(No Model.) 2 Sheets—Sheet 1.

W. SOBEY.

CULTIVATOR.

No. 389,860. Patented Sept. 18, 1888.

Fig. 1

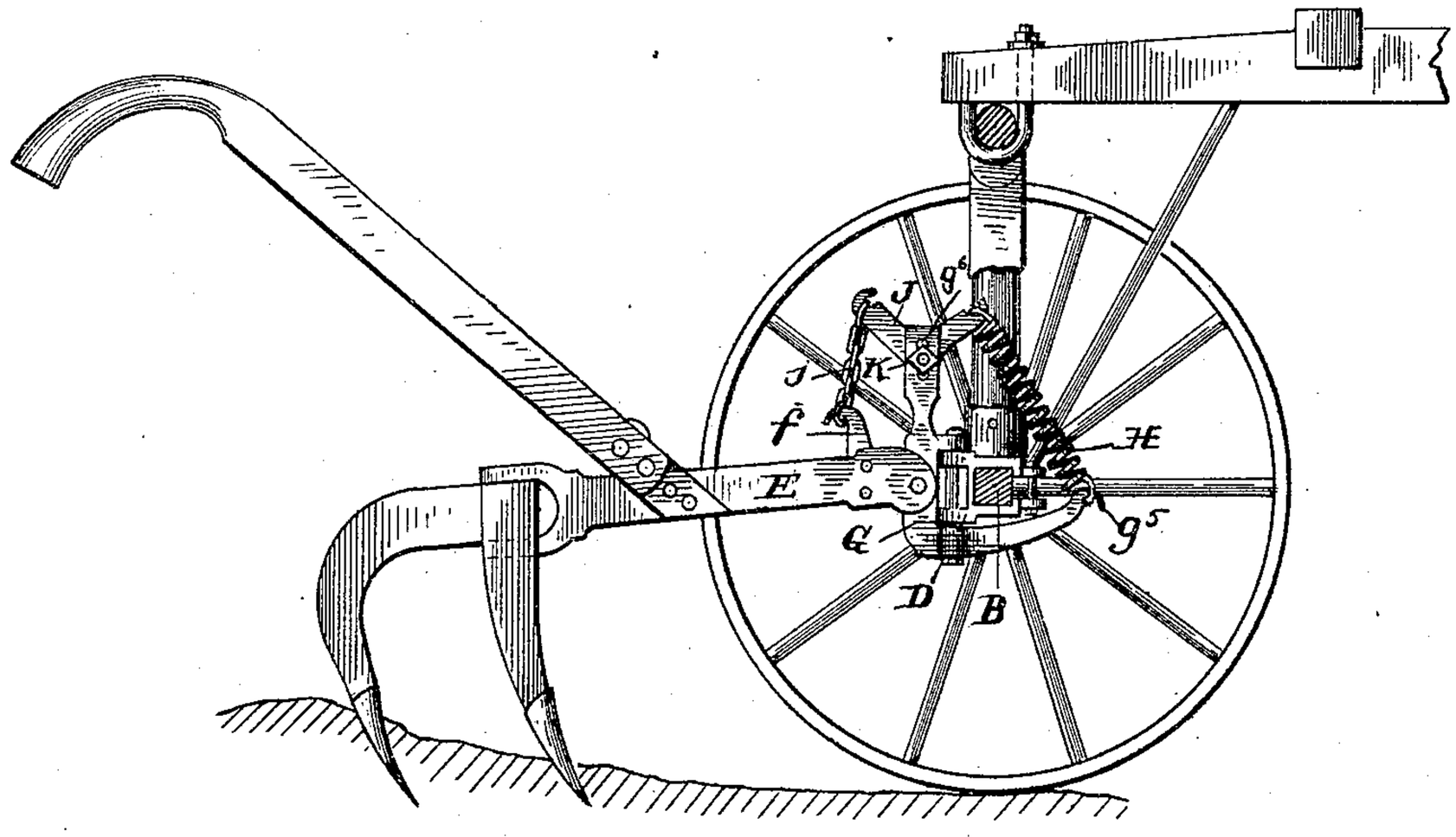

Fig. 2.

