

GEORGE M. SMITH.

Improvement in Sulky Attachments to Plows.

No. 115,537.

Patented May 30, 1871.

Fig. 1.

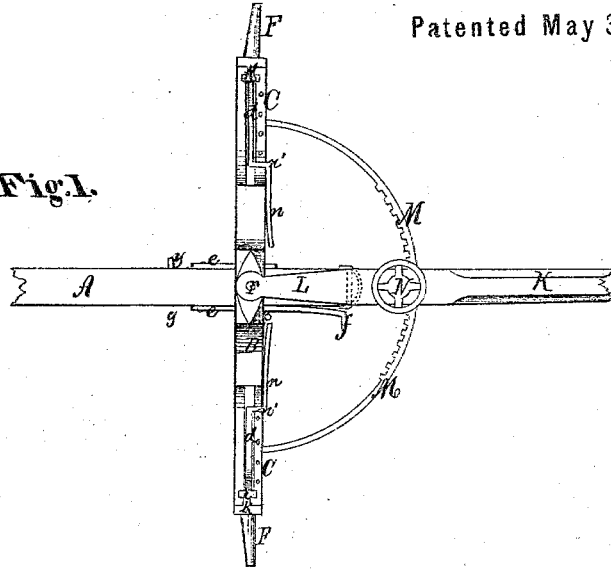


Fig. 5.

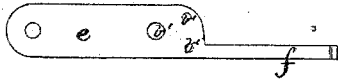


Fig. 2.

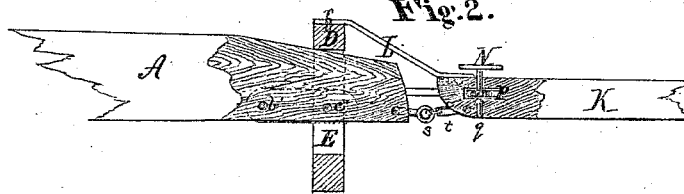


Fig. 3.

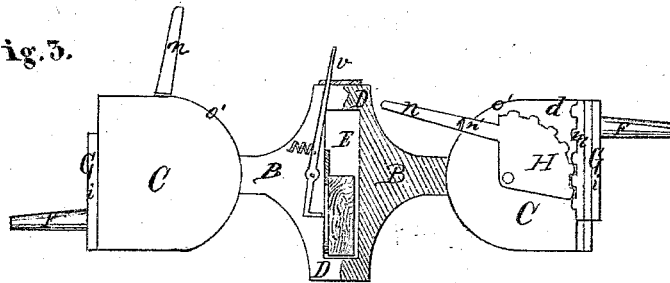


Fig. 6.

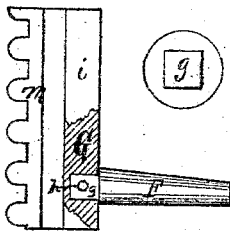
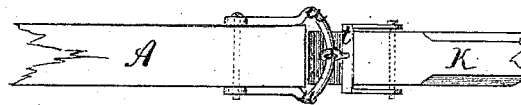


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE M. SMITH, OF PITTSBURG, INDIANA.

IMPROVEMENT IN SULKY ATTACHMENTS TO PLOWS.

Specification forming part of Letters Patent No. 115,537, dated May 30, 1871.

To all whom it may concern:

Be it known that I, GEORGE M. SMITH, of Pittsburg, in the county of Carroll and State of Indiana, have invented a new and valuable Improvement in Sulky Attachment to Plows; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a top view of my invention. Fig. 2 is a central vertical longitudinal section thereof. Fig. 3 is a partial cross-section. Figs. 4, 5, and 6 are details.

My invention has relation to certain improvements in sulky attachments for plows; and it consists in the construction and novel arrangement of devices for keeping the wheels vertical, whether a right-hand or left-hand plow be used; for changing the draft to correspond with the change of direction of the pole in obliquing to the right or left; for keeping the draft on the center between the spindle; and for changing the direction of the pole, as hereinafter set forth.

