No. 876,649. PATENTED JAN. 14, 1908.

C. A. LONG.

HOE.

APPLICATION FILED APR. 15, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

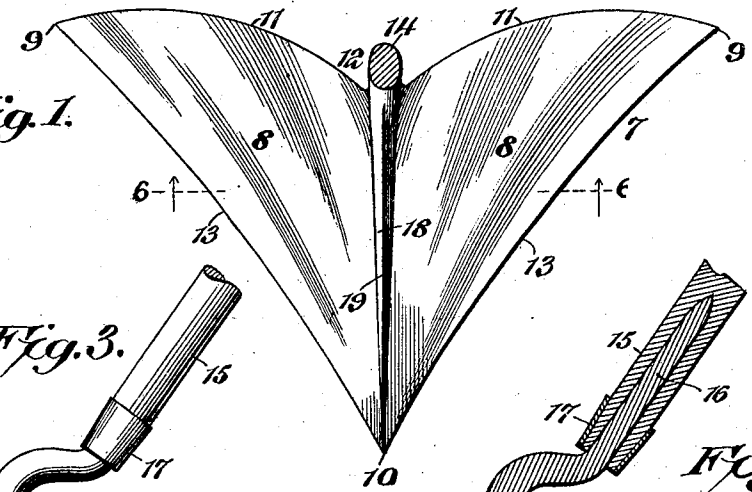

Fig. 3.

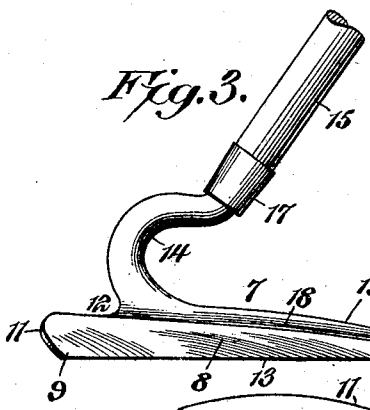

Fig. 4.

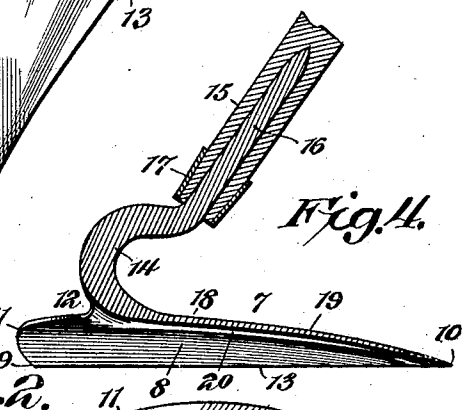

Fig. 2.

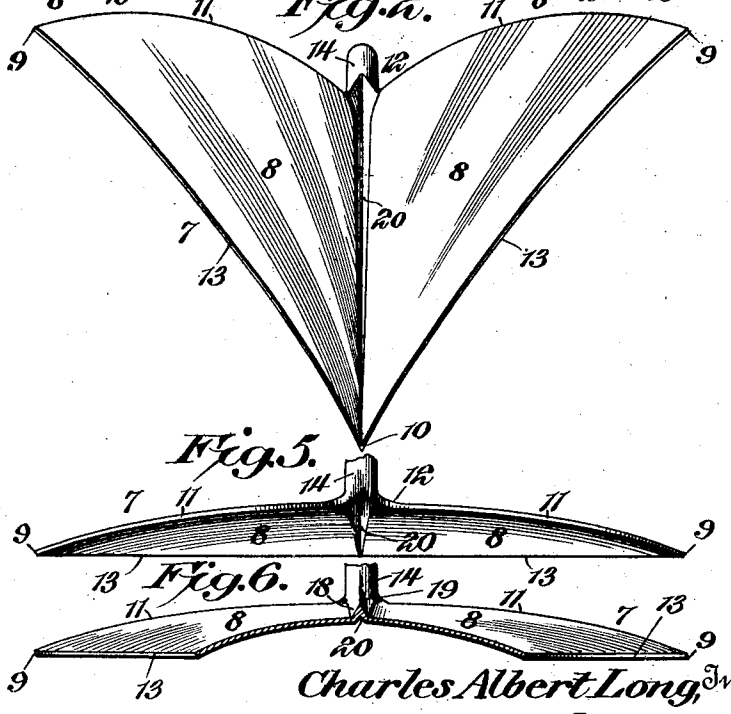

Fig. 5.

Fig. 6.

Witnesses

Howard D. Orr.

B. Y. Foster.

Charles Albert Long, Inventor,

By E. G. Siggers.

Attorney

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2 SHEETS—SHEET 2.

Fig. 7.

