

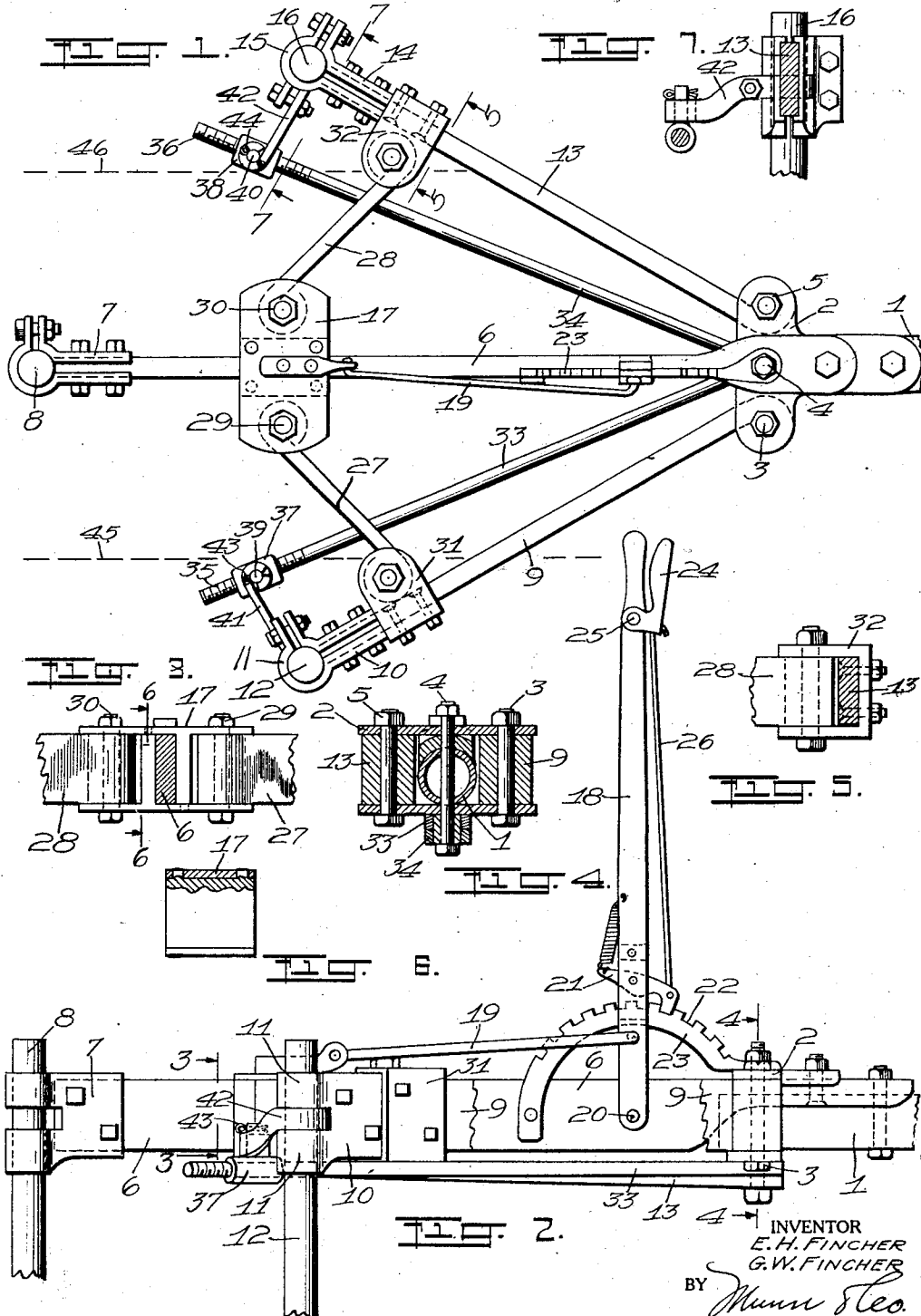
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CULTIVATOR

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CULTIVATOR

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Our invention relates to improvements in cultivators, and it consists in the combinations, constructions, and arrangements herein described and claimed.

5 An object of our invention is to provide an improvement over Patent No. 1,621,764.

A further object of our invention is to provide a cultivator which is adapted to cultivate two rows at a time, and which has novel means for adjusting the operative parts to suit the rows.

