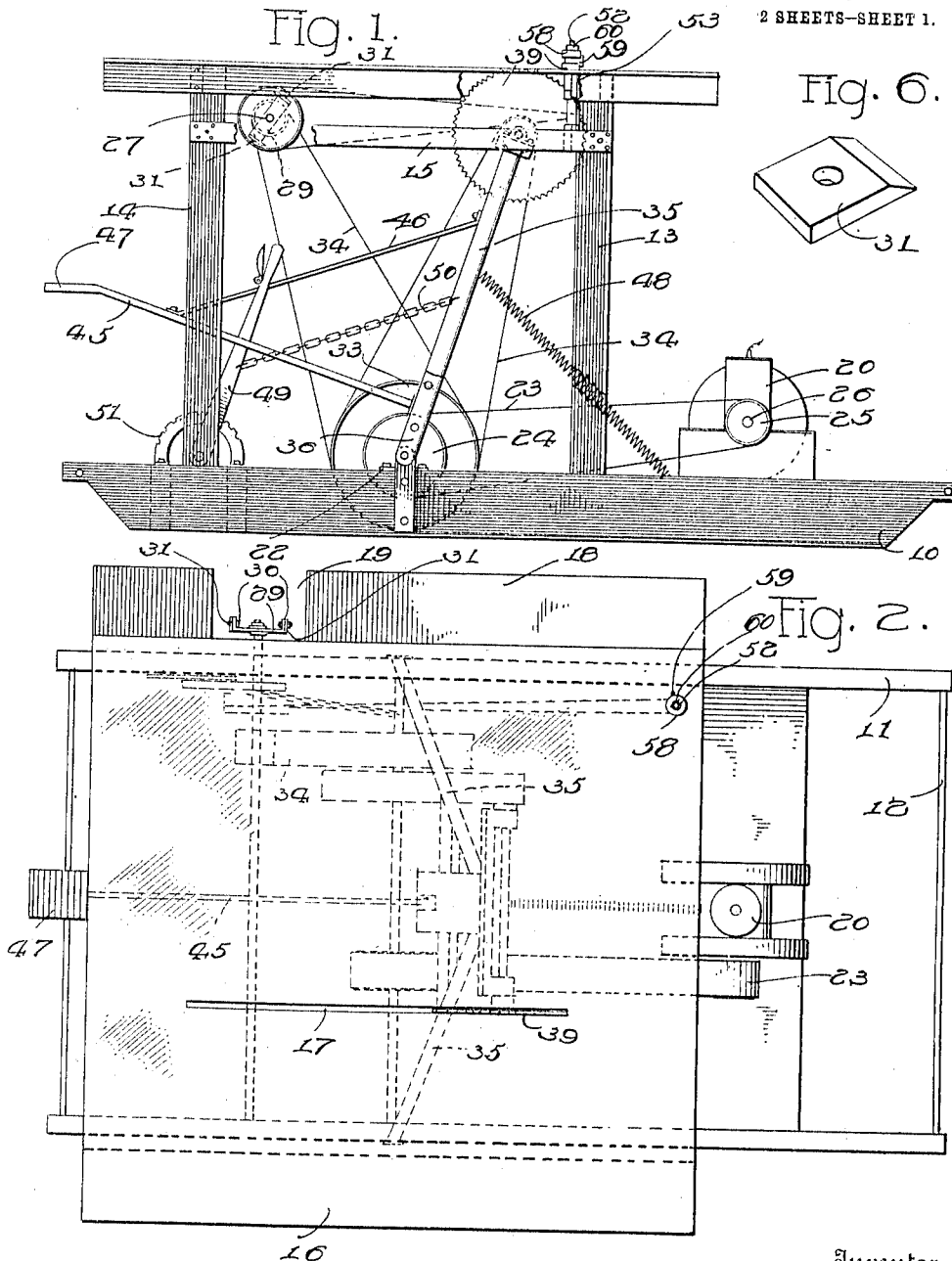


W. J. HUGHES.
COMBINATION SAW.
APPLICATION FILED MAR. 12, 1912.

1,066,730.

Patented July 8, 1913.

