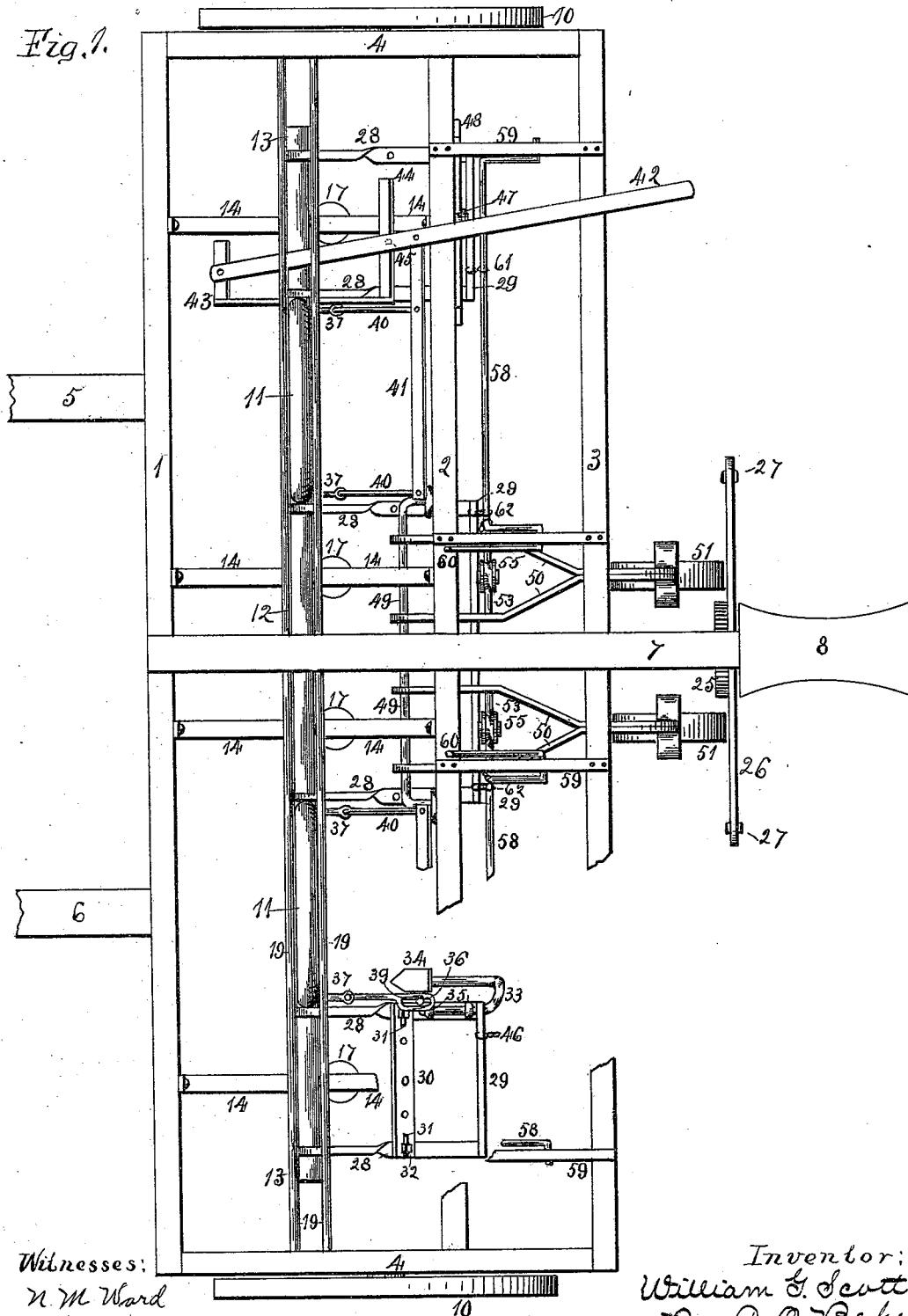


W. G. SCOTT.
CULTIVATOR.

No. 554,841.

