No. 843,994. PATENTED FEB. 12, 1907.

M. J. BREEN.

PLOW.

APPLICATION FILED JUNE 11, 1906.

3 SHEETS—SHEET 1.

FIG. 1.

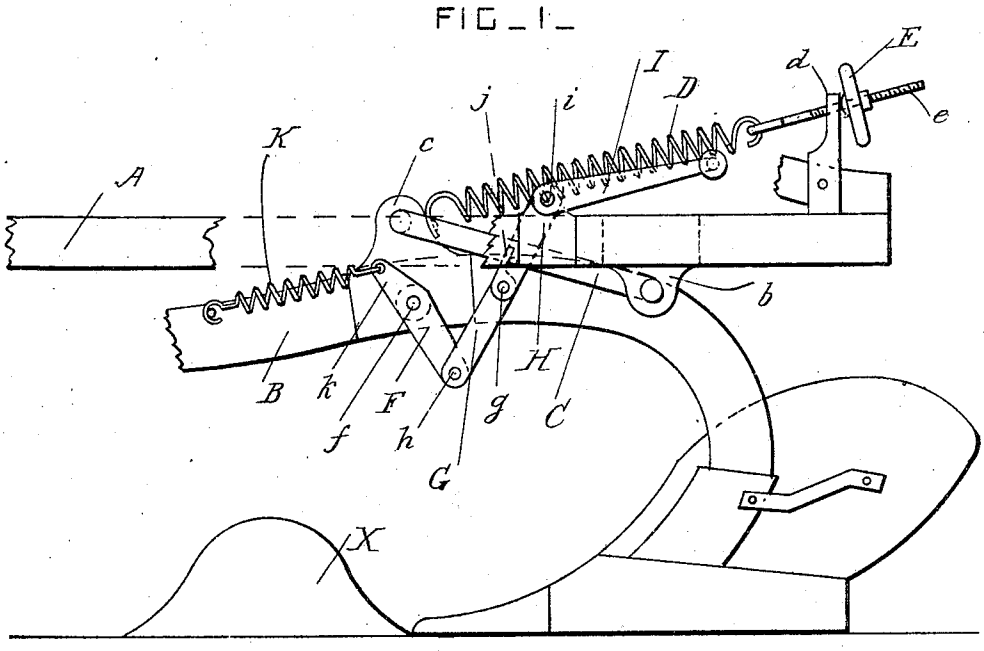
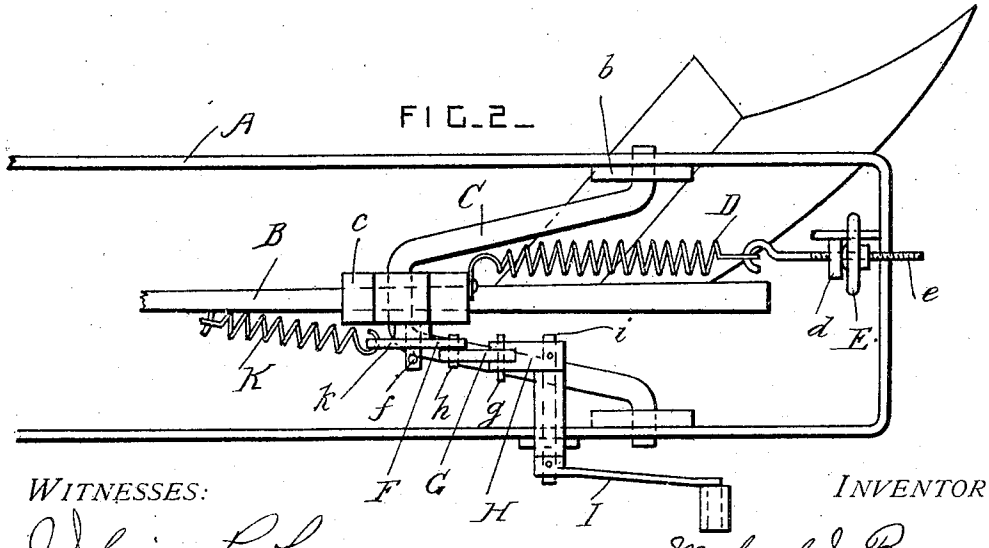


FIG. 2.



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3 SHEETS—SHEET 2.

FIG. 3.

