Sept. 24, 1957 G. GELINAS 2,807,292

PORTABLE SELF-POWERED WOOD SAW

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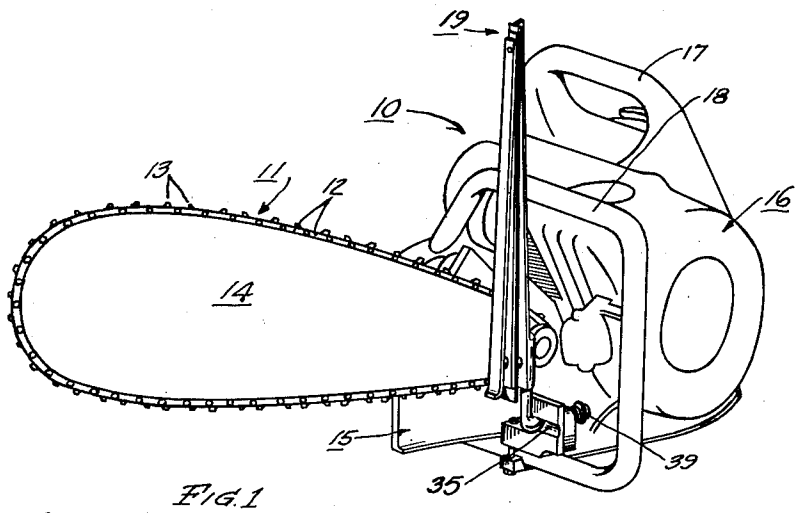


FIG. 1

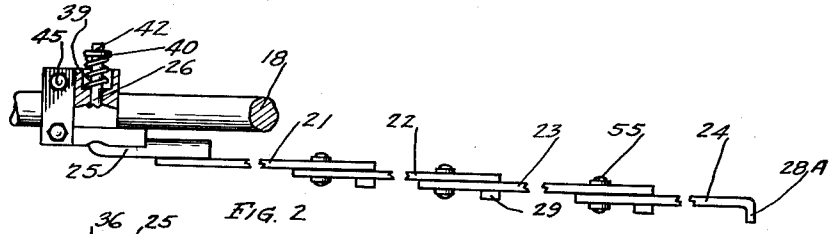


FIG. 2

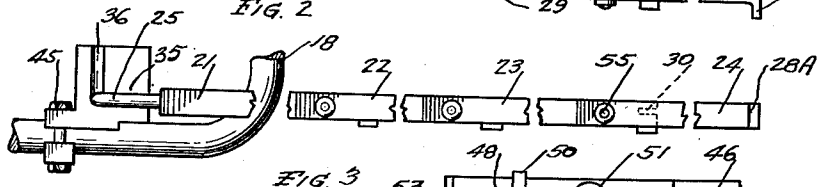


FIG. 3

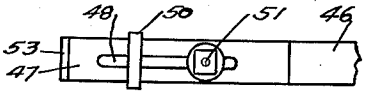


FIG. 5

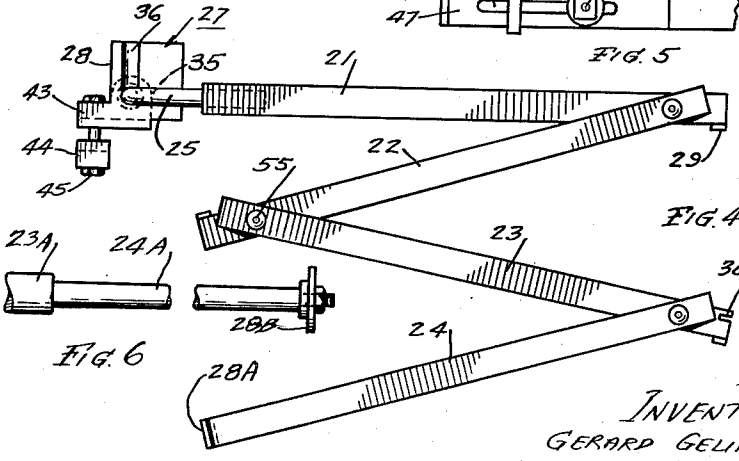


FIG. 4

FIG. 6

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PORTABLE SELF-POWERED WOOD SAW

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6 Claims. (Cl. 143—32)

This invention relates to a combined saw and gage.

More particularly, the invention relates to a portable, self-powered wood saw with folding measuring rule.

Wood for the pulp industry is supplied in the form of logs of a predetermined length. The trees are first felled by saws, and the felled trees are then cut into logs of the predetermined length.

The practice is that the man felling the tree also cuts the felled tree into logs, using a portable folding rule carried in his pocket for measuring the intended length of the log. He often loses the rule, with the consequence that he measures the intended length with improvised means but more often merely guesses or estimates the intended length with his eye.

As the wood cutter is paid by the cord, and as logs appreciably over the required length may not be utilized unless cut down to proper length, it follows that it is important that the logs be as near the predetermined length as possible.

