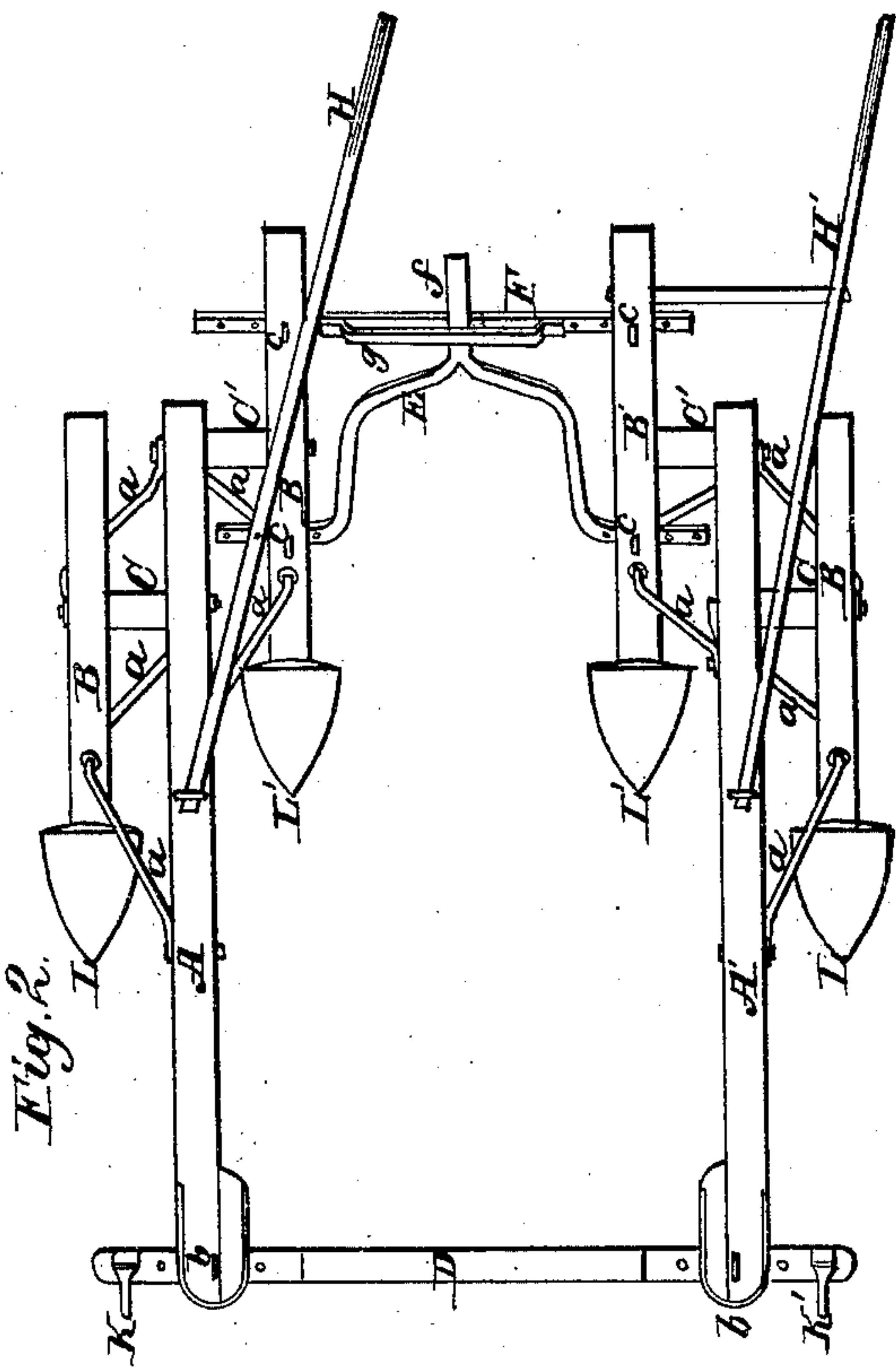
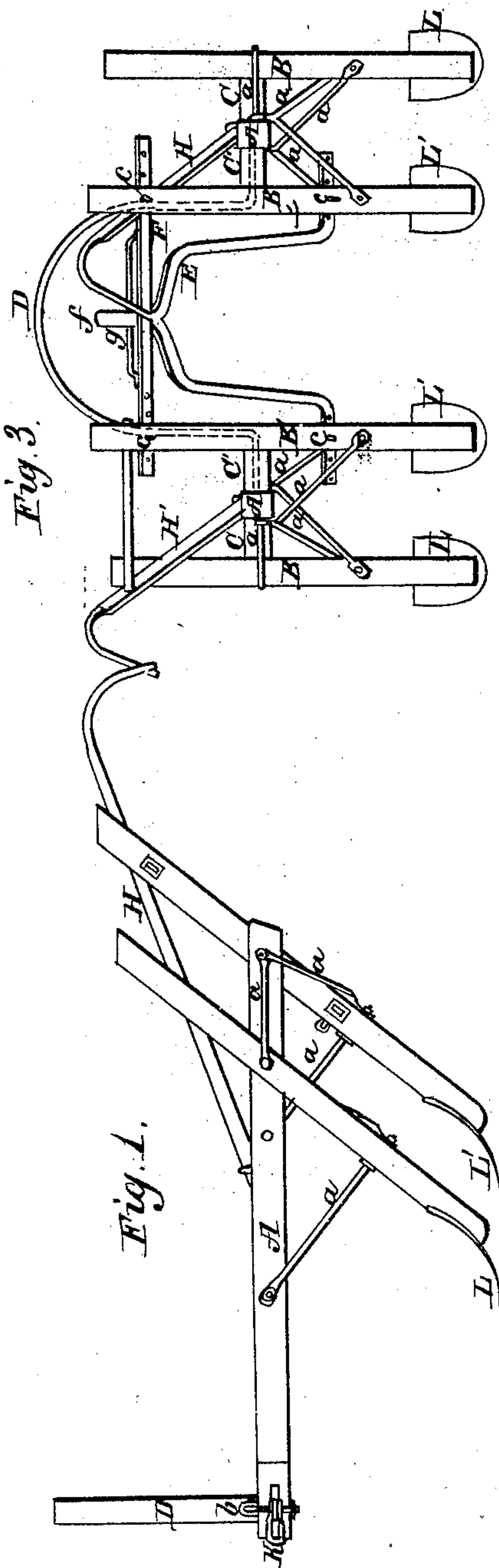


