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1,592,999

W. A. WILLIAMS
POWER DRIVEN HANDSAW

Filed Jan. 17, 1925

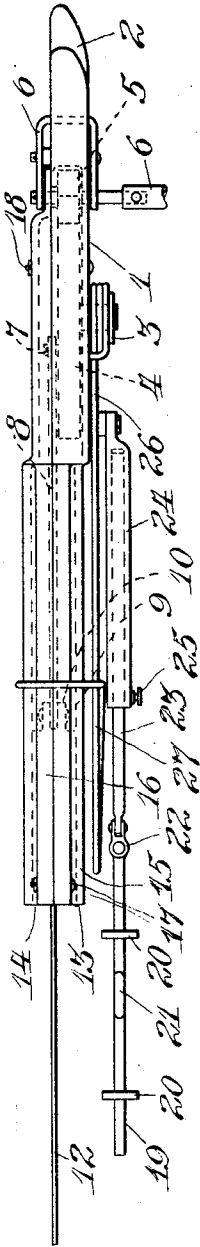


Fig. 1.

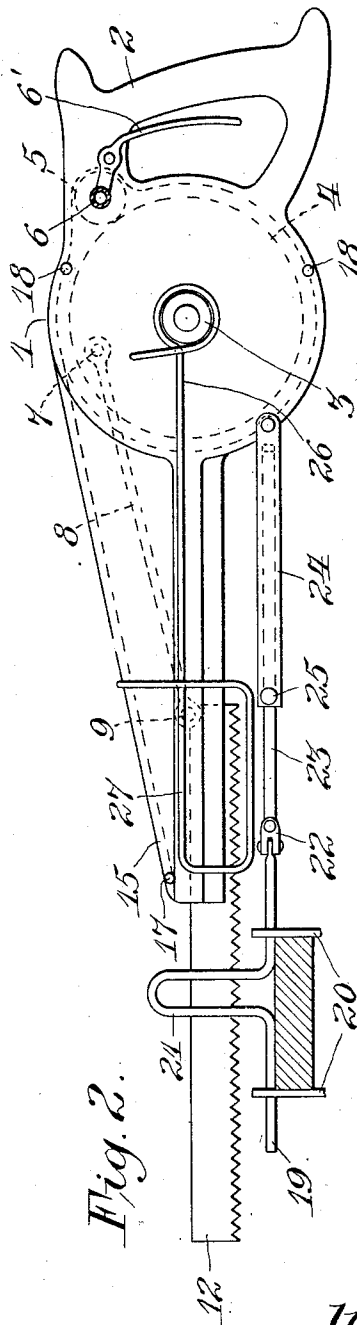


Fig. 2.

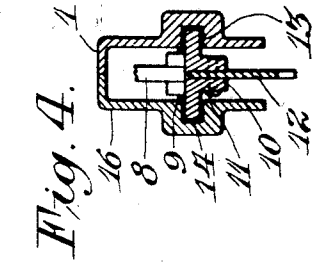


Fig. 4.

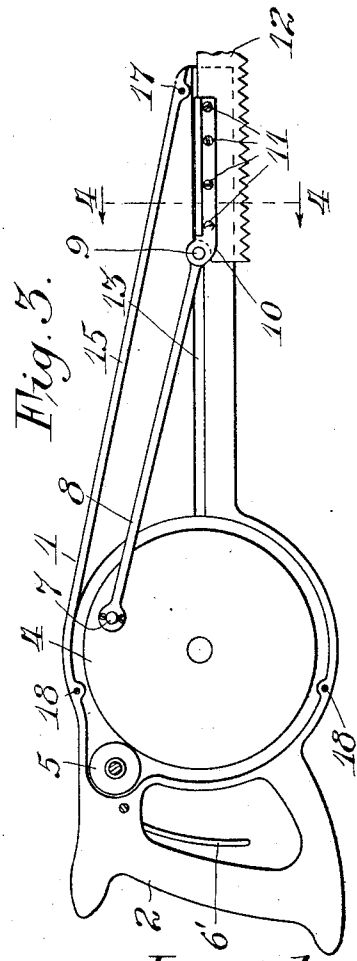


Fig. 5.

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UNITED STATES PATENT OFFICE.

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POWER-DRIVEN HANDSAW.

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My invention relates to power driven hand saws.

The main object of the invention is to provide an attachment which may be secured to a hand saw and connected to power means for reciprocating the saw and yet which will enable the ready manipulation and guiding of the saw by hand and in which the control of the connection with the power drive means may be conveniently effected through the hand of the operator by which the saw is held.

Other objects are to provide simple and efficient means for guarding the hand of the operator and for clamping the attachment to the work.

