June 10, 1924. 1,496,982

E. W. DUNHAM

COMBINATION WOODWORKING MACHINE

Filed June 18, 1923

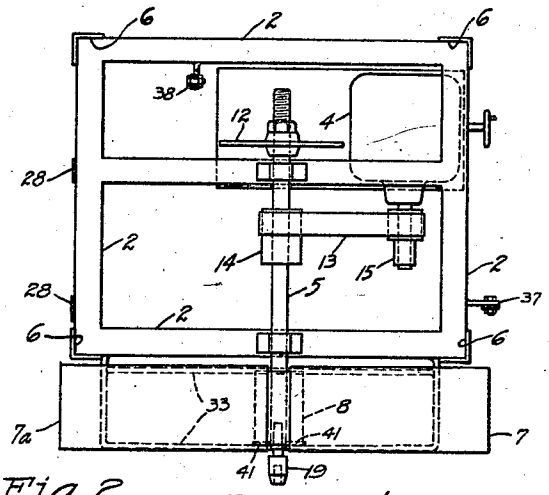

Fig. 2.

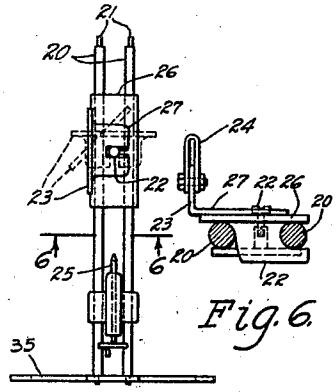

Fig. 4.

Fig. 6.

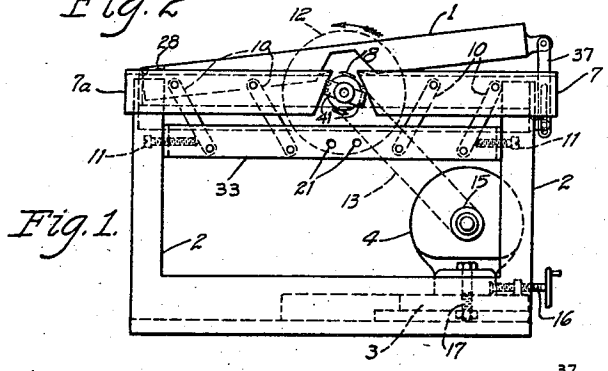

Fig. 1.

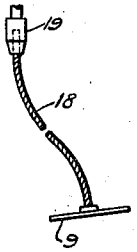

Fig. 5.

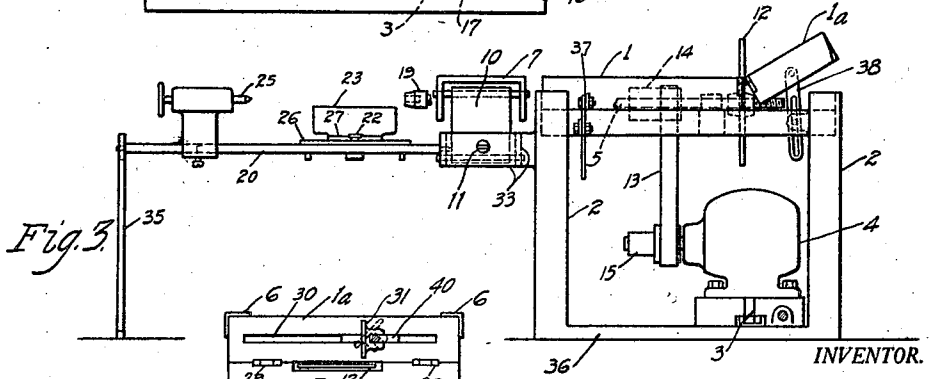

Fig. 3.

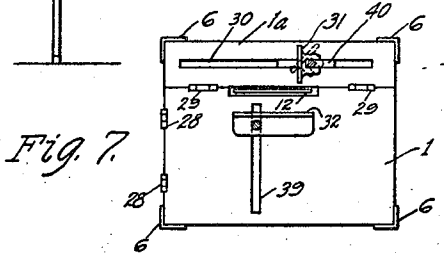

Fig. 7.

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UNITED STATES PATENT OFFICE.

ERNEST W. DUNHAM, OF ALHAMBRA, CALIFORNIA.

COMBINATION WOODWORKING MACHINE.

Application filed June 18, 1923. Serial No. 646,157.

To all whom it may concern:

Be it known that I, ERNEST W. DUNHAM, a citizen of the United States, residing at Alhambra, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Combination Woodworking Machines, of which the following is a specification.

My invention relates to combination portable woodworking machinery, and the objects are first, to construct an interchangeable tool for sawing, planing, dadoing, boring, turning, grinding, etc.; second, to provide a machine for carpenters, cabinet makers, pattern makers, and unskilled workers, that is easy to operate and quickly changes from one operation to another.

Another object is to provide a combination woodworking machine that is simple in construction and inexpensive to operate.

A further object is to provide suitable connections for special woodworking tools.

Other and still further objects and advantages will appear from the following description in connection with the accompanying drawings forming a part of this specification and will be pointed out in the claim.

Referring to the drawings Figure 1 represents a side elevation of my combination woodworking machine.

Figure 2 represents a plan view of Figure 1, with the table-top removed.

Figure 3 represents a side elevation of a lathe and woodworking machine.

