

(No Model.)

2 Sheets—Sheet 1.

A. FISHERBUCK.

SULKY PLOW.

No. 283,877.

Patented Aug. 28, 1883.

Fig. 1.

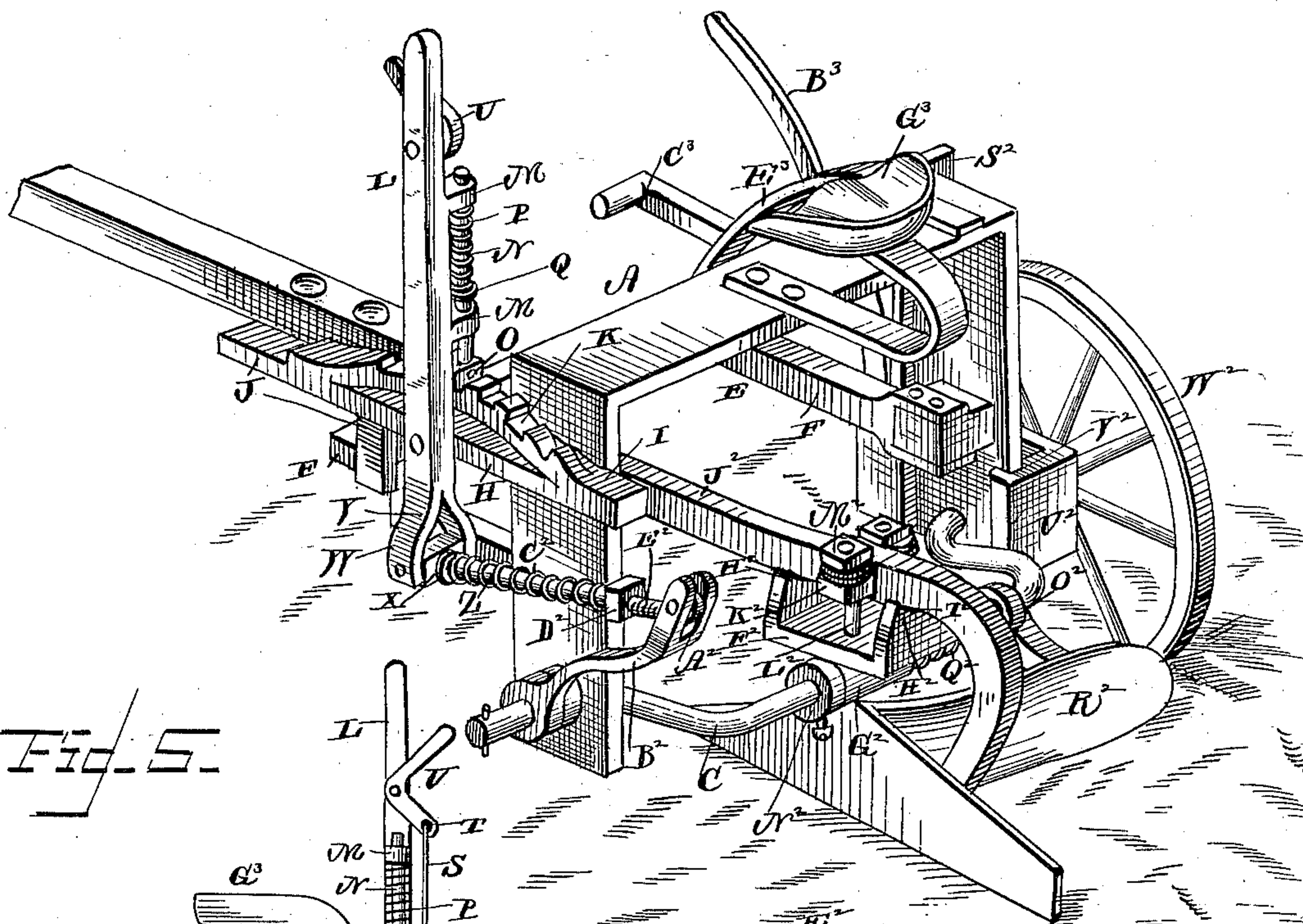