Patented Feb. 18, 1896.

Fig. 1.



Witnesses:
N. M. Ward
E. Behel

Inventor:
William G. Scott
By A. O. Behel
Atty.

(No Model.)

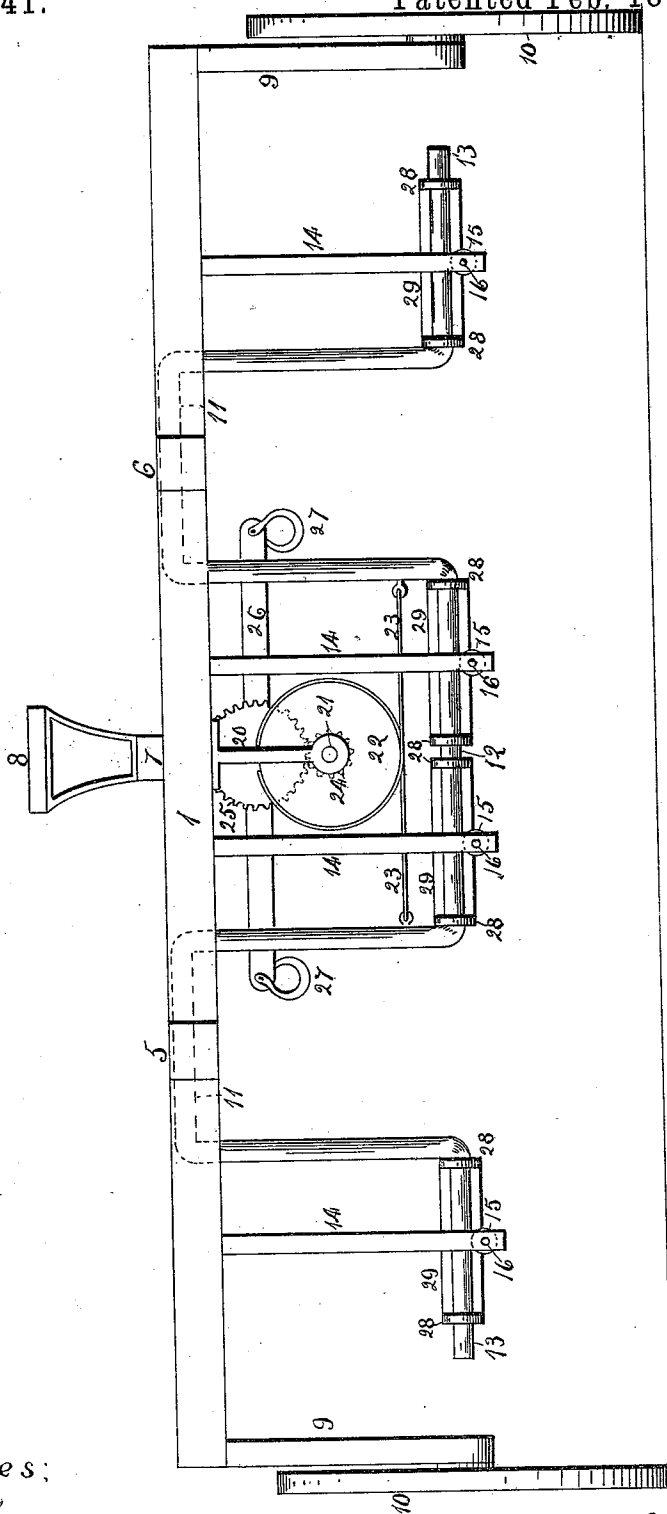
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Fig. 2.



Witnesses:

N. M. Ward
E. Behel

Inventor:
W. G. Scott
By A. O. Behel
Attys

(No Model.)