2 SHEETS-SHEET 1.



Inventor
William J. Hughes

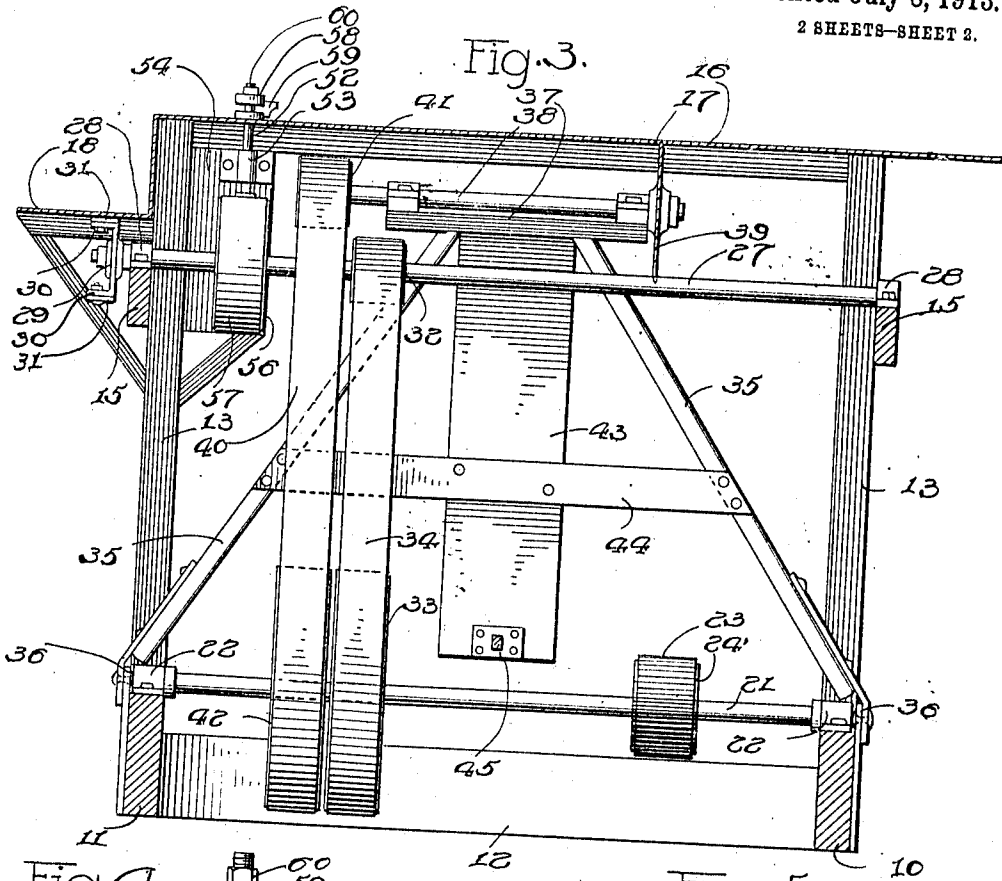
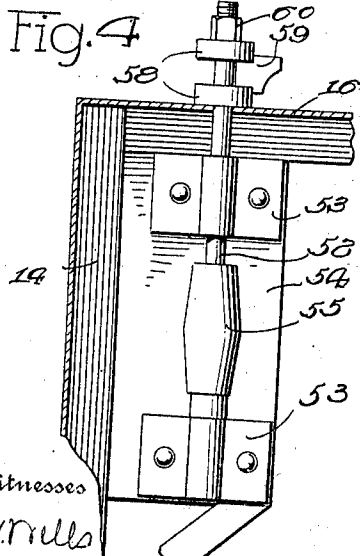
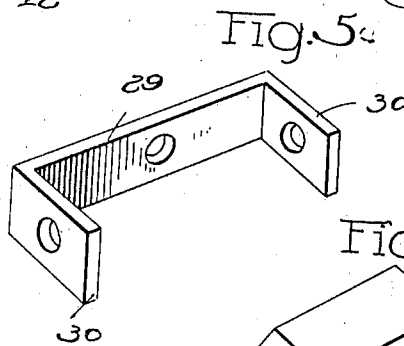
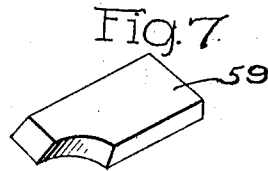
Witnesses
James
Ross Woodward

By *E. C. Crooman*
his attorney

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Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM J. HUGHES, OF VICTORIA, TEXAS.

COMBINATION-SAW.

1,066,730.

Specification of Letters Patent.

Patented July 8, 1913.

Application filed March 12, 1912. Serial No. 683,323.

To all whom it may concern:

Be it known that I, WILLIAM J. HUGHES, a citizen of the United States of America, residing at Victoria, in the county of Victoria and State of Texas, have invented certain new and useful Improvements in Combination-Saws, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to sawing machines, and the principal object thereof is to provide a machine in which a planer, a shaper or molder, a rip saw and a cut-off saw are operated by a single motor or engine.

15 In carrying out the objects generally stated above, it will be understood, of course, that the essential features thereof are susceptible of changes in detail and structural arrangements, one preferred and practical embodiment of the invention being shown in the accompanying drawings, wherein:—

25 Figure 1 is a side elevation of the machine. Fig. 2 is a top plan view of the machine. Fig. 3 is a vertical section through the machine. Fig. 4 is a perspective view of the shaper or molder shaft or mandrel. Fig. 5 is a perspective view of the bracket which holds the planer knives. Fig. 6 is a perspective view of one of the planer knives. Fig. 7 is a perspective view of one of the knives to be used on the shaper or molder head.

