No. 620,192. Patented Feb. 28, 1899.

W. SOBEY.

SULKY PLOW.

(Application filed Oct. 13, 1898.)

(No Model.) 3 Sheets—Sheet 1.

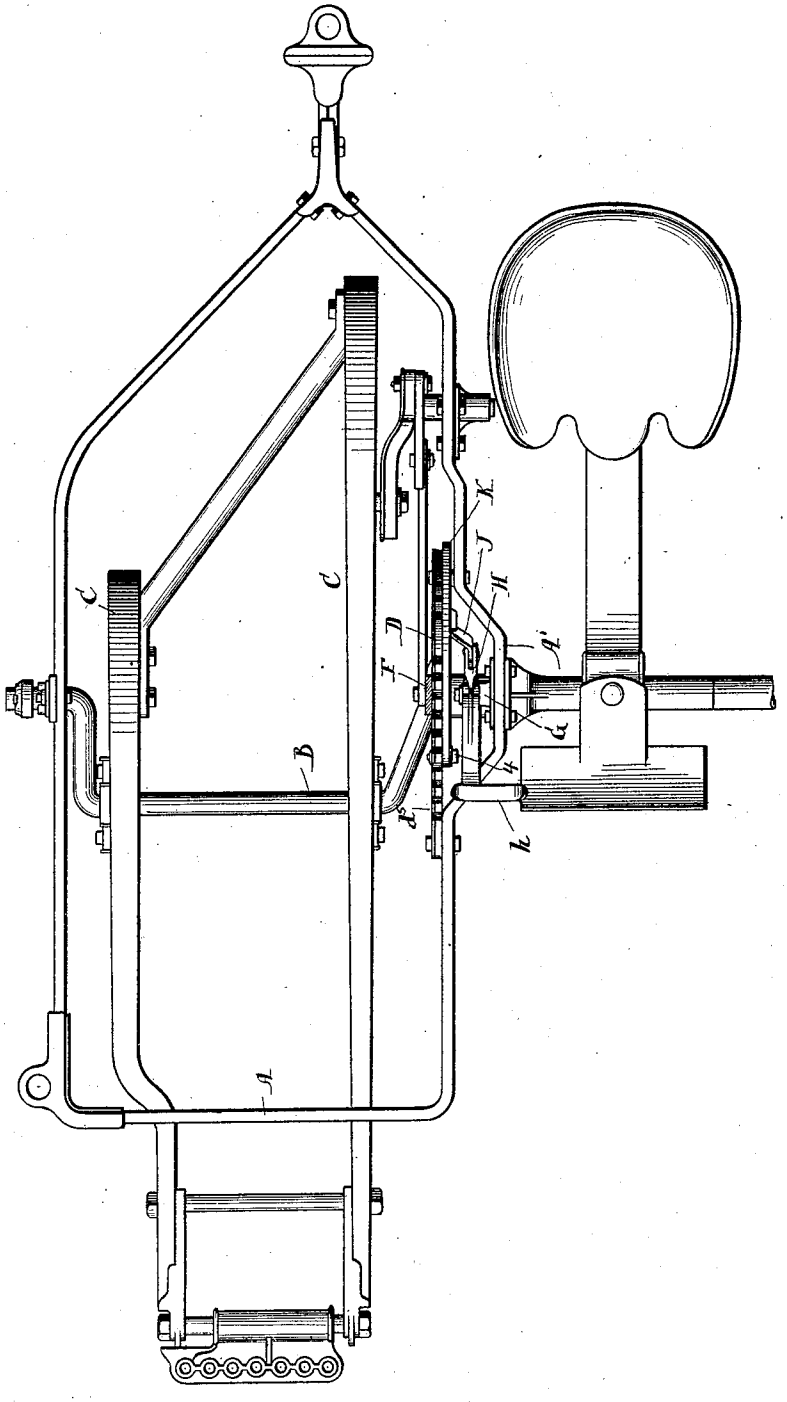


Fig. 1.