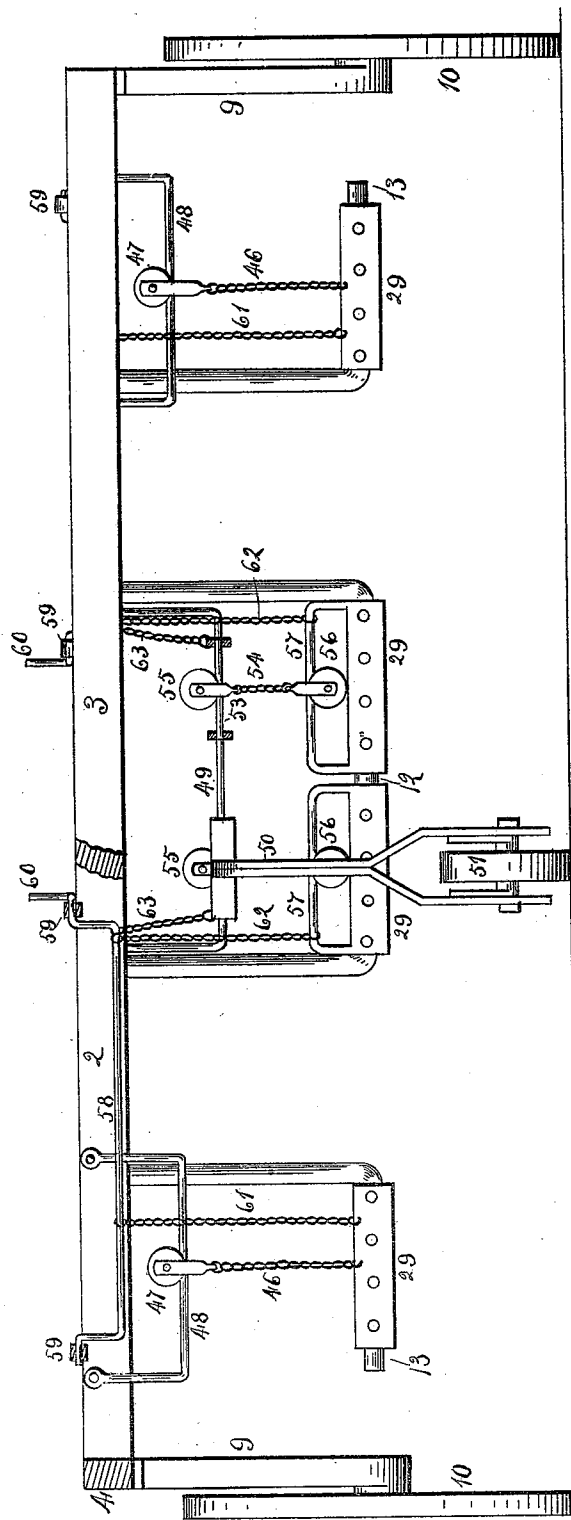
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Fig. 3.



Witnesses:

N. M. Ward
E. Bebel.

Inventor:
W. G. Scott
By A. O. Bebel
Att'y

(No Model.)

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Fig. A.

