Aug. 27, 1963 M. P. WALTERS 3,101,539

BRANCH TRIMMING TOOL

Filed Nov. 29, 1960

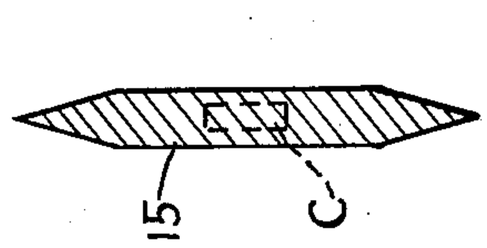

Fig. 5

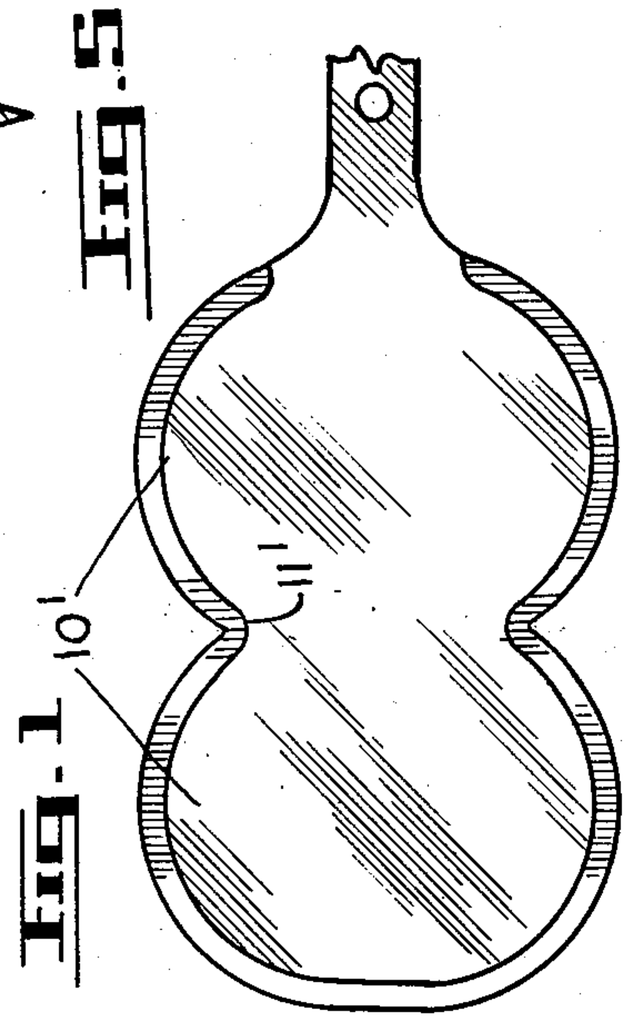

Fig. 4

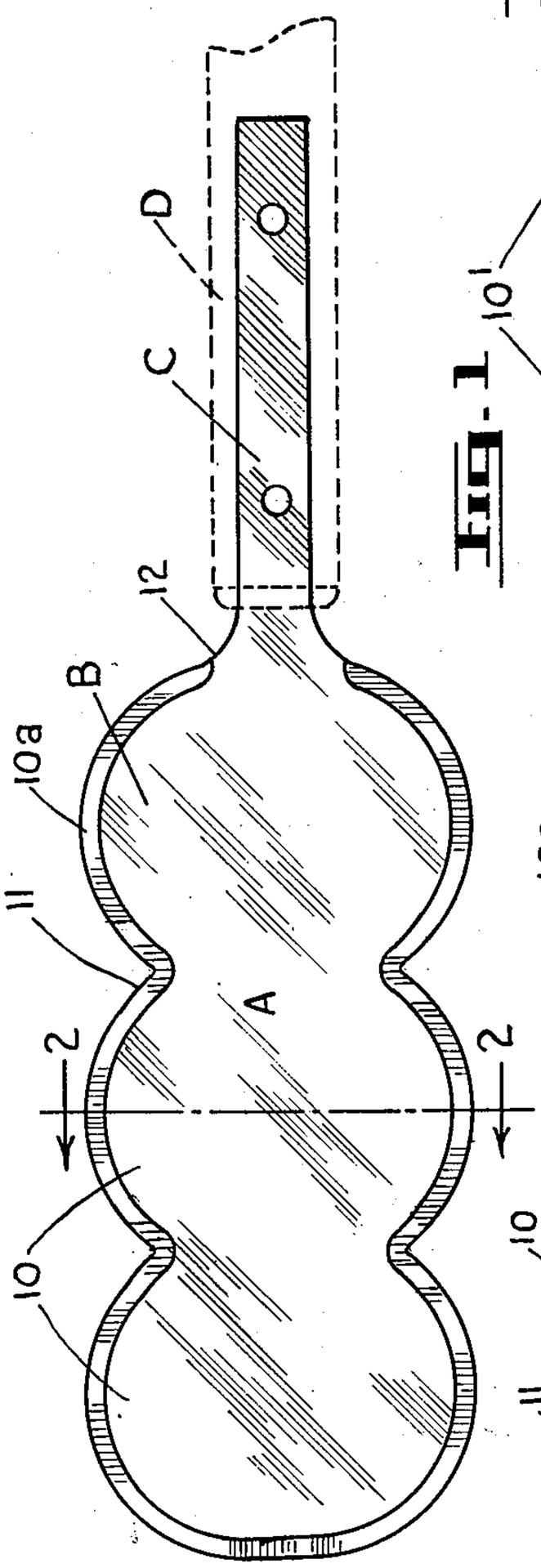

Fig. 1

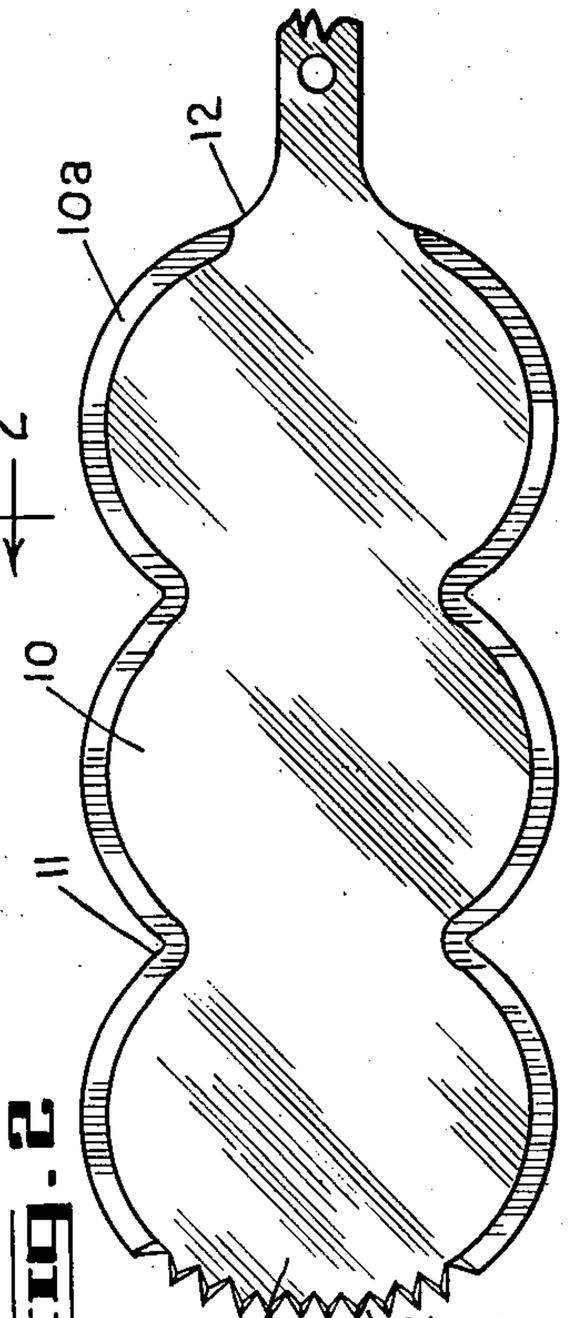

Fig. 3

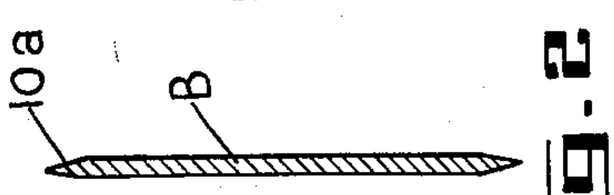

Fig. 2

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BRANCH TRIMMING TOOL

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My invention relates to slashers adapted to be used on standing timber or on felled timber to strip or cut the smaller branches on the trunk of a tree.

I am aware that slashers in the form usually known as hedge knives have been used heretofore, but these consist of a straight bladed knife with a handle attached to one end but such a slasher is totally unsuited for the work which my slasher is primarily designed to perform.

With these straight bladed slashers the cutting edge penetrates the branch, and the cutting or penetration of the blade into the branch is resisted increasingly from the periphery to the centre of the branch, so that most of the energy of the person using such slashers is not efficiently used and is in part nullified or partially expended before the centre of a branch is reached in the cutting stroke, so resulting in several successive strokes having to be made to sever the branch from the trunk of the tree.

Moreover these old straight bladed slashers are not effective when stripping the lower end of standing timber as the direction of the blow must be imparted a right angles across the branch to be cut, and this type of use of the slasher is extremely tiring to the user of the implement.