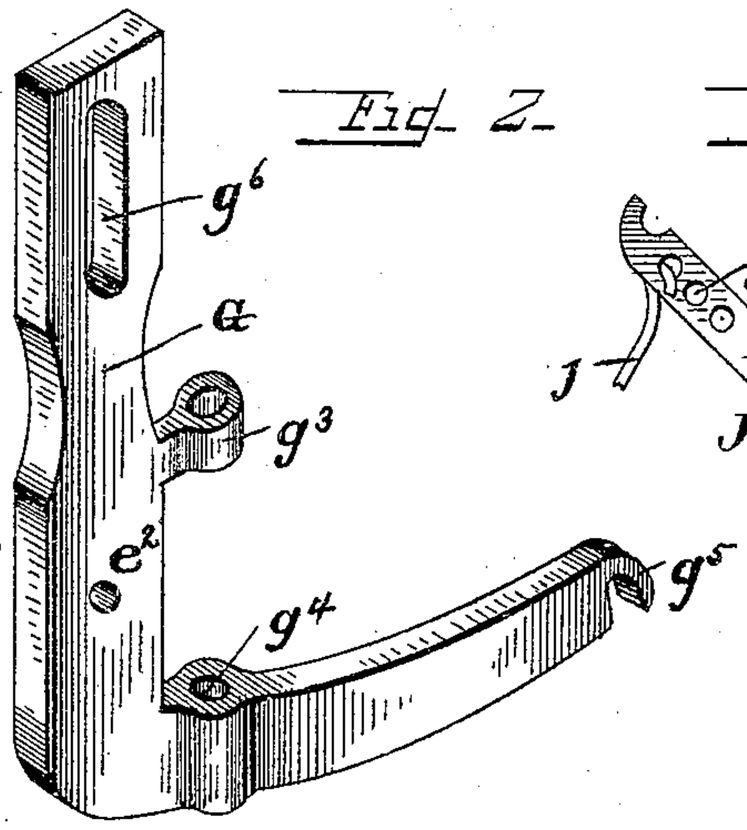

Fig. 5.

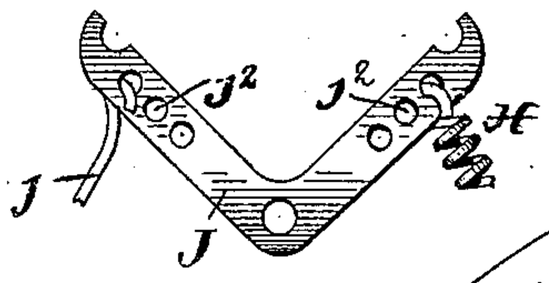

Fig. 3.

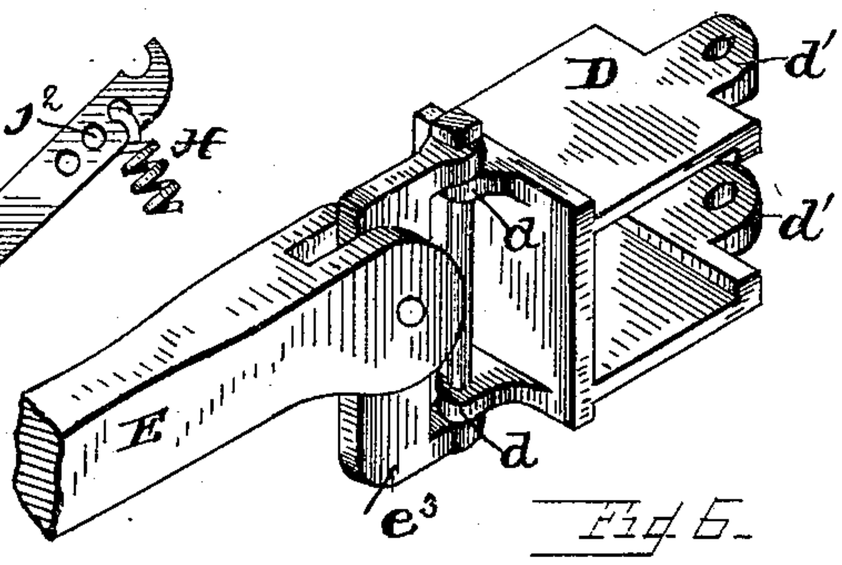

Fig. 6.