With the almost universal practice of cutting the felled trees into logs by means of self-powered saws, which reduces the cutting operation to a mere matter of seconds, any of the operator's time which is not actually devoted to the cutting of logs from the felled trees is a serious loss of production. Therefore, it is important, both from the standpoint of the operator and of the industry, which for good economy requires as large an output of logs as possible during the winter season, that as much of the operator's time as possible be devoted to the actual cutting of the felled trees into logs.

Therefore, it is the primary object of this invention to provide a portable, self-powered cutting saw with a foldable rule which not only is attached to the saw but can be easily extended for the purpose of measuring the proper log length and subsequently as easily folded when the saw is to be used to fell trees.

Another object of the invention is to provide a folding and extendable rule, as a unit, which is easily and readily attachable to most conventional portable, self-powered wood cutting saws now on the market and extensively used in the wood cutting industry.

Another specific object of the invention is to design such a rule of pivotally connected sections, which retain their aligned relationship when the rule is extended into operative, measuring position.

In the drawing, wherein is shown the preferred form of the invention,

Figure 1 is a perspective, and to some extent diagrammatic, view of the invention;

Figure 2 is a fragmentary front elevation of Figure 1, showing the rule in its extended position;

Figure 3 is a plan view of Figure 2;

Figure 4 is a view similar to Figure 2, on an enlarged scale, but showing the rule in partly extended position;

Figure 5 is a fragmentary view of Figure 4, showing a modified form of the outer section; and,

Figure 6 shows a modified form of the rule proper.

Referring now by numerals to the drawing, **10** indicates a conventional saw, which includes a cutting element in the form of an endless chain **11** made of pivotally-connected links **12**, some of which carry cutting teeth **13**. The chain is trained around a guide in the form of a flat plate or member **14** extending from a frame **15** which carries the power plant **16**. Such a power plant, as is well known, includes an internal combustion engine which drives the chain saw.

The casing of the engine is formed with a handle **17**. Rigidly secured to the frame is a second handle, in the form of a pipe **18** substantially rectangular in form. The handle **18** lies in a plane at right angles to the plane of the chain saw, and a substantial part of the chain saw extends forwardly of the frame so that the saw may be used to cut a tree of as large a diameter as possible.

Detachably secured to the saw, more particularly to the pipe forming the handle **18**, is a rule, shown in its entirety as **19**.

The rule proper is made of a number of sections (four are shown in the drawing) **21**, **22**, **23**, **24**. **21** is the innermost section and **24**, the outermost section. The sections are pivotally connected together as at and by rivets **55**. Preferably, washers **26** are used between the heads of the rivets and the overlying sections which such rivets pivotally connect.

The section **21** is secured, as say by welding, to one leg **25** of an L-shaped member, the other leg **26** of which lies at right angles to the longitudinal axis of the leg **25** and serves as a shaft which is journalled in a block or bearing **27** (to be referred to).

The outer ends of the sections **21**, **22**, and **23** (by "outer end" is meant the end remote from bearing **27**) are provided with extensions or lugs **29**. Such lugs are disposed outwardly of the rivets and serve to hold or retain all four sections in straight, aligned relationship when the rule is in its intended extended, operative position.

The bearing **27** is formed with a body portion **28** bored to receive the leg portion **26** of the L-shaped member, so that the rule may be bodily rotated on the axis of the bore. One end (the front end) of the body is formed with a flange **32** disposed in a plane at right angles to the axis of the bore. The flange may be substantially square as seen in elevation (see Figure 3). The forward face of the flange **32** is formed with two right-angularly directed, intercommunicating recesses **35** and **36**, adapted alternatively to receive the leg member **25** of the L-shaped member, the recesses thus serving to locate the L-shaped member in two positions bearing an angle of 90° to one another.

The leg member **25** is retained in one or the other of the two recesses by means of a coil spring **39** tensioned between the body of the bracket **27** and a washer **40** bearing against a cotter pin **42** passed through the leg member **26**.

The bracket is formed with an inwardly extending flange **43** provided with apertures.

The bracket **27** is attached to the lower horizontal leg portion of the handle **18** by means of a clamping bar **44** bolted to the flange **43** as by bolts **45**, the flange and the clamping bar engaging opposite sides of the pipe.

The outer end of section **24** is formed with a lateral, right-angularly directed extension or lug **28A**. The lug is directed in a direction away from the power plant, and is adapted to be substantially parallel with the plane of the saw guide **14** when the rule is in its operative, extended position. The lug is adapted to engage the end of a log and serves as datum for positioning the saw blade so that the required or intended length of log will be cut.

The outer edge of the third section **23** is formed with a notch **30** directed lengthwise of the section and adapted

to receive the lug **29** of the section **21** when the sections are in folded position, as in Figure 1. To so releasably lock the section **23** to the section **21**, the sections are slightly sprung out so that the lug may be presented lengthwise to the notch.

In Figure 5 is shown a modified form of the section **24**. As shown, the section, **24A**, comprises two overlapping bars **46** and **47** relatively adjustable lengthwise, in effect to vary the effective length of the section. The bar or member **47** is formed with an elongate slot **48** running lengthwise thereof. The bar **47** is slidable in a guide **50** rising from the outer end of the bar **46**. A bolt **51**, anchored in the bar **46**, extends through the slot, and the bolt and the guide **50** serve to retain both bars in alignment. The bolt also serves releasably to lock both bars in a predetermined relative longitudinal position. The outer end of the bar **47** is formed with a log-engaging lug or finger **53** such as the lug **28A** of the section **24**.

