Feb. 23, 1926. 1,574,232

J. D. CASE

COMBINED AX AND BLADE GUARD THEREFOR

Filed March 12, 1925.

Fig. 1.

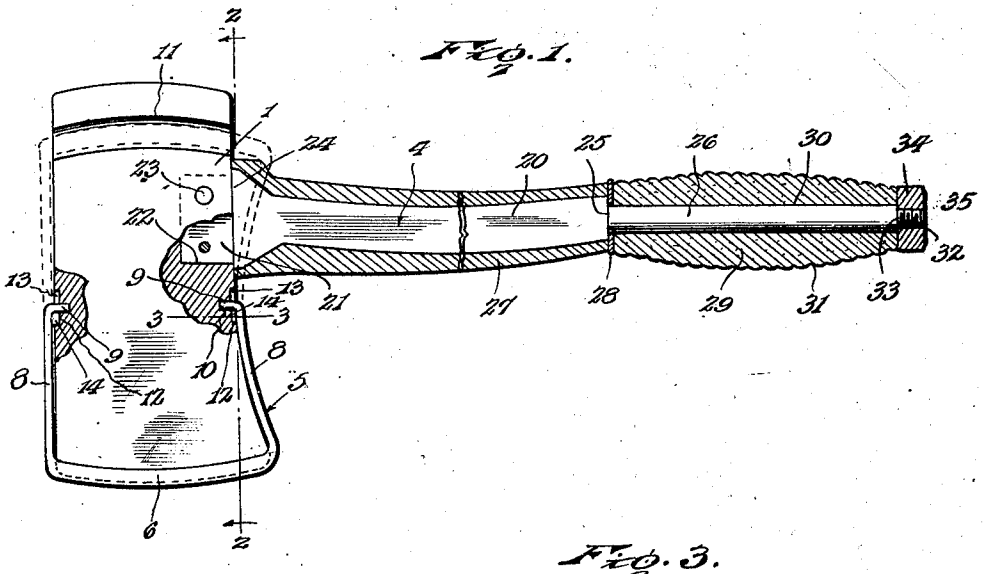


Fig. 3.

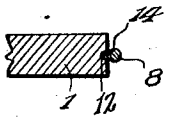


Fig. 2.

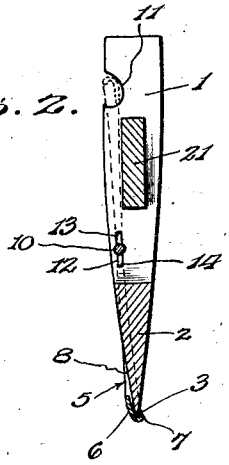
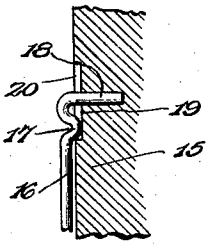


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN D. CASE, OF OLEAN, NEW YORK.

COMBINED AX AND BLADE GUARD THEREFOR.

Application filed March 12, 1925. Serial No. 15,108.

To all whom it may concern:

Be it known that I, JOHN D. CASE, a citizen of the United States, residing at Olean, in the county of Cattaraugus and State of New York, have invented certain new and useful Improvements in Combined Axes and Blade Guards Therefor, of which the following is a specification.

This invention relates to improvements in axes and has as one of its objects to provide, in connection with a hunting or camping ax, or in fact, an ax of any of the ordinary types, a novel construction of guard for the cutting edge of the ax blade which, when in one position of adjustment, will cover the cutting edge and not only prevent dulling or nicking of the edge through contact with other objects, but will also prevent cutting of one's hands or clothing, particularly when the ax is employed in hunting or camping. In this connection, the invention also has as its object to so construct and mount the guard that when not in use, the same may be adjusted to assume a position where it will not in any way interfere with the ordinary use of the ax, so that the guard may remain permanently assembled with the ax and will not be liable to be lost, as would be the case if it were detachable and required to be applied to the ax in order to serve its purpose.