I have come to the conclusion that the most effective manner in which a branch may be cut from standing or felled timber is to make a circular or arcuate incision in the bark around the greater part of the branch thereby severing the heavier tough fibres of the branch which are located adjacent to the bark.

Occasionally it may be necessary to give a second stroke of the slasher to completely sever the branch, and this blow is imparted on the return stroke of the slasher.

In the use of a slasher the blade is swung backwards and forwards in a more or less pendulum-like manner, and this is the most effective way of wielding a slasher without unduly tiring the person who is using the slasher.

To fabricate the slasher to accomplish an effective cutting or stripping of branches from a tree trunk I have found that the blade should be constructed with a central zone of comparative thickness, and possibly two feet in length from which the tang of the blade extends in longitudinal alignment so permitting the tang to be riveted or otherwise secured to a handle.

Further the central portion of the blade is formed with projecting edges of comparative width in the range of six to eight inches, and these projecting edges and the central portion of the blade are integral and lie in the same manner.

The balance of the slasher should be located within the central portion of the blade so permitting the blade to be swung with ease by a lumberman when engaged in slashing small branches of timber.

The projecting edges of the blade are formed with relatively large semi-circular or semi-elliptical or arcuate projections with convex edges which merge to form the cutting edge, so that the cutting edges are strong and durable. These circular edges must not be concave or hollow ground.

These semi-circular projections are spaced apart so that there is a recess between each pair of adjacent projections of approximately 60°.

It will be seen that the cutting edges on each side of the blades are sinuous, and as they pass over and contact the branches, a circular incision is made in the circumference of the branch due to the branch engaging the sinuous edge of the blade during the cutting stroke of the slasher.

The ends of the projecting edges which merge with the tang of the blade are also sharpened with a convex edge and the end of the blade opposite to the tang may be serrated to form a marking device.

When slashing smaller branches from standing timber the slashing stroke is naturally overhand and downward, so that the sinuous cutting edge of the blade engages the branches with which it comes in contact, and thus the circular incisions are made as the sinuous cutting edge of the blade is in contact with and travelling over the outer periphery of the branches with which the blade is in contact.

A woodsman of average height can trim or slash the lower branches of standing timber to a height of about nine feet from the ground. It will therefore, be understood that the centre of balance and of the impact of the blade with the branches should be located well within the central portion of the blade of the slasher.