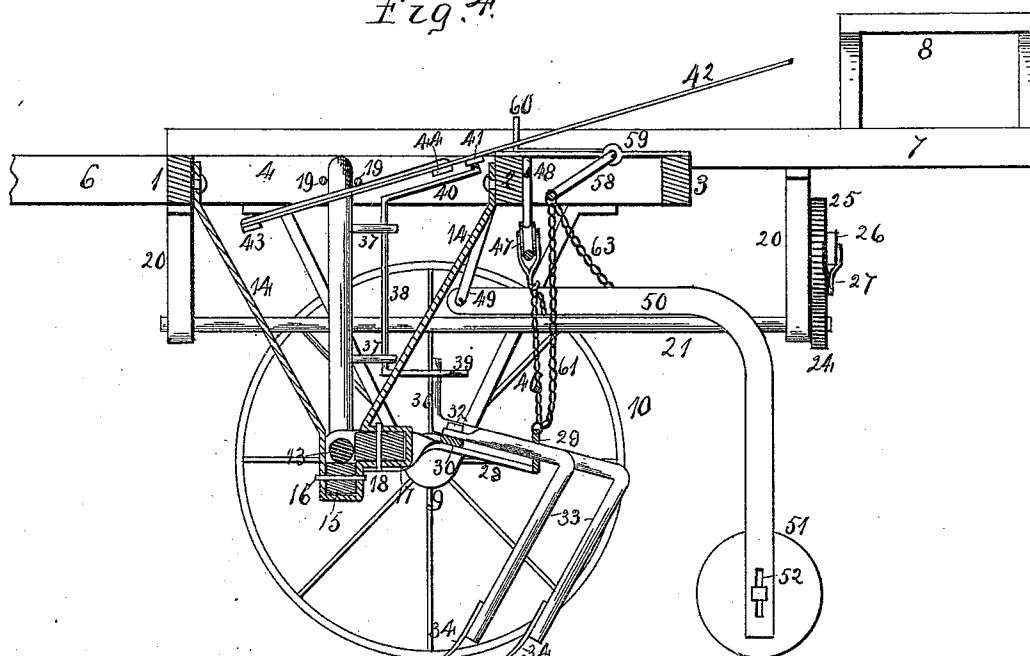
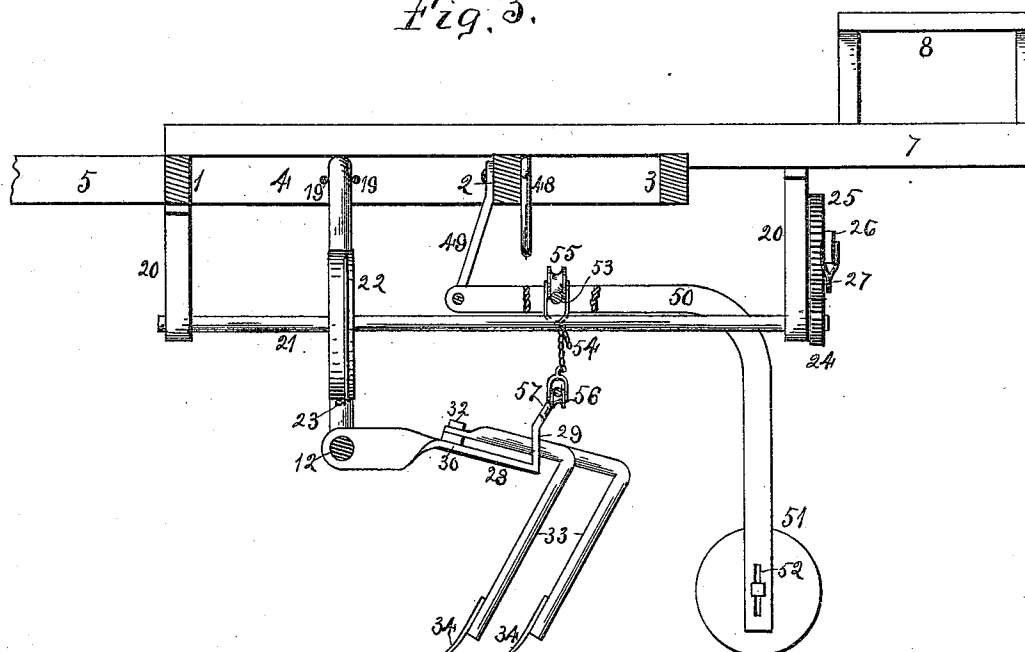


Fig. 5.