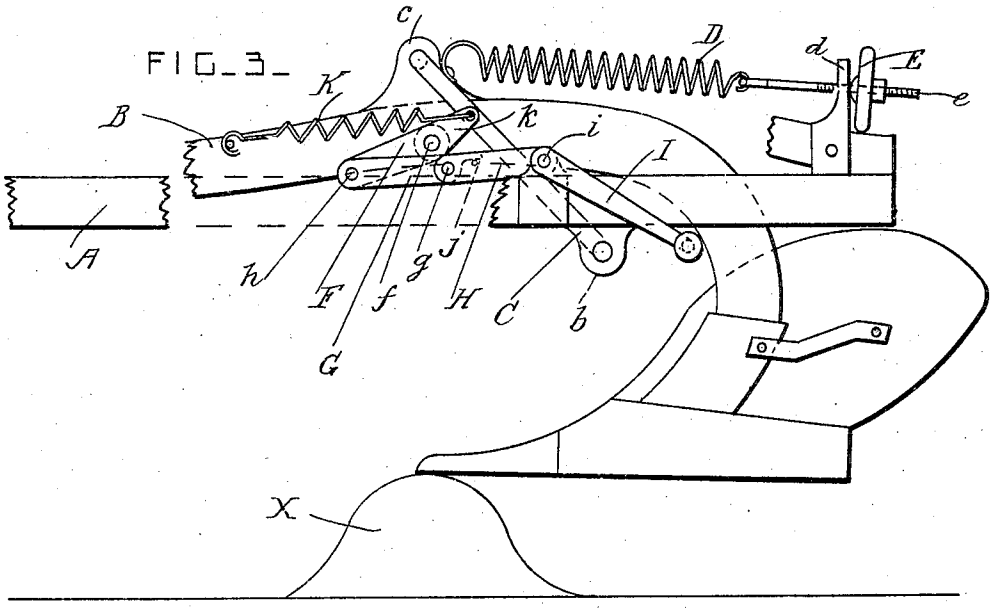
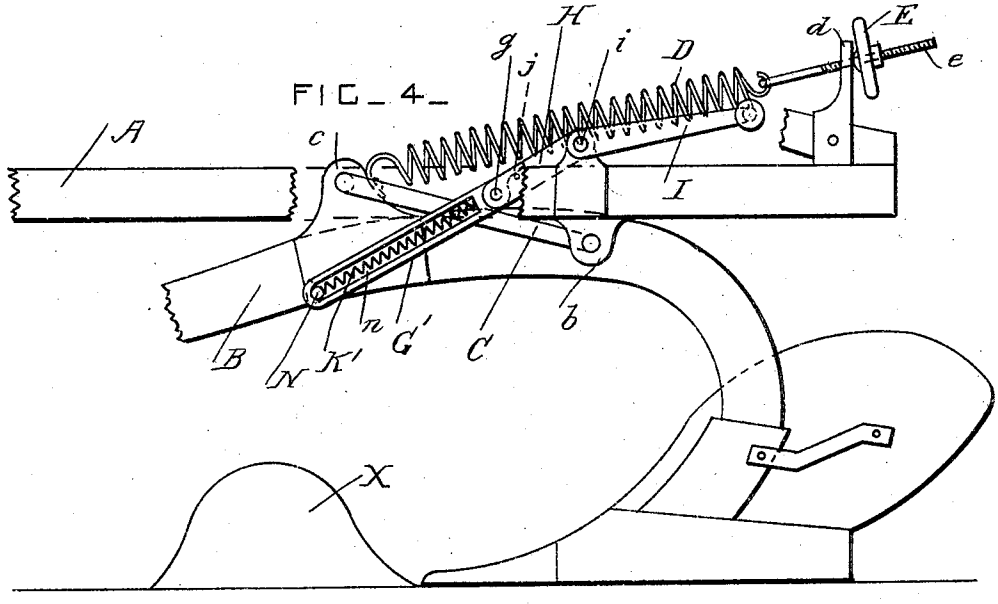


FIG. 4.



