Aug. 2, 1938. J. F. OLSON 2,125,395

MEANS FOR MOUNTING AND SUPPORTIMG A SAW

Filed Dec. 27, 1937 2 Sheets-Sheet 1

FIG. 1.

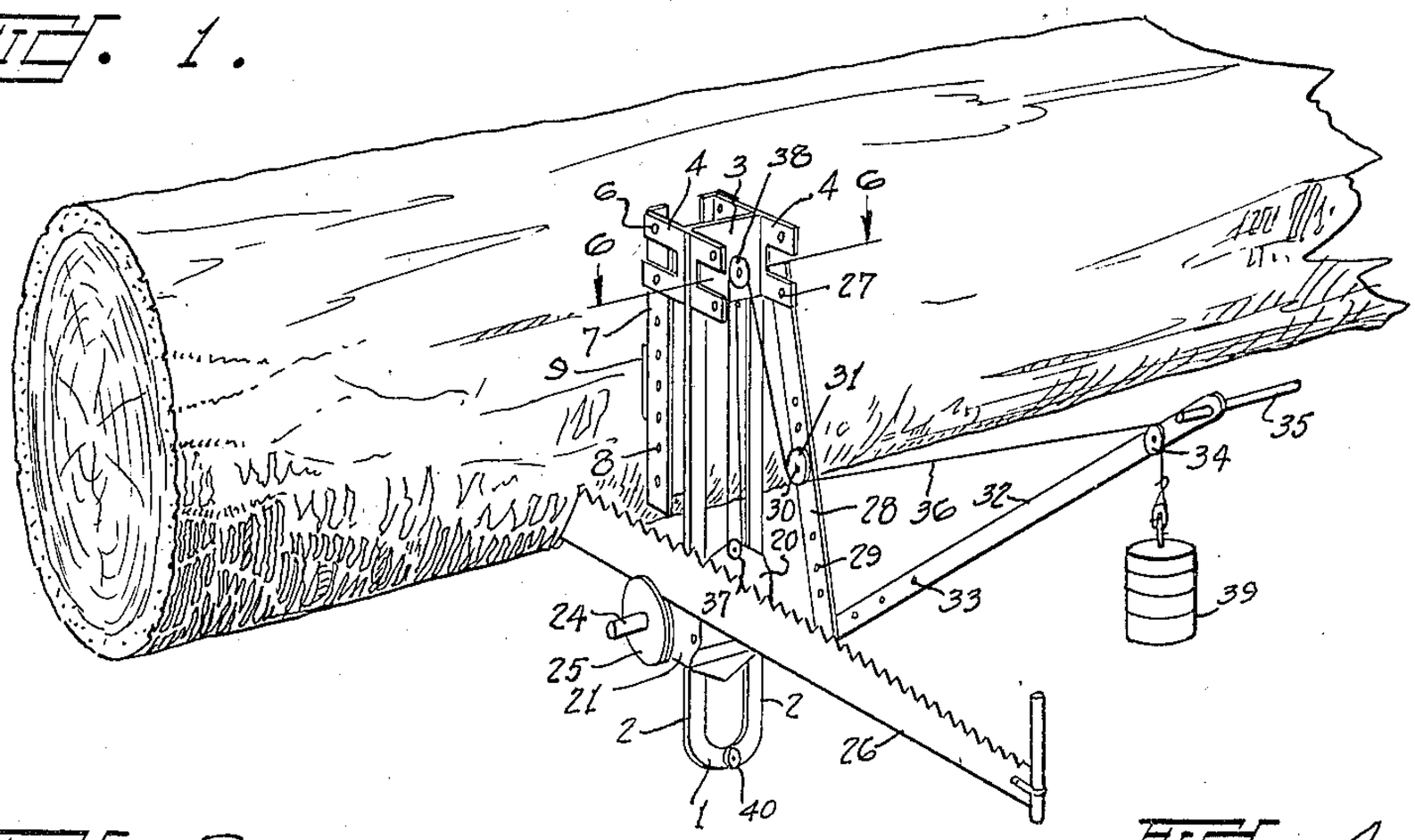


FIG. 2.