E. W. VANGUNDY.
Parallel Cultivator.

No. 41,454.

Patented Feb. 2, 1864.



Witnesses:
A. H. Smith
Thomas Cook

UNITED STATES PATENT OFFICE.

E. W. VANGUNDY, OF GALESBURG, ILLINOIS.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 41,454, dated February 2, 1864.

To all whom it may concern:

Be it known that I, E. W. VANGUNDY, of Galesburg, in the county of Knox and State of Illinois, have invented a new and useful Improvement in Cultivators; and I do hereby declare that the following is a full and complete description thereof, reference being had to the accompanying drawings, forming a part of this specification, of which—

Figure 1 is a side elevation of my improved double-cultivator plow; Fig. 2, a top view, and Fig. 3 an end view, of the same.

Similar letters indicate like parts in each of the drawings.

The nature of my improvement consists in a novel mode of combining two distinct cultivators, by which I am enabled to cultivate perfectly and with ease both sides of a row of corn or other grain at the same time.

The cultivators which I unite to form my improved machine are built respectively of the draft-beams A A', and share-beams B B' B' secured thereto at the proper inclination upon offsets C C C' C', and strengthened by the necessary brace-rods a a a. As usual in cultivators generally, the share-beam (and its attached cultivating tooth or point) upon one side of the draft-beam is placed several inches in advance of the other; but to facilitate the operation and movement of the teeth or points L L L' L' in my improved machine the foremost share-beam in one is placed to the right, and in the other to the left, of the draft-beam, so that when working together the two hindermost cultivating-teeth shall both be either on the outer (as represented in the drawings) or inner sides of the draft-beams A A'.

The two cultivators thus simply made are connected and made to operate jointly by means of the peculiar metallic connecting bars or stays D, E, and F, Fig. 2, the former of which unites the forward end, and the two latter the rear end, of my improved machine. The central portion of the front bar, D, is bent upward, so as to pass over the tops of a row of growing corn or other grain without injuring the crop, and the rear bar, E, is forked for the same purpose. The ends of these bars, however, are made straight, and (as well as the ends of the straight bar F) are pierced at equal fixed intervals with holes to receive the re-

taining-pins b b and c c. The ends of the curved front bar, D, are received into slits cut in the ends of the draft-beams A A', and are retained therein by means of the pins b b, which pass through the jaws of the slits, and the ends of the forked bar E and of the straight bar are received and retained by pins c c c c in longitudinal slots formed respectively in the upper and lower portions of the two inner opposite share-beams B B'.

By means of the regular intervals between the apertures in the ends of the several connecting-bars the distance between the draft-beams A A' and their attached cultivating teeth or points L L may be increased or diminished at pleasure to any required gage, and as the retaining-pins c c c c act as pivots the longitudinal playing of the ends of the bar D upon the pins b b permit, to a certain degree, the independent movement of the two draft-beams in parallel lines, while a similar play of the ends of the bars E and F upon their retaining-pins c c within the slots in the share-beams B B' permit the rear end of either draft-beam to be elevated or depressed independent of the other. In order to steady these independent movements of the two cultivators, and to preserve their uniformity of action, the upper end of the forked bar E is made to terminate in a shank, f, which is retained and allowed to vibrate against the upper transverse bar, F, by means of an elongated loop-bar, g, Figs. 2 and 3.

The handles H H' of my improved cultivating-machine are each fastened to the draft-beams A and A', and pass rearwardly in an oblique direction toward the left, in such a manner as that their ends shall be at the hands of an operator standing behind the left-hand cultivator, as is clearly illustrated in Fig. 2 of the accompanying drawings.

Eyes or loops K K' are pivoted to the outer projecting ends of the forward connecting-bar, D, to which the whiffletrees necessary in the draft of the machine may be hooked.

In case the teeth or points on either side become clogged while in use, by weeds or other obstructions, they may be at once relieved by raising them from the ground independently of the other side and without affecting the operation of the other draft-beam.

The relative position of the cultivating-teeth may be changed and their number be increased or diminished at pleasure without any material change in the arrangement of the machine, and it will be observed, also, that teeth or points of any desirable form or pattern may be made use of.

I do not claim the idea of connecting the frames as to allow of independent movements of the beams; but

What I do claim as new, and desire to secure by Letters Patent, is—

My improved manner of connecting same by means of the peculiar arrangement of the pivoted yoked connecting-bars E with shank *f*, working in and through the slotted or open straight bar F, in combination with the draft-beams A A', the whole operating substantially in the manner and for the purpose herein set forth.

E. W. VANGUNDY.

Witnesses:

J. GRANT,

A. O. WATTERSON.