Witnesses,
N. M. Ward
& Behel

Inventor:
William F. Scott
By A. G. Schell
Attor

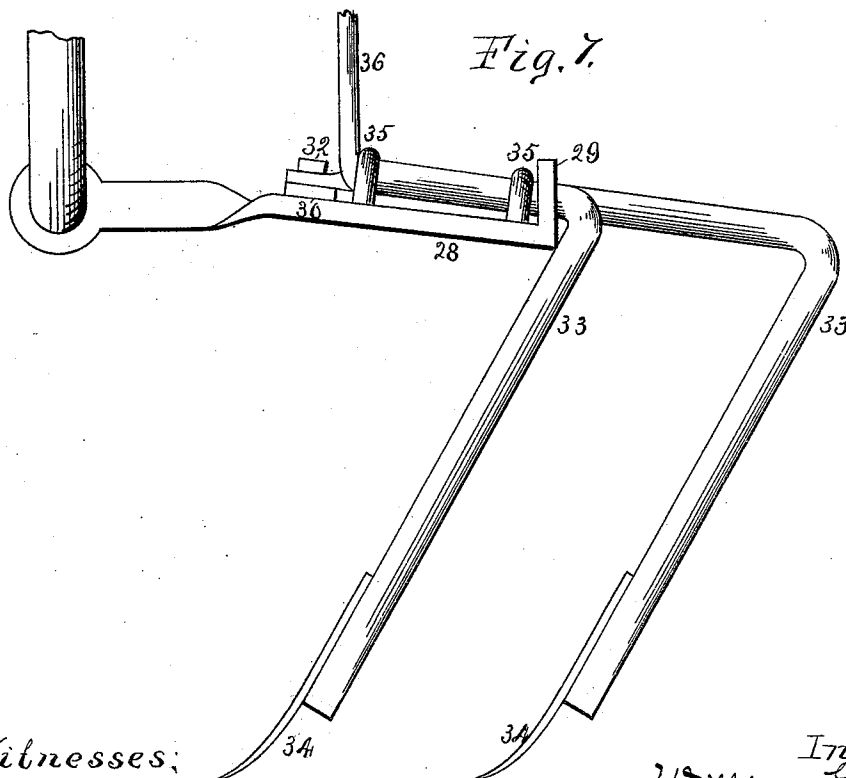
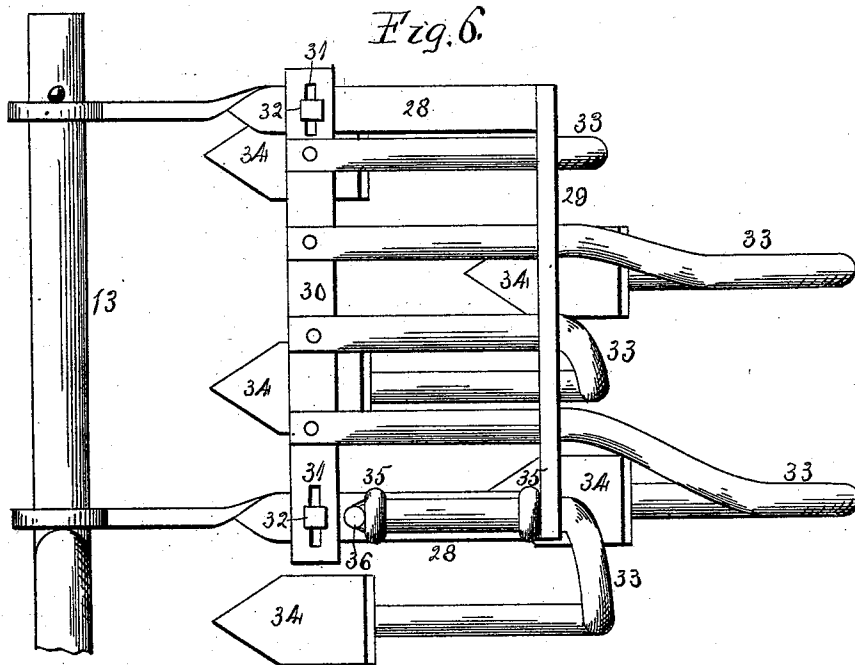
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W. G. SCOTT.
CULTIVATOR.

No. 554,841.

Patented Feb. 18, 1896.



Witnesses:
W. M. Ward
& Behel.

Inventor:
William G. Scott
By A. O. Behel
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM G. SCOTT, OF ROCK DELL, MINNESOTA.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 554,841, dated February 18, 1896.