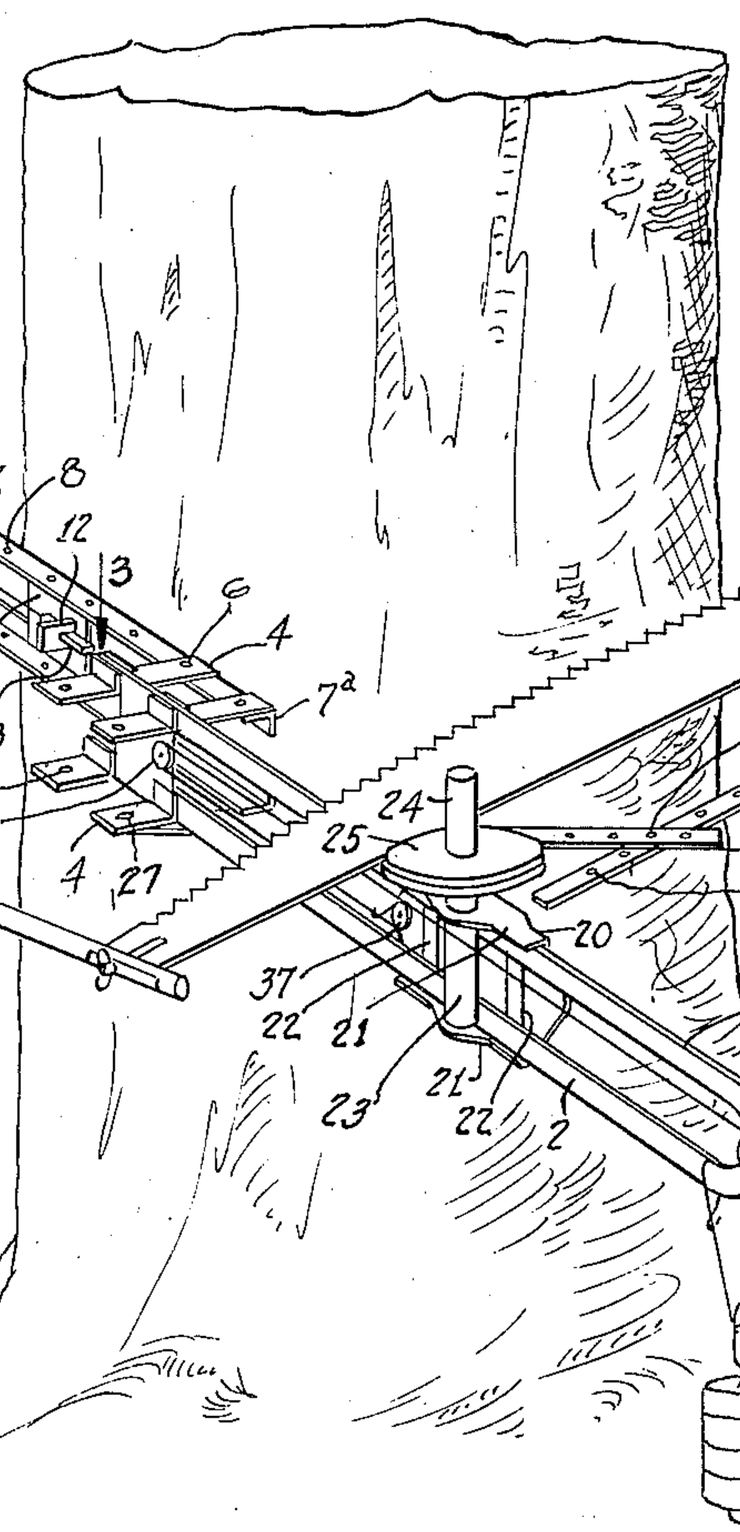


FIG. 4.