Another object of the invention is to provide novel means whereby the guard may be held in either of its positions of adjustment without likelihood of displacement.

Another important object of the invention is to provide a novel construction of handle for an ax which handle will be more substantial and durable than the ordinary handle, lighter in weight, and of such construction as to prevent vibration of the handle, through transference of the force of impact of the blade and which vibration is present in ordinary axes and causes annoyance to the user.

In the accompanying drawings:

Figure 1 is a view partly in side elevation and partly in longitudinal section, illustrating the ax embodying the invention, the blade guard being shown in full lines in guarding position and in dotted lines in the position to which it will be adjusted when the ax is to be used in the usual manner.

Figure 2 is a vertical transverse sectional view taken substantially on the line 2—2 of Figure 1, looking in the direction indicated by the arrows.

Figure 3 is a detail horizontal sectional view taken substantially on the line 3—3 of Figure 1.

Figure 4 is a fragmentary vertical longitudinal sectional view illustrating a slight modification of the invention.

In the drawings, the ax blade is illustrated as comprising the usual head 1 having the usual blade portion 2 provided with the cutting edge 3. The handle of the ax is indicated in general by the numeral 4 and will presently be more specifically described.

The blade guard is indicated in general by the numeral 5 and the said guard is preferably made from steel and is, therefore, resilient. The guard comprises a body portion 6 which is curved to conform to the curvature of the cutting edge 3 of the ax blade, and the said body portion 6 is formed with a laterally and upwardly curved longitudinally extending flange 7 at its lower edge, which flange is designed to extend continuously opposite the cutting edge of the blade and relatively close thereto when the guard is in position to serve its useful purpose. The guard further includes two side members indicated by the numeral 8, which are integral with the ends of the body member 6 of the guard and extend approximately parallel to each other and approximately at right angles to the general line of extent of the said body member 6. These side members or arms are formed at their ends, each with a laterally inwardly turned pintle 9, and in order that the guard may be adjustably mounted upon the blade of the ax, the head of the blade is formed in its outer and inner edges with sockets 10 into which the pintles 9 are sprung and permanently engaged, the side members 8 being resilient and being slightly spread apart at the time of application of the guard to the head of the ax blade and being released after their pintles 9 have been brought into registration with the sockets 10. At this point it will be understood, and particularly by reference to Figures 1 and 2 of the drawings, that when the guard is swung to assume the position shown in full lines in these figures, the arms 8 will extend downwardly respectively in front and in rear of the front and rear

edges of the blade of the ax, the guard member or body 6 extending longitudinally beside the cutting edge of the blade and with its flange 7 located opposite and relatively close to the said edge. It will likewise be observed by reference to the said Figures 1 and 2, and particularly to the dotted line showing therein, that the guard may be bodily swung outwardly and upwardly from its guarding or active position, to an inactive position when it is desired to use the ax in the customary manner. In order that the guard will be prevented from interfering in any way with the ordinary use of the ax, when it is adjusted to the position shown in dotted lines in the said Figures 1 and 2, the head of the ax blade is formed in one face with a groove or pocket indicated by the numeral 11, of a depth and width to accommodate the body member 6 and its flange 7, thus housing this portion of the guard flush with the surface of the said face of the head of the blade. Therefore, when the guard is adjusted to its inactive position, it will in no way hinder the use of the ax in the usual manner nor will it be liable to become damaged in the use of the ax.