The letter A of the drawing designates the plow-beam. B represents a transverse axle-bar provided with the broad ends C C, cleft vertically at *d d*, and the slotted center E, through which the plow-beam passes. The plow-beam is attached to the bar B by means of the plate-arms *e e*, pivoted at their forward ends to the lateral walls of the slot E, and at their rear ends to the sides of the plow-beam in rear of the bar B. The right-hand plate *e* is extended forward to form a lever, *f*, whereby the driver may with the pressure of his foot regulate the height of the plow-beam. F F represent the spindles on which the wheels revolve. These spindles are usually made of steel, and have the forward and downward gather which is usual when dished wheels are employed. The cast-iron slides to which the spindles are attached are lettered G. Each slide is provided with a square mortise or socket, into which the square end *g* of the spindle is inserted, and fastened by means of a key, *h*, or other suitable device. Each slide consists of a face-plate, *i*, and T-shaped

tongue *k*. The face-plate is made the full width of the bar B, and slides up and down on its end, being secured and guided by the tongue *k*, which engages with the vertical grooves *ll* in the lateral walls of the cleft *d*. The tongue *k* is provided with a ratchet, *m*, which engages with the teeth of a quadrant-lever, H, pivoted in the cleft *d*, and arranged to vibrate in the vertical plane passing through the axes of the wheels. The handle *n* of the lever H is bent at *n'*, and perforated for the passage of a pin or stop, which serves to fix the position of the lever at any point, being also inserted into corresponding holes in the circular shoulder *c'* of the broad end C of the bar B. It will be observed that the spindle, at one end of the bar B, is placed at the lower end of its block G, while that at the other end of the bar is situated at the upper end of the block, thereby requiring less breadth vertically across the end of the bar B than would be the case if the spindles were in the centers of the blocks, by one-half, for the requisite movement of the spindle-blocks in changing the height of the wheels. When the right wheel is in the furrow the block G on the right has its spindle at its lower end, and the block on the left has its spindle at the upper end. But if the furrow is to be thrown to the left the left-hand wheel will be the lowest, and this is accomplished as follows: The blocks G G are slipped out of the grooves, reversed, and replaced. At the same time the spindles are removed, and without rotation, in order that the same gather may be preserved, replaced in their sockets, the latter being now reversed so that the socket of the left-hand block will be at its lower end, and that of the right-hand block at its upper end. K represents the pole of the sulky, which is secured to the bar B by the brace L. The pole is slotted transversely at *p* for the passage of the semi-circular ratchet M, having its teeth, preferably, on the inside. N represents a foot-wheel, whose shaft passes vertically through the pole, bearing a pinion, *q*, which rotates horizontally in the slot *p*, and operates by engaging with the toothed arc M to move the pole from one side to the other on its pivot *r* at the rear end of the brace L. The draft-hook is attached to the ring *s*, which is attached to the pole by

an arm or loop, *t*, and is therefore carried to the right or left with the pole in moving. The draft is, however, communicated to the horizontal circular clevis *u*, which is securely pivoted to the forward end of the plow-beam through the ring *s*, which encircles the clevis. *V* represents a spring-lever, which is designed to act in connection with the perforations *v'* in the plate of the foot-lever *f*, as a stop, to fix the plow-beam at any desired elevation. When the plow-beam is at its lowest position the force of the draft is sustained by the stops *y y*, which abut against the bar *B* at its center, in line between the spindles. When the beam is at its highest position the ring *s* and pivots *b' c'* will be in line, so that the draft will be on the center of the bar *B* in this position. At the same time the top of the plow-beam will abut against the upper end of the slot *E*, and the spring-hook *v* will enter one of the perforations *v'* in the plate of the lever *f*, so that the beam will be kept steady. The arrange-

ment of the semicircular-toothed arc *M* and the quadrant-levers *H* is such that the ends of the arc serve as the pivots on which the quadrants turn. With the exception of the pole and plow-beam, the entire attachment above described is preferably formed of metal.

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

The reversible slides *G*, adjustable spindle *F*, and transverse bar *B*, cleft at each end and provided with the adjusting-sectors *H*, constructed, combined, and arranged substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

GEORGE M. SMITH.

Witnesses:

D. D. KANE,

FRANK B. CURTIS.