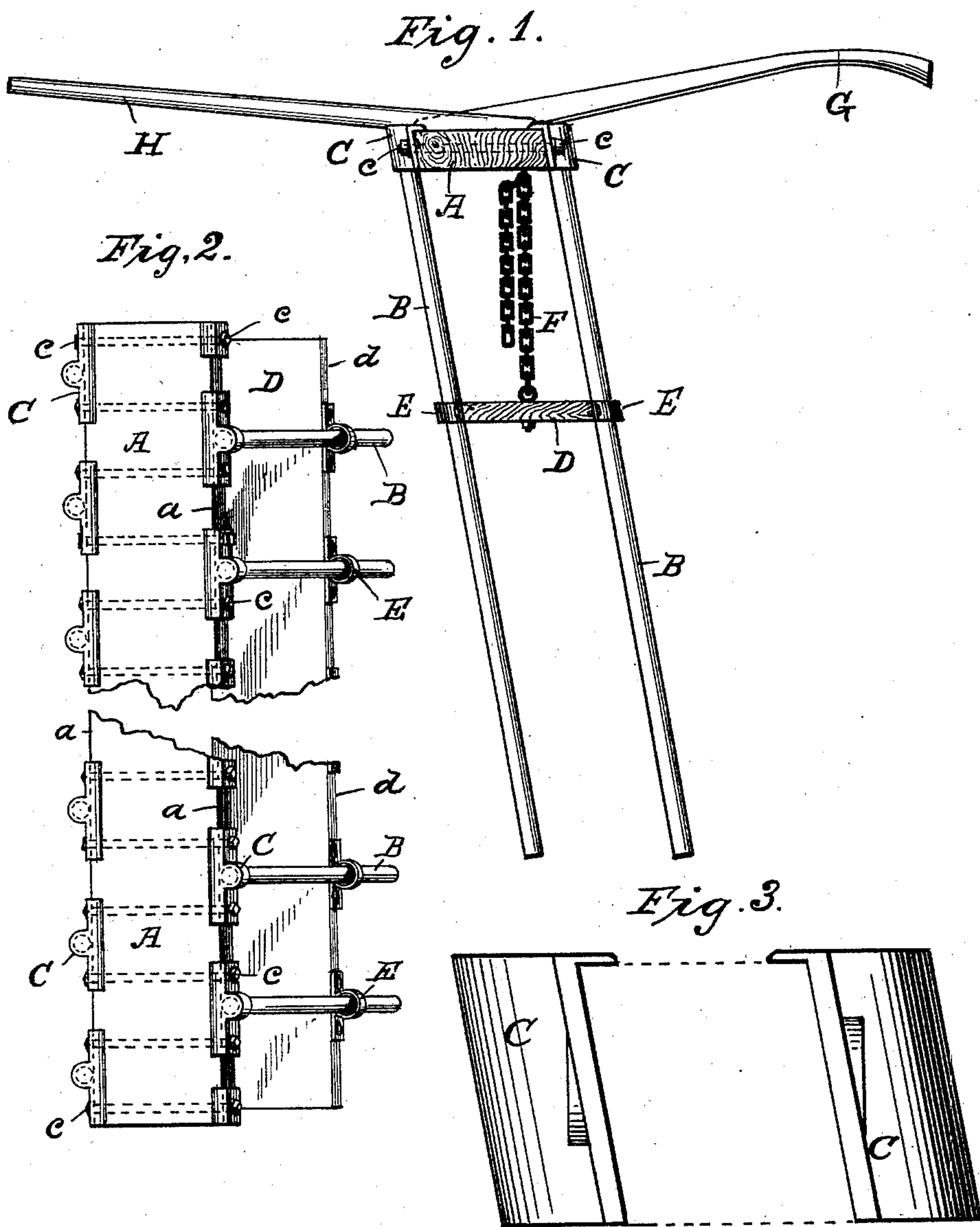


(No Model.)

W. H. M. CATE.  
WEEDER AND CULTIVATOR.

No. 473,868.

Patented Apr. 26, 1892.