10 A further object of our invention is to provide a device of the type described which has novel means for giving a fine adjustment for positioning the shovels.

15 Other objects and advantages will appear in the following specification, and the novel features of the invention will be particularly pointed out in the appended claims.

20 Our invention is illustrated in the accompanying drawings, forming part of this application, in which

Figure 1 is a top plan view of the device,

25 Figure 2 is a side elevation of the device, a portion thereof being broken away,

Figure 3 is a section along the line 3—3 of Figure 2,

Figure 4 is a section along the line 4—4 of Figure 2,

30 Figure 5 is a section along the line 5—5 of Figure 1,

Figure 6 is a section along the line 6—6 of Figure 3, and

35 Figure 7 is a section along the line 7—7 of Figure 1.

In carrying out our invention, we provide a drawbar 1 which may be secured to supporting wheels, not shown. A crosshead 2 is rigidly mounted upon the drawbar 1 and is provided with three aligned openings through which bolts 3, 4 and 5 are disposed.

40 A main beam 6 is rigidly secured at one end to the crosshead 2 and the other end is provided with a bracket 7 for receiving and retaining a plow shank 8. An auxiliary beam 9 is pivotally secured at one end to the crosshead 2 by the bolt 3. The other end of the auxiliary beam 9 is provided with a bearing bracket 10 having spaced-apart bearing portions 11 which are adapted to receive and

retain a plow shank 12. An auxiliary beam 13 is pivotally secured at one end to the crosshead 2 by means of the bolt 5. The other end of the auxiliary beam is provided with a bearing bracket 14 which has spaced-apart bearing portions 15 arranged to receive and retain a plow shank 16.

55 A slide 17 is movably mounted upon the main beam 6 and is operatively connected to a lever 18 by means of a link 19. The lever 18 is pivotally mounted upon the main beam 6 at 20 and is provided with a pawl 21 which is adapted to be held in notches 22 of a segment or ratchet 23. A hand grip 24 is pivotally mounted at 25 to the lever 18 and is operatively connected to the pawl 21 by a rod 26. The slide 17 is operatively connected to the auxiliary beams 9 and 13 by connecting arms 27 and 28, respectively. The inner ends of the arms 27 and 28 are pivotally secured to the slide 17 by bolts 29 and 30, respectively. The outer ends of the connecting arms 27 and 28 are pivotally secured to bearings 31 and 32, respectively.

60 Adjusting rods 33 and 34 are pivotally mounted at their forward ends upon the bolt 4. The outer ends of the adjusting rods 33 and 34 are provided with threaded portions 35 and 36, respectively. Threaded collars 37 and 38 are disposed upon the threaded portions 35 and 36, respectively. Pivot pins 39 and 40 are integral with the collars 37 and 38 and are adapted to extend through the inner ends of connecting links 41 and 42, respectively. The outer end of the connecting link 41 is disposed between the bearing portions 11 of the bracket 10 and rigidly secured to the shank 12. The outer end of the connecting link 42 is disposed between the bearing portions 15 of the bracket 14 and rigidly secured to the shank 16. Cotter pins 43 and 44 are disposed within openings in the pivot pins 39 and 40, respectively, for removably holding the connecting links in place.

65 From the foregoing description of the various parts of the device, the operation thereof may be readily understood. Let us assume that the dotted lines 45 and 46 represent rows to be cultivated, such as corn. Let us also assume that a desired number of

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cultivator shovels are secured to the shanks 12, 8 and 16. During the cultivation of corn, when the corn is young, the cultivator shovels, not shown, may be positioned relatively close to the rows of corn, whereas the shovels must be spaced away from the rows of corn as the corn grows to avoid injuring the roots thereof. Therefore during the cultivation of corn, it is necessary to move the sets of shovels away from the rows as the corn grows taller.

Let us assume that the operator wishes to move the sets of shovels carried by the shanks 12 and 16 farther away from the rows 45 and 46. By gripping the hand grip 24 and raising the pawl 21 free from the adjacent notch of the segment 23, the operator may by pulling forwardly upon the lever 18 draw the slide 17 forwardly upon the main beam 6. During this movement of the slide 17, the connecting arms 27 and 28 are forced outwardly, thus moving the auxiliary beams 9 and 13 outwardly.