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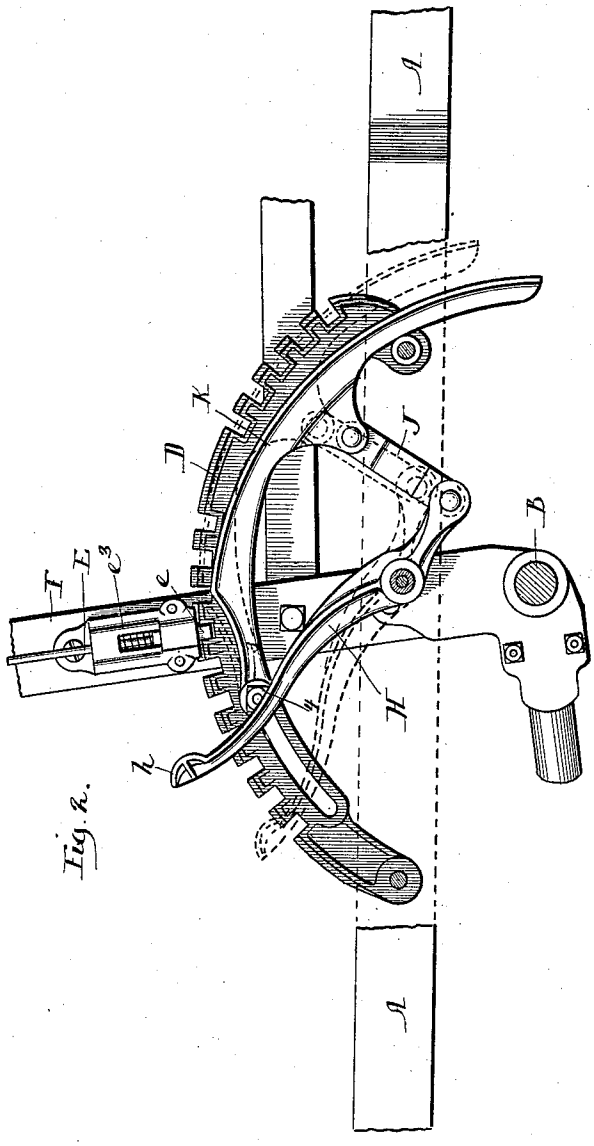


Fig. 2.

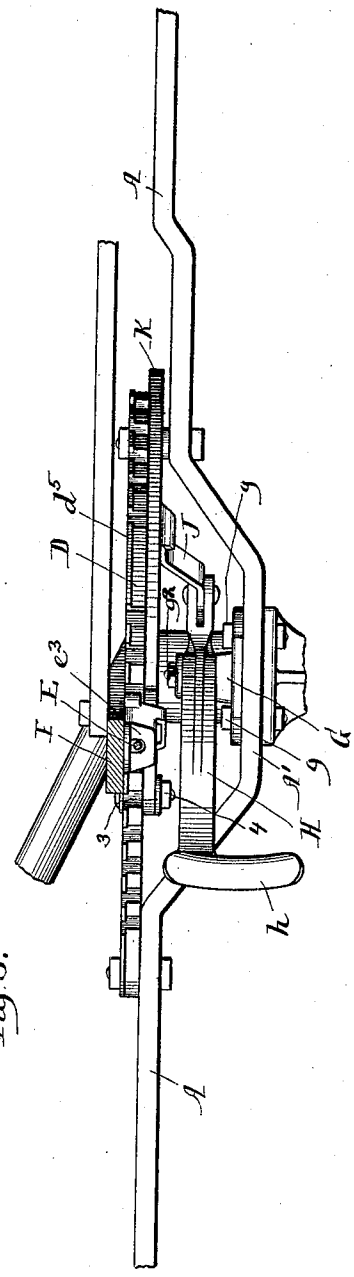


Fig. 3.

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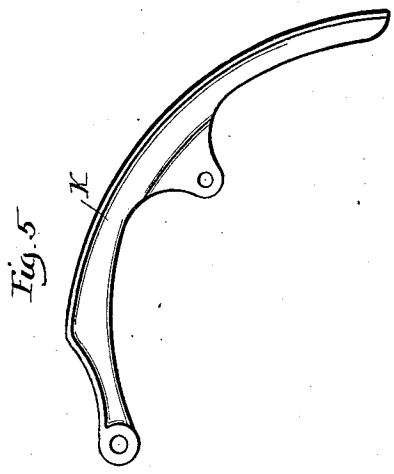
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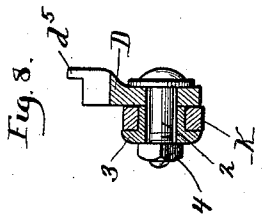
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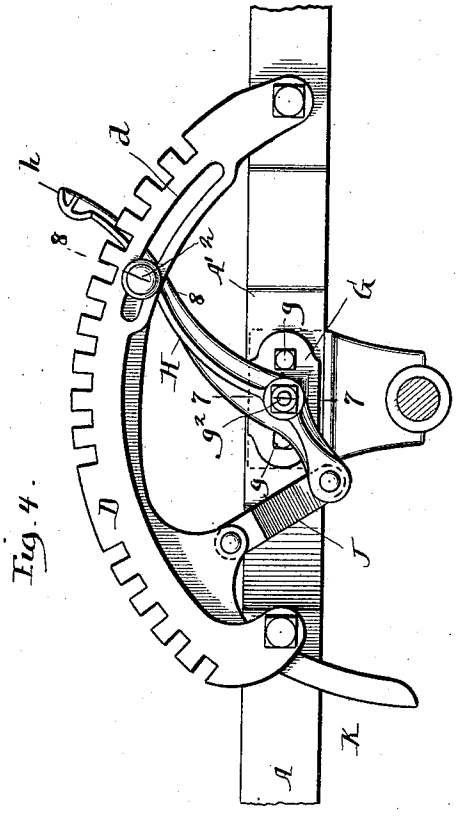
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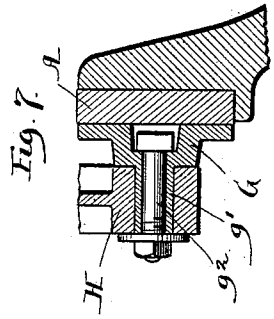
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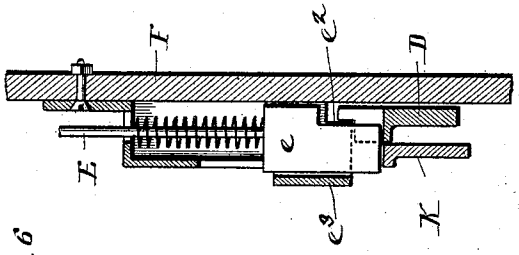
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UNITED STATES PATENT OFFICE.

