be readily  
25 removed by taking out the bolts which secure the pedestal to the table, and it may as readily be bolted to any suitable part of any machine upon which it is desirable to use the same.

What I claim as my invention, and desire  
30 to secure by Letters Patent, is—

1. The combination with a cylindrically-shaped member and a foot carried by said member, of a supporting member provided with a bearing for said cylindrical member  
35 and formed with a hole extending at right angles to the bearing and cutting into the bore of said bearing at one side, clamping-blocks in said hole having their adjacent ends cut away at one side to conform to the curve  
40 of and to engage the side of the cylindrically-shaped member, and means extended through said blocks and out of engagement with said cylindrical member for forcing said blocks toward each other to engage and clamp the cy-  
45 lindrical member in its bearing.

2. The combination with a supporting member adapted to be secured to a wood-  
working-machine, a supporting-shaft and a foot carried by said shaft, of a supporting  
50 member provided with a bearing for said shaft and formed with a hole extending at right angles to the bearing and cutting into one side of the bore of the bearing, clamping-  
55 blocks in said hole cut away at their adjacent ends at one side to conform to the curve of said shaft and each provided with a longitudinal hole, a bolt extending through the holes in the blocks, and a nut on the outer screw-threaded end of said bolt.

3. The combination with a horizontally-ex- 60  
tending supporting member adapted to be at-  
tached to a woodworking-machine and having  
a bearing on its outer end, a vertically-extend-  
ing shaft in said bearing adjustable vertically  
and rotatable therein and having a horizon- 65  
tal bearing at its lower end, a tubular post  
adapted to extend horizontally toward the  
cutter of the machine and adjustably secured  
in the bearing on the vertical shaft, a plunger  
in said post, a foot secured to the plunger, 70  
and a spring inclosed in said post to yield-  
ingly hold the plunger extended from the  
post and a gage mounted to cooperate with  
said presser-foot.

4. The combination with a supporting 75  
member adapted to be secured to a wood-  
working-machine and provided with a bear-  
ing at one end, of a tubular post longitudinally  
and rotatably adjustable in said bearing and  
having a closed end, means for holding the 80  
post in its adjusted position in said bearing, a  
plunger longitudinally movable in the open  
end of said post, a presser-foot secured to the  
lower end of said plunger, a rod attached to  
the inner end of the plunger and provided 85  
with a screw-threaded end, extending through  
an opening in the closed end of the post and  
the plunger, and a nut on the screw-threaded  
outer end of the rod in engagement with the  
post. 90

5. The combination of supporting mem- 95  
bers adapted to be attached to a woodwork-  
ing-machine at one side of the cutter thereof  
to extend horizontally over the same and  
each provided with a vertical bearing at its 95  
outer end, a vertical tubular post adjustably  
secured in the bearing on one of said mem-  
bers, a plunger in said post, a stop to limit  
the movement of the plunger, a spring to  
hold the plunger extended from the post, a 100  
presser-foot on the lower end of the plunger,  
a shaft adjustably secured in the bearing on  
the end of the other supporting member and  
extending downward at a distance from the  
said post, a horizontal bearing on the lower 105  
end of said shaft, a tubular post adjustably  
secured in said bearing, a plunger in said post,  
a presser-foot on the end of the plunger, and  
a spring to yieldingly hold the foot pressed to-  
ward the cutter of the machine. 110

In testimony whereof I have signed my  
name to this specification in presence of two  
witnesses.

HERBERT H. STEER.

Witnesses:

M. E. SCULLY,  
E. I. SCULLY.