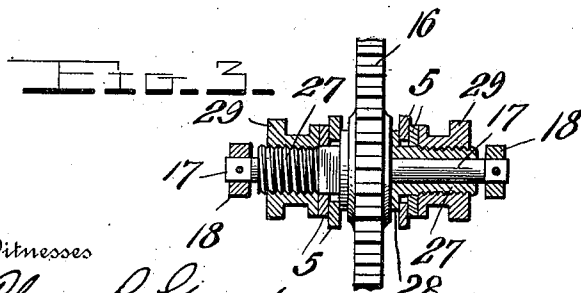
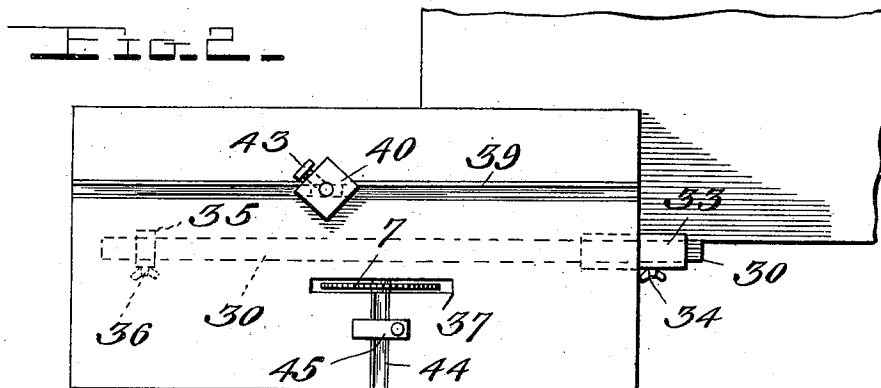
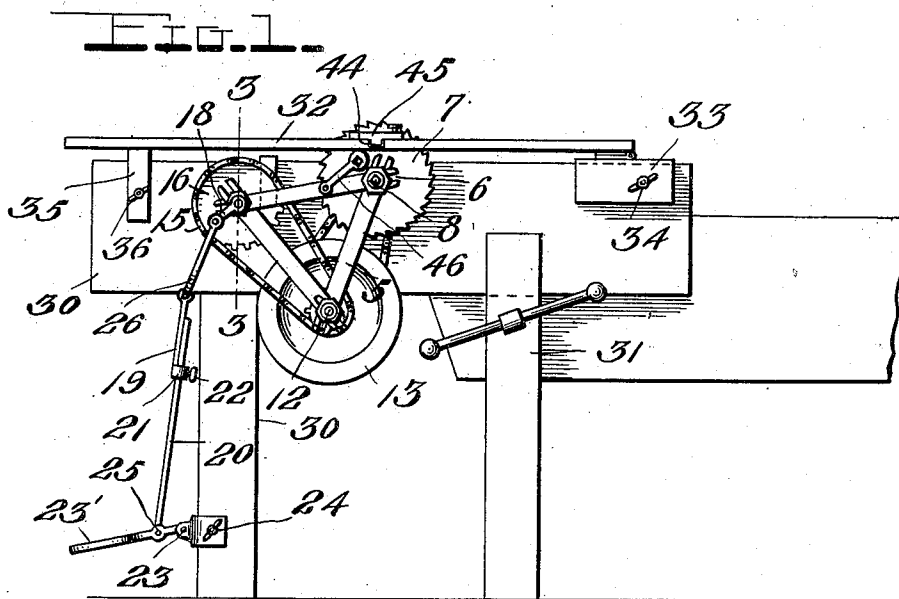


E. O. SWAFFORD.
WOOD SAWING MACHINE.
APPLICATION FILED FEB. 4, 1910.

982,312.

Patented Jan. 24, 1911.

2 SHEETS—SHEET 1.



Witnesses

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2 SHEETS—SHEET 2.

FIG. 4.

