Aug. 9, 1927. 1,638,749

G. F. SANTOYO

PRUNING SAW

Filed Dec. 21, 1925

Fig. 1.

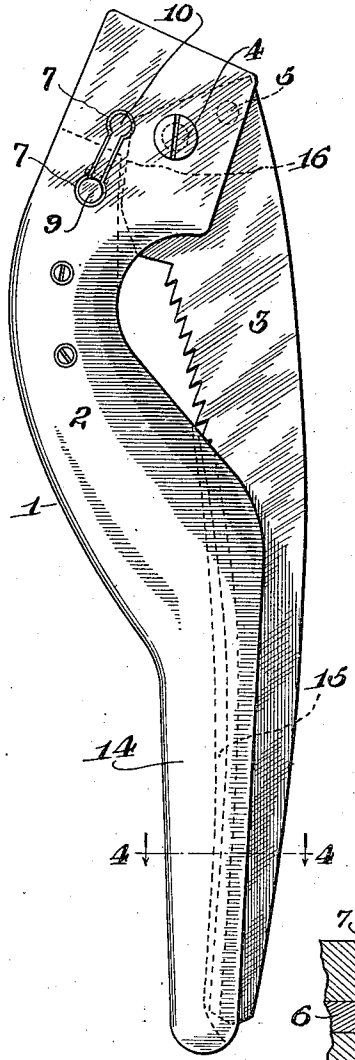


Fig. 2.

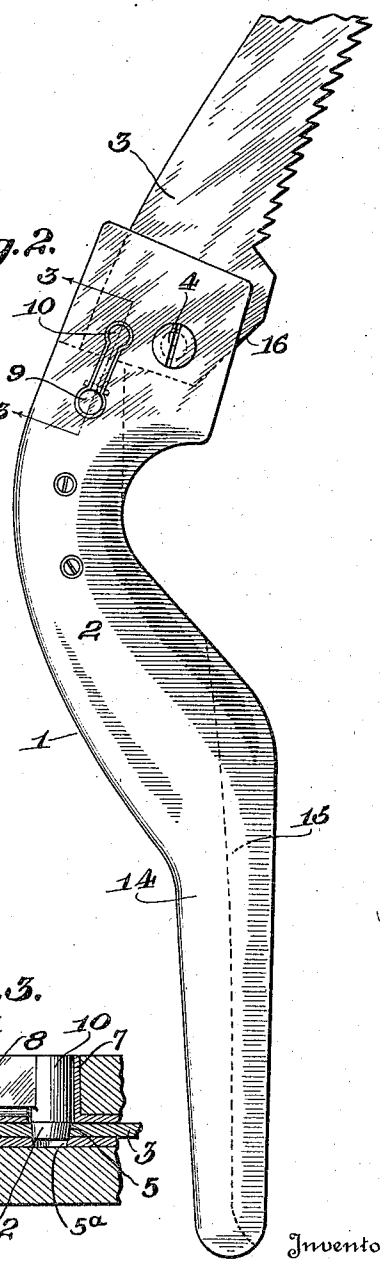


Fig. 3.

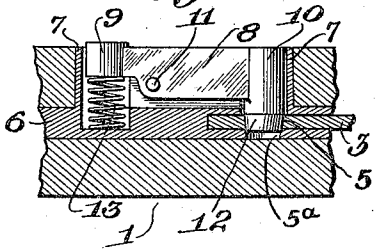
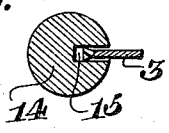


Fig. 4.



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UNITED STATES PATENT OFFICE.

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PRUNING SAW.

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This invention relates to improvements in pruning saws, having for an object to provide a novel form of handle for pruning saws, whereby the saw proper can be swung or folded into a closed position with respect to such handle, the toothed edge of the saw being effectually sheathed by the handle, hence, permitting the tool to be conveniently carried in the pocket of a user, without liability of cutting or tearing the clothing or flesh of such user, as well as rendering the device more compact during the period of non-usage.

It is an equally important object of the invention to provide a handle of the character mentioned so constructed as to provide a hand grip portion for the saw attached thereto in order that the same may be efficiently used, while another and elongated portion of the handle is extended and is adapted to afford a sheathing means for the saw toothed edge.