The blade of my slashing tool is rigid throughout its length, and is of a thickness and size to maintain such rigidity when in use, or in other words the blade is not flexible and will not yield or be deflected by a branch during a cutting stroke of the slasher, so that the efficiency of my slashing device is very high, and it is of a weight which is easily wielded by an operator.

So that the nature of my invention will be clearly understood, I have illustrated an embodiment of the same which I shall describe in detail, but it will be understood that I provide a plurality of cutting projections on the longitudinal edges of the knife, and although I have found that three projections on each cutting edge give excellent results, nevertheless I may use four or more projections if I find it is desirable so to do.

Reference is now made to the accompanying drawings, in which:

FIGURE 1 is a side elevation of my improved slasher showing the sinuous cutting edges, and the tang inserted in and secured to the handle of the slasher;

FIGURE 2 is a sectional view of the cutting blade taken on the line 2—2 of FIGURE 1;

FIGURE 3 is a view of my slasher similar to FIGURE 1, having the end remote from the handle formed with a saw tooth edge for marking lengths for cutting;

FIGURE 4 is a view of the slasher similar to FIGURE 1, showing a further modification, and

FIGURE 5 is a sectional view of the cutting blade similar to FIGURE 2 showing a modification.

Like characters of reference refer to like parts in the several figures of the drawings.

Referring to the drawings, A represents my improved slashing device comprising a blade B formed with a flat integral tang C which extends into and is secured to a handle D by any suitable means. If desired the handle may be formed integrally with the blade B.

The blade B is preferably drop forged, and formed of high quality steel, or any other similar high quality material as desired, or may be pressed or shaped from a rectangular plate of such material, and the two longitudinal marginal portions of the plate are formed with a plurality of equidistantly spaced arcuate projections **10**, the conformation of the said projections being formed by the convergence of two overlapping circles, thus forming V-shaped spaces between the projections as shown at **11**, with the apex of each V being slightly rounded, and in which the angle of the V may vary from approximately 50 to 70 degrees depending on the type of work for which the tool is designed, and the size of the blade, whether for light or heavy work.

From one end of the blade B a flat tang C extends, and

this tang lies in the plane of the blade B and is formed integral therewith. The lateral edges 12 of the tang adjacent the blade B flare outwardly and merge into the peripheral wall of the adjacent arcuate projection 10, and these flared edges, and the marginal portions of the arcuate projections 10 are ground to form a continuous cutting edge 10*a*.

It should be noted that the front and back walls of these marginal portions of the projections 10 are shown slightly convex in cross section, so that a very strong and durable cutting edge is formed on the projections, though I may form the cutting edge on one side only of the blade if desired.

In the modification shown in FIGURE 3, the end of the blade B remote from the tang C is slightly arcuate, as shown at 13, and formed with a plurality of serrations 14 which may be used as a marking device.

In FIGURE 4, a lighter type of slasher is shown having two arcuate projections 10′ with V-shaped spaces 11′.

In the modification shown in FIGURE 5, the centre part of the blade is thickened, as shown at 15, and tapers towards the outer edge in a similar conformation to that of a broad axe.

Without further detailed description it will be seen that I have provided a slashing tool which is of simple construction, and efficient in use, is economical to manufacture, and is rugged and designed to withstand rough usage.

Other changes and modifications in the form and

relative parts which will be apparent to those skilled in the art may be made without departing from the spirit and scope of the invention as set forth in the appended claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

I claim:

1. A branch trimming tool comprising an elongated rigid flat metal blade of reduced width at one end to form a tang extending in alinement with the longitudinal axis of the blade, the opposed longitudinal edges of said blade being disposed in parallel relation and formed with a series of relatively long arcuate projections in the same plane as the blade, the adjoining ends of said projections being joined together at an angle of approximately 60° to form a continuous undulating edge which is tapered transversely to form a cutting edge.

2. A branch trimming tool as described in claim 1 wherein the end of said blade opposite to that of said tang has a curved cutting edge contiguous with the cutting edges along the longitudinal edges of said blade.

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