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SULKY-PLOW.

SPECIFICATION forming part of Letters Patent No. 620,192, dated February 28, 1899.

Application filed October 13, 1898. Serial No. 693,414. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SOBEY, a resident of Racine, county of Racine, State of Wisconsin, have invented certain new and useful Improvements in Sulky-Plows, of which the following is hereby declared to be a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates more particularly to that class of sulky-plows in which by means of a hand-lever the operator is enabled to raise and lower the plow in order to bring it to the desired "working" position or lift it to the "riding" position above the ground. An example of this type of sulky-plow is illustrated in Letters Patent No. 462,416, granted to the J. I. Case Plow Works as my assignee November 3, 1891.

It frequently happens that it is necessary to shift the plow from the riding to the working position at a time when the operator is using both hands in the management of his team—as, for example, in passing around obstructions, turning corners, or the like.

The object of this invention is to provide means whereby the operator can with his foot or leg readily release the latch mechanism that holds the plow, thus leaving his hands free for the management of his team.

The invention consists in the improvements that are hereinafter described, and illustrated in the accompanying drawings, the scope of the invention being defined by the claims at the end of this specification.

Figure 1 is a plan view of a sulky-plow embodying my invention. Fig. 2 is a side view, upon an enlarged scale, of the trip-lever mechanism adjacent the rack-bar. Fig. 3 is a plan view of the part shown in Fig. 2. Fig. 4 is a detail side view of the rack-bar, looking from the inside. Fig. 5 is a detail view of the tripping-plate. Fig. 6 is a view in central vertical section through the lower end of the operating-lever and the rack-bar. Fig. 7 is a detail section on line 7 7 of Fig. 4. Fig. 8 is a detail sectional view on line 8 8 of Fig. 4.

A designates the main frame of the plow, and B denotes the axle, that supports the frame and plow-beam, this frame being provided with the usual wheels at its opposite ends. To one side of the main frame A is attached the segmental rack D, the teeth of which engage the latch *e*, that is carried by the operating-lever F, and serve to hold the operating-lever, and consequently the plow-beam and plow, in the desired position. The operating-lever F is shown as mounted upon the main axle, and by means of suitable intermediate mechanism effects the raising and lowering of the plow-beam C. The latch *e* is inclosed within a suitable casing connected with the operating-lever and is provided with a rod E, that leads to a releasing-grip adjacent the handle of the lever F. The lever F, being shifted back and forth, serves to raise and lower the plow in manner well understood, the latch *e* serving to retain the lever in any desired position.

In order to enable the lever to be released by the operator without the necessity of using his hands for such purpose, I prefer to employ the means next to be described, although it will be understood that the invention may be embodied in other structures than that illustrated and which I regard as the preferred one. As shown, one side of the main frame A is bent outwardly, as at A′, and at such point a bracket G is attached by suitable bolts *g*. The bracket G is shown as formed with a hollow stem *g′*, having a countersunk seat at the base thereof, the stem and seat serving to receive a retaining-bolt g^2, the nut and washer upon the threaded end of this bolt serving to hold in place the trip-lever H, that is pivoted upon the sleeve *g* of the bracket. The upper end of the trip-lever H is preferably formed with an offset plate or pedal *h*, against which the foot or leg of the operator may be pressed in order to actuate the trip. The short end of the trip-lever H is pivotally connected by a link J to a releasing-plate K, that is located adjacent the segment-rack D, the plain upper surface of the plate K extending normally below the teeth of the rack. The forward end of the releasing-plate K is shown as pivotally connected to the forward portion of the segment-rack D, and preferably this pivotal connection is effected by forming the segment-rack with a slot *d*, through which passes a retaining-bolt 2, carrying a flanged sleeve 3, that passes through a hole in the end of the releasing-plate and is adapted to be clamped

against the face of the segment-rack by means of a nut 4 on the threaded end of the bolt 2. The bolt thus serves to enable the releasing-plate to be adjusted at any desired position along the segment-rack for the purpose to be presently explained.