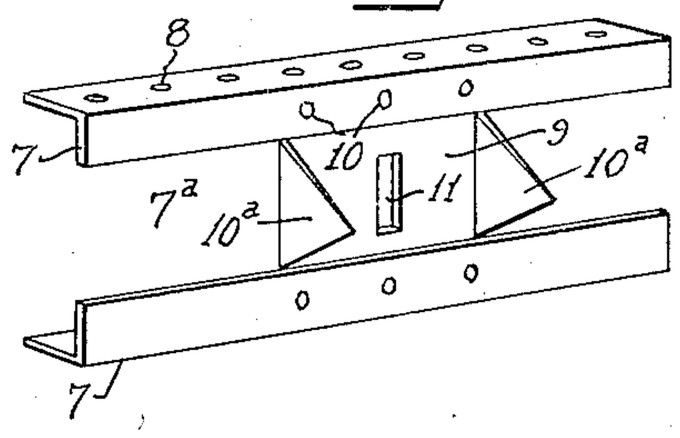
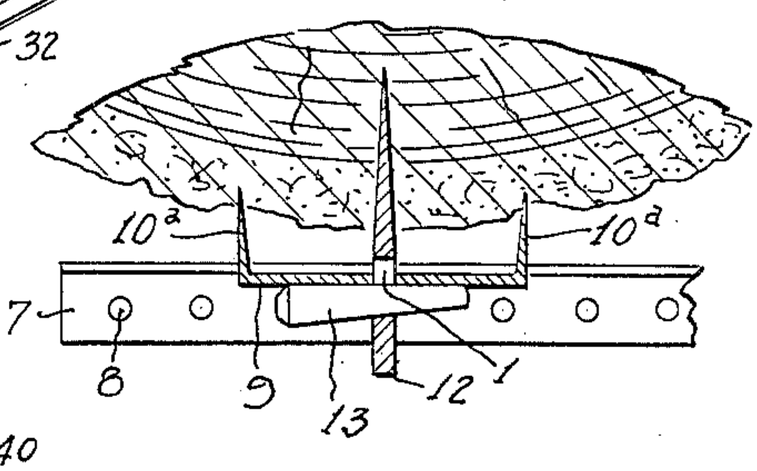


FIG. 3.



INVENTOR
JOSEPH. F. OLSON
BY David E Loggren
ATTORNEY

Aug. 2, 1938. J. F. OLSON 2,125,395

MEANS FOR MOUNTING AND SUPPORTIMG A SAW

Filed Dec. 27, 1937 2 Sheets-Sheet 2

FIG. 5.