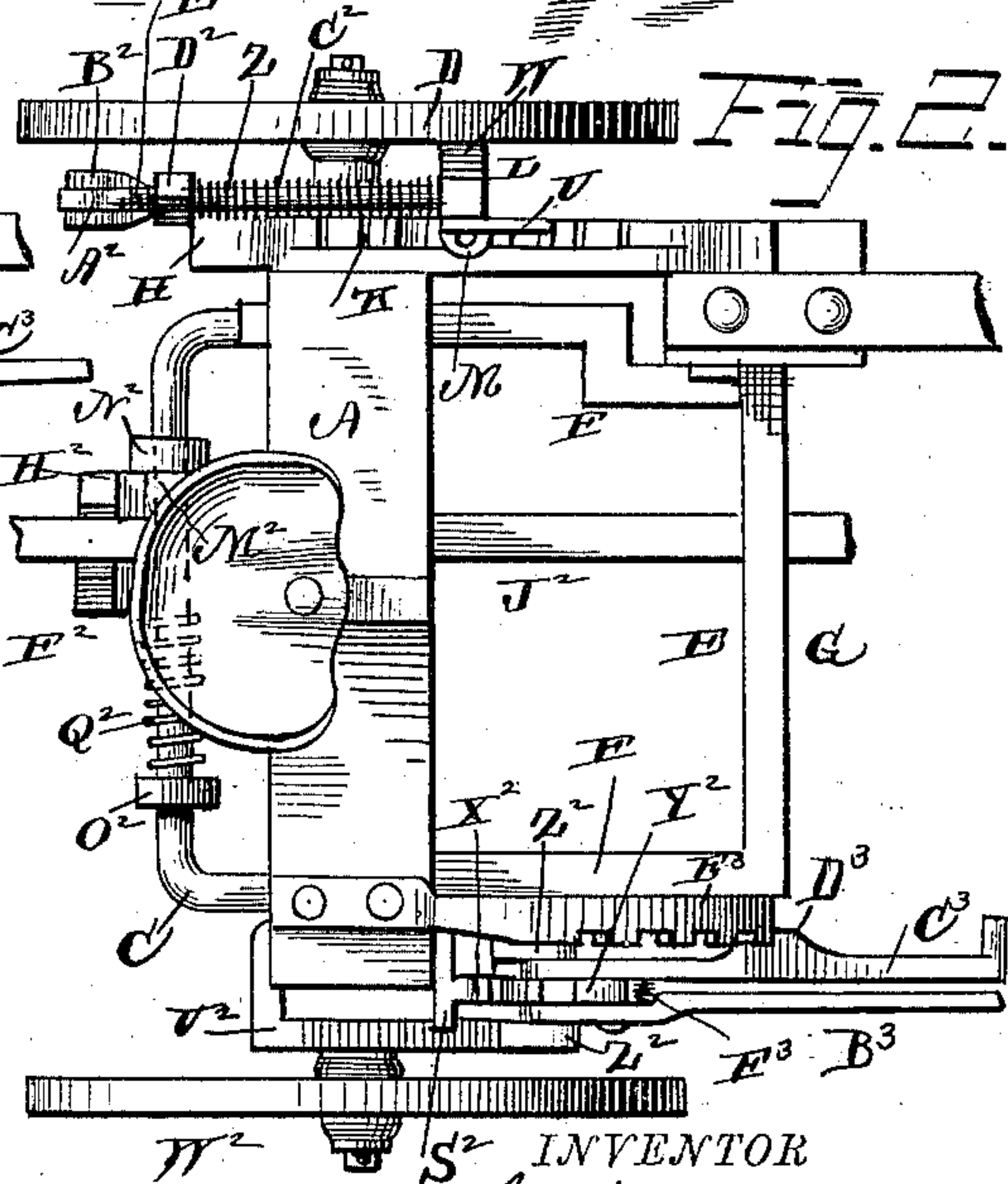
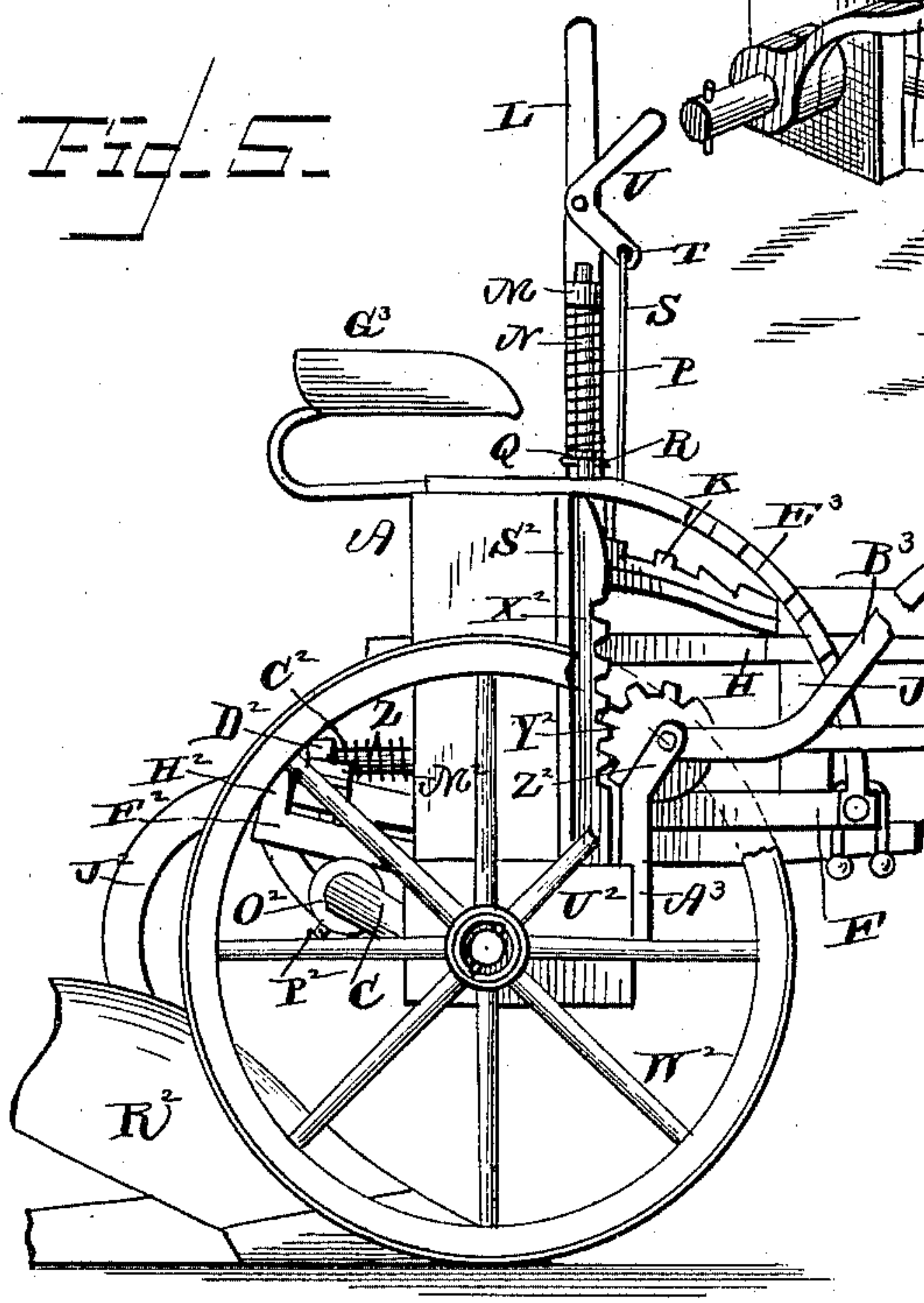


