

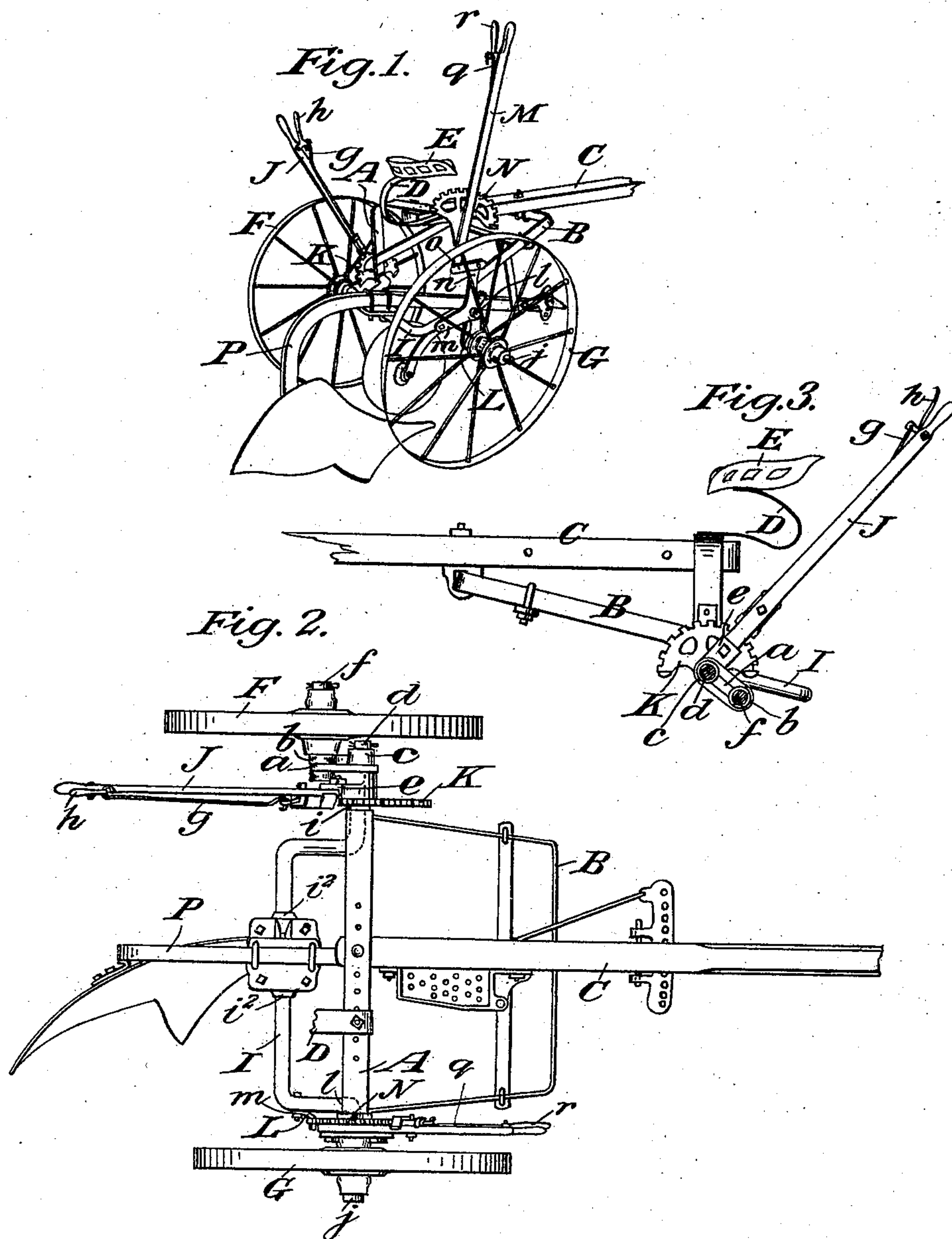
(No Model.)