Application filed July 22, 1895. Serial No. 556,847. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. SCOTT, a citizen of the United States, residing at Rock Dell, in the county of Olmsted and State of Minnesota, have invented certain new and useful Improvements in Cultivators, of which the following is a specification.

The object of this invention is to cultivate two rows of corn at a time, the cultivator being under the control of the attendant.

In the accompanying drawings, Figure 1 is a plan view of a cultivator embodying my invention, in which portions are broken away. Fig. 2 is a front elevation showing the mechanism for supporting and moving the coupling-bar. Fig. 3 is a rear elevation showing the supports and raising and lowering mechanism for the rear end of the shovel-heads. Figs. 4 and 5 are transverse sections. Fig. 6 is a plan view of one of the shovel-heads. Fig. 7 is a side elevation of one of the shovel-heads.

The main frame consists of the front, center, and rear lengthwise bars, 1, 2, and 3, respectively, held separated by end bars, 4. To the lengthwise bar 1 are secured tongues 5 and 6, and to the rear lengthwise bar, 3, is secured a support 7 for the seat 8. From the under face of the transverse end bars, 4, depend brackets 9 supporting the carrying-wheels 10.

Between the front and center lengthwise bars is located a coupling-bar composed of the two arch-bars 11, having a central horizontal portion, 12, and end portion, 13. This coupling-bar is held in position by four braces or stays each composed of two arms 14, one having a pivotal connection at its upper end with the rear face of the front lengthwise bar, 1, and the other having a pivotal connection at its upper end with the front face of the center lengthwise bar, 2. At the point of junction of these arms is supported a roller 15, upon a horizontal axis 16, and a roller 17, upon a vertical axis 18. The center and end portions of the coupling-bar rest upon the rollers 15, and the rollers 17 lie in contact with the rear face of the center and end portions.

The upper end of the coupling-bar is held in a vertical position by rods 19, running parallel with the coupling-bar and connected with the end bars of the supporting-frame, and these rods, in connection with the rollers, serve

as guides for the coupling-bar when moved in its lengthwise direction.

From the under face of the front lengthwise bar, 1, and the seat-support 7 depend brackets 20, which support a shaft 21. A drum 22 is connected to the shaft 21, and around which is passed flexible connections 23, having a connection with each of the arch-bars 11. To the other end of the shaft is secured a gear-wheel 24, which meshes with a gear-wheel 25, located above it and held in position upon a stud extending from the rear bracket. To this gear-wheel 25 is secured a bar 26, extending parallel with the lengthwise bars of the main frame, and to each end is pivoted a stirrup 27. This bar is located beneath the driver's seat and within easy reach of the driver's feet, and by the depression of either end of this bar 26 the shaft 21 is located, through its gear connection therewith, and the coupling-bar is moved in its lengthwise direction toward either end, according to which end of the bar 26 is depressed.

Upon each of the end portions, 13, and center portion, 12, of the coupling-bar is located a head supporting a series of teeth. One of the heads is shown at Figs. 6 and 7, each being composed of side bars 28 and an end bar 29. The side bars have their free ends provided with horizontal openings receiving the coupling-bar. A cross-bar 30 has its ends provided with lengthwise slots 31 and is held in position in connection with the side bars of the head by bolts 32 passing through the slots into the side bars. A series of shovel-standards 33 pass through the end bar of the head, having one end loosely connected to the cross-bar 30, the lower ends of the shovel-standards supporting shovels 34.

By movement of the cross-bar 30 in its lengthwise direction the standards will be turned, consequently turning the shovels. The inner shovel-standard of each series has a pivotal connection with the inner side bar of the head by the eyes 35, surrounding its upper portion. One end of the standard has an upward extension 36.