The adjusting rods 33 and 34, together with the connecting links 41 and 42, are also moved outwardly. It will be noted that the adjusting rods with their connecting links 41 and 42 hold the shanks 12 and 16 so that the cultivator shovels, not shown, will be held at desired positions, irrespective of the movement of the auxiliary beams 9 and 13. If the operator wishes to adjust the positions of the shanks 12 and 16, together with their respective cultivator shovels, the cotter pins 43 and 44 may be removed from the pivot pins 39 and 40. Then by removing the connecting links 41 and 42, the collars 37 and 38 may be rotated upon the threaded portions to desired positions and the connecting links again placed upon the pivot pins and held in place by the cotterpins.

The slide 17 may be moved forwardly or rearwardly upon the main beam 6 for swinging the auxiliary beams, together with the adjusting rods, outwardly or inwardly, as desired, by moving the lever 18 forwardly or rearwardly. These various members are held in their adjusted positions by the spring-actuated pawl 21 which is received in the notches 22 of the segment 23.

We claim:

1. A device of the type described comprising a main beam, an auxiliary beam pivotally secured at one end to said main beam, a plow shank pivotally secured to the other end of said auxiliary beam, means for moving said auxiliary beam with respect to said main beam, an adjusting rod having one end pivotally secured to said main beam, and means for connecting the other end of said adjusting rod to said plow shank, whereby said plow shank may be rotated in one direction as said auxiliary beam is moved toward said main beam and for rotating said plow shank in the opposite direc-

tion when said auxiliary beam is moved away from said main beam.

A device of the type described comprising a main beam, an auxiliary beam pivotally secured to one end to said main beam, a plow shank pivotally secured to the other end of said auxiliary beam, means for moving said auxiliary beam with respect to said main beam, an adjusting rod having one end pivotally secured to said main beam, means for connecting the other end of said adjusting rod to said plow shank, whereby said plow shank may be rotated in one direction as said auxiliary beam is moved toward said main beam and for rotating said plow shank in the opposite direction when said auxiliary beam is moved away from said main beam, and means for varying the rotative position of said plow shank with respect to said auxiliary beam.

3. A device of the type described comprising a main beam, an auxiliary beam pivotally secured at one end to said main beam, a plow shank pivotally secured to the other end of said auxiliary beam, means for moving said auxiliary beam with respect to said main beam, an adjusting rod having one end pivotally secured to said main beam, means for connecting the other end of said adjusting rod to said plow shank, whereby said plow shank may be rotated in one direction as said auxiliary beam is moved toward said main beam and for rotating said plow shank in the opposite direction when said auxiliary beam is moved away from said main beam, and means for varying the rotative position of said plow shank with respect to said auxiliary beam, said last-named means comprising a threaded collar disposed upon a threaded end of said adjusting rod and adapted to be moved upon said rod by the threaded connection therewith.

4. A device of the type described comprising a main beam, an auxiliary beam pivotally secured at one end to said main beam, a plow shank pivotally secured to the other end of said auxiliary beam, means for moving said auxiliary beam with respect to said main beam, an adjusting rod having one end pivotally secured to said main beam, means for connecting the other end of said adjusting rod to said plow shank, whereby said plow shank may be rotated in one direction as said auxiliary beam is moved toward said main beam and for rotating said plow shank in the opposite direction when said auxiliary beam is moved away from said main beam, the means for moving said auxiliary beam comprising a slide movably disposed upon said main beam, and a link operatively connecting said slide with said auxiliary beam.

5. A device of the type described comprising a main beam, an auxiliary beam

pivotally secured at one end to said main beam, a plow shank pivotally secured to the other end of said auxiliary beam, means for moving said auxiliary beam with respect to said main beam, an adjusting rod
5 having one end pivotally secured to said main beam, means for connecting the other end of said adjusting rod to said plow shank, whereby said plow shank may be rotated in one direction as said auxiliary beam
10 is moved toward said main beam and for rotating said plow shank in the opposite direction when said auxiliary beam is moved away from said main beam, the means for
15 moving said auxiliary beam comprising a slide movably disposed upon said main beam, a link operatively connecting said slide with said auxiliary beam, a lever pivotally carried by said main beam, and
20 means for operatively connecting said slide with said lever for moving said slide with respect to said main beam when said lever is actuated.

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