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CULTIVATOR AND LIKE MACHINE.  
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*Fig. 1.*

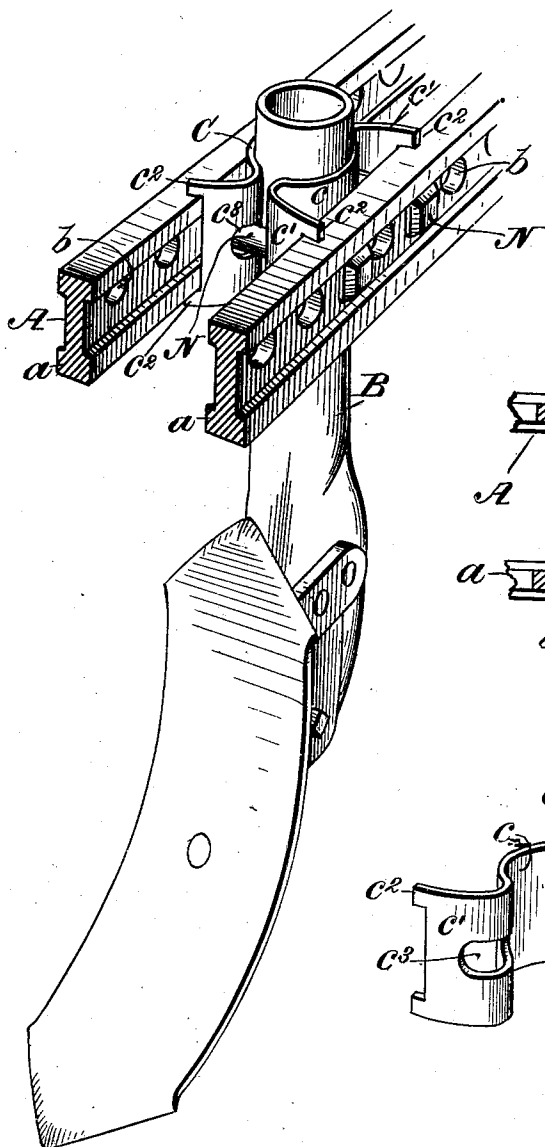


*Fig. 2.*

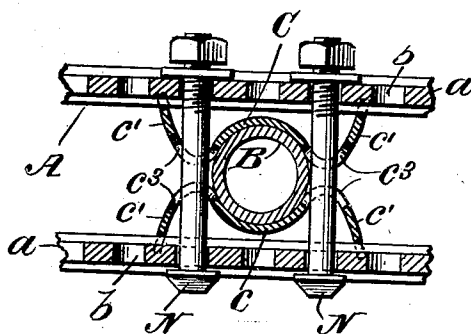
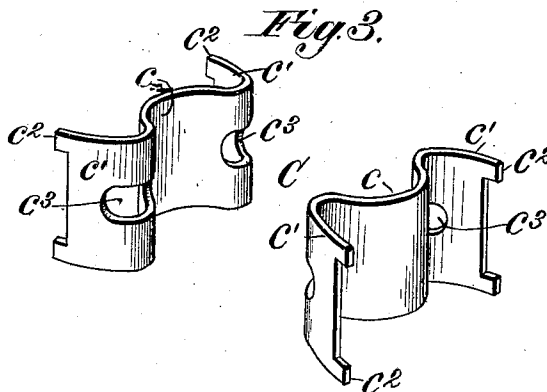


*Fig. 3.*



*Witnesses.*  
*Robert Everett.*  
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*Att'y.*

# UNITED STATES PATENT OFFICE.

SAMUEL NEVIN HENCH, OF YORK, PENNSYLVANIA.

## CULTIVATOR AND LIKE MACHINE.

No. 917,762.

Specification of Letters Patent.

Patented April 13, 1909.

Application filed December 12, 1908. Serial No. 467,296.

*To all whom it may concern:*

Be it known that I, SAMUEL NEVIN HENCH, of York, in the county of York and State of Pennsylvania, have invented a new and useful Improvement in Cultivators and Like Machines, of which the following is a specification.

My invention relates to that class of cultivators or like machines in which the standards which carry the hoes or shovels are detachably connected to the beams or drag bars; and it has reference to the means for thus connecting the standards with the beams or drag bars.

In my prior patent, No. 785,032 of March 14, 1905 for improvements in cultivators, each beam or drag bar consists of two parallel bars of I or other suitable cross section, provided with longitudinal rows of perforations in their webs through which pass the clamping bolts, these bolts passing through or engaging split boxes, the parts of which encircle the standards and are clamped thereon by the action of the bolts. In practice said split boxes have consisted of malleable iron castings.

