

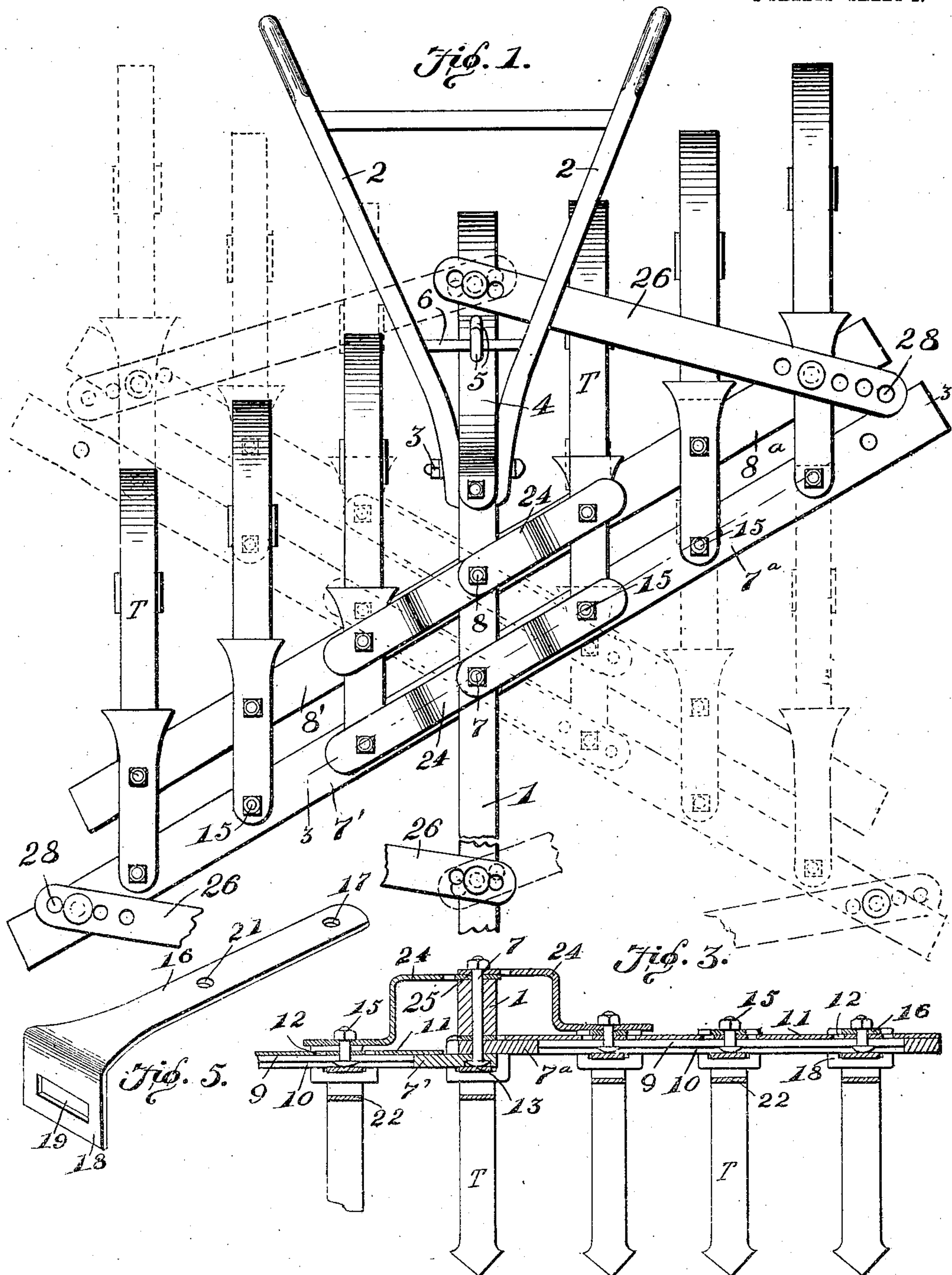
No. 845,255.

PATENTED FEB. 26, 1907.

N. E. OMBERG.
CULTIVATOR.

APPLICATION FILED MAR. 31, 1906.

2 SHEETS—SHEET 1.



WITNESSES:

E. H. Stewart
Wm. Ragger

Niles E. Omberg, INVENTOR.