Another novel characteristic of the invention may be stated to reside in the provision of means for rigidly securing the pruning saw proper in its extended or operative position with respect to the handle therefor, such means being of a construction whereby they may be quickly and readily engaged with an adjacent portion of the saw proper to lock it in its extended or operative position and yet, when desired, may be disengaged from the saw proper with equal ease and facility in order that such saw may be swung to its closed or sheathed position with respect to the handle.

Other objects of the invention will be in part obvious and in part pointed out hereinafter.

In order that the invention and its mode of operation may be readily understood by persons skilled in the art, I have in the accompanying illustrative drawings, and in the detailed following description based thereon, set out one possible embodiment of the same.

In these drawings:

Figure 1 is a side elevation of the improved pruning saw and handle, wherein the saw proper is shown in folded or closed position,

Figure 2 is a similar view wherein the saw proper is in extended or operative position,

Figure 3 is an enlarged fragmentary detail in section taken on the line 3—3 of Figure 2, showing the novel form of locking means for retaining the saw proper in its extended or operative position with respect to the handle therefor, and

Figure 4 is a transverse detail in section taken on the line 4—4 of Figure 1, looking in the direction in which the arrows point, illustrating the manner in which the saw-toothed edge is received and sheathed in a portion of the handle.

Having more particular reference to the drawings in connection with which like characters of reference will designate corresponding parts throughout, the improved handle may be stated to comprise a body portion generally indicated herein by the numeral 1, said body portion being constructed of wood, metal, fibre or other suitable composition or material, such as conditions or preference may dictate, one portion of said handle being laterally offset and curved upon itself whereby to provide the handle with a highly efficient and desirable form of hand grip 2; the outer or free extremity of this offset or hand grip 2 being slit throughout its length as is clearly indicated in Figures 1 and 2 by dotted lines, whereby to permit of the arrangement of one end of a saw 3 therein, such pruning saw being provided with an opening in the adjacent or received end thereof in order that a pivot bolt 4 may be passed through a correspondingly formed opening in said free end of the hand grip 2 through the opening in the saw and then locked upon the reverse side of the hand grip whereby to prevent accidental or undue disengagement of the same from the saw. In this way, it is obvious that the pruning saw 3 will be pivotally connected to the split free end of the hand grip 2 of the handle and by consequence, that the same may be swung to one of the several positions, that is, to an open or operative position as shown in the Figure 2 and second, to a closed or inoperative position as is shown in the Figure 1, this latter position of the saw being such that the toothed edge thereof is sheathed in another portion of the handle which will be presently described.

With a view toward providing the pruning saw proper with means for locking the same in its operative or open position, another opening 5 is formed in one side of the pivotally connected end thereof and with swinging of such saw to its operative posi-

tion as shown in the Figure 2, the straight edge formed end thereof will abut the correspondingly formed shoulders upon the split free end of the hand grip 2 whereupon said opening 5 will be aligned with a correspondingly formed opening in one portion of said split end of the hand grip.

An elongated casing 6 is inset in one side of the outer portion of the hand grip 2, disposed longitudinally thereof as clearly indicated in the Figure 1, the opposite ends of this housing being circularly enlarged as indicated at 7, while a tapering opening 5a is formed in the inner end of the outermost enlarged end 7 as is shown in the Figure 3. A locking bolt 8 consisting of a body portion carrying circularly enlarged extremities 9 and 10, is mounted in the casing 6, which as will be noted, opens onto one side of the hand grip 2 and this locking bolt is pivoted transversely of itself as indicated at 11, the opposite ends, of course, being journaled in suitable bearings formed therefor in adjacent portions of the opposite side walls of the casing 6. The enlarged portion 10 constitutes the bolt proper of the locking bolt, one end thereof being extended and formed with a substantially frusto-conical portion 12 adapted to be passed through the opening formed in the bottom of the outermost enlarged end 7 of the casing 6 and into snug engagement with the opening 5 in the adjacent portion of the pruning saw 3, it being noted in this connection, that said opening 5 is tapered to correspond with the tapered peripheral portions of the extension 12. In this way, snug engagement of the extension 12 in the opening 5 will be at all times insured and by consequence, the handle 3 will be rigidly locked in its open position and furthermore, will be prevented from having movement with relation to the hand grip 2 during a sawing or pruning operation. The circularly enlarged end 9 of the locking bolt 8 is snugly received in the opposite circularly enlarged end 7 of the casing 6 and is retained in a normally extended position with respect to said end of the casing 6 through the medium of an expansible coil spring 13, one end of which has bearing upon the bottom of said circularly enlarged end 7 while the opposite end thereof has bearing upon the under side of said portion 9. In this way, it will be understood that the frusto-conical extension 12 upon the enlarged end 10, will be normally retained in its innermost or engaged position as respects the circularly enlarged end 7 of the casing 6 receiving it. Hence, with engagement of said frusto-conical extension 12 in the opening 5 of the pruning saw 3, accidental or undue disengagement of the same with said saw will be positively prevented, and furthermore, because of the tapering interfit as between the sides of the opening 5a and the sides of the extension 12, such locking connection will be positive and of a character to lend rigidity to the pruning saw 3, with respect to the hand grip 2.