2 Sheets—Sheet 1.

W. H. HOLSCLAW.
SULKY PLOW.

No. 501,787.

Patented July 18, 1893.



Witnesses:-
A. H. Hayward
Ch. E. Croft

Inventor:-
W. H. Holsclaw
By atty. J. N. McIntire

(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

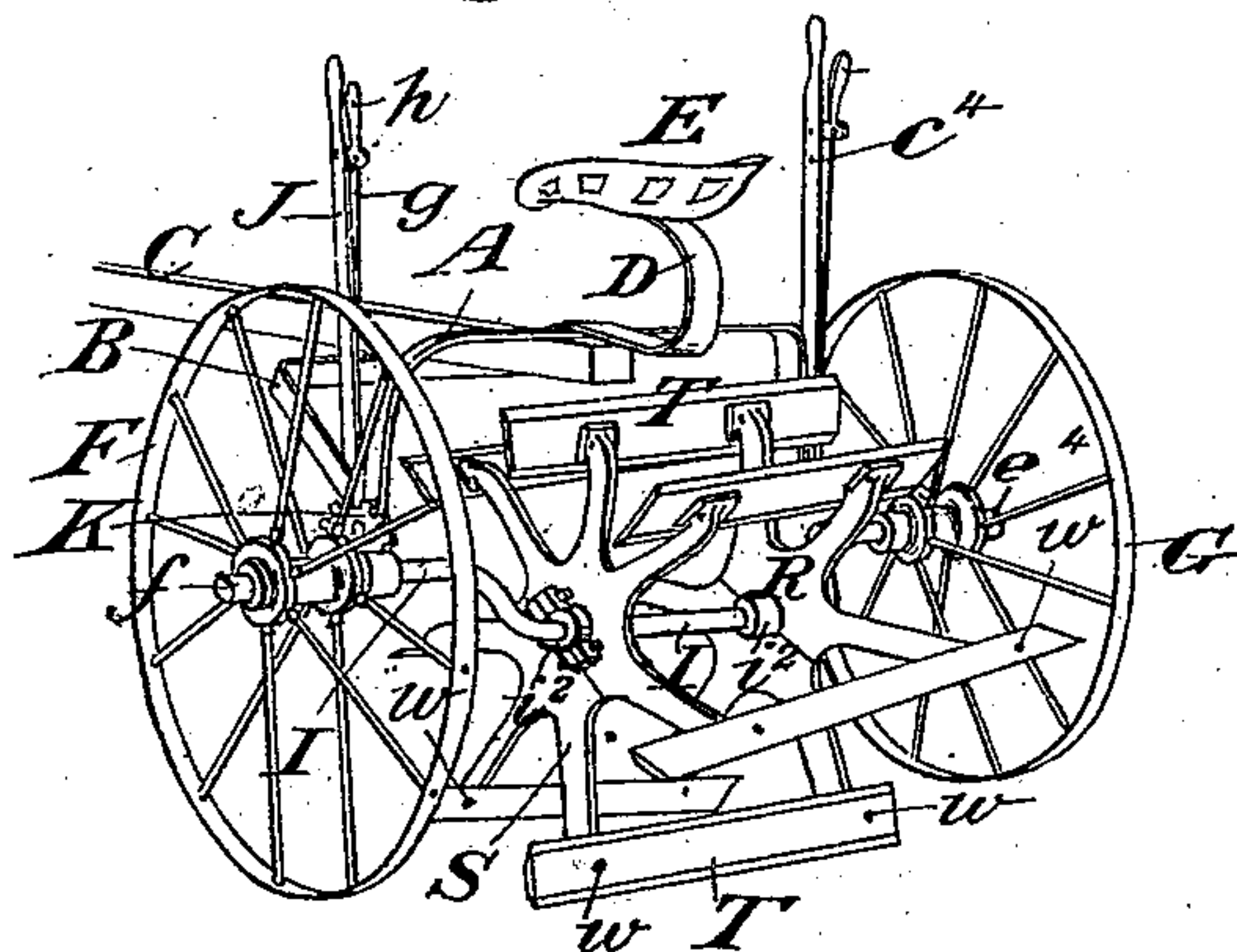


Fig. 5.