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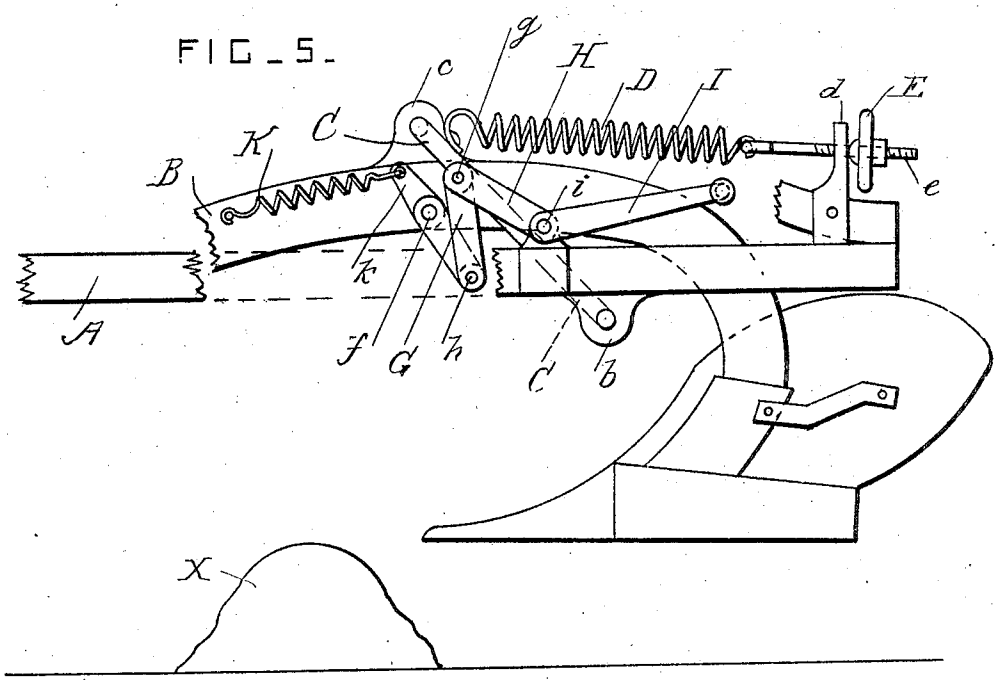
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3 SHEETS—SHEET 3.

FIG. 5.



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UNITED STATES PATENT OFFICE.

MICHEAL J. BREEN, OF ROCKFORD, ILLINOIS.

PLOW.

No. 843,994. Specification of Letters Patent. Patented Feb. 12, 1907.

Application filed June 11, 1906. Serial No. 321,171.

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 and 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.

D is 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 or lever which is pivoted to the plow-beam B 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 free end of the arm F by a pin *h*, and the said arm normally projects downwardly and rearwardly from its pivot. The upper link H is pivoted to the frame A by a pin *i*. I is a foot-lever or trip 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, and the said 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 plow-beam B in front of the arm F in the form of the apparatus shown in Figs. 1, 2, and 3, and its other end is secured to a lug *k*, which forms an extension of the arm or lever F on the front side of its pivot.

When the parts are in the positions shown in Fig. 1, the plow can be raised at will by depressing the foot-lever or trip. 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. The return-spring K is a lighter spring than the lifting-spring D, and it operates to return the plow to its normal position or to assist in so returning the plow after the plow has passed over the stone.

In the modification shown in Fig. 4 the pivoted arm F is dispensed with and the lower link G′ is provided with a slot *n*, arranged longitudinally of it and engaging pivotally with a pin N, which projects from the plow-beam. The return-spring K′ is arranged in the slot *n* and holds the link G′ in operative connection with its pivot-pin and assists in returning the plow to its normal position, as hereinbefore described with reference to the return-spring K.

The action of both forms of the device is the same, the plow being raised by contact with an obstruction and free to rise and fall in passing over an obstruction without the toggle-links being folded and without interfering with the action of the lifting-spring. The action of the lifting-spring also is 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 tog-

gle-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 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 their upper end to the said frame, a yieldable spring connection between the lower end of the said toggle-links and the said plow-beam, said arm and toggle-links permitting the plow-beam to rise and fall without folding the toggle-links when the plow passes over an obstruction, and means for folding the said toggle-links at will and thereby causing the said lifting-spring to raise the plow-beam.

2. 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 their upper end to the said frame, an arm pivotally connecting the lower end of the said toggle-links with the said plow-beam, a return-spring operatively connected with the last said arm and with the said plow-beam, and means for folding the said toggle-links at will.

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 pivoted at their upper end to the said frame, an arm pivotally connecting the lower end of the said toggle-links with the said plow-beam and projecting downwardly and rearwardly from its pivot and provided with a lug or extension on the front side of its pivot, a return-spring connected to the said lug and to the said plow-beam in front 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.

MICHEAL J. BREEN.

Witnesses:
D. BENNETT, Jr.,
F. E. DICKINSON.