30 Referring to the accompanying drawings by numerals, it will be seen that this invention comprises a base having side bars 10 and 11, and end bars 12. A frame is mounted upon the base and comprises the legs 13 and 14, which are connected by cross bars 15 and supports a top or table 16, the top or table being provided with a longitudinally-extending slot 17, running longitudinally with the top plate 16. A planer table 18 is provided with an opening 19 so that the planing knives can protrude above the surface of the planing table the desired distance. A motor 20 is mounted upon the frame at the rear end and a shaft 21 is mounted upon the side bars 10 and 11 in bearings 22, the shaft 21 being rotated by a belt 23 passing around the pulley wheels 24 and 25 carried by the shaft 21 and engine shaft 26. A shaft 27 is rotatably mounted in bearings 28 carried by the side bars 15 and extends beyond the side of the frame and is positioned beneath the open-

ing 19. A bar 29 having angularly-disposed ends 30 is secured to the outer end of shaft 27 and knives 31 are removably connected with the ends 30 and have their cutting edges protruding above the face of the planing table so that when a piece of timber is moved along the planing table, the planing knives will cut the lower face. A pulley wheel 32 is mounted upon the inner portion of the shaft 27 and a large pulley wheel 33 is mounted upon the shaft 21 and is connected with the pulley wheel 32 by means of a belt 34, thus causing the shaft 27 to be rotated at a great deal faster rate of speed than the shaft 21. A rocking frame has its arms 35 provided with hinges 36 which are secured to the base or side bars 10 and 11, the center of the hinge being placed in line with the center of shaft 21. The upper ends of the arms are connected by a bearing 37 in which is journaled the shaft 38 having a rotary saw 39 secured to one end portion beneath the slot 17 so that when the rocking frame is moved, the saw will be brought up through the slot to cut work placed upon the plate 16. This shaft 38 is driven by a belt 40 passing around the pulleys 41 and 42. A tongue 43 which is braced by means of a bar 44 is positioned between the arms 35 and affords convenient means for connecting the operating mechanism with the frame, and also forms a balance weight to assist in returning the saw to its normal position.

90 The operating mechanism comprises a lever 45 which is secured to the lower portion of the tongue 43 and is braced by means of the bar 46 which is connected with the upper portion of the rocking frame. The outer portion of the lever is formed into a foot rest 47 so that by placing the foot upon the outer portion of the lever, the frame may be rocked to bring the saw through the slot. When the foot is removed from the lever, the spring 48, which is connected at one end with the rocking frame and at the other end with the base, returns the saw to its normal position. If it is desired to hold the saw in a raised position for any length of time, the latching lever 49 which is connected with the rocking frame by means of the chain 50 is moved so that its tooth will engage the rack 51 and thus prevent the spring from returning the saw to its normal position. A shaft 52 is journaled in the bearings 53 which are secured to a plate 54,

the shaft 52 carrying a pulley wheel 55. A pulley wheel 56 is mounted upon shaft 27 and a belt 57 connects the pulley wheel 56 with a pulley wheel 55 mounted upon the shaft 52, the pulley wheel 56 being larger than the pulley wheel 55 so that the shaft 52 will be rotated very rapidly. Clutch collars 58 are mounted upon the outer portion of the shaft 52 and a cutting knife 59 is secured between the collars by the nut 60. It is, of course, obvious that the knife 59 may be provided with any desired shape of cutting edge.

From the above description, it will be seen that the motor drives the shaft 21, the shaft 21 drives the shafts 27 and 38, and the shaft 27 drives the shaft 52.

What I claim is:—

In a sawing machine, a table provided with a slot in its top, a swinging frame, strips carried by said swinging frame and pivotally connected with the side of said table to pivotally mount said swinging frame, a driving shaft journaled upon the

sides of said table beneath said swinging frame, a saw journaled in the upper portion of said swinging frame and rotated by said driving shaft, a depending tongue carried by said swinging frame, a spring having one end connected with said table and the upper end with said tongue to normally hold said saw beneath the top of said table, a foot lever rigidly mounted upon said tongue for swinging said swinging frame to bring said saw through said slot against the tension of said spring, a rack, a hand lever pivotally connected with said rack, and a cable connecting said hand lever with said tongue, whereby said swinging frame may be held in position to bring said saw through the slot formed in the top of said table.

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

WILLIAM J. HUGHES.

Witnesses:

A. M. HUGHES,
W. C. TRACY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."