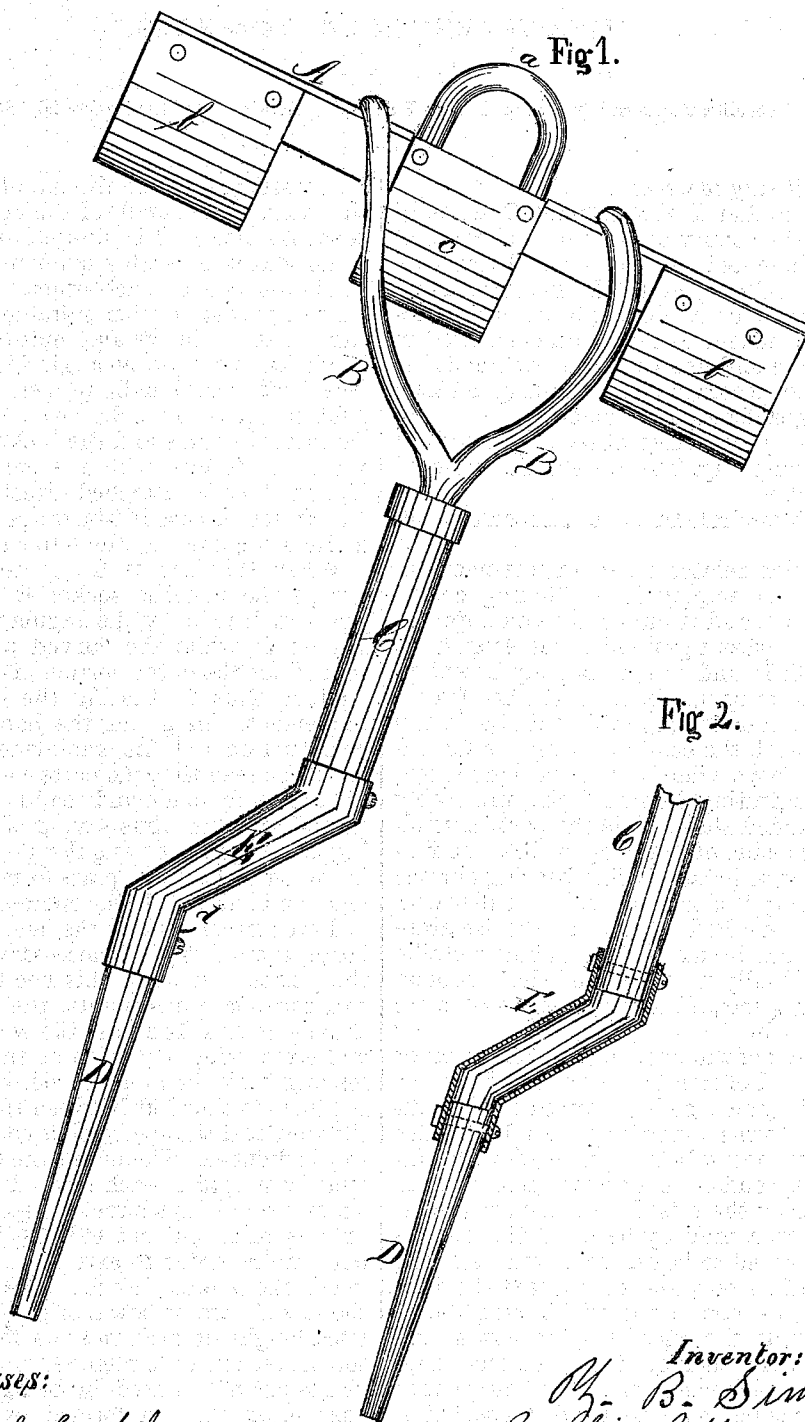


Zachariah B. Sims,

IMPROVED COTTON HOE.

No. 119,418.

Patented Sep. 26, 1871.



Witnesses:

Parker & Co. Sweet, Jr.
W. H. Lyton.

Inventor:

Z. B. Sims.
by His Atty -
James L. Norris.
Washington - D.C.

UNITED STATES PATENT OFFICE.

ZACHARIAH B. SIMS, OF BONHAM, TEXAS.

IMPROVEMENT IN COTTON-HOES.

Specification forming part of Letters Patent No. 119,418, dated September 26, 1871.

To all whom it may concern:

Be it known that I, ZACHARIAH B. SIMS, of Bonham, in the county of Fannin and State of Texas, have invented a new and useful Improvement in Cotton-Hoes; and I do hereby declare the following to be a clear, and exact description thereof sufficient to enable others skilled in the art to make and use the same, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a perspective view of my improved cotton-hoe, while Fig. 2 is a detached view of the metal socket.