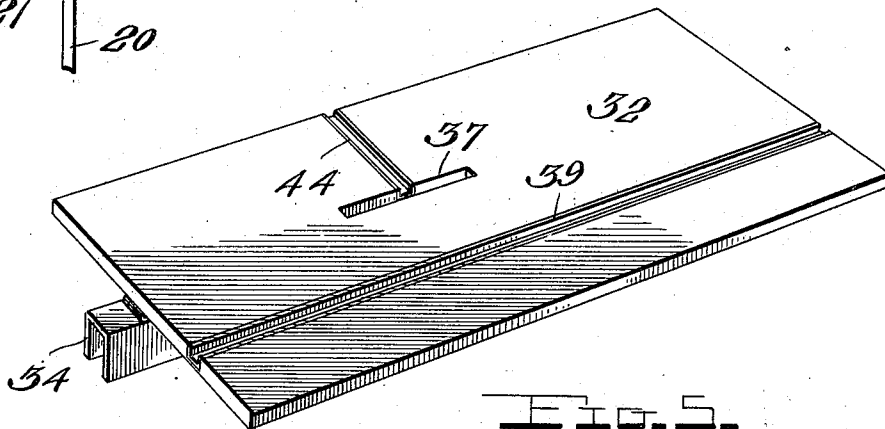
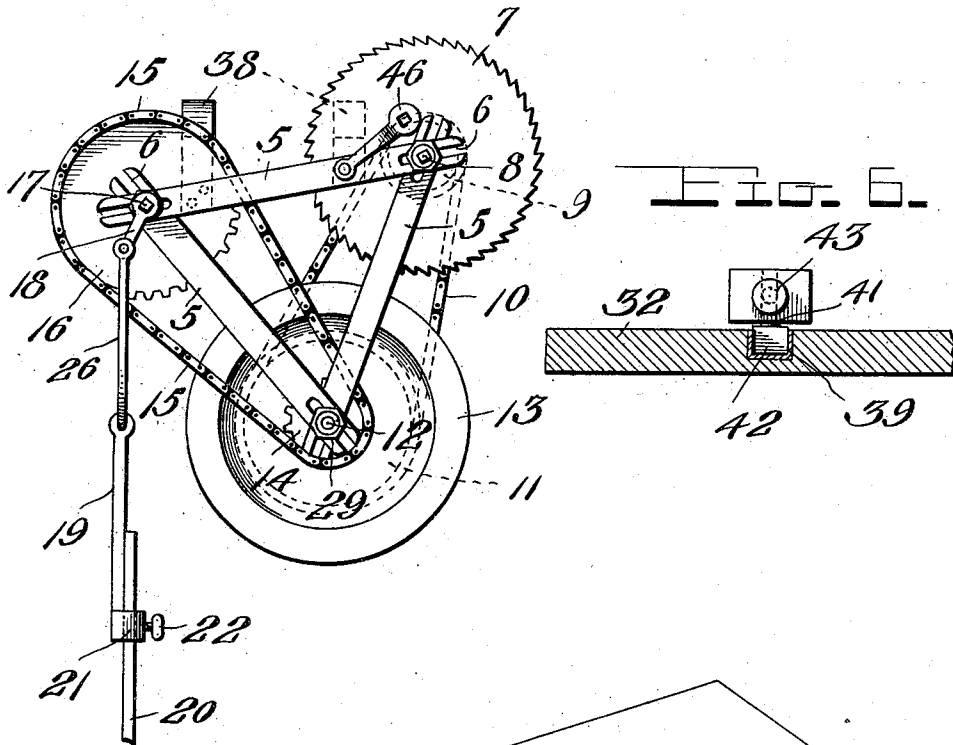


FIG. 5.

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EDMOND O. SWAFFORD, OF CLOVIS, TERRITORY OF NEW MEXICO.

WOOD-SAWING MACHINE.

982,312.

Specification of Letters Patent.

Patented Jan. 24, 1911.

Application filed February 4, 1910. Serial No. 542,036.

To all whom it may concern:

Be it known that I, EDMOND O. SWAFFORD, a citizen of the United States, residing at Clovis, in the county of Roosevelt and Territory of New Mexico, have invented certain new and useful Improvements in Wood-Sawing Machines, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to certain new and useful improvements in wood working machinery and more particularly to a machine which is adapted for sawing, beading, grooving, and otherwise treating lumber for the construction of doors and the like.

15 Another object is to provide a machine of the above character which is portable and may be readily set up in position for use and is adapted to be actuated without the expenditure of a great amount of power.

20 A further object resides in the provision of an improved adjustable bed plate adapted to be used in connection with my improved sawing machine, said machine and bed plate being of such construction that the same may be arranged in position by the side of the work bench and rigidly supported whereby the sawing operation is greatly facilitated.

30 Another object is to provide an improved frame in which the saw blade is mounted, and operating means for rotating said saw blade.

35 With these and other objects in view, the invention consists of the novel construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

40 Figure 1 is a side elevation of my improved sawing machine arranged in position for use; Fig. 2 is a top plan view; Fig. 3 is an enlarged section taken on the line 3—3 of Fig. 1; Fig. 4 is a side elevation of the body carrying frame and its operating mechanism; Fig. 5 is a detail perspective view of the adjustable bed plate; Fig. 6 is a detail section of said plate showing the means for mounting the movable gage therein.