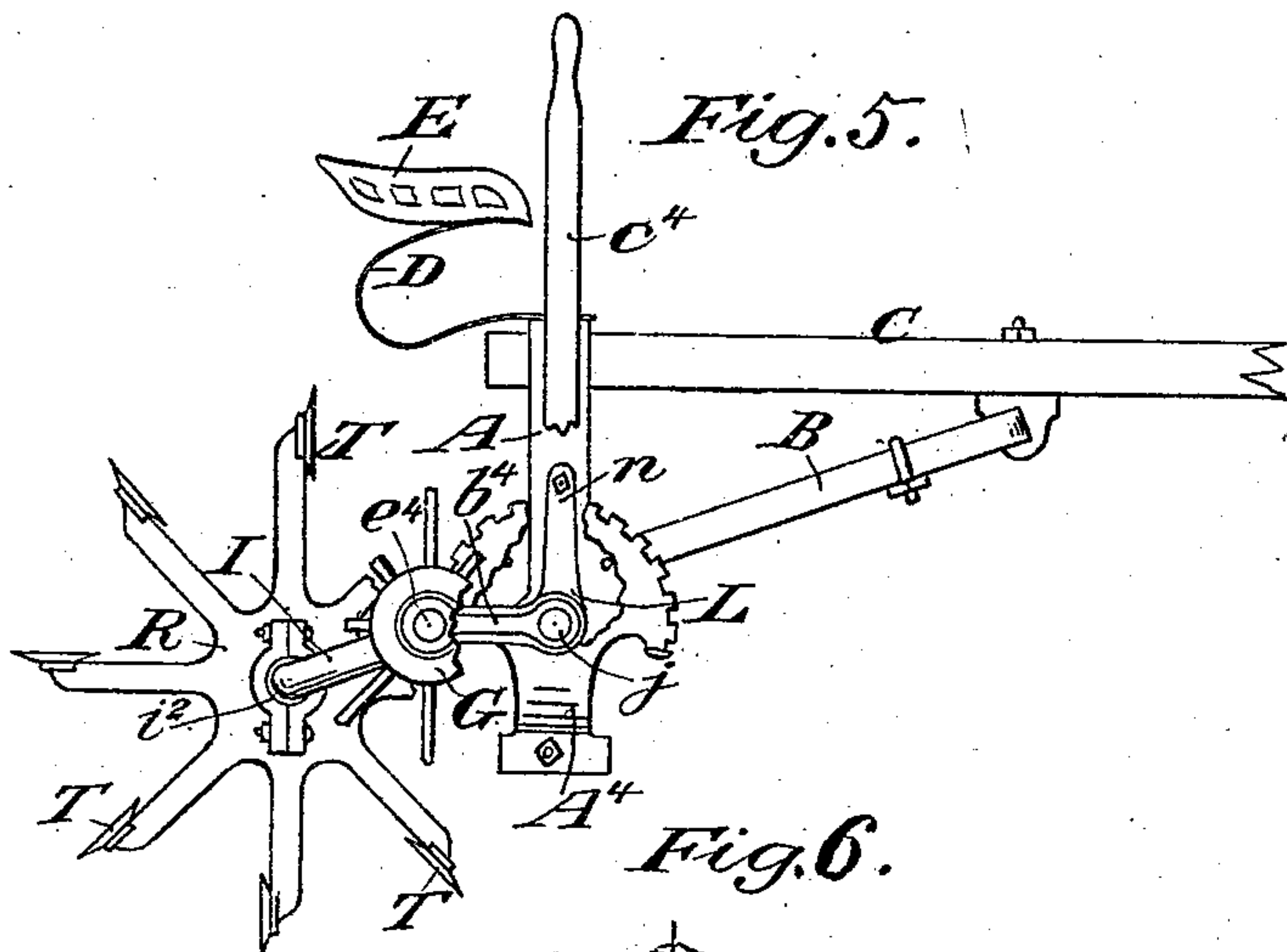
