

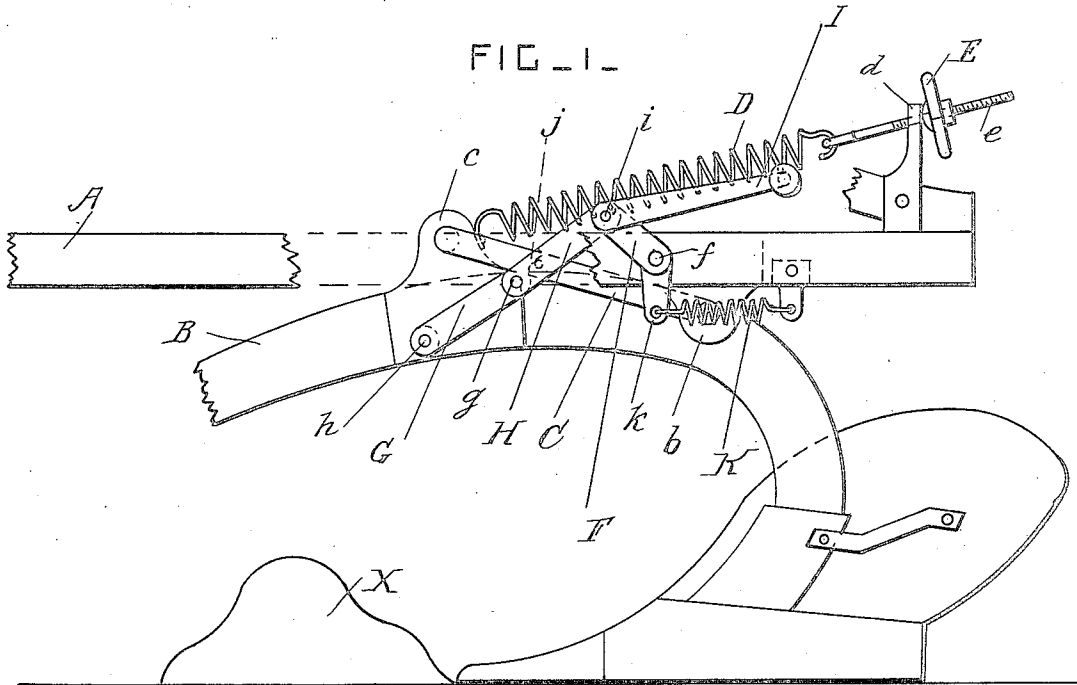
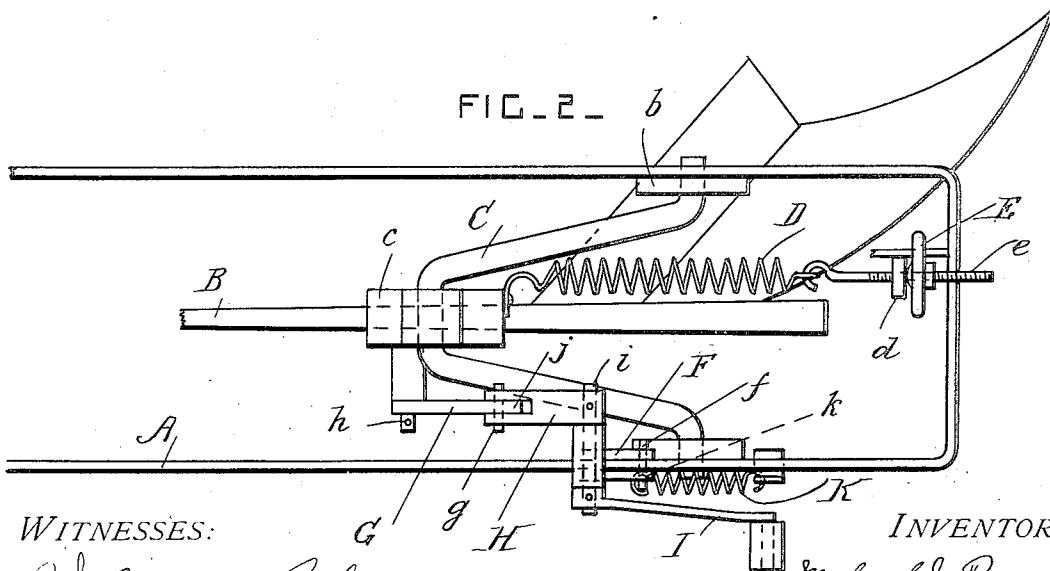
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PATENTED FEB. 12, 1907.

M. J. BREEN.
PLOW.

APPLICATION FILED JUNE 11, 1906.