To the vertical portions of the coupling-bar are secured eyes 37, supporting a rod 38 in a rotatable manner. The lower end 39 of the rod is turned horizontally and rearwardly and

made in eye form, through which the uprising extension 36 of the inner shovel-standard passes. The upper end 40 of the rod is also bent rearwardly, having its end turned vertically. A bar 41 connects the vertical ends of the upward extensions of two of the rods 40 on each side of the center of the machine. A hand-lever 42 has a pivotal connection with the bar 41, also a pivotal connection at one end with a stationary support 43, connected to one of the vertical portions of the coupling-bar. This support has an extension 44, upon which the hand-lever rests, and a detent 45, extending from the under face of the hand-lever, engages the extension, thereby forming a connection between the lever and a stationary portion connected to the coupling-bar. By means of this hand-lever through its connection with the vertical extension of the inner shovel-standard the standard can be rocked upon its pivotal connection with its head, thereby moving the shovel transversely of the machine for the purpose of cultivating closer to the row of corn on either side.

The shovels of the two outside heads are held to the proper working depth by a chain 46, connected at one end to the head, its other end connected to a sheave 47, supported by a rod 48, depending from the central lengthwise bar 2 of the main supporting-frame and capable of sliding thereon. The working depth of the shovels of the two inside heads is regulated in a different manner.

From the front face of the central lengthwise bar, 2, of the main frame depends a yoke 49, which supports two frames in a pivotal manner, each frame composed of two bars 50 brought together some distance in rear of their pivotal connection with the yoke 49 and curved downward, supporting a wheel 51 in a vertically-adjustable manner by means of the slots 52. Each of these frames has a cross-bar 53 connecting the upper ends of the bars 50. One of these frames is located over each of the inner heads supporting the shovels, and a connection is formed between the heads and frames by a chain 54, having a sheave 55 at one end resting upon the cross-rods 53 and a sheave 56 at its other end sliding in contact with a yoke 57 extending upwardly from the cross-bar 29 of the head. The wheels of the frames ride upon the ground in rear of the shovels of the two central heads, and by their connection the shovels are held at the proper working depth. The chains 46 and 54 may be shortened to vary the working depth of the shovels.

Owing to the implement being constructed to cultivate two rows at a time it must necessarily be of considerable width, and by sup-

porting the inner head independent of the main frame they can accommodate themselves to the inequalities of the ground, while the two outside heads conform to the rise and fall of the carrying-wheels.

It will be noticed that a duplicate set of mechanism is employed for each side of the implement and the movements of each side are independent with the exception of the movement of the coupling-bar, which carries the four heads with it, and each side has a raising and lowering lever consisting of a rod 58 supported in bearings 59, having its center portion in bail form and one end, 60, forming a handle. To the center portion is connected a chain 61, its other end connected to the outside head. A chain 62 connects the inner head with the bail portion and a chain 63 connects the bail portion and the frame pivotally supported by the yoke 49, and by means of this lever the heads and frame of one side are raised and lowered in unison, and when elevated the bail will pass its pivotal center, bringing the handle portion in contact with the rear lengthwise bar of the main frame, thereby holding the parts suspended.

By employing the flexible connection between the heads and their supports the rear ends of the heads will be carried parallel with their forward ends, the sheaves permitting such movements.

I claim as my invention—

1. In a double-row cultivator, the combination of a main supporting-frame, four sets of shovels carried by the main frame, and an auxiliary frame for each of the central sets supporting the rear ends thereof.

2. In a cultivator, the combination of a main supporting-frame, a coupling-bar, four sets of shovels pivotally connected to the coupling-bar, a shaft supported in bearings, a drum secured to the shaft, a flexible connection between the drum and coupling-bar, and a lever for rotating the shaft.

3. In a double-row cultivator, the combination of a main supporting-frame, a head carried thereby, a series of shovel-standards carried by the head having an adjustable connection therewith in unison.

4. In a cultivator, the combination of a main supporting-frame, two heads carried thereby, a series of shovel-standards carried by each head, one of the shovel-standards of each head made movable independent of the others, transverse to the line of draft.

WILLIAM G. SCOTT.

Witnesses:

BURT W. EATON,
ELLA GRAFF.