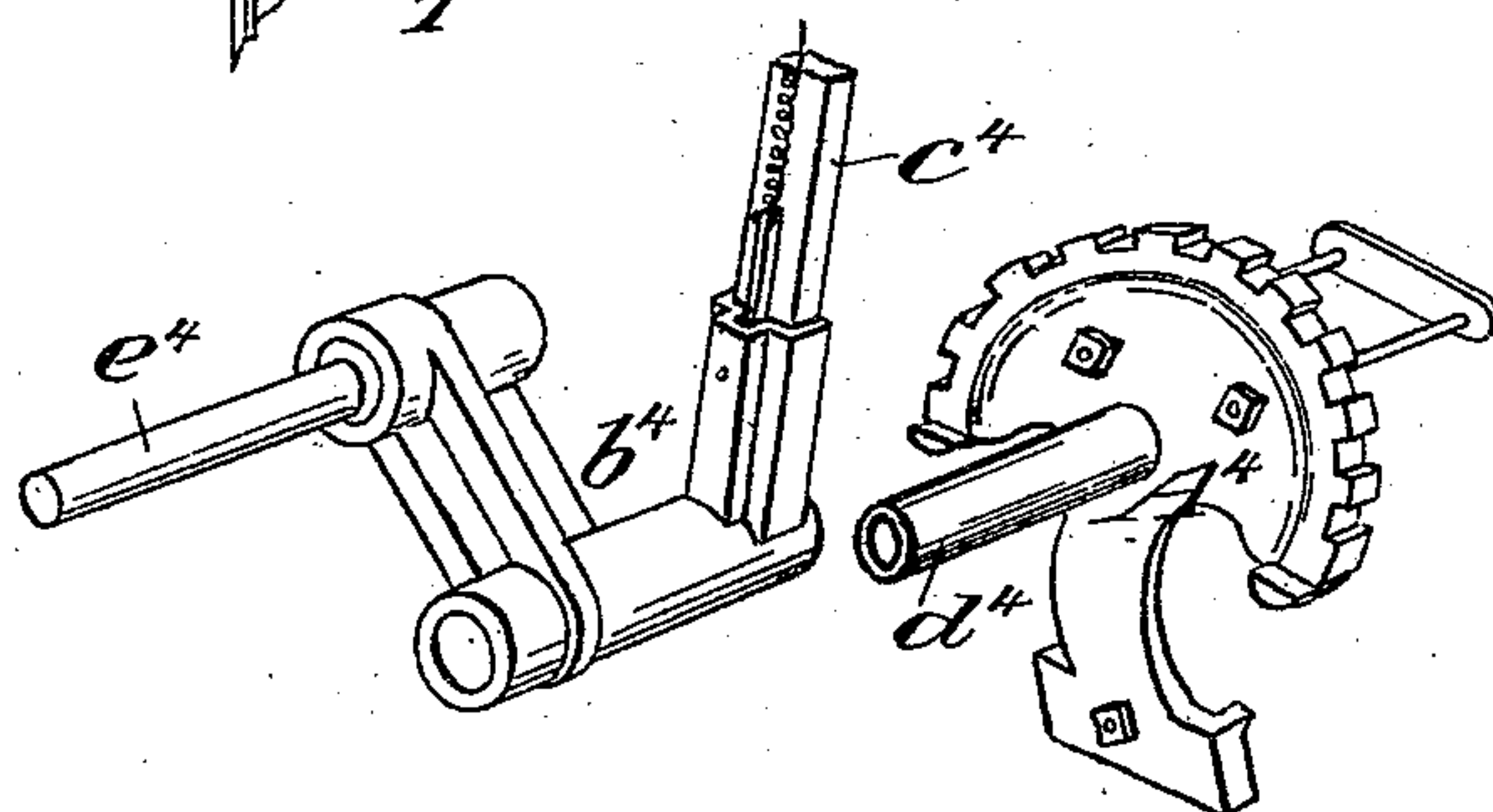