Fig. 5.



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(No Model.)

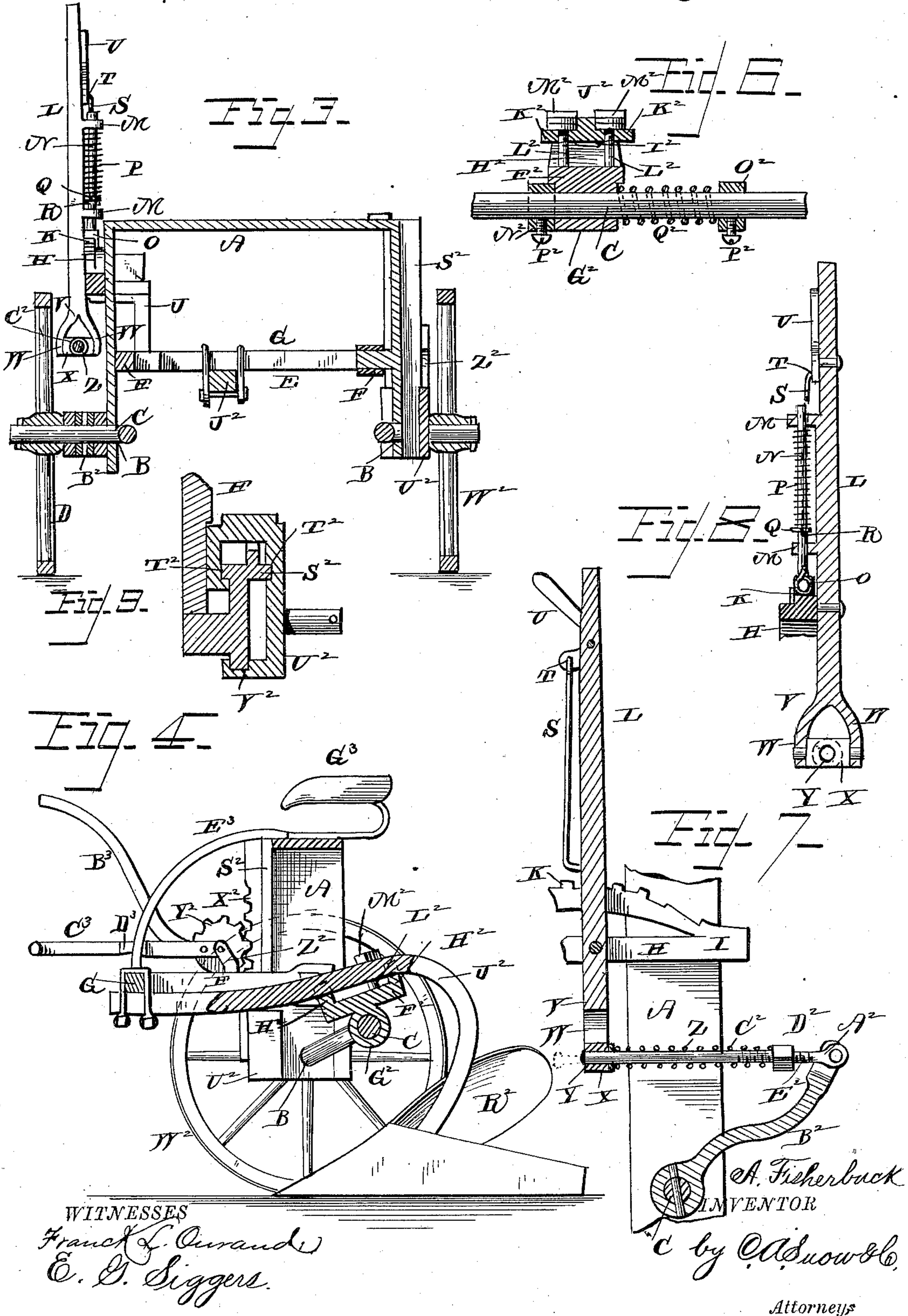
2 Sheets—Sheet 2.