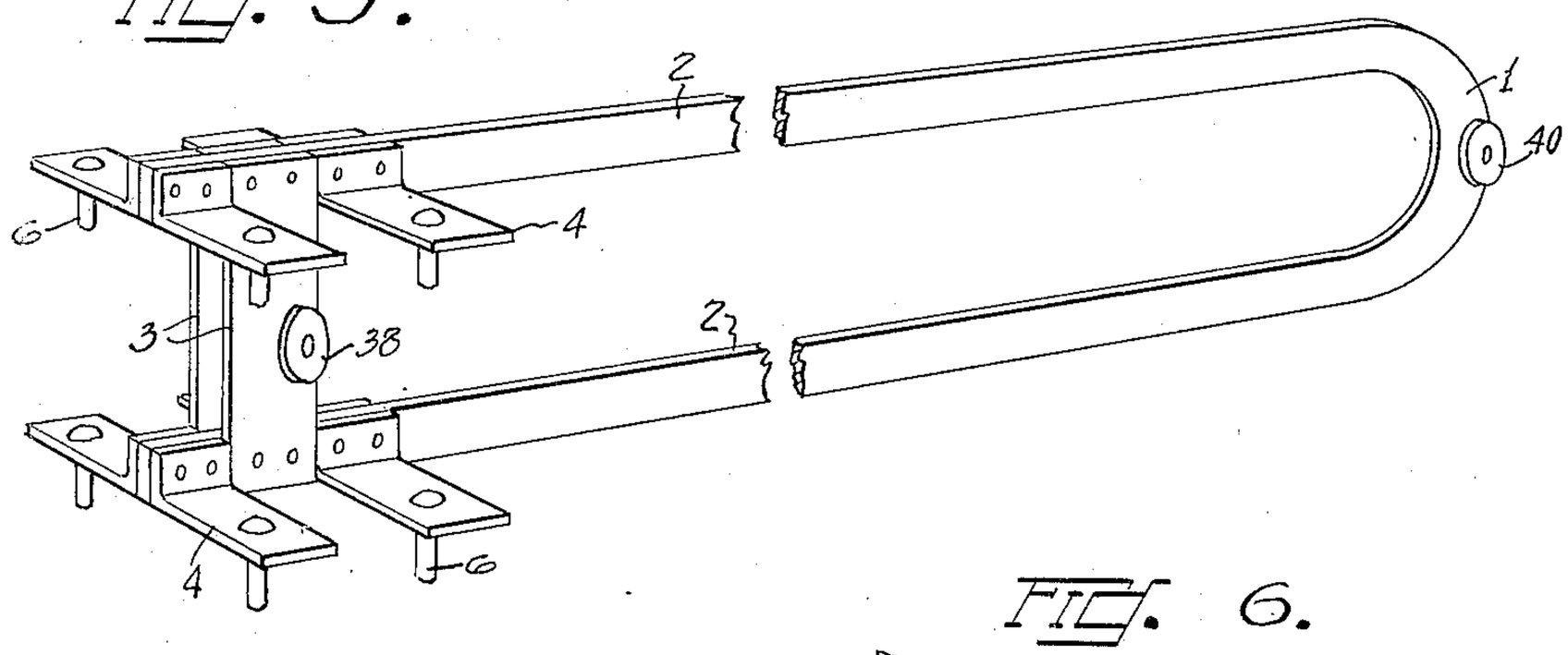


FIG. 7.

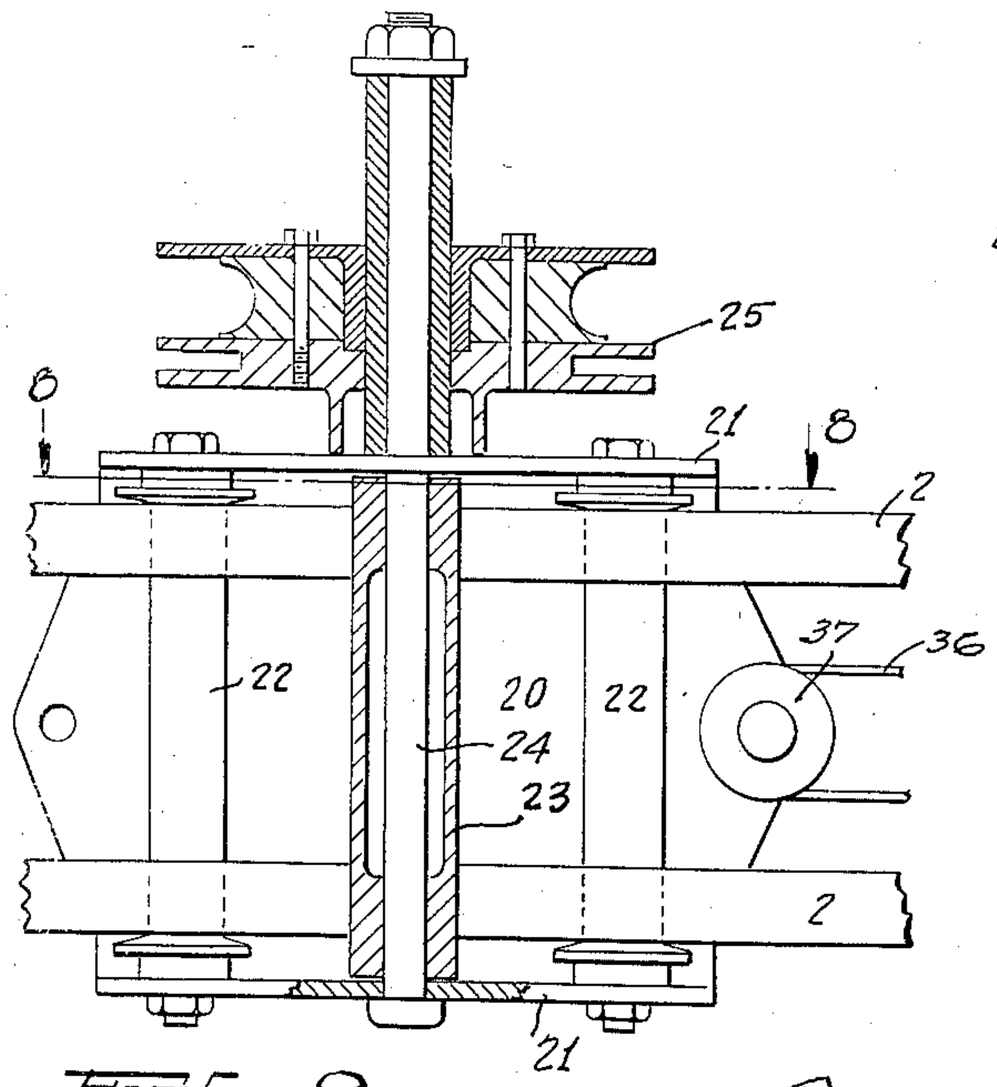


FIG. 9.