3 SHEETS—SHEET 1.



WITNESSES:

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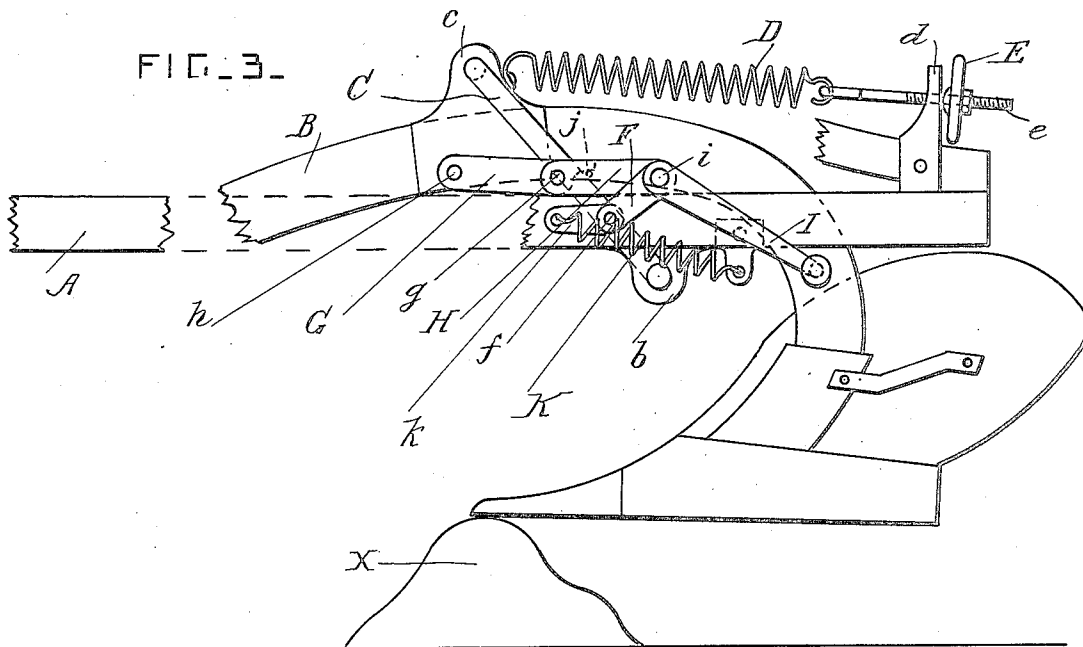
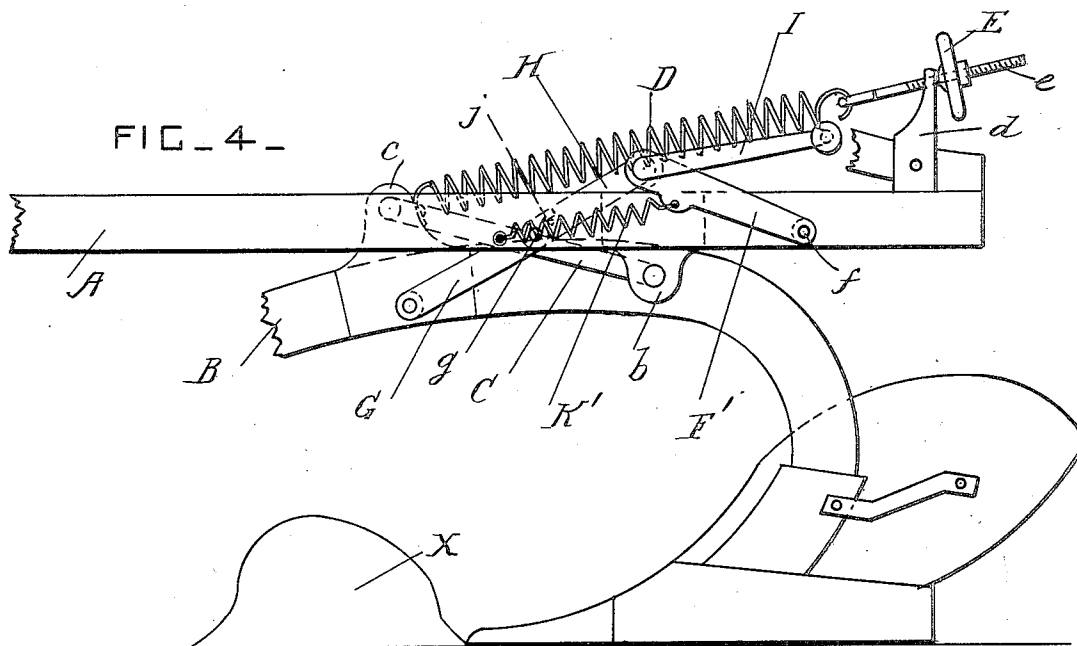
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3 SHEETS—SHEET 2.