By *C. A. Knowlton*
ATTORNEYS

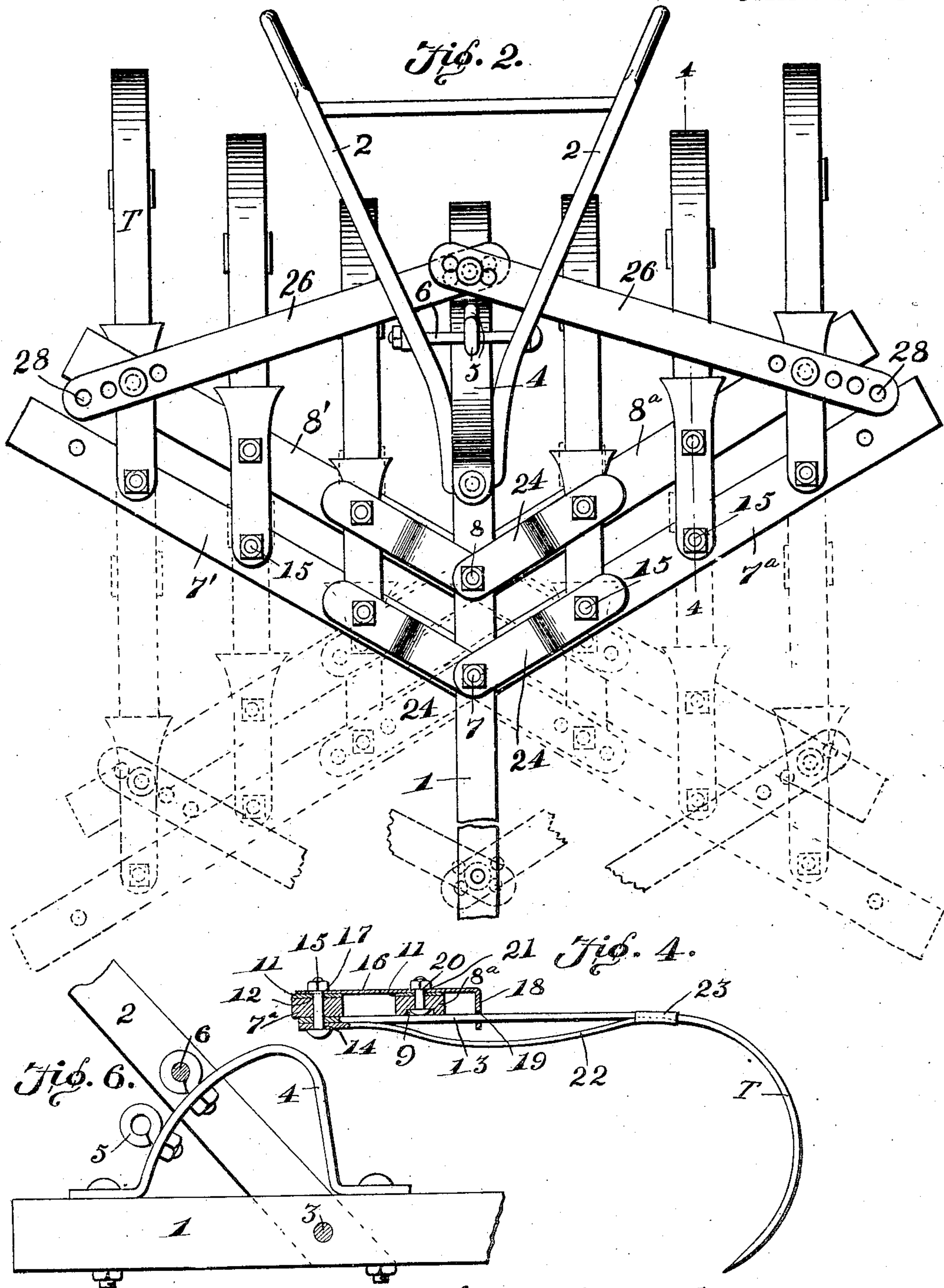
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UNITED STATES PATENT OFFICE.

NILES E. OMBERG, OF PALESTINE, TEXAS.

CULTIVATOR.

No. 845,255.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed March 31, 1906. Serial No. 309,158.

To all whom it may concern:

Be it known that I, NILES E. OMBERG, a citizen of the United States, residing at Palestine, in the county of Anderson and State of Texas, have invented a new and useful Cultivator, of which the following is a specification.