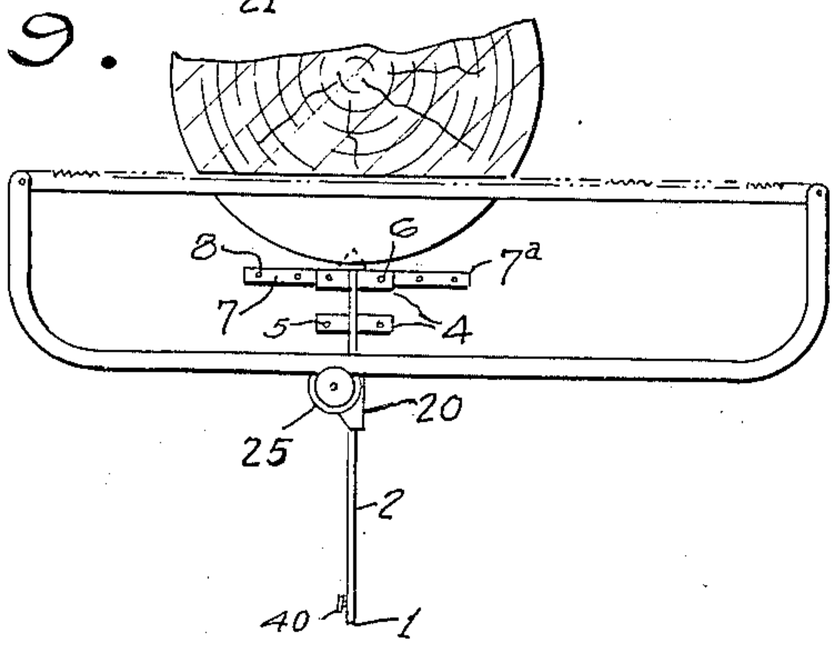


FIG. 6.

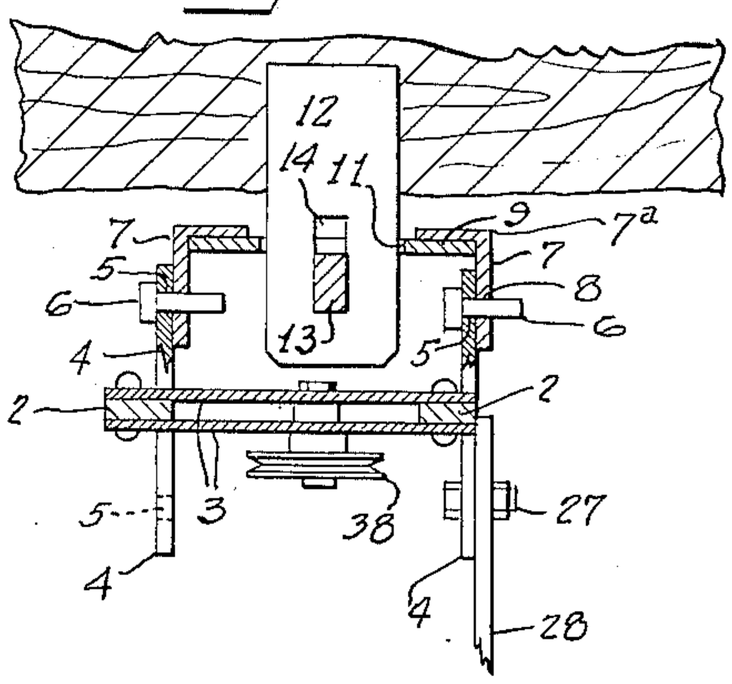
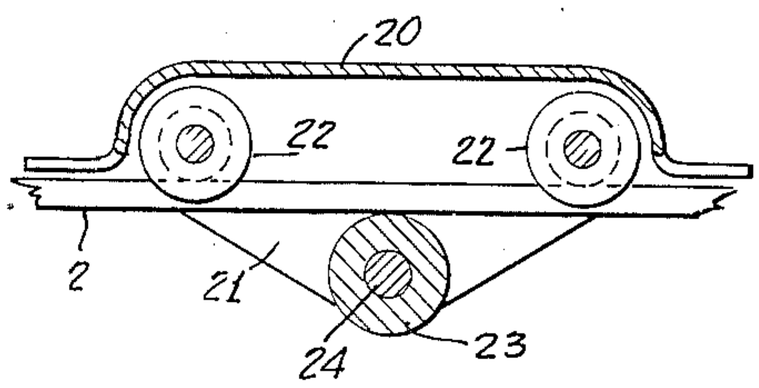


FIG. 8.