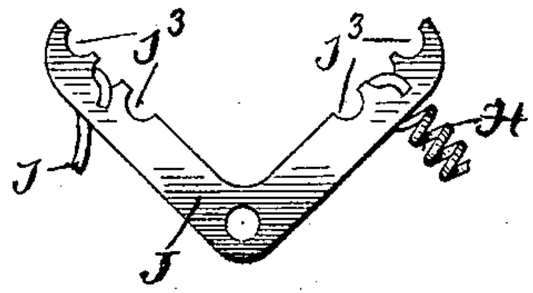

Fig. 4.

Witnesses.

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(No Model.) 2 Sheets—Sheet 2.

W. SOBEY.

CULTIVATOR.

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Fig. 7.

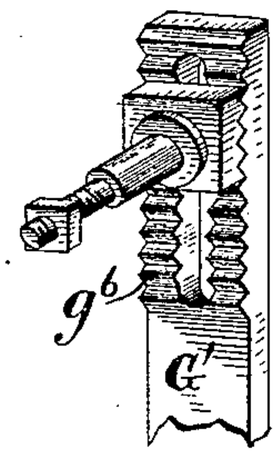


Fig. 8.

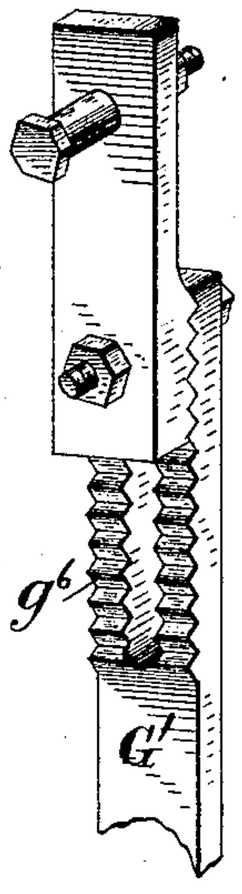
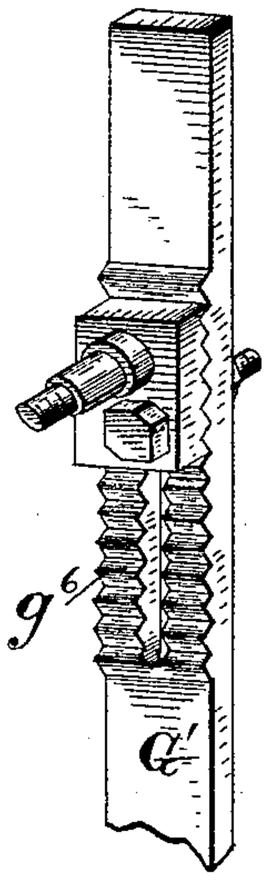


Fig. 9.



Witnesses.

G. A. Tauberschmidt

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Inventor.

William Sobey

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Whitaker & Prevost

UNITED STATES PATENT OFFICE.

WILLIAM SOBEY, OF RACINE, WISCONSIN, ASSIGNOR TO THE J. I. CASE PLOW WORKS, OF SAME PLACE.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 389,860, dated September 18, 1888.

Original application filed January 3, 1888, Serial No. 259,557. Divided and this application filed March 31, 1888. Serial No. 269,059. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SOBEY, a citizen of the United States, residing at Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Cultivators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to wheel-cultivators, and provides a construction which will assist in raising the plows and which will sustain them when raised as long as may be desired.

The peculiarities of construction and combination which constitute my invention are illustrated in the accompanying drawings, and said invention is fully disclosed in the following specification and claims.

In the drawings, Figure 1 is a section through a wheel-harrow, showing my lifting device in elevation. Figs. 2, 3, 4, 5, 6, 7, 8, and 9 are detail views of parts of the machine.

In the constructions usually employed to lift the plows of cultivators and similar machines the lifting devices are attached in such a manner to the main frame of the machine that when the plow-beams are moved to either side of the line of draft they become out of alignment with the said lifting devices and the lifting force cannot be directly applied. I obviate this difficulty by providing a construction of lifting device which is always in line with the plows and so always exerts its force directly, no matter how much the plow-beams are moved laterally. This forms an important feature of my invention.