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILFORD H. HOLSCLAW, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO THE
B. F. AVERY & SONS, OF SAME PLACE.

SULKY-PLOW.

SPECIFICATION forming part of Letters Patent No. 501,787, dated July 18, 1893.

Application filed January 28, 1893. Serial No. 460,052. (No model.)

To all whom it may concern:

Be it known that I, WILFORD H. HOLSCLAW, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and
5 useful Improvement in Sulky-Plows; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

10 My invention relates to a sulky, or two-wheeled carriage, such as usually employed to carry a plow of some sort, and usually called, when so used, a "sulky plow;" and it has for its main objects, first, to adapt such a sulky to
15 the double purpose of carrying either a plow, or a stalk-cutter, and, second, to render the machine, when used for either of such purposes, more efficient and desirable in operation. Previous to my invention such plows have been
20 made of various constructions, adapted to have the axle of one of the wheels raised and lowered (for a well-known purpose) by the driver, while occupying his seat on the carriage; and also adapted to have the rearmost
25 portion of the bail (from which the plow is suspended) raised and lowered, at the will of the driver, relatively to the rest of the machine, in order to elevate and depress the plow, all in the manner and for the purposes,
30 or effects, well understood by those familiar with the manufacture and use of sulky plows. I propose, however, to provide for use a sulky, or two-wheeled carriage, which may be used with equal facility to carry either a plow (in
35 the use of which only one wheel of the carriage has to be vertically adjusted relatively to the frame), or a stalk-cutter, or other analogous implement, needing a vertical adjustment, of both wheels of the carriage, relatively
40 to the frame of the latter.

Having in view, as hereinbefore stated, this duplex object, my invention consists in certain novel structural features and certain new combinations of devices and attachments, that
45 will be found hereinafter fully described, and that will be found most clearly defined, or particularly pointed out, in the claims of this specification.

To enable those skilled in the art to which
50 my improvements relate, to perfectly under-

stand and practice the same, I will now proceed to more fully describe the several parts, or features, of my invention, referring by letters to the accompanying drawings, which form part of this specification, and in which
55 I have shown the several novel features of my improved machine, under the precise constructions which I have, so far, followed in practicing my invention; though, as a matter of course, more, or less, modification may
60 be made therein, without materially changing the same.

In the drawings, I have devoted Sheet 1 to a series of views of the machine, as adapted to the uses of a plow, and with a plow at-
65 tached to the sulky; while in Sheet 2, all the figures show the machine and its parts and attachments, in the condition in which they are when a stalk-cutter (such as seen in this sheet) is attached to the sulky. And in de-
70 scribing the construction and operation of the machine, I shall, for convenience sake, first explain the machine adjusted for, or adapted to, the purpose of a sulky plow, and then describe it adjusted for use as a stalk
75 cutter.

In Sheet 1, Figure 1 is a perspective view of the sulky plow. Fig. 2 is a top view of the machine, enlarged scale. Fig. 3, is a partial side elevation, looking at that side of the machine
80 which is at the driver's left, and with the wheel at that side of the machine removed, same scale as Fig. 1. In Sheet 2, Fig. 4 is a perspective view of the sulky stalk-cutter. Fig. 5, is a partial side elevation, enlarged scale looking
85 at that side of the machine which is on the right of the driver, when in his seat. Fig. 6, is a view showing separately, but in a group, and each in perspective, on a still greater scale the parts, or attachments, which are put
90 on, in changing the machine from a sulky-plow to a wheeled stalk-cutter.