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No. 283,877.

Patented Aug. 28, 1883.



UNITED STATES PATENT OFFICE.

AUGUSTUS FISHERBUCK, OF MARION, INDIANA.

SULKY-PLOW.

SPECIFICATION forming part of Letters Patent No. 283,877, dated August 28, 1883.

Application filed April 20, 1883. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS FISHERBUCK, a citizen of the United States, residing at Marion, in the county of Grant and State of Indiana, have invented a new and useful Sulky-Plow, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to sulky-plows, and has for its object to provide a simple and efficient machine in which the adjustment of parts can be effected with superior convenience, and which will automatically relieve the plow from all strain when it is in the ground or strikes an obstruction.

In the drawings, Figure 1 is a perspective view of my improved sulky-plow. Fig. 2 is a top view of the same. Fig. 3 is a transverse sectional view taken on a vertical plane through the bearings of the axle and looking forwardly. Fig. 4 is a vertical longitudinal sectional view taken through the plow-beam. Fig. 5 is a side view, showing the mechanism for adjusting the frame. Fig. 6 is a detail transverse sectional view of the axle. Fig. 7 is a detail sectional view of the mechanism for returning the plow into position after it gives to an obstruction. Fig. 8 is a detail sectional view of the lever for adjusting the plow. Fig. 9 is a horizontal detail sectional view taken through the mechanism for adjusting the frame.

Referring to the drawings, A designates the arch of the frame, at the lower ends of which are provided bearings B B for the ends of a crank-axle, C, one end of the axle being provided with a supporting-wheel, D.

E is a horizontal front frame, that is secured to the sides of the arch A and extends forwardly, as shown. This frame preferably consists of side beams, F F, and a front cross-beam, G; but it may be of any suitable construction.

At the side of the frame having the wheel D is arranged a rack-frame, H, that is secured at its rear end, I, to the side of the arch, and at its front end it is secured to a standard, J, projecting up from the front frame, E. On this frame H is arranged a vertically-disposed segmental rack, K, and to the side of the said frame is pivoted a vertical lever, L, having lugs M M, projecting laterally to form bearings for a

latch-rod, N, the head O of which is arranged to engage the teeth of the rack K. This latch-rod N is forced into engagement with the said rack by means of a coiled spring, P, disposed around the rod N between the lugs M M, and bearing against a ring, Q, held in position on the rod by a cross-pin, R. To the head of the latch-rod is secured a connecting-rod, S, that is pivoted at its top, T, to the end of a bell-crank lever, U, fulcrumed on the side of the lever L. The bottom end, V, of the lever L is bifurcated, and in the arms W W thus formed is journaled a cross-piece, X, having a perforation, Y, to receive the end of a rod, Z, that is pivoted at its other end, A², to a crank or arm, B², fixed on the axle. It will be understood that by operating the lever L the crank of the axle will be elevated, as desired, through the agency of the rod Z and the arm B². Around the rod Z is arranged a coiled spring, C², that bears at one end against the cross-piece X and at its other end against a nut, D², that is adjustable on the said rod to regulate the tension of the spring by means of screw-threads E², formed on the rod.

F² is a block that is provided with an eye, G², to accommodate the crank of the axle on which it is arranged. At the top of this block F² are formed two upwardly-projecting flanges, H² H², having recesses I² in their top edges, the plow-beam J² being supported on the said flanges in these recesses. To secure the plow-beam in position on these flanges, it is provided with lateral wings or extensions K² K², through which pass screw-threaded pins or bolts L² L², projecting from the block F², and provided on their ends with securing-nuts M² M². At each side the block F² collars N² and O² are arranged on the axle, and are adjustable thereon by means of set-screws P². A coiled spring, Q², is arranged on the axle between the block F² and the collar O², which latter is on the land side of the plow-blade R². The tension of this spring and the position of the plow-beam and blade can be regulated by adjusting these collars. By means of this just-described arrangement, should the edge of the plow share or blade come in contact with an obstruction, the spring Q² will admit of the plowshare and its beam moving on the axle until the obstruction is safely passed, thus obviating any strain