50 Referring to the drawings, 5 indicates the frame bars which are formed with the bifurcated ends 6. These frame bars are arranged upon opposite sides of the saw and its operating mechanism in the general

form of a triangle, the ends of said frame bars being adjustable upon each other for a purpose which will hereinafter appear. Between the engaged ends of certain of the frame bars 5 the circular saw blade 7 is 60 mounted. This saw blade is rigidly secured to a transverse shaft which is disposed in the bifurcated ends of the frame bars. A sprocket 9 is also mounted upon the shaft 8 upon one side of the saw 7. 65 This sprocket is connected by means of an endless chain 10 with the sprocket wheel 11 mounted upon a shaft 12 disposed in the lower connected ends of the frame bars. This sprocket is integrally formed with the 70 balance wheel 13 which is considerably larger than the sprocket wheel and imparts momentum thereto whereby the power required to actuate the saw driving mechanism is reduced to a minimum. A second 75 sprocket wheel 14 of considerably smaller diameter is also carried by the shaft 12 and is connected by means of the endless chain 15 to the sprocket wheel 16 carried by the transverse shaft 17 and mounted in the remaining ends of the frame bars 5. The 80 shaft 17 is formed upon its opposite ends with a crank 18 which is connected by means of a link 19 with the vertically disposed reciprocatory bar or rod 20. This 85 bar carries a sleeve 21 through which the lower end of the link 19 is disposed and a set screw 22 is adapted to engage said link and rigidly secure the same in the sleeve. 90 In this manner the link 19 and bar 20 may be adjusted relative to each other in accordance to the height of the operating mechanism above the operating treadle. The operating treadle 23' is fulcrumed in a clamping member 23 which is secured to 95 the supporting upright 30 by the nut 24. The lower end of the rod or bar 20 is pivotally connected to the treadle intermediate of its ends as shown at 25 and the upper end of the link 19 is pivotally connected to 100 the cranks 18 by means of the bars or rods 26 which are rigidly secured to the upper end of said link.

105 In order to secure the frame bars 5 upon each other and to prevent movement of the transverse shafts 8, 12 and 17 in the bifurcated ends of the bars, I provide a sleeve 27. One of these sleeves is disposed upon each of the shafts upon opposite sides of 110 the saw blade and the operating mechanism

and is disposed through the bifurcations of said frame bars, the inner ends of said sleeves being flanged as shown at 28. These sleeves are slidable in the bars and after the bars have been adjusted upon each other, the sleeves and bars may be securely held against further movement by the binding nuts 29. These nuts are threaded upon the sleeves and bind upon the outermost frame bar, rigidly securing said bars between the sleeve flanges 28 and the inner ends of the nuts 29. Thus it will be seen that the frame bars are readily adjusted to take up the slack in the driving chains 15 whereby the proper operation of the mechanism is assured.

In setting up the machine in operative position, I employ two pieces of material 30 which are securely nailed together and extend at right angles to each other. One end of the supporting frame thus formed is securely fastened in the bench vise 31. A firm, rigid, and substantial supporting structure is thus provided, and this structure is adapted to receive the bed plate 32 upon which the material to be operated upon is moved to be engaged by the rotatable saw blade 7. This bed plate comprises a rectangular member preferably of wood. Centrally hinged or pivoted at the forward edge of the bed plate there is a U-shaped channel member 33 adapted to be disposed upon the upper edge of the horizontal supporting piece 30 and depend upon opposite sides thereof. A set screw 34 is carried by the clamping member 33 and is adapted to rigidly secure the same to the supporting structure. A similar clamping member 35 is also secured to the rear end of the bed plate and to its under side. The parallel side plates of the clamping member are disposed upon opposite sides of the horizontal supporting element and the bed plate is adapted to be secured against movement by means of the set screw 36 carried by the clamping member 35. The depending sides of said flanged member extend downwardly a considerable distance upon the sides of the support and are adapted to be adjusted thereon by means of the set screw 36 to raise and lower the rear end of the bed plate whereby the same is positioned at an inclination. This bed plate is provided with a central longitudinal slot 37 through which the saw blade 7 extends, and it will be obvious that when the bed plate is adjusted, the saw blade will extend to a greater or less extent above the surface of the same thereby cutting a deep or shallow groove as may be desired. One of the frame bars 5 carries a plurality of clamping plates 38 which are adapted to extend over the upper edge of the supporting piece 30 and are clamped thereto by means of suitable set screws. When in this position the saw 7 is disposed