This invention relates to cultivators; and it has particular reference to that class of cultivators in which a plurality of spring teeth or blades are connected pivotally with parallel bars, which in turn are pivotally connected with a carrying-beam, so that by proper adjustment of said bars the cultivating implement may be adjusted to a variety of positions, and thus be adapted to a variety of uses.

One of the principal objects of the invention is to strengthen the spring-teeth and to lessen their liability of breaking by avoiding to some extent the use of bolts extending through the said spring-blades and the consequent necessity of puncturing said blades.

Another object is to provide improved reinforcing means for the blades and for the carrying-bars.

Another object is to provide improved means for retaining the parallel carrying-bars in adjusted position in various relations.

Other objects are to simplify and improve the construction and operation of the class of devices to which the invention belongs.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations, and modifications within the scope of the invention may be resorted to when desired.

In the drawings, Figure 1 is a top plan view of a cultivator constructed in accordance with the principles of the invention, showing the parallel bars at the two sides of the carrying-beam adjusted obliquely and in alignment with each other, dotted lines being employed to show the parallel bars reversely arranged. Fig. 2 is a top plan view showing

the parallel bars arranged in A-formation, dotted lines being employed to show them arranged in reverse or V formation. Fig. 3 is a sectional detail view taken on the plane indicated by the line 3 3 in Fig. 1. Fig. 4 is a sectional detail view taken on the plane indicated by the line 4 4 in Fig. 2. Fig. 5 is a perspective detail view of one of the tooth-holding clamps. Fig. 6 is a detail side elevation illustrating the handle-adjusting device.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

A beam 1 of suitable dimensions is provided with handles 2 2, that are pivotally mounted upon a bolt 3. Secured upon the beam is a segmental bracket 4, having a plurality of eyebolts 5 5 connected therewith, said eyebolts being for the passage of a transverse connecting-bolt 6, extending through the handles 2 2, which latter may be adjusted to and supported at various elevations by shifting the connecting-bolt 6 from one to another of the eyes 5.

Pivoted upon the beam 1, preferably upon the under side of the latter, as by means of bolts 7 8, are pairs of parallel bars 7' 8' and 7^a 8^a, the bars 7' 7^a being pivoted upon the bolt 7, while the bars 8' 8^a are pivoted upon the bolt 8. The said parallel bars are provided with slots 9, extending through the greater portion of their lengths, and the under sides of said bars have grooves 10 adjacent to said slots, the grooves being in the nature of countersinks for the accommodation of the heads of connecting-bolts, which are to be presently described. Upon the upper sides of the bars there are mounted reinforcing-plates 11 made, preferably, of sheet metal, said plates being provided with apertures 12 for the passage of the connecting-bolts, whereby the cultivator blades or teeth are to be mounted.

The cultivator blades or teeth T T are of the ordinary spring type, and said blades or teeth are provided with shanks 13, having perforations 14 near their front ends for the passage of the bolts 15, whereby said blades or teeth are pivotally connected with the forward parallel bars 7' and 7^a and with the reinforcing-plates 11 upon said bars, the bolts passing through the apertures 12 of said reinforcing-plates. The latter, it will thus be seen, will serve to space the teeth or blades the desired distance apart, each of the plates

11 being provided throughout its length with a plurality of apertures 12, so that the desired adjustment may be effected by simply changing the position of the bolts 15. The bolts 15 also serve for the securement of the tooth-holding clamps 16, which are provided at their forward ends with apertures 17 for the passage of said bolts. The rear ends of the clamping-plates 16 are provided with downturned flanges 18, having slots 19 for the passage of the shanks 13 of the teeth T, which latter will thus be supported. The clamping-plates 16 are connected with the rear parallel bars 8' and 8^a by means of bolts 20, passing through apertures 21 in the plates 16 and through the slots 9 in the parallel bars and the apertures 12 in the reinforcing-plates 11, supported thereon. The several teeth T are obviously connected with the parallel bars in parallel relation to each other and with the beam, so that in any position to which the parallel bars may be adjusted the several teeth shall maintain a longitudinal position.

A central tooth or blade T may be mounted beneath the beam 1 upon the forward bolt 7, a clamping-plate 16 being connected with the bolts 7 and 8 for the purpose of sustaining and reinforcing the said tooth.