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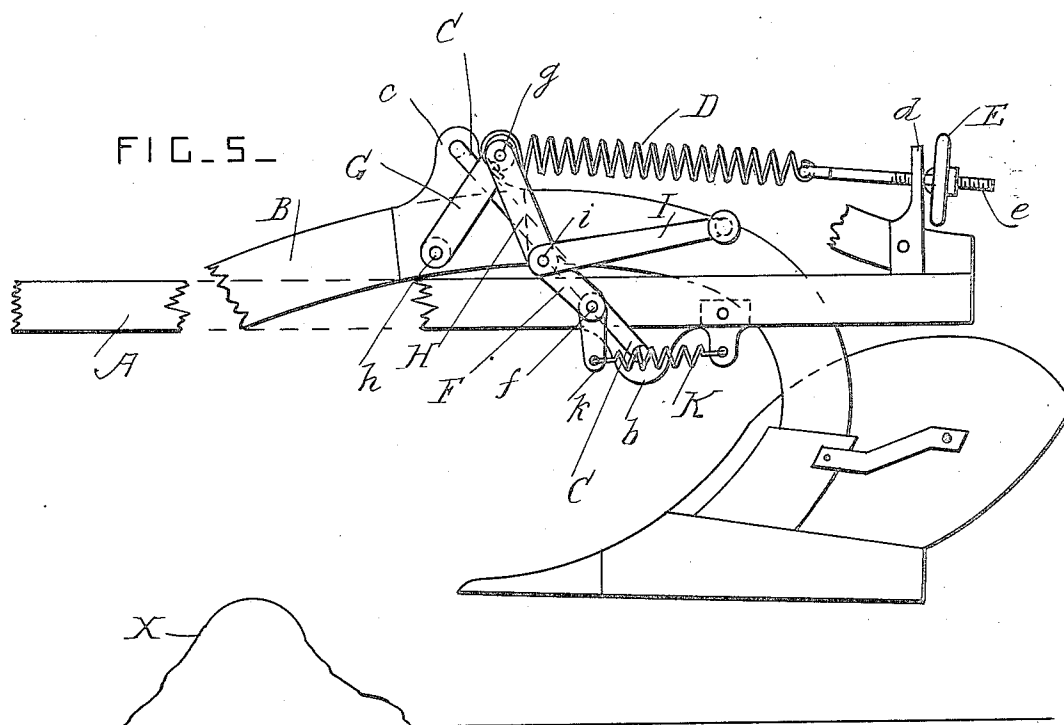
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3 SHEETS—SHEET 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

MICHEAL J. BREEN, OF ROCKFORD, ILLINOIS.

PLOW.

No. 843,993.

Specification of Letters Patent.

Patented Feb. 12, 1907.

Application filed June 11, 1906. Serial No. 321,170.

To all whom it may concern:

Be it known that I, MICHEAL J. BREEN, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Plows; 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.

This invention relates to sulky or gang plows provided with lifting attachments; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed, whereby the plow is raised automatically when it strikes an obstruction without interfering with the action of the lifting attachment.

In the drawings, Figure 1 is a side view of a portion of a plow constructed according to this invention and showing the plow in its lowest position. Fig. 2 is a plan view of the same. Fig. 3 is a side view showing the plow raised automatically by contact with an obstruction and passing over it. Fig. 4 is a side view similar to Fig. 1, but showing a modification. Fig. 5 is a side view, but shows the plow in a raised position with the toggle-links folded upward.

A is a portion of the supporting-frame of a sulky-plow of any approved construction and provided with the usual ground-wheels, which are not shown in the drawings.

B is the beam of a plow of any approved construction. This plow-beam is connected to the frame A by means of a bail or arm C, which is pivoted at its front end to a bracket c at the upper part of the plow-beam. The rear end of the arm C is pivoted to a bracket b on the lower side of the frame A, so that the said arm is normally arranged in an inclined position.

Dis the lifting-spring, which is arranged between the bracket c and a bracket d on the rear part of the frame A.

E is a hand-wheel, and e is a screw for adjusting the tension of the spring D.

F is an arm which is pivoted at one end to the frame A by a pin f.