Similar letters of reference indicate corresponding parts.

This invention relates to an improvement in hoes, such as are employed in thinning cotton and other plants, and is intended as an improvement upon the patent granted to me August 31, 1869, No. 94,353; and to this end my invention consists in forming the back of the hoe from a flat or round bar or rod (by preference the latter) of suitable metal, the center of which is formed with a loop or bow, whereby an arch is produced, the metal constituting the same being preferably left in its rounded state, while the parts extending from each side of the loop or bow are flattened in order to present a flat bearing surface for the cutters; it also consists in peculiar construction and method of uniting the separate handles together by means of a hollow metallic socket; and finally it consists of the combination of certain parts, all of which will still more fully be set forth.

A is the back of the hoe, formed from a flat or round bar or rod of iron having a raised loop or bow, *a*, whereby an arch is produced at or about its center, the arms extending from both sides of the loop or bow *a* being provided with cutters *b b* at their ends. At or near the bottom or angle formed by the raised loop or bow *a* is secured a cutter, *c*, midway between the cutters *b b*, and is adapted to be attached and detached when desired for a purpose hereinafter to be mentioned. B B are bent arms, which straddle at their outer ends the raised loop or bow *a*, and are secured at the back of the hoe in any suitable manner, the inner end or ends of the bent or bifurcated arms being secured within a socket or opening in the end of the hoe-handle, and secured therein by means of a bolt or other fasten-

ings passing through the handle and the end of the arms. The handle of the hoe consists of two separate pieces, C D, united together by a metallic socket in such a manner as to be parallel or almost so with each other. E is the socket, formed of cast or other suitable metal, and is so formed as to receive and unite the two handles C and D, and make an angle with the two pieces constituting the handle proper. The handles are held in place by bolts, &c., *e*, passing down through the same and the socket. F is a curved projection formed with or secured to the socket E, or it may be attached directly to the handle D. In either case it is arranged at or about the angle designated by the letter *d*.

When this hoe is being used the operator grasps the metallic socket E at or about the junction formed by the angular part *d* with the handle D, while the curved projection F is intended for the outer portion of the hand to rest against, thus facilitating the operation of the implement. In giving the handle this peculiar construction and the employment of the socket it will be seen that the parts composing the handle are easily made and readily attached or connected together, thus saving labor and preventing breakage at the angular portion. By pressing upon the angular parts formed by the socket and the handles C D the operator can easily raise or lower either end of the hoe, which in undulating ground is often necessary in thinning out the plants. In using this hoe for thinning cotton, corn, or other plants, the operator moves the hoe to and fro across the row, the cutters *a a* and *b* removing a portion of the young plants, leaving them in bunches between the cutters. A bunch is then left between the outer cutter in the row, and the operation is continued until the row is finished. The plants are thus reliably and equally spaced in each row. In rich land, after six or twelve days have elapsed, the center cutter *c* is removed and every alternate bunch is hoed up in order to give a free ventilation between the plants. By this construction given to the raised loop or bow *a* of the hoe-back any desired height of arch may be formed, and when the center cutter is removed the young plant or plants are not injured by being bruised as they pass under the arch formed by the said raised loops or bow. Thus, by the employment and use of this hoe, it will be seen that in each row the

plants will stand at the same distance apart, the space between the two plants of the row depending upon the quality of the soil; thus, as stated in my former patent, for poor land the distance between the plants in the row should be from six to ten inches, while in rich land the space between the plants should be from fifteen to thirty inches.

By uniting the two handles together by means of the metallic socket I am enabled to use straight pieces of timber, which can be easily constructed by any one with the aid of ordinary tools. At the same time the union of the two parts is made stronger, more readily constructed, and is less liable to breakage than the bent wooden handle heretofore patented by me. The elevated bow on the back of the hoe also permits the free passage of the hoe over young and tender plants without striking and injuring their tops; whereas the hoe described in my Letters Patent above mentioned, owing to its depressed arch, possesses

this defect of destroying young plants when they have increased in height.

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

1. As an improvement upon the patent granted to me August 31, 1869, for improvement in cotton-hoes, the divided handles C D, united together by the angular metallic socket E, as and for the purpose set forth.

2. The divided handles C D, angular metallic socket E, arms B B, back A, elevated loop *a*, and cutters *b b*, when all are constructed and employed in connection with the central cutter *c*, in the manner and for the purpose heretofore set forth.

To the above specification I have signed my name this 20th day of April, A. D. 1871.

Witnesses: ZACHARIAH B. SIMS.

JAMES L. NORRIS,

W. J. PEYTON.

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