In Figure 6 is shown a slightly modified form of the invention, wherein the rule proper is composed of relatively telescopable tubular (circular) sections of conventional type such as are used for instance, in tubular multisection fishing rods, rather than of articulated or pivotally-connected members. In such a construction, the tubular sections are slightly tapered, and means are provided for determining and fixing the position of the relatively-telescopable sections in one direction as when the composite rule is fully extended.

The innermost section (not shown) is secured say, by welding, to the leg **25** of the L-shaped member aforesaid, while the outermost section, **24A** is provided with means to engage the end of the felled tree to serve the purpose served by the lug **28A** aforesaid.

As shown, this means may be a disc **28B** suitably secured to the outer end of the section **24A**.

I claim:

1. In combination with a portable self-powered saw device for felling trees and for cutting the trees into logs of a predetermined length, said saw device including an endless chain saw and a guide therefor; a multi-section articulated extendable rule including at least one inner section and an outer section, means for retaining the sections of said rule in substantially lengthwise alignment when said rule has been extended, a stop adjacent the outer end of said outer section adapted to engage the end of a felled tree when said rule is extended and is presented substantially lengthwise of the tree to measure the length of the log to be cut from the tree; and means for selectively retaining said inner section on said saw device in a selected one of two substantially right-angular positions one of which is substantially at right angles to the plane of said guide.

2. In combination with a portable self-powered saw device for felling trees and for cutting the felled trees into logs of a predetermined length, said saw device including an endless chain saw and a guide therefor; a plurality of substantially straight sections, including an inner section and outer section, pivotally connected together end to end to form an extendable rule, means on said sections respectively engageable by an adjacent section when said rule is extended for retaining said sections in substantially longitudinal alignment, a stop adjacent the outer end of said outer section adapted to engage the end of the felled tree when said rule is extended and is presented substantially lengthwise of the tree to measure the length of the log to be cut from the tree; and means for selectively retaining said inner section on said saw device in a selected one of two substantially right-angular positions one of which is substantially at right angles to the plane of said guide.

3. In combination with a portable self-powered saw device for cutting trees and for cutting the felled trees into logs of a predetermined length, said saw device including an endless chain saw, a guide therefor, and a frame; a bearing adapted to be detachably secured to said frame in

laterally spaced relationship to the plane of said guide; a plurality of substantially straight sections, including an inner section and an outer section, pivotally connected together end to end to form an extendable rule, means on said sections respectively engageable by an adjacent section when said rule is extended for retaining said sections substantially in longitudinal alignment, a stop adjacent the outer end of said outer section adapted to engage the end of the felled tree when said rule has been extended and is presented substantially lengthwise of the tree to measure the length of the log to be cut from the tree, and a member secured adjacent the inner end of said inner section having a portion journalled in said bearing adapted to permit rotation of said inner section in a plane substantially at right angles to the plane of said guide, and means on said bearing releasably locking said inner section in two substantially right-angularly related positions one of which is substantially at right angles to the plane of said guide.

4. For use in combination with a portable self-powered saw device for felling trees and for cutting the trees into logs, said saw device including a frame; an extendable rule comprising a plurality of substantially straight sections, including an inner section and an outer section, pivotally connected together end to end to form a rule, lugs on said sections respectively engageable by an adjacent section to retain said sections in alignment when said rule is extended, a stop adjacent the outer end of said outer section adapted to engage the end of the felled tree to measure the length of the log to be cut from the tree, a member secured to and adjacent the inner end of said inner member including a journal portion disposed at right angles to the length of the longitudinal axis of said inner section, a bearing on said saw device in which said journal portion is rotatably supported, co-operating means on said bearing and on said journal portion for releasably locking said inner section in two substantially right-angular positions, and means for securing said bearing to said frame.

5. In combination with a portable self-powered saw device for felling trees and for cutting the felled trees into logs of a predetermined length, said saw device including an endless chain saw and a guide therefor; a rule comprising a plurality of sections relatively movable effectively to extend the rule to operative measuring position from a collapsed, inoperative position, said sections including an inner section and an outer section, a stop adjacent the outer end of said outer section adapted to engage the end of a felled tree when said rule is in extended, operative position and is presented substantially lengthwise of the tree to measure the length of the log to be cut from the tree; and means for selectively retaining said inner section on said saw device in a selected one of two substantially right-angular positions one of which is substantially at right angles to the plane of said guide.

6. In combination with a portable self-powered saw device for felling trees and for cutting the trees into logs of a predetermined length, said saw device including an endless chain saw and a guide therefor; a multi-section telescopic rule including at least an inner section and an outer section, a stop adjacent the outer end of said outer section adapted to engage the end of a felled tree when said rule is extended and is presented substantially lengthwise of the log to be cut from the tree, and means for selectively retaining said inner section on said saw device in a selected one of two substantially right-angular positions one of which is substantially at right angles to the plane of said guide.

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