In the several views of both sheets, the same part will be found always designated by the same letter of reference. 95

A is the arch, or main frame portion, from the depending portions of which extends forward a sort of U-shaped metallic frame-piece B, which, at the middle of its front portion, or bar, is securely bolted, as shown, (and 100

about in the usual manner) to the tongue C, which latter is secured, as usual, at its rear end, to the top of the metallic arch A. Suitably mounted on the said arch A, through the medium of a spring support D, is the usual driver's seat E; all of the parts so far mentioned being supported by a pair of wheels F and G, in a manner and through the media of devices which I will now explain.

I is the bail to which may be attached, and which supports and carries (in a manner to be presently described) either a plow, or the stalk-cutter. The wheel F is mounted to turn freely on a fixed axle, or arbor *f*, which projects outwardly from a casting *a*, which is formed with two cylindrical housings, or boxes, *b* and *c*, in one of which (*b*) the inner end of the said axle *f* is securely fastened, and in the other of which (*c*) is journaled one end *d* of the bail I. Said casting *a* is formed also with an extension, or arm-like part *e*, which projects upwardly and radially of the journal box *c*, and which is recessed on its inner face to partially embrace the lower end of a hand-lever J that is securely bolted to said extension *e*, as shown, and which carries on its inner side a longitudinally sliding pawl, or latch-bar, operated (in a well known manner) by a pull-wire *g*, and hand crank *h*, in one direction, and by a spring, in the other direction; said latch-bar engaging at its lower end, with the teeth, or notches, of a stationary sector, K. Said sector is mounted on one of the end portions of the bail I (which passes through an eye, or hole, in the sector), and is securely fastened, at *i*, to the depending end-portion of arch A, all as clearly shown in the drawings. The other wheel G is mounted to turn freely on the axle *j*, the inner end portion of which is combined, in a non-rotatable manner, with the lower depending, right hand, portion of the arch A. The extreme lower portion of this depending arch A is bent, or set obliquely, and with this oblique portion the inner end of axle *j* is combined, through the media of reversible wedge-shaped washers, and a securing nut, so as to permit the "canting" of wheel G, when desired, substantially after the fashion of the canting device made the subject of United States Letters Patent, granted September 20, 1892, to L. S. Flatau, No. 482,943. A short distance above the point, at which this depending portion of arch A thus supports, or carries, the axle *j* of wheel G, the said portion of said arch is perforated with a hole, through which passes one of the outwardly bent ends *l* of the bail I; and in the bearing thus formed for this end of the bail, and the bearing formed (at the other side of the machine) where the other end *d* of the bail passes through the other depending part of arch A, (and also through the box-like portion of casting *a*), said bail turns, freely, whenever it may become necessary to raise, or lower, the rear and main body-portion of the bail, to which the plow is attached.

On the end *l* of bail I (where it projects out-

wardly beyond the arch-piece A) is mounted, to turn freely, the angular portion, of the bent-lever (or bell-crank) L, which has the rear end of its horizontal arm *m* securely bolted to one of the rearwardly extended portions of the bail I, and which has the end of its upwardly projecting arm *n* pivotally attached to the forward end of a link-bar *o*, which latter, in turn, has its rear end coupled, by a pivot, to the lower end of the hand-lever M, at the right hand side of the machine. This hand-lever M, like the one at the other side of the machine, is provided with a spring latch-bar, the lower end of which coacts with a toothed sector N, made fast to the upper part of one of the vertical portions of the arch A, as shown, and which latch-bar, is pulled out of engagement with the sector, (whenever the driver may desire to vibrate the hand-lever M,) by means of a pull-rod *q*, and hand crank *r*.