The bolts 15 and 7, that connect the forward ends of the teeth with the front parallel bars and with the under side of the beam, also serve for the attachment of reinforcing-springs 22, (best seen in Fig. 4,) said reinforcing-springs being provided with supporting-flanges 23 for the accommodation of the shanks of the spring-teeth. The latter are thereby greatly reinforced, and light teeth or blades may be used with little danger of breakage.

Offset brackets 24 are used to connect the parallel bars with the top of the beam 1 for the purpose of assisting in sustaining the weight of said parallel bars and related parts, the construction of the device as a whole being in this manner strengthened and reinforced. The brackets 24 are each provided with apertures, as 25, for the passage of the connecting-bolts 7, 8, 15, and 20, as the case may be, the inner ends of the brackets 24 being each provided with a plurality of such apertures in order that adjustment may be effected.

The parallel bars are connected with the beam 1 in front and in rear of the pivotal bolts 7 8 by means of adjusting-straps 26, whereby the said parallel bars will be securely retained in the various positions to which they may be adjusted, the adjusting-straps being each provided with a plurality of apertures 28 for the passage of the bolts, whereby they are connected with the parallel bars and with the beam 1.

From the foregoing description, taken in connection with the drawings hereto an-

nexed, the operation and advantages of this invention will be readily understood by those skilled in the art to which it appertains.

It will be seen that by temporarily detaching the adjusting-straps or by disconnecting them either from the front or the rear parallel bars or from the beam 1, as the case may be, the said parallel bars may be moved to any of the different positions indicated in full and in dotted lines in Figs. 1 and 2 of the drawings, thus converting the implement to any of the various forms which it is capable of assuming, the parallel bars being secured in adjusted position by replacing the adjusting-straps.

In this class of devices it has heretofore been customary to provide the shanks of the spring-teeth with two sets of apertures for the passage of bolts, whereby they have been connected with the front and the rear parallel bars. The result has been that the spring-teeth have been extremely liable to break when put under tension, as they would be by operating in moderately stiff soil, the breakage taking place usually at the point where the teeth were apertured for the passage of the bolts connecting them with the rear parallel bars. By the present improvement these apertures are entirely dispensed with and a clamp or holding device is provided which not only serves to secure the spring in the desired position, but also to reinforce the same.

The general construction of the improved implement is simple and inexpensive as well as being thoroughly efficient for the purposes for which it is provided.

Having thus described the invention, what is claimed is—

1. In an implement of the class described, a beam, pairs of parallel bars pivotally connected therewith and extending in opposite directions therefrom, tooth-clamping members connected pivotally with the parallel bars and serving to keep them in parallel relation, and spring-teeth having shanks extended through the tool-clamping members and pivotally connected with the front parallel bars.

2. In a device of the class described, a beam, pairs of parallel bars connected pivotally with the beam said bars being provided with longitudinal slots, apertured reinforcing-plates covering the slots in said bars, tooth-clamping members bearing against the plates, fastening devices seated in said slots and engaging the clamping members, and spring-teeth supported in parallel relation by said clamping members.

3. In a device of the class described, a beam, pairs of pivoted parallel bars having longitudinal slots, apertured reinforcing-plates covering the slots in said bars, tooth-holding clamps connected pivotally with the parallel bars and plates and having down-

turned slotted flanges at their rear ends, and spring-teeth having shanks engaging the slotted flanges of the tooth-holding clamps and connected pivotally with the front parallel bars.

4. In a device of the class described, a beam, pairs of parallel bars pivotally connected therewith and having longitudinal slots, apertured reinforcing-plates upon said bars, tooth-holding clamps pivotally connected with the pairs of parallel bars and reinforcing-plates and provided with depending perforated flanges, spring-teeth passing through the perforations in the flanges and connected pivotally with the front parallel bars, brackets connecting the bars with the beam, and adjusting-straps connecting the

beam with the parallel bars and serving to secure the latter in adjusted position.

5. A beam, pairs of parallel bars pivotally connected with said beam, tooth-clamps carried by the bars and provided with depending perforated flanges, spring-teeth passing through the perforations in the flanges, and adjusting-straps connecting the bars with the beam.

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

NILES E. OMBERG.

Witnesses:

R. C. SEWELL,
M. C. CAMPBELL.