In order that the guard may be held in either of its positions of adjustment and in a manner to prevent its displacement after it has assumed its adjusted position, the front and rear edges of the ax blade are formed each with two seats indicated one by the numeral 12 and the other by the numeral 13, and the said seats extend respectively downwardly from and upwardly from the open end of the respective socket 10. Each of the side members 8 of the guard 5 is formed, upon its side which opposes the other side member and in the angle between its upper end portion and the pintles 9, with an inwardly laterally projecting lug 14 and, by reference to Figures 1 and 2 of the drawings, it will be observed that when the guard member is swung downwardly to position to guard the cutting edge of the blade, these lugs, through the resiliency of the side members 8, will snap into engagement in the seats 12 and thereby hold the guard in this position. When it is desired to use the ax, it is only necessary to grasp the guard and swing it outwardly and upwardly about the pintles 9 and to the dotted line position shown in Figures 1 and 2, whereupon the said lugs 14 will first ride out of engagement in the seats 12, then over the edges of the blade head, and finally snap into engagement in the seats 13 to hold the guard in the last mentioned position. Thus, the guard may be readily and quickly swung into and out of guarding position and in either position will be securely held against displacement. When the guard is in guarding position, it will effectually shield the cutting edge of the ax blade, and when it is in inactive position, it will not in any way interfere with the ordinary use of the ax.

In that form of the invention shown in Figure 4 of the drawings, the ax blade is indicated by the numeral 15 and one of the side members of the guard is indicated by the numeral 16, this member being formed with a crimp or bend 17 near its pintle portion which is indicated by the numeral 18, and this bend or crimp is designed to engage in the seats which are here indicated by the numerals 19 and 20 and correspond to the seats 12 and 13. The functioning of the parts is precisely the same in both instances and the lugs and crimp may be arbitrarily employed.

As previously stated, the invention also contemplates an improved construction of ax handle and said handle comprises a core shank 20 which is preferably of steel and at its forward end is provided with a short tang 21 which is substantially rectangular in form, as best shown in Figures 1 and 2 of the drawings, and is fitted into a socket 22 provided in the rear edge of the head of the ax blade, the tang being secured permanently in place by rivets or other suitable securing elements 23 secured through the head of the blade and transversely through the said tang 21. The formation of the tang provides a shoulder 24 near the forward end of the core shank 20, and this shoulder bears squarely against the rear edge of the head of the ax blade and, in this manner, a very secure union of the handle and blade is effected. At a point intermediate its length the core shank 20 is abruptly reduced in diameter to provide a shoulder 25 and a straight cylindrical shank portion 26 of less diameter than the shank 20, it being observed that the portion 20 is slightly curved to conform generally to the curvature of ax handles of this type. The numeral 27 indicates a jacket body of aluminum which is cast about the core shank 20 and which gives bulk and contour to this portion of the ax handle without materially increasing the weight of the handle. This jacket extends from the shoulder 24 to the shoulder 25, and a washer 28 is preferably fitted onto the reduced portion 26 of the core of the handle and is disposed to rest against the shoulder 25. The numeral 29 indicates a grip consisting of a body of any suitable material usually employed for this purpose such for example as fiber or leather, and which grip has a longitudinal bore 30 accommodating the said reduced portion 26 of the core. The grip may be corrugated or otherwise roughened upon its surface, as indicated by the numeral 31, so as to prevent the handle slipping from the hand in the use of the ax, and one end of the grip engages against the washer 28. The core

is further reduced at its end, as indicated by the numeral 32, and a shoulder 33 is thus provided, and the grip 29 terminates at the plane of this shoulder and a nut 34 is threaded onto the reduced portion 32 thus securing the button and grip upon the handle core. It will be evident at this point that the handle will be exceptionally substantial and durable and, notwithstanding its great strength, will be comparatively light in weight. Furthermore, due to the fact that the forward portion of the handle comprises metals possessing wholly different characteristics, and the further fact that the grip 29 is provided at the rear portion of the handle, vibration resulting from impact of the axe blade with material being chopped or cut, will be to a great extent absorbed and not transmitted to the hands of the user as is ordinarily the case.