Under my present improvement, in lieu of malleable iron castings for the split boxes or bearings, I make use of sheet steel strips of proper length, each transversely bent or swaged midway of its length to form a concavo-convex bearing of less than a semicircle to fit upon the shank, and having its ends on each side of said central concave, bent into U form approximately, the outer legs of the same being of greater length than the depth of the central concavity, so that, when in position on the shank and between the two parallel bars of the drag bar or beam, only the ends of these legs will contact with the said bars before the latter are drawn together by the bolts. When the bolts are tightened, the bars are drawn together, and, owing to the elastic flexibility of the sheet metal strips, by the time the bars are drawn together sufficiently to meet the concave central portions said portions will have been most tightly and firmly clamped upon the standard. The strips are provided at their ends with projections which overlap the top and bottom edges of the bars; and thus the parts are held together in adjusted position.

In the accompanying drawing to which reference will now be made for a more complete understanding of my invention Figure 1 is a perspective view of the device, with

the clamping bolts tightened and the spring bearing strips drawn together upon the standard. Fig. 2 is a horizontal section in the plane of the clamping bolts, Fig. 1, showing the latter loose, and the parts in unclamped position. Fig. 3 is a perspective view of the pair of spring steel strips which form the clamp bearing for the standard.

A is a portion of one of the beams or drag bars of a cultivator. It is composed of two parallel bars *a* of any suitable cross section (in this instance of I cross section) provided with longitudinal rows of perforations *b* in their web through which pass the clamping bolts *N*. The clamping strips *C* which encircle the standards which carry the hoes or shovels—one of which standards is shown at *B*—are, as already stated, made of sheet steel. There is a pair of these strips to each standard. Each strip is swaged or bent so as to have a transverse central concavo-convex portion *c*, which is adapted to fit and partially encircle the standard *B* as shown; and the ends of the strip on each side of this central portion *c* are bent into U form, to provide legs *c'*, which extend outwardly beyond the concavity *c*, so that they will first contact with the bars *a* when placed between the latter. The concave *c* is less than half a circle, so that when the two strips are fitted upon the standard *B*, they will not meet. In the outer ends or edges of the legs *c'*, are formed notches of a length equal to the width of the bars *a*, so as to leave at each end of this edge of the leg a projection *c''*, which, when the parts are fitted together, will overlap the edges of the bars *a* as seen in Fig. 1. In the portions of the strip beyond the central concavity *c* are formed at proper points holes or slots *c''* for the passage of the clamping bolts *N*.

In fitting the parts together, a pair of bearing steel strips *C* are fitted in place between the bars *a*, and the stem of the standard *B* is inserted between them, and so as to be partially encircled by them as seen in Fig. 2, where the bolts *N* are shown in place, but not tightened so as to draw together the bars *a*. With the parts in this position it will be noted that the ends *c'* alone of the bent spring sheet steel strips, are in contact with the bars *a*, there being some little space between the outer face of the concave portion *c* of each bearing strip and the adjoining bar. When, however, the bolts *N* are tightened so as to draw the bars *a* together, the bearing strip *C*

will flex or yield to the pressure thus brought to bear upon their legs  $c'$ , until the outer face of the concave central portion  $c$  of each strip contacts with the adjoining bar  $a$ , as seen in Fig. 1. With the parts in this position the standard is clamped most tightly and firmly between the bearing strips  $C$ , which in turn are held rigidly in position between the bars  $a$ . A clamp bearing of this kind is more effective and more readily made and adjusted and applied, than the ordinary split malleable iron boxes, and is very much cheaper than the latter.

What I claim herein as new and of my own invention is—

1. A clamp bearing for cultivator standards, consisting of a pair of spring sheet steel strips, each swaged or bent to have the central concavo-convex portion  $c$ , and legs  $c'$ , in combination with the standard inserted between said strips, the bars  $a$  of the drag bar or beam between which the said strips are placed, and the clamping bolts by which said bars are drawn together, substantially as and for the purposes set forth.

2. A clamp bearing for cultivator standards, consisting of a pair of spring sheet steel strips, each swaged or bent to have a central concavo-convex portion  $c$  of less than a half circle in dimensions, and a  $U$  shaped portion on each side of the concave, terminating in a leg  $c'$  of greater length than the depth of the concave, as and for the purposes hereinbefore set forth.

3. In combination with the bars  $a$  and clamping bolts  $N$ , the standard  $B$ , the pair of spring steel strips  $C$  partly encircling said standard and interposed between the bars  $a$ , each strip having a central concave  $c$ ,  $U$  shaped portions on each side of the concave, terminating in legs  $c'$ , projections  $c^2$  on the outer ends of the legs, and holes  $c^3$  for the passage of the clamping bolts, substantially as and for the purposes hereinbefore set forth.

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

SAMUEL NEVIN HENCH.

Witnesses:

T. E. DROMGOLD,  
R. N. ZIMMERMAN.