INVENTOR
JOSEPH F. OLSON
BY Harold E Loggren
ATTORNEY

Patented Aug. 2, 1938 2,125,395

UNITED STATES PATENT OFFICE

2,125,395

MEANS FOR MOUNTING AND SUPPORTING A SAW

Joseph F. Olson, Portland, Oreg.

Application December 27, 1937, Serial No. 181,861

4 Claims. (Cl. 143—163)

This invention relates to improvements in saws, and more particularly to the means employed for mounting and supporting the saw.

The prime object of the invention is to provide a construction and arrangement of parts to readily and conveniently permit of mounting and positioning the saw on a log for performing various operations under varying conditions.

The invention also relates to specific improvements in the frame on which the saw per se is mounted, whereby the position of the saw can, with little effort, be changed to accommodate log conditions.

The construction is such that the mounting can be adjusted to meet various sawing conditions as will be hereinafter described.

In the drawings:

Fig. 1 is a perspective view illustrating a saw positioned to undercut a log.

Fig. 2 is a similar view illustrating a saw positioned to cut a standing log.

Fig. 3 is a detail section on the line 3—3 of Fig. 2.

Fig. 4 is a detail perspective view of the supporting bracket.

Fig. 5 is a detail perspective view of the carriage.

Fig. 6 is a detail section on the line 6—6 of Fig. 1.

Fig. 7 is a detail elevation partially in section of the saw carriage.

Fig. 8 is a detail section on the line 8—8 of Fig. 7.

Fig. 9 is a diagrammatic view illustrating the invention as used in connection with a frame saw.

1 indicates a frame comprising a U-shape member, the legs 2—2 of which are connected near their free ends by parallel connecting plates 3—3. Secured to the legs 2—2 adjacent the connecting plates are angle irons 4, each of which near its free end is provided with an opening 5. The free ends of the angle irons are secured by bolts 6—6 to parallel angle bars 7—7 of a bracket 7^a, said bars having a series of openings 8. A plate 9 is secured by bolts 10 to the angle bars 7—7, the plate being formed with prongs 10^a to be driven into a log. The plate is further provided with a slot 11, through which a wedge 12 may be driven into a log, the wedge being secured to the bracket when in use by a second wedge 13 passing through a slot 14 formed in the second mentioned wedge, as best shown in Figs. 3 and 6.

20 indicates a carriage comprising a base from opposite sides of which extend flanges 21, which embrace the legs 2 of the U-shape member of the frame 1. Mounted in the flanges 21 are rollers 22, and intermediate and in advance of rollers 22 is a third roller 23, mounted on a spindle 24. These rollers are so positioned with reference to each other as to form a guide for the legs 2 of the U-shape member, as best shown in Figs. 7 and 8.

A grooved pulley 25 is mounted on the spindle 24, against which the saw 26 rests when in operation, the saw fitting in the groove and holding it in operative position.

Pivotally mounted at 27 to one of the angle irons 4 is a lever 28 formed with a series of openings 29, through one of which passes a bolt 30 carrying a pulley 31. Pivoted to the free end of lever 28 is a second lever 32, formed with a series of openings 33 and provided near its free end with a pulley 34 and a handle 35. A cable 36 is attached to one of the plates 3 and thence passes around a pulley 37, mounted on the carriage 20, thence around a pulley 38 on one of the plates 3, thence over pulley 31 and around pulley 34 and at its free end is a weight 39.

When sawing a log from the underside, as shown in Fig. 1, the angle irons 4 are connected to the parallel angle bars 7—7 of the bracket by the bolts 6, the prongs 10^a of the plate 9 being driven into the log and the wedge 12 driven in, and the second wedge put in place to hold the frame in position on the log.

The saw is placed in contact with the pulley 25 and the carriage 20 depressed against the influence of the weight 39, the edge of the saw with the teeth, of course, being passed under the log.