Figure 4 represents a plan view of the lathe.

Figure 5 represents a universal attachment for my machine.

Figure 6 represents a sectional view on line 6—6 of Figure 4.

Figure 7 represents a plan view of the table-top.

Again referring to the drawings in which like characters of reference designate similar parts, the frame 2 is formed into a standard, a platform 36 is integral with the bottom portion of the said frame, a set of seats 6 are formed on the upper-outer corners of the said frame, and a pair of bars 33 are secured to one outer side of the said frame 2, as shown in Figures 1 and 3, and a shaft 5 is operatively secured on the upper portion of the said frame 2, and the table-tops 1 and 1ª are adjustably positioned in the said seats 6, over the said shaft 5, by hingedly securing the said table-top 1 on one side of the frame 2, on the hinges 28, parallel with the said shaft 5, and in turn hingedly securing the said table-top 1ª on the inner edge of the table-top 1, on the hinges 29, the guide 32 is adjustably secured on the table-top 1 in the groove 39, parallel with the saw 12, and the guide 31 is adjustably secured on the base 40, and the said base 40 is slidably positioned on the table-top 1ª, in the groove 30, at any angle to the said saw 12, the said groove 39 being positioned in the said table-top 1 parallel with the shaft 5, and the said groove 30 being positioned in the said table-top 1ª at right angles to the said shaft 5. The said saw 12 is secured on the outer end of the shaft 5 within the frame 2, and a cutter head 8 is secured on the inner end of the said shaft 5, and the said cutter head 8 extends beyond the frame 2 a distance, and the cutter blades 41 are secured to the end face of the said cutter head 8, as shown in Figure 1. The bars 33 are positioned a distance under the cutter head 8, and the tables 7 and 7ª are adjustably mounted on the said bars 33, by a set of levers 10 and screws 11 respectively. The motor 4 is mounted on the said base 3, and is adjustably held in position by the screw 16 and clamp 17, respectively, and the pulley 15 being of a variable speed type is secured on the drive shaft of the said motor 4, a pulley 14 is secured on the shaft 5, and a belt 13 is operatively connected between the said pulley 15 and 14. A lathe is connected to the outer-bar 33 by the connections 21 being integral with the ways 20 and the outer bar 33, respectively, and the opposite ends of the said ways 20 are secured to the legs 35, the legs 35 being extended down to the floor line of the said frame 2, the tailstock 25 is adjustably mounted on the said ways 20, and a plate 26 is adjustably secured on the ways 20 between the said outer bar 33 and the tailstock 25, the plate 27 is adjustably secured on the said plate 26 by a socket 22, and the steady rest 23 is made integral with the plate 27 and extends upwardly a distance, as shown in Figure 6, and the extension member 24 is adjustably clamped over the upper edge of the said steady rest 23. A chuck 19 is secured in the outer end of the said cutter head 8, and any desired type or form of rotary turning, drilling, boring, grinding, or special tools, may be secured therein, or a shaft of the flexible type may be held in the said chuck 19, and

the rotary cutting or grinding tool 9 may be connected to the end portion of the said shaft 18.

When it is desired to rip saw cut a piece of lumber to the desired width, the guide 32 is first adjusted to the required distance from the saw 12 and the tables 1 and 1ª are lowered to their flat position in the seats 6, the lumber may then be cut lengthwise to the width determined by the distance between the said guide 32 and the saw 12, and when it is desired to cross cut the lumber to the desired length and bevel, the guide 31 is first set to the desired angle on the base 40, and the lumber is then shifted by the said guide 31 over the table 1ª through the saw 12. When it is desired to cut grooves or dadoes the saw 12 may be removed from the shaft 5 and the proper width cutter blades substituted therefor, and the desired depth of the said grooves or dadoes may be obtained by adjusting the height of the table-tops 1 and 1ª on the hinges 28 by raising or lowering the link 37, and when the said grooves or dadoes are to be cut on bevel lines the guide 31 is set to the desired angle, and if a sloping bevel groove or dado is desired the table 1ª is raised on the hinges 29 with the table top 1 remaining level in the said seats 6, as hereinbefore described.

When it is desired to use a disc-sander, or emery wheel the saw 12 may be removed and the respective sanding, or grinding operations substituted with similar positions of the work to be cut, as hereinbefore described. When it is desired to use the shaft 5 to run the jointer head 8 the tables 7 and 7ª are first raised or lowered to the proper elevations to take the required depth of a cut in the work by swinging the levers 10 up or down and by adjusting their respective screws 11, and when it is desired to drill, bore, or grind work by the use of an end feed or an end rest, the respective drill, tool, or wheel is secured in the chuck 19 over the ways 20, and the work may be held to or fed into the said drill, tool or wheel by securing the tailstock 25 on the ways 20 adjacent to the plate 27, and the center of the said tailstock is then forced against the steady rest 23, and the said steady rest 23 is in turn moved against the work to be cut.

Having thus described my invention what I claim is:

A portable woodworking machine of the class described, comprising a stationary frame, a power transmission means positioned in the said frame, a driven spindle operatively connected to the said power transmission means, a rotary cutting tool mounted on one end of the said spindle, a table hingedly connected on the said frame on one side of the said cutting tool, and companion table hingedly connected to the said first mentioned table on the opposite side of the said cutting tool, as set forth.

In testimony whereof I affix my signature.

ERNEST W. DUNHAM.