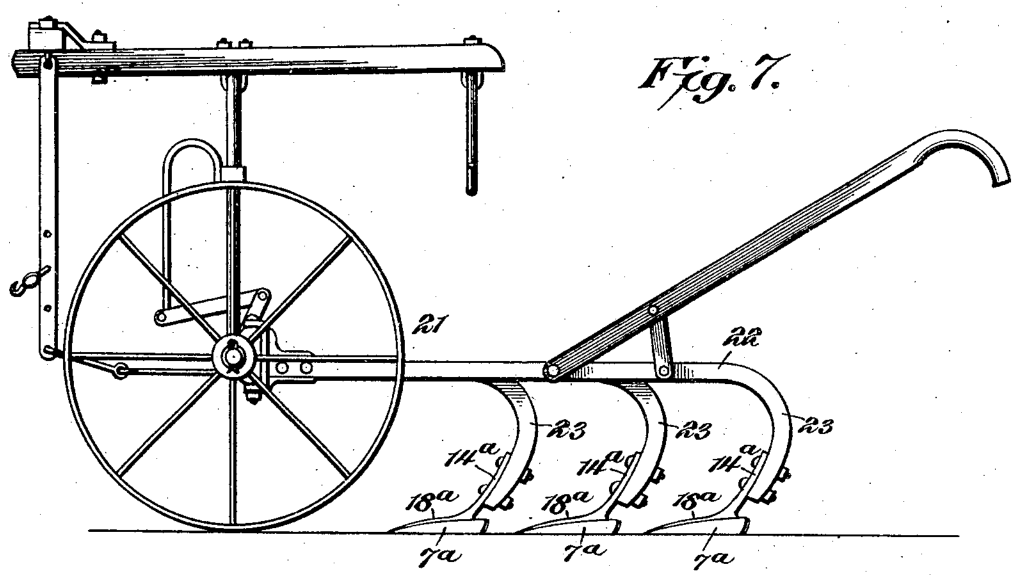
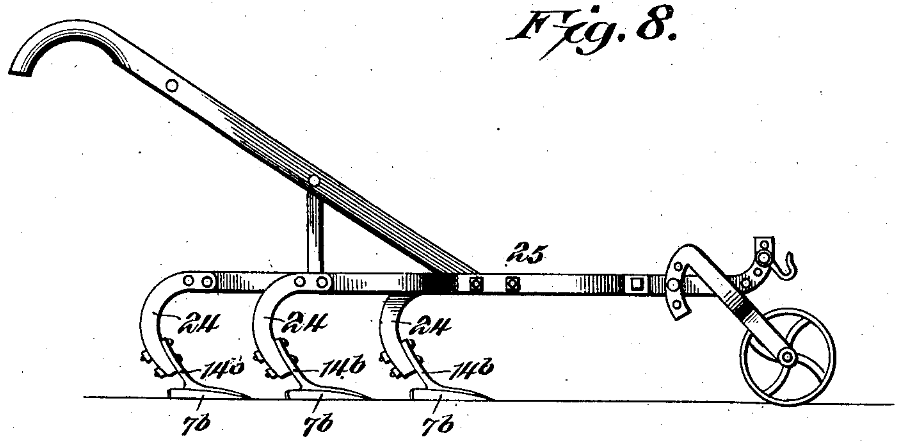


Fig. 8.



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Witnesses

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By E. G. Siggers

Attorney

UNITED STATES PATENT OFFICE.

CHARLES ALBERT LONG, OF SPOKANE, WASHINGTON.

HOE.

No. 876,649. Specification of Letters Patent. Patented Jan. 14, 1908.

Application filed April 15, 1907. Serial No. 368,279.

To all whom it may concern:

Be it known that I, CHARLES ALBERT LONG, a citizen of the United States, residing at Spokane, in the county of Spokane and State of Washington, have invented a new and useful Hoe, of which the following is a specification.

This invention relates more particularly to improvements in hoes of the type set forth in a former patent granted to me on March 7, 1899, No. 620,849.

The principal object of the present invention is to provide an improved structure of the above character with means that will sever the roots between the edges of the hoe, and thus eliminate entirely the objectionable gathering of the roots and trash upon the shank, consequently avoiding the necessity of repeatedly cleaning the hoe of such accumulation.

The preferred form of construction is illustrated in the accompanying drawings, wherein:—

Figure 1 is a plan view of the hoe blade. Fig. 2 is a bottom plan view of the same. Fig. 3 is a side elevation. Fig. 4 is a longitudinal sectional view. Fig. 5 is a rear elevation. Fig. 6 is a cross sectional view on the line 6—6 of Fig. 1. Fig. 7 is a side elevation of a wheeled cultivator showing the novel hoe blades mounted thereon. Fig. 8 is a side elevation of an ordinary type of walking cultivator, on which the said novel blades are utilized.

Similar reference numerals designate corresponding parts in all the figures of the drawings.