Having thus described the invention, what I claim is:

1. The combination with an ax blade, of a guard for the cutting edge thereof comprising spaced side members pivoted to the blade intermediate the eye and the cutting edge, and a guard member supported by said side members and arranged, in one position of swinging adjustment of the guard, to extend along and opposite to the cutting edge of the blade and, in the other position of adjustment, to lie beside one face of the blade.

2. The combination with an ax blade having a cutting edge at one end, and a handle extending from said blade, of a guard pivoted to said blade intermediate the cutting edge and handle for swinging movement from an operative position with a portion extending along and overlapping the cutting edge towards the other end of the blade to an inoperative position.

3. The combination with an ax blade having a cutting edge at one end, and a handle extending from said blade, of a guard pivoted to said blade intermediate the cutting edge and handle for swinging movement from an operative position with a portion extending along and overlapping the cutting edge towards the other end of the blade to an inoperative position, said guard when in the inoperative position having its edge protecting portion seated against one side face of the blade.

4. The combination with an ax blade having a cutting edge at one end, and a handle extending from said blade, of a guard pivoted to said blade intermediate the cutting edge and handle for swinging movement from an operative position with a portion extending along and overlapping the cutting edge towards the other end of the blade to an inoperative position, said guard when in the inoperative position having its edge protecting portion seated in a groove formed transversely across one side face of the blade in spaced relation to the last-mentioned end of the blade.

5. The combination with an ax blade, of a guard for the cutting edge thereof comprising spaced side members pivoted to the blade, intermediate the eye and the cutting edge, and a guard member supported by said side members and arranged in one position of adjustment of the guard, to extend along and opposite to the cutting edge of the blade, and in the other position of adjustment, to lie beside one face of the blade, the said face of the blade having a groove therein constituting a pocket to receive the said guard member in the latter position of adjustment of the guard.

6. The combination with an ax blade, of a guard for the cutting edge thereof comprising spaced side members pivoted to the blade intermediate the eye and the cutting edge, and a guard member supported by said side members and having a portion arranged to extend along one side of the cutting edge of the blade and a curved flange arranged to extend opposite to and in spaced relation with respect to the said cutting edge of the blade in one position of adjustment of the guard, the guard member being arranged to lie beside one face of the blade in the other position of adjustment of the guard, the said face of the blade having a groove therein constituting a pocket to accommodate the said guard member within the plane of the face of the blade.

7. In a device of the class described, in combination, an ax blade having sockets in its front and rear edges, and a guard for the cutting edge of the blade comprising side members and a guard member supported thereby, the side members having pintles seating in the sockets and swingingly connecting the guard with the blade whereby, in one position of swinging adjustment of the guard, the guard member will extend along and shield the cutting edge of the blade and, in another position of adjustment of the guard, will lie beside the blade at a point remote from said cutting edge.

8. In a device of the class described, in combination, an ax blade having sockets in its front and rear edges, and a guard for the cutting edge of the blade comprising side members and a guard member supported thereby, the side members having pintles seating in the sockets and swingingly connecting the guard with the blade whereby, in one position of swinging adjustment of the guard, the guard member will extend along and shield the cutting edge of the blade and, in another position of adjustment of the guard, will lie beside the blade at a point remote from said cutting edge, the blade being provided in one face with a pocket to accommodate the said guard member in the

last mentioned position of adjustment of the guard.

9. In a device of the class described, in combination, an ax blade having pivot sockets in its front and rear edges between the eye and the cutting edge, and provided in said edges with seats leading above and below from each socket, and a guard for the cutting edge of the blade comprising side members and a guard member supported thereby, the side members having pintles seating in the sockets and swingingly connecting the guard with the blade whereby the guard may be swung to position the guard member thereof beside the cutting edge of the blade to shield the same and to position the said guard member beside the blade at a point remote from the cutting edge of the blade, and locking elements upon the side members of the guard for engagement in the said seats in the positions of adjustment of the guard to hold the guard in such positions.

In testimony whereof I affix my signature.

JOHN D. CASE. [L. S.]