As illustrated in Sheet 1, when a plow (such an one, for instance, as shown in said sheet) is used, the beam P thereof is securely fastened, in about the usual and approved way, to the bail I, while the forward part of the beam may be also fastened, as usual, to the forward part of the frame-like braces B of the sulky; and when thus secured in place, the driver adjusts, or regulates, the condition of the furrow-wheel G, by the use of the "canting" device; and he also, by the use of hand-lever J, and its connected device, raises the wheel F, to level up the carriage, in view of the descent of the canted wheel G, into the furrow of the plowed ground. When it may be desired to lift the plow up, to travel clear of the ground, or to regulate the depth of cut, the driver properly manipulates the other hand lever M, as usual, and thus, through the medium of the bell-crank L operated by the connecting bar, or link *o*, and operating to oscillate the bail I, on its end bearings, or journaled portions, the plow will be raised, or lowered, as may be desired.

To transform the machine from the sulky plow seen in Sheet 1, to the sulky stalk-cutter illustrated in Sheet 2, the following changes are made:—After the detachment of the plow from the sulky, the knife-cylinder (seen in Sheet 2) is attached to the bail I, and is held in place, endwise, in said bail (on which it is free to rotate) by the same collars *z*², which were previously employed to hold in place, endwise of the bail, the saddle-like device to which the plow beam was fastened. The hand-lever M, together with its attachments; the toothed sector N; and the link-bar *o*, are then removed from the machine, and the upper end of the forward arm of the bell-crank L, securely bolted to a vertical portion of the arch A, all as clearly shown in Sheet 1. Next the furrow wheel G, with its axle and the "cant" washers and nut; also the split key and washer in front of bell-crank, are all removed, and then the malleable cast iron bracket A⁴ (see Figs. 2 and 3, Sheet 2) is securely bolted in place on the frame, as seen;

after which the socket-crank b^4 , carrying the lever c^4 , is slipped on to the spindle, or bearing, d^4 , of the bracket A^4 , and the wheel G secured in place on the crank axle e^4 . After finally adjusting the tongue C of the carriage, so as to be about central thereof, widthwise, and attaching the necessary hitch castings, &c., the machine is in order for use as a stalk-cutter.

10 The stalk-cutter, *per se*, that I have shown is composed of a series of rimless wheels, or spiders, R, S, made each in halves after the fashion of a split pulley, which have their hub-like portions securely fastened round about the bail I of the sulky; and a series of
15 cutter-bars, or blades, each of which is made fast, as seen, to two arms of the two spiders. Preferably, each of the spider-wheels R and S, is made in halves, as stated, so that its
20 hub-like portions may be readily clasped round about the bail I (by means of bolts and nuts, as clearly shown) thus rendering the attachment to the bail, and the removal therefrom of said casting a simple, or easy matter.
25 And in attaching the spider-wheels to the bail, at the proper distance apart, they should be set, as shown, with their arms out of line, or so that the cutter blades T, when applied and secured to the ends of said arms, will
30 stand obliquely to the axis of motion of the cutter device, *i. e.* will stand out of parallelism with the bail I, in order that in operating, each of the blades will act with a sort of shearing cut. This peculiar arrangement of
35 the blades, I consider important, as thereby, without the expense of spiral, or curved, blades, and without the trouble and expense of properly sharpening such curved blade I am enabled to get nearly, or quite all the advantages of a blade which makes a shearing cut,
40 over one coming square against the stalks, in the performance of the cutting operation.

As will be seen, by reference to the drawings, each of the blades, or cutter-bars T, is
45 made with two cutting edges (which a spirally curved blade could not well have), and is reversible, so that, when one cutting edge of one, or more, blades, shall have become dulled, or shall have gotten injured, by some accident,
50 such blade, or blades, can be easily and quickly reversed by the user of the machine (by simply removing the securing bolts, at w , w , shifting the position of the cutter bar, or bars, and then replacing the bolts). This reversibility, in a manner and by means so simple, that any farm hand of ordinary intelligence, can adjust the machine, as described, I deem an important feature of my improved machine.