Witnesses  
A. M. Johnson  
W. B. Howe

Inventor  
William H. M. Cate  
By his Attorney J. B. Thurston



# UNITED STATES PATENT OFFICE.

WILLIAM H. M. CATE, OF HENNIKER, ASSIGNOR TO THE UNIVERSAL WEEDER COMPANY, OF WEARE, NEW HAMPSHIRE.

## WEEDER AND CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 473,868, dated April 26, 1892.

Application filed December 19, 1891. Serial No. 415,571. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. M. CATE, a citizen of the United States, residing at Henniker, in the county of Merrimac and State of New Hampshire, have invented certain new and useful Improvements in Weeders and Cultivators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to weeders having vibratory teeth, the object of which is to cheapen the construction of such weeders and to provide a more perfect means of varying the vibration of the teeth.

The invention consists of a series of parallel teeth set normally at an angle with the soil, the novel means of attaching said teeth rigidly to each edge of a suitable head, together with the improved means for varying the vibratory capacity of said teeth, all of which will be fully set forth in the following specification and claims, and clearly illustrated in the accompanying drawings, forming a part thereof, on which—

Figure 1 is a side elevation from which the outer end of the thills are broken off, Fig. 2 being a broken plan view, from which the center portion, whereon the thills and guide-handles should be placed, is broken out. Fig. 3 is an enlarged detached view showing a pair of my improved sockets by which the upper ends of the front and back row of teeth are rigidly attached to the head-piece.

Heretofore crude attempts have been made to construct weeders something after the plan which I show herein by driving iron rods into a wooden head, from which they project alternately at opposite angles; but such construction is more expensive in the end, as the teeth work loose in the holes for the teeth or said holes be eventually bushed to take up the slack occasioned by wear. Certain devices for overcoming this difficulty are shown in United States Patent to Brown, numbered 413,274, and dated October 22, 1889; but the teeth or fingers in said patent are designed for adjustment verti-

cally within a holder or head, through which they pass, and hence require very different means for attachment to said holder than is necessary for the attachment of rigid teeth or fingers such as are used by me.

To carry my invention into practice, I provide the following: A tooth or finger head A, formed preferably of wood and any desired length, having parallel inclined edges *a* front and back, suitable teeth or fingers B all of equal length and arranged parallel with each other in two rows and secured rigidly at their top, one row to the front and one to the back inclined edge *a* of said head A by means of suitable metal sockets C and bolts *c*, an adjustable stiffening-board D, having parallel inclined edges *d* and of such width as to rest between said paralleled inclined fingers B and inclined metallic sockets E, made a loose fit for the said fingers and firmly fastened to said inclined edges *d*, and suitable supporting-chains F, capable of securing the said stiffener D at any desired altitude between said fingers. Guide-handles G and thills H are also secured to the top of the finger-head A, as indicated in Fig. 1.

The construction herein described possesses advantages over the Brown patent before mentioned for the reason that the parallel inclined fingers permit the stiffener D to be adjusted to and to work as well at any point upon the fingers, while the fingers of Brown, being placed at alternating inclinations, cause the stiffening or check board to bind and move with difficulty, except for a short distance, and by placing the teeth or fingers all upon the same angle they are interchangeable, a fact which is sure to be appreciated by the user.

Having described my improvement, what I claim is—

1. In a weeder, the combination, with a head, the front and rear edges of which are inclined parallel with each other, of sockets upon each of said edges, and a tooth secured to said head by each of said sockets, said teeth being parallel with each other throughout their length and being inclined relatively to said head, substantially as set forth.

2. In a weeder, the combination, with a

head, the front and rear edges of which are inclined parallel with each other, of sockets upon each of said edges, a tooth secured to said edges by each of said sockets, said teeth being  
5 parallel with each other throughout their entire length and being inclined relatively to the head, and a stiffening-board below the head, the edges of which are provided with

sockets for the reception of the teeth, substantially as set forth. 10

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. M. CATE.

Witnesses:

J. B. THURSTON,

JOHN F. JONES.