With these objects in view, my invention is embodied in preferable form in the device hereinafter described and illustrated in the accompanying drawings.

In these drawings—

Fig. 1 is a top plan view;

Fig. 2, a side elevation of one side of the attachment;

Fig. 3, a similar view of the opposite side having one of the side frame members removed; and

Fig. 4, a cross section on line 4—4 of Fig. 3.

Referring to the drawings, 1 is a frame with which is formed integral a hand grip 2. Mounted on a hub 3 fixed in a circular plate forming part of the frame is a main wheel or disk 4 having a frictional peripheral surface. Adapted to bear against and drive this disk 4 is a small disk or pulley 5 having a flexible shaft 6, adapted to be connected to suitable power means such as an electric motor, the pulley of a line shaft or similar power driven means. The shaft 6 is carried by a trigger 6' pivoted on the handle and extending across the grip opening whereby the operator may effect the driving engagement or the disengagement of the pulley or the main disk.

Pivoted on a pin 7 eccentrically fixed to the disk 4 is one end of a pitman or connecting rod 8, the other end of which is pivoted to a pin 9 carried by a head 10, which is detachably secured by screws 11, to the back of a saw 12. The head 10 has side bars adapted to slide in and be guided by grooves or slots 13, 14, one of which is formed in the forwardly projecting extension 15 of the frame, which extension forms part of one side of the frame, the other groove or slot

14 being formed in the part 16, which provides the opposite and complementary side of the frame. The member 16 is detachably secured at 17 and 18 to the main body of the frame and thereby constitutes a removable cover which may be removed to permit access to the saw so that the head 10 may be detached from the saw when replacement of the latter is desired.

A clamp carrying member 19, preferably formed of spring wire, carries two clamping dogs 20, which are adapted to bear against opposite sides of the board of lumber or work to be sawed so as to steady the tool with respect to the work. These dogs are slidably mounted on the member 19 and are adapted to be retained in position by a frictional or binding action on member 19 as they are pressed against the board. To increase their pressure, the clamp carrying member is formed with a spring loop 21 which may be compressed by one hand of the operator to hold the dogs more firmly against the work. The member 19 is connected by a double joint 22 to a rod 23, which telescopes within a hollow rod 24, which is pivoted to the frame. A set screw 25 serves to hold the rods 23 and 24 in longitudinally adjusted position. By this telescoping construction and the various jointed connections, it will be seen that this clamping device may not only be extended and contracted to accommodate it to different adjustments, but also the several joints permit the clamping member to accommodate itself to the movements of the saw and the frame carrying the same as the latter is manipulated by the hand of the operator.

A guard for protecting the hand of the operator from the saw is provided consisting of a member 26, made preferably of wire, and having one end twisted around the hub of the main driving disk and the other end bent into rectangular form at 27 to guard one side of the saw and having its end bent upward and then laterally above the saw to protect the hand against injury in a forward sliding movement.

In operation, the driving pulley may be placed in or out of engagement with the main disk and when pressed against the latter, the disk through its pitman will serve to reciprocate the saw. At the same time the angle of the saw may be changed by the operator who grasps the grip handle.

Having thus described my invention, what I claim is:

1. In combination with a power driven hand controlled saw, adjustable clamping means for the work comprising movable clamping dogs, a looped spring member having the dogs mounted on opposite sides of the loop, said member having pivotal connection with the frame.
2. In combination with a power driven hand controlled saw, clamping means for the work comprising a clamp carrying member having a compressible loop, work clamping dogs mounted on said member on opposite sides of said loop, said member having a pivotal connection and also a telescoping connection with said frame.
3. The combination with a portable power hand saw having a reciprocating saw blade in a frame above a piece of work, of means for holding the saw frame against longitudinal movement during the reciprocation of the saw blade, said means comprising a sleeve, said sleeve having one of its ends pivotally connected to the frame in a plane substantially parallel with the blade, a rod

adjustably connected in said sleeve and extending over the piece of work, clamping members engaging opposite sides of the piece of work, a U-shaped bend in said rod between said clamping member and a universal joint in the rod between the sleeve and the adjacent clamping member.

4. The combination with a portable power hand saw comprising a frame having a saw blade mounted therein and adapted to reciprocate over a piece of work, of means for preventing longitudinal movement of the frame during the reciprocation of the saw blade and allowing lateral and vertical pivotal movement of the saw as a whole, said means comprising an elongated member, said elongated member being pivotally connected to the frame and movable in a parallel plane thereto, a universal connection in said member, clamping jaws engaging opposite sides of a piece of work and a U-shaped upwardly extending bend in said member between the clamping jaws.

In testimony whereof I affix my signature.

WILLIAM A. WILLIAMS.