In the embodiment illustrated, the blade, designated as a whole by the reference numeral 7, is substantially triangular in form, being composed of two oppositely extending duplicate wings 8, each having a rear pointed end 9, and said wings furthermore having a common front point 10. The rear edges of the wings are outwardly bowed, as shown at 11, and said edges thereby produce a central notch or recess 12 in the rear side of the blade. The outer convergent edges 13 of said wings are slightly concaved. The upper face of the blade as a whole is convexed while the under side is correspondingly concaved. So far as thus described, the structure corresponds substantially to that disclosed in the former patent, to which reference has already been made. In the present embodiment, however, a shank 14 is employed that is in the form of a goose neck and projects from the front face of the blade at the rear center of the same and directly at the notch 12. This shank is adapted to be secured to a handle 15 in any well known manner. For instance, in the present embodiment, it is provided with an integral spike 16 driven into said handle and surrounded by a ferrule 17. The shank is so bent that the longitudinal axis of the handle will intersect the blade at the center of gravity of the same, so that any point or edge of the blade may be utilized without requiring the operator to hold the handle against turning. Moreover, this shank is so disposed that it will maintain the blade in substantially horizontal position, as shown in Figs. 3 and 4. An upstanding bead or rib 18 extends from the juncture of the shank with the blade, centrally along the upper convexed face of said blade to the point 10. This bead or rib tapers toward the point 10, and is provided with an upper keen cutting edge 19. The rear end of said edge terminates in the goose neck of the shank, as clearly shown in Figs. 3 and 4.

In the construction of the hoe blade, the metal is rolled, leaving the said bead or rib 18, but in order to emphasize or raise the bead or rib to an operative height, and secure the proper action of the cutting edge, as hereinafter described, the under or inner face of the blade is provided with a tapered central groove 20, which groove enters the rear side of the bead or rib, and raises the metal of which it is produced. It will be observed, however, particularly by reference to Fig. 6 that the depth of the groove is less than the height of the bead or rib. Consequently a strong cutting element is provided, which will withstand a great deal of wear.

The particular feature of the present invention is the provision of the specific form of cutting bead or edge on a hoe of the type set forth. In ordinary use, the hoe is employed as shown in Figs. 3 and 4, the outer edges 13 of the blade being substantially horizontal. With this structure, the oppositely disposed convexed faces of the wings serve to throw the dirt in opposite directions away from the shank and prevent the accumulation of material around the same. But further than this, should the point of the hoe pass beneath a root, the cutting edge 19 is so disposed that it will sever said root before

the outer edges 13. The result is that the two sections of the root thus cut will pass on opposite sides of the shank and not become looped about the same, thereby eliminating a very objectionable feature of the ordinary hoe. Moreover, this structure can be very light in weight, and as it has all of the advantages of the hoe set forth in the previous patent to which reference has been made, it will be obvious that the structure as a whole is very efficacious for performing the work for which it is designed. The invention, however, is not limited to hand hoes, as will be evident from an inspection of Figs. 7 and 8. In Fig. 7, a wheeled cultivator is employed, designated as a whole by the reference numeral 21, and extending rearwardly therefrom is the ordinary frame 22 with depending standards 23. Mounted on these standards are the shanks 14^a of the blades 7^a, said blades being of the construction and shape already described, and having the cutting beads or ribs 18^a. In Fig. 8, the blades designated 7^b are shown as having their shanks 14^b secured to the standards 24 of an ordinary cultivator 25. It will be evident from these examples that the blades are therefore clearly applicable to cultivators and similar agricultural implements. It will be observed that in both of these last described structures, the blades are held by the shanks in substantially horizontal position.

From the foregoing, it is thought that the construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion and minor details of construction, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is:—

1. As an article of manufacture, a hoe comprising a blade having a convexed front face and a concaved rear face, said blade comprising oppositely extending tapered wings terminating at their outer ends in cutting points and terminating at their front ends in the common front point, said wings furthermore having outer cutting edges, a shank having a connection with the upper portion of the blade and serving to maintain said blade in substantially horizontal position, and a rib projecting from the front convexed face of the blade and extending from the shank to said common point, said rib being disposed centrally of the blade, being tapered from the shank to the point and having its upper edge sharpened to cut roots and the like in advance of the severance of the roots and the like by the opposite outer edges of the wings.

2. As an article of manufacture, a blade having a convexed upper face and a concaved under face, said blade comprising oppositely extending tapered wings, terminating at their rear ends in cutting points and terminating at their front ends in a common front point, said wings furthermore having outer cutting edges, a shank having a connection with the upper portion of the blade and maintaining the same in substantially horizontal position, and a rib projecting from the upper convexed face of the blade and extending from the shank to said common front point, said rib being disposed centrally of the blade, being tapered from the shank to the point and having its upper edge sharpened to cut roots and the like in advance of the severance of the roots and the like by the outer edges of the wings, said blade furthermore having a groove in its under concaved side and said groove extending to the rib but having a depth that is less than the corresponding height of the rib, and means engaging the shank for operating the blade.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

CHARLES ALBERT LONG.

Witnesses:
B. G. FOSTER,
JOHN H. SIGGERS.