In depressing the carriage to operatively position the saw, and as the sawing operation continues, the cable, levers, and weight arrangement act as a counterbalance and at the same time sufficient pressure on the saw against the log is maintained. The operator, through the handle 35, may control the extent of pressure of the saw on the work.

In sawing a standing log, the mounting of the frame is somewhat differently arranged than that required when sawing a horizontally disposed log.

To meet this contingency, the U-shape element is reversed with reference to its position with the parallel angle bars 7—7 of the bracket, as best shown in Fig. 2. The legs 2—2 of the U-shape element extend outwardly from the angle bars 7—7 and are bolted to the angle irons 4—4 in the

same manner as hereinbefore described. However, the counter-balancing weight is differently arranged. That is, the levers **28** and **32** are dispensed with and the end of the cable is anchored to the carriage instead of the plates **2**. The cable then passes around pulley **38**, thence around a pulley **40** on the outer end of the U-shape element, thence around a pulley mounted on the weight and the end being anchored on one of the legs **2**.

The frame is secured to the standing tree in exactly the same manner as previously described, except in lieu of it being vertical, it is horizontally disposed.

When the parts are thus arranged, the saw is placed against the tree with its edge engaging the grooved pulley **25**, and as the saw works itself into the tree, the weight exerts a pull on the carriage and constantly feeds the saw in its cutting operation.

Fig. 9 illustrates the application of the invention to a log when a frame saw is used. In this instance, the angle bars **7—7** are arranged at right angle to the U-shape member **1**, this adjustment being possible through the medium of the bolts and openings. Obviously when the parts are thus arranged, the frame will not interfere with the free movement of the saw in its cutting operation.

The invention described is capable of easy and convenient handling to adjust it to varying sawing conditions, and because of the arrangement of the various features, the structure is light and can be applied with little assistance.

What I claim is:

1. In combination, a bracket, comprising parallel bars, a plate connecting the parallel bars, the ends of the plate being sharpened and bent at right angle to form outwardly extended prongs, a U-shape element, a pair of plates connecting the legs of the U-shape element, angle irons secured to the legs adjacent to said second-mentioned plates and extending outwardly therefrom, means securing oppositely disposed angle irons to the parallel bars of the bracket, a carriage slidably mounted on the U-shape element, a grooved pulley mounted on the carriage to guide a saw, a cable and weight for advancing the carriage and saw toward a log being cut.

2. In combination, a bracket, comprising parallel bars, a plate connecting the parallel bars, the ends of the plate being sharpened and bent at right angle to form outwardly extended prongs, a U-shape element, a pair of plates connecting the legs of the U-shape element, angle irons secured to the legs adjacent to said second-mentioned plates and extending outwardly therefrom, means securing oppositely disposed angle irons to the parallel bars of the bracket, a carriage slidably mounted on the U-shape element, a grooved pulley mounted on the carriage to guide a saw, a lever pivoted to one of the angle irons, a pulley pivoted to said lever, a second lever pivoted to the first-mentioned lever, a pulley near the outer end of the second-mentioned lever, a pulley on one of the plates, a pulley on the carriage, a cable anchored to one of the plates and passed around the pulleys, and a weight at the end of the cable whereby to feed the saw to a log.

3. In combination, a bracket comprising a pair of angle bars, a plate connecting the angle bars, means carried by the plate to anchor the bracket to a log, a U-shape member supported on the angle bars, a carriage slidably mounted on the U-shape member, a pair of rollers mounted on the carriage against which the U-shape member bears, a third roller intermediate of and out of alignment with the first-mentioned rollers and against which the opposite side of the U-shape member bears, a grooved pulley mounted on and located beyond the carriage to receive and guide a saw, and a cable and weight acting on the carriage to feed the saw in a sawing operation.

4. In combination, a bracket, comprising parallel angle bars, a centrally disposed plate connecting the angle bars, said plate having outwardly extended prongs, a slot formed in the center of the plate, a wedge fitted in the slot, said wedge having an opening, a second wedge in the opening which binds against one wall thereof and the face of the plate, a frame supported by the bracket, a carriage slidably mounted on the frame, a grooved pulley mounted on the carriage with which a saw engages, and a cable and weight to draw the carriage and saw toward a log being cut.

JOSEPH F. OLSON.