through the slot 37 in the bed plate and the work is moved upon the surface of the plate to be engaged by the teeth of the saw, the operator actuating the same by working the foot treadle 23'. The bed plate 32 is provided with a longitudinal surface groove 39 which is preferably lined with metal and the gage block 40 is slidably mounted in this groove upon a stud or stem 41, said stem being carried by the slidable head 42 movably disposed in the groove 39. The gage block 40 is adapted to be secured upon the stem 41 at an angle with relation to the longitudinal groove 39 by means of the set screw 43 carried thereby. Thus when it is desired to make a miter cut, the miter may be first marked off upon the material, and one edge thereof positioned against the gage block so that the saw will follow the miter line as it cuts through the wood. Another transversely extending groove 44 is also provided in the bed plate and extends centrally from the longitudinal slot 37. This groove also receives an adjustable gage 45 against which the material is adapted to be positioned when it is desired to saw the same into strips of a uniform width.

If desired the saw blade 7 may be removed and various other cutting tools positioned on the transverse shaft 8 so that the machine may be used for beading, grooving, or other purposes familiar to the carpenter and cabinet maker. In order to retain the shaft in the frame bars upon one side of the tool while the frame bars upon the opposite side are removed so that the tool may be removed from the shaft, I provide the wrench 46 which is in the form of a resilient shank secured at its end to one of the frame bars and formed with an enlarged head, said head being provided with a rectangular opening to receive the square end of the shaft 8. Thus the tool may be readily removed without entirely disassembling the carrying frame, and another tool arranged upon the transverse shaft and the frame bars replaced in their normal position.

From the foregoing it is believed that the operation and many advantages of my improved sawing machine may be readily understood. The device is of simple construction, may be readily set up in position for use and it is adaptable to a large number of useful purposes. It requires but small power to operate the same and it may be easily conveyed from place to place. The various parts are all of simple construction thereby conducing to the inexpensive manufacture of the machine without sacrificing the strength or durability thereof.

While I have shown and described what I believe to be the preferable embodiment of the invention it will be understood that

various minor modifications may be resorted to without departing from the spirit or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed is:

1. A machine of the character described comprising spaced frames each consisting of a plurality of slotted bars, transverse shafts mounted in said frames and adjustable in the bars thereof, means arranged on each of said shafts for securing the bars of each frame in their adjusted positions, a tool mounted on one of said shafts, driving means for said tool, and means for actuating said driving means.

2. A machine of the character described comprising spaced frames each consisting of a plurality of bars, the ends of said bars being disposed upon each other and longitudinally slotted, transverse shafts disposed in the slots of the frame bars, means arranged on said shafts to clamp the frame bars upon each other to secure the same in their adjusted positions, a sprocket on each of said shafts, driving chains traversing said sprockets, a cutting tool on one of the shafts, and treadle mechanism for rotating said cutting tool.

3. A machine of the character described comprising spaced frames each consisting of a plurality of bars, the ends of each bar being provided with a longitudinal slot open at one end, said slotted ends of the bars being disposed upon each other, transverse shafts connecting said frames and disposed in the slotted ends of the bars thereof, a cutting tool arranged on one of the shafts between the frames, sprockets on each of said shafts, driving chains connecting said sprockets, sleeves disposed upon each of the shafts upon opposite sides of the cutting tool and the sprockets and extending through the slots of the frame bars, the ends of said bars being movable upon each other, and means arranged on said sleeves engag-

ing with the frame bars to secure the same in their adjusted positions to take up the slack in the driving chains, and treadle operated means for rotating the cutting tool.

4. A machine of the character described comprising spaced frames each consisting of a plurality of frame bars adjustably connected at their ends, transverse shafts extending through the ends of the bars of each frame, a cutting tool on one of said shafts, a sprocket on each of said shafts, driving chains traversing said sprockets, a sleeve disposed on the ends of each shaft, said frame bars engaging with said sleeves, means carried by said sleeves for binding the ends of the frame bars upon each other to secure the same in their adjusted positions, and means for rotating the cutting tool.

5. A machine of the character described comprising spaced frames each consisting of a plurality of bars, the ends of said bars being longitudinally slotted and disposed upon each other, a plurality of transverse shafts arranged in the slotted ends of the bars and connecting the frames, a cutting tool on one of the shafts between said frames, a sprocket on each of said shafts, driving chains traversing said sprockets, a sleeve on each end of each of the shafts having a flange formed on one end, said sleeves being threaded and disposed through the slots in the ends of the frame bars, binding nuts threaded upon said sleeves adapted to clamp the bars between themselves and the flanges of the sleeves, and treadle operated means connected to one of the shafts for rotating the cutting tool.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

EDMOND O. SWAFFORD.

Witnesses:

H. W. WILLIAMS,
MELVIN T. DUNLAVY.