In the drawings, the axle B is provided with a clamp, D, constructed and secured to the axle, as shown in Fig. 3, and provided with ears d and d' at the front and rear of the axle for the passage of bolts. To the ears d is pivoted the angular or L-shaped frame or standard G. (Shown in detail, Fig. 2.) This frame or standard is provided with the ear g^3, and a perforation, g^4, in its lower arm for the passage of the bolt which pivots it to the clamp D. The lower extremity of this angular standard is provided with a hook, g^5, and its upper end is formed with a slot, g^6. Near the central portion of this frame or standard is an aperture, e^2, through which is bolted one of the parallel plow-beams E, which is provided with a recess to embrace the standard. To another similar clamp, (shown in Fig. 3,) or to another portion of the same clamp, is attached a wing, e^3, of corresponding thickness to the frame or standard, to form another hinge-connection, and to this wing is bolted in a similar manner the other plow-beam E. The plows and handle are attached to these beams in precisely the same manner as is described in my application for Letters Patent, Serial No. 259,557, filed January 3, 1888, and by the use of these hinges and parallel beams a direct forward motion of the plows is secured.

In the slot g^6 of the angular frame or standard is inserted a bolt, K, or similar device, which carries a bell-crank lever, J. This bolt may be formed, as shown in Fig. 4, in any other desired way, and connects the bell-crank lever firmly to the standard, but permits it to turn upon the bolt as a pivot. A spring, H, connects the forward end of the lever J with the hook g^5 of the angular frame or standard, and the other end of the bell-crank lever is connected to the hook f on one of the parallel plow-beams E by means of a link or chain, j. The adjustment of the tension of the spring H is accomplished by adjusting the bolt to which the bell-crank lever is attached at different points in the slot g^6 of the angular frame or standard. The operation of raising the plows and sustaining them in position is identical with the operation described in my application before referred to. By this means the lifting devices are always held in line with the plow-beams and move with them, so that the force of the spring in raising the plows is always directly applied.

In Figs. 5 and 6 I have shown two methods by which I may change the leverage of the bell-crank lever on either side to effect the adjustment of the spring H or the link j in relation to each other. I provide one or both arms of the lever J with apertures j^2, as shown in Figs. 5 and 6, or with notches j^3, as shown in Fig. 6, by means of which the force of the spring may be regulated as the spring becomes weakened by use and allowance be made for heavier or lighter plows.

In Figs. 7, 8, and 9 I have shown means for

regulating the tension of the spring H by raising or lowering the bell-crank lever upon its supporting-standard. I may provide the bolt passing through the lever J and standard with a portion having corrugations meshing with corrugations on the standard, the said standard being provided with a slot to permit of raising or lowering the bolt; or I may form the standard of two parts, each provided with corrugations, one of said parts being also provided with a slot, by which means the same vertical adjustment may be secured without removing the bolt which carries the bell-crank lever.

I may use one clamp or hinge, D, for each plow-beam, or I may attach the two hinges to one clamp, as found most desirable.

I have shown my invention in connection with a two-wheeled cultivator; but it may be applied to a sulky-plow or any other like machine having vertically-moving beams, plows, shovels, or teeth which it is desirable to raise and sustain in an elevated position.

I do not limit myself to the exact constructions herein shown and described, as many modifications of the same may be made without departing from the spirit of my invention.

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

1. The combination, with a beam or drag-bar, of an axle, a frame pivotally connected with said axle, and a lever mounted on said frame, connected with said beam or drag-bar by an unyielding connection and connected to said frame by an elastic connection, substantially as described.

2. The combination, with a beam or drag-bar, of an axle, a frame having a vertical part pivotally connected with the axle, a lever mounted on the vertical part of said frame, an unyielding connection between the lever and the beam or drag-bar, and an elastic connection between the lever and the frame, substantially as described.

3. The combination, with a beam or drag-bar, of an axle, an L-shaped frame pivoted to said axle by a vertical pivot, a bell-crank lever adjustably mounted on the vertical arm of said frame, an unyielding connection between one arm of said lever and the beam or drag-bar, and an elastic connection between the other arm and the horizontal arm of said frame, substantially as described.

4. The combination, with a beam or drag-bar, of an axle, a frame pivoted to the axle by a vertical pivot, a bell-crank lever mounted on said frame, an unyielding connection between one arm of said lever and the beam or drag-bar, and an elastic connection between the other arm of the lever and the frame, said connections being adjustable upon the lever, substantially as described.

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

WILLIAM SOBEY.

Witnesses:
CHARLES H. LEE,
H. M. WALLIS.