G and H are a pair of toggle-links pivoted together by a pin g. The lower link G is pivoted to the plow-beam by a pin h, and the upper link is pivoted to the arm F by a pin i at the free end of the said arm. I is a foot-lever connected to the upper end portion of

the link H. A stop j of any approved construction is provided to prevent the said toggle-links from folding downwardly. The arm F projects upwardly and forwardly from its pivot, and the pair of toggle-links when extended are arranged diagonally of the arm C.

K is the return-spring. One end of this spring is secured to the frame A to the rear of the arm F in the form of the apparatus shown in Figs. 1, 2, and 3, and its front end is secured to a lug k, which projects downwardly from the pivoted end portion of the arm F.

When the parts are in the position shown in Fig. 1, the plow can be raised by depressing the foot-lever. This causes the toggle-links to suddenly fold upwardly, and the plow is raised by the lifting-spring D. When, however, the plow strikes a stone X, as shown in Fig. 1, it is raised automatically to the position shown in Fig. 3, so that it may pass over the stone without injury. The diagonally-crossed arm and pair of toggle-links permit the plow to be raised by contact with the stone without the said toggle-links being folded and against the tension of the return-spring K, which is a lighter spring than the lifting-spring D, and the plow is returned to its normal position by the return-spring after passing over the stone.

In the modification shown in Fig. 4 the pivoted arm F' is longer than the arm F in Fig. 1, and the return-spring K' is connected to the upper end portion of the arm F' instead of being connected to a lug on its lower and pivoted end portion. The spring K' is also connected to the frame A on the opposite side of the pivot-pin f from the spring K. (Shown in Fig. 1.) This construction is preferred as working more satisfactorily than the construction shown in Fig. 1; but the action of both of them is the same, the plow being raised by contact with an obstruction and lowered by the return-spring without the toggle-links being folded and without interfering with the action of the lifting-spring. The action of the lifting-spring is also not impeded by the return-spring when the toggle-links are folded upwardly by means of the foot-lever, as the return-spring is a comparatively light spring, and the foot-lever merely has to force the knee-joint of the toggle-links past the center to permit the lifting-spring to raise the plow. It is not necessary, however, that the return-spring be of less strength than the lifting-spring, as each

spring may be of any desired strength. It is also immaterial that the toggle-links be connected to the frame or to a bracket secured to the frame, as they may be connected to any convenient part, which is in turn connected with the frame.

What I claim is—

1. The combination, with a supporting-frame, and a plow-beam; of lifting mechanism provided with foldable toggle-links and pivotally connecting the said plow-beam with the said frame and permitting the plow-beam to rise and fall without folding the toggle-links when the plow passes over an obstruction, means for folding the said toggle-links at will, and a spring which raises the plow-beam when the said toggle-links are folded.

2. The combination, with a supporting-frame, and a plow-beam; of lifting mechanism comprising an arm, and a pair of toggle-links arranged diagonally of the said arm, said arm and toggle-links being pivotally connected with the said frame and plow-beam and permitting the plow-beam to rise and fall without folding the toggle-links when the plow passes over an obstruction, means for folding the said toggle-links at will, and a spring which raises the plow-beam when the said toggle-links are folded.

3. The combination, with a supporting-frame, and a plow-beam; of an arm pivoted between the said frame and plow-beam, a lifting-spring for the plow-beam connected to the said frame, a pair of toggle-links arranged diagonally of the said arm and pivotally connected with the said frame and plow-beam and permitting the plow-beam to rise and fall without folding the said toggle-links when the plow passes over an obstruction,

means for depressing the said plow-beam automatically when the said toggle-links are not folded, and means for folding the said toggle-links at will and thereby causing the said lifting-spring to raise the plow-beam.

4. The combination, with a supporting-frame, and a plow-beam; of an arm pivoted between the said frame and plow-beam, a lifting-spring for the plow-beam connected to the said frame, a pair of toggle-links arranged diagonally of the said arm and pivoted at one end to the said plow-beam, an arm pivotally connecting the other end of the said toggle-links with the said frame, a return-spring operatively connected with the last said arm and with the said frame, and means for folding the said toggle-links at will.

5. The combination, with a supporting-frame, and a plow-beam; of an arm pivoted between the said frame and plow-beam, a lifting-spring for the plow-beam connected to the said frame, a pair of toggle-links arranged diagonally of the said arm and pivoted at one end to the said plow-beam, an arm having its lower end pivoted to the said frame and having its upper end pivoted to the other end of the said toggle-links, a return-spring secured to the upper end portion of the last said arm and to the said frame in front of the pivot of the last said arm, and means for folding the said toggle-links at will.

In testimony whereof I have affixed my signature in the presence of two witnesses.

MICHAEL J. BREEN.

Witnesses:

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F. E. DICKINSON.