60 As to many of the details, my improved machine may be modified without departing from the novel features in which lie the several parts of my invention, and the fruits of my invention may, of course, be reaped, to
65 more, or less, extent, by the use, in one machine, of less than all the structural features made the subjects matter of my claims.

It will be seen that with the changes made to transform the machine from the plow sulky, shown in Sheet 1 of the drawings, to
70 the stalk-cutter sulky, seen in Sheet 2, the bail I loses all capacity for adjustment (up and down) relatively to the frame of the carriage, and it will be understood that then the
75 bail I, carrying the cutting-cylinder, together with the frame of the machine, is raised and lowered, to elevate, depress, and perfectly adjust, the cutting-cylinder, by raising and lowering, independently, the two wheel axles of the carriage through the media of the hand-
80 levers, on either side of the machine, and their adjuncts; that one at the driver's left operating the same as when the machine was adjusted for work as a plow sulky, while the
85 one at the driver's right (which was substituted in changing the machine to a stalk-cutter sulky) operates, in like manner, to raise and lower the axle of the wheel G, which, before the change of attachments, was not adjustable relatively to the arch, and frame of
90 the carriage. And the means by which the sulky is thus rendered capable of having both wheels adjusted, independently, by the levers at either side of the driver, while the bail becomes fixed relatively to the frame of the
95 machine, I, of course, consider a very important part of my invention.

Having now so fully described the several parts of my invention that those skilled in the art can practice the latter, either in part
100 or in whole, what I claim as new, and desire to secure by Letters Patent, is—

1. In a sulky designed for use in connection with a plow, the combination, with the usual arch A; wheels F and G; and an axle
105 for the furrow wheel mounted in the lower end of one of the depending portions of the arch, of a bail I, having one end (l) journaled in that leg of the arch to which the furrow wheel axle is thus secured, and having
110 its other end d passed through the other depending portion of said arch, and carrying on its outwardly projecting portion the crank casting, in one journal box of which is mounted the axle of the other wheel, F, of the carriage; all substantially as and for the purposes set forth.

2. In a sulky plow convertible into a sulky stalk-cutter of the type herein described, the combination with the arch A, and the wheels
120 F and G, of a bail I, passing, at one end, through one of the depending portions of the arch, and there carrying the socket crank in which is mounted the axle of one of said wheels; and passing, at the other end, through
125 the other, depending, portion of the arch, above the point at which said portion of the arch carries the axle of the other wheel; and a bell-crank L hung on the end of said bail, made fast at its rear end to said bail, and
130 connected at its other end with a suitable hand-lever mechanism, for oscillating said bell-crank; all substantially as and for the purposes set forth.

3. In a sulky plow or stalk-cutter, the combination with the usual arch and main-frame; and a bail adapted to carry the cutting cylinder, and non-adjustable, relatively to the arch,
5 of wheels F and G, the axles of which are, independently, adjustable, vertically, relatively to the frame and bail; and hand-levers arranged on either side of the machine, adapted to effectuate the adjustment of the wheel
10 axles; all substantially as and for the purposes set forth.

4. In a machine adapted to the purposes of stalk-cutting, the combination with the bail I of the vehicle, of a rotary stalk-cutter, composed of a series of spider-wheels, removably
15 combined with said bail, and provided with a series of cutter bars, adapted to revolve by

contact with the ground, and operating to cut off the stalks; all substantially as set forth.

5. In a stalk-cutter sulky, the combination 20 with the bail I, of a stalk cutter implement, composed of spider-wheels removably secured to said bail, and a series of cutter bars, or blades, T, having straight edges; but set obliquely to the bail, or axis of motion of the 25 cutting implement; substantially as and for the purposes set forth.

In witness whereof I have hereunto set my hand this 7th day of November, 1892.

WILFORD H. HOLSCLAW.

In presence of—

W. ENINGTON,

ADOLPH G. RENAU.