The lower end of the latch *e* is wider than the segment-rack and extends over the upper edge of the releasing-plate. Hence it will be seen that if the latch *e* is in any of the series of notches of the segment-rack above the releasing-plate and the operator should depress the trip-lever H the releasing-plate will serve to raise the latch *e* from out the notches of the segment-rack and permit the weight of the plow-beam and plow to move forwardly the operating-lever and the latch until the latch has cleared the releasing-plate. It will be understood, of course, that when the plow is in riding position the latch *e* will be engaged with one of the notches at the right-hand end of the segment-plate, and consequently when the operator by means of the trip-lever H releases the latch the plow can descend to working position without the necessity of the operator using his hands to effect such result. The several notches in the left-hand portion of the segment-plate determine the working position of the plow, and by setting the releasing-plate at different points along the segment-rack the operator can allow the plow to descend to predetermined working position, since as soon as the latch *e* rides off the upper edge of the releasing-plate it will enter the first notch of the segment-rack adjacent the left-hand end of such plate.

In order to more accurately hold and guide the operating-lever with respect to the segment-rack, I prefer to form the upper edge of the segment-rack with a reduced surface or flange d^5, that will work within a guide at the inner side of the latch *e*, and preferably this guide is formed by means of an offset or notch e^2 at the base of the casing e^3, wherein the latch *e* is mounted.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a plow the combination with the beam, a lever for lifting said beam and a latch and rack-bar for holding said lever, of a trip mechanism for releasing said latch, said trip mechanism being provided with a part whereby it may be shifted by the foot or leg of the operator, and having an adjustable part to regulate the point at which the latch may reëngage the rack-bar.

2. In a plow the combination with the beam, a lever for lifting said beam and a latch and rack-bar for holding said lever, of a trip mechanism for releasing said latch, said trip mechanism comprising an adjustable plate arranged adjacent the rack-bar and adapted to disengage the latch, and adapted also to determine the point at which said latch shall reengage said rack-bar.

3. In a plow the combination with the beam, a lever for lifting said beam, a rack-bar provided with a plurality of teeth at its front and rear and a latch for engaging said teeth to hold said lever, of a trip mechanism for releasing said latch, said trip mechanism comprising a plate arranged adjacent the rack-bar, said plate extending normally below the teeth at both the front and back part of the rack-bar and serving to disengage the latch therefrom and to determine the point at which said latch may reëngage said rack-bar.

4. In a plow the combination with the beam, a lever for lifting said beam and a latch and rack-bar for holding said lever, of trip mechanism for releasing said latch, said trip mechanism comprising a plate pivoted at its front end and extending adjacent said rack-bar and normally below the notches thereof, said plate being adjustable with respect to said rack-bar in order to determine the point at which the latch may reëngage the rack-bar and a part connected to said pivoted plate whereby it may be shifted.

5. In a plow the combination with the beam, a lever for lifting said beam and a latch and rack-bar for holding said lever, of a movable plate adjustably connected to said rack and serving to determine the point at which the latch may engage said rack-bar.

6. In a plow the combination with the beam, a lever for lifting said beam and a latch and rack-bar for holding said lever, of mechanism for controlling the engagement of said latch with said rack-bar comprising a plate adjustable lengthwise of said rack-bar and adapted to extend normally beneath the front and rear notches thereof, and means for shifting said plate, whereby the latch shall be released from the rack-bar and its point of reëngagement with the rack-bar may be regulated.

7. In a plow the combination with the beam, a lever for lifting said beam and a latch and rack-bar for holding said lever, of trip mechanism for releasing said latch, said trip mechanism comprising an adjustable part whereby the latch may be disengaged from the rack-bar and whereby the point of reëngagement of said latch with the rack-bar may be determined.

8. In a plow the combination with the beam, a lever for lifting said beam and a latch and slotted rack-bar with which said latch engages, of a releasing-plate adjustably connected at one end to said slotted rack-bar and extending adjacent to the notches of said rack-bar, a lever for operating said releasing-plate and a link or like flexible connection between said lever and said releasing-plate.

9. In a plow the combination with the beam, a lever for lifting said beam, a latch and rack-bar for holding said lever of a guide upon said lever engaging the edge of the rack.

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