In order that the saw toothed edge of the saw 3 may be effectually sheated by the improved handle with swinging of the same to that position as shown in the Figure 1, a portion of said handle is elongated or rather, is longitudinally extended as is indicated by the numeral 14, one side of this elongated or longitudinally extended portion 14 being formed with a longitudinally disposed sheathing groove 15, the outer end of which is curved upwardly and closed as is indicated in the Figures 1 and 2 while the inner end thereof opens onto the adjacent portion of the hand grip 2. This sheathing groove 15 is longitudinally aligned with the pruning saw 3 and therefore, with release of the locking bolt 8 from said saw, the same may be readily swung inwardly with respect to the handle and the saw tooth edge thereof sheathed or engaged in the groove 15. When in this sheathed and folded position, it will be understood that the pruning saw will be rendered much more compact and likewise, that the same may be conveniently carried by a user—for example, in the pocket of a user without liability of cutting the clothing or flesh adjacent thereto.

It is likewise of importance to note that with arrangement of the pruning saw 3 in folded or inoperative position as is shown in the Figure 1, the frusto-conical extension 12 upon the enlarged end 10 will have bearing upon an adjacent edge of the pruning saw 3 as illustrated in dotted lines in Figure 1. By consequence, it will be appreciated that the pruning saw 3 will be firmly retained in its closed position with respect to the extension 14, although when desired, the same may be swung to an open position merely by depressing enlarged end 9 of the locking bolt 8 against the tension of the coil spring 13 and retracting the frusto-conical extension 12 from said edge of the pruning saw designated by the numeral 16, allowing the saw to be freely swung to an open position.

It of course will be understood, that with swinging of the pruning saw 3 from a closed to an open position with respect to the handle 1 therefor, the frusto-conical extension 12 is moved to its outermost position by depressing the enlarged end 9 of the locking bolt 8, in the manner as above described, thus withdrawing the extension 12 from engagement with the adjacent edge 16 of said pruning saw 3 and permitting the same to be swung to its operative or open position. When this operative and open position has been attained, in the manner as illustrated in the Figure 2, the opening 5 in the pruning saw 3 will be aligned with the opening

formed in the outermost circularly enlarged end 7 of the casing 6, whereupon the frusto-conical portion 12 of the enlarged end 10 will be immediately engaged in said opening under urge of the expansible coil spring 13 engaging with the under side of the opposite enlarged end 9 of the locking bolt 8. At this time, the right angular straight edge of the pruning saw 3 will be abutting the adjacent portion of the split end of the hand grip 2 and, by consequence, a firm and stable or positive connection will be established as between the hand grip 2 and the pruning saw 3, preventing relative movement as between the two during usage of such pruning saw.

Manifestly, the construction shown is capable of considerable modification, and such modification as is within the scope of my claim, I consider within the spirit of my invention.

I claim:

A pruning saw comprising a handle having a longitudinally extending groove, a pivot bolt mounted therein, a blade supported by said bolt for swinging movements toward and away from said groove, and having a tapering opening to one side of said bolt and an inclined edge to the opposite side of the bolt, a casing embedded in the handle having a tapering opening arranged to align with said first opening and a bolt pivotally mounted within said housing and having a tapering extending portion adapted to have a wedging action with said tapering opening in the extended position of the blade and in abutting relation with said inclined edge when the blade engages within said groove.

In witness whereof I have hereunto set my hand.

GUILLERMO F. SANTOYO.