on the plow, and the spring will automatically return the plow to its normal position. When the point of the plowshare strikes an obstruction, the axle will turn in its bearings, and will
 5 act against the tension of the spring C^2 as the rod Z is forced through the perforation Y in the cross-piece X . As soon as the obstruction is passed the spring C^2 will return the plow to its normal position. This movement relieves
 10 the plowshare from all strain, but does not alter the position of the lever L , which retains its control over the position of the plow. If the axle were held rigidly by the lever L , all the strain, when the plow came in contact with
 15 an obstruction, would come on the plow—as, for instance, when the share struck a rock in plowing nine inches deep, the rock would be brought to the top of the ground and the sulky-frame and mechanism be raised a corresponding distance—nine inches—all the strain
 20 during this action being on the plow; but this strain is entirely obviated by my invention.

The side of the arch A opposite from the side of the sulky having the wheel D is provided with a transverse lateral flange, S^2 , longitudinally disposed, and having its edges entering grooves T^2 T^2 on a collar, U^2 , arranged to slide on the side of the arch. The rear edge, U^2 , also enters a guide-groove, V^2 , in the said
 25 collar, and the latter carries the supporting-wheel W^2 . On the front edge of the side of the arch carrying the collar U^2 is formed a vertical rack, X^2 , that is engaged by a segmental toothed disk, Y^2 , that is pivoted between the arms Z^2
 30 Z^2 of a bracket, A^3 , projecting from the collar U^2 . To this disk Y^2 are secured two operating-levers, one a hand-lever, B^3 , arranged on the outer side of the disk, and the other a foot arm or lever, C^3 , arranged on the inner side of
 35 the disk, and provided with a lateral projection, D^3 , that engages a segmental rack, E^3 , extending from the front frame to the top of the arch. A spring, F^3 , is disposed between these two arms or levers B^3 and C^3 to force the
 40 latter into engagement with the rack. The advantage in having these two operating-levers is that the operator, who is mounted in the seat G^3 on the top of the arch, is enabled to
 45 operate the foot-lever to level the plow when his hands are occupied in raising the plow-

share and driving the horses. At the same time he is enabled to effect the leveling of the plow by hand whenever desired.

I claim as my invention—

1. The combination of the crank-axle carrying the arm B^2 , the rod Z , pivoted to the said arm and working through an eye in the bottom of an operating-lever, and formed with the screw-threaded portion, the nut D^2 , working on this screw-threaded portion, the spring C^2 , arranged around the bar Z , between the end of the lever and the nut, and the operating-lever arranged to support the free end of the rod Z and working against the spring, as and for the purpose set forth. 55 60 65

2. The combination of the crank-axle arranged to carry the plow, the governing-lever L , adapted to be fixed in position, and a connecting-rod pivoted to the said lever and to the axle, this rod being arranged to pass through the lever at its bottom without altering its position when the plow strikes an obstruction, and a spring arranged on the rod to return it to its normal position, as set forth. 70

3. The combination of the lever L , carrying the journaled cross-piece X at its lower end, said cross-piece being provided with the perforation Y , the rod Z , passing through the perforation and pivoted at its other end on the crank-arm B^2 , the spring C^2 , arranged on the rod, the nut D^2 to regulate the tension of the spring, the crank or arm B^2 , fixed on the axle, and the crank-axle adapted to carry the plow-beam, as set forth. 75 80

4. The combination of the axle, the block F^2 , provided with the eye G^2 , by which it is arranged on the axle, and having the top projecting flanges, H^2 H^2 , formed with the recesses I^2 in their top edges, the bolts L^2 , projecting up from the block and carrying the nuts M^2 , and the plow-beam having the wings or extensions K^2 , through which the bolts L^2 pass, as set forth. 85 90

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses. 95

AUGUSTUS FISHERBUCK.

Witnesses:

ROBERT L. JONES,
JOSEPH COLLINS.