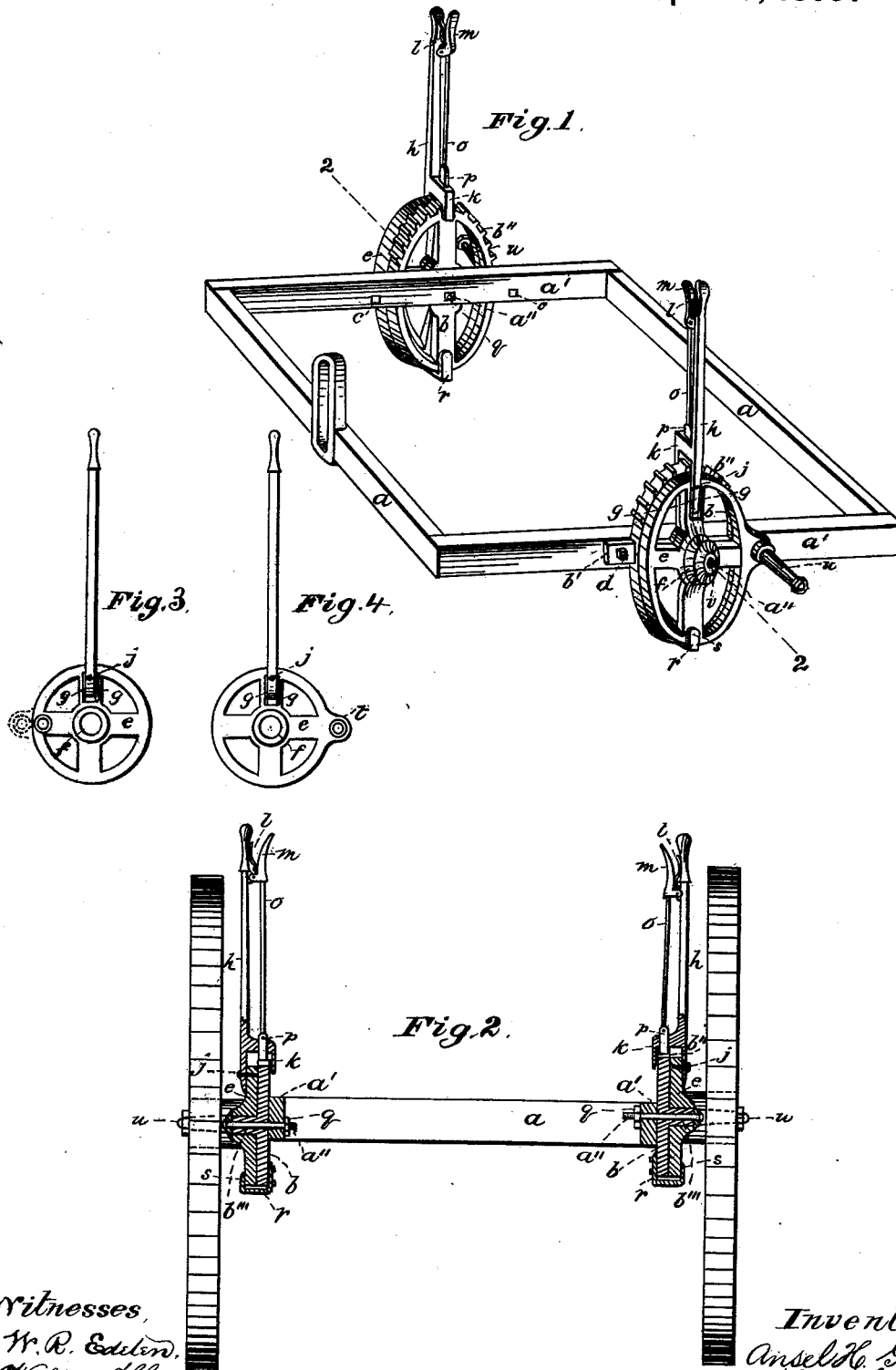


A. H. GALE.  
Sulky-Plow.

No. 219,709.

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN SULKY-PLOWS.

Specification forming part of Letters Patent No. **219,709**, dated September 16, 1879; application filed November 1, 1877.

*To all whom it may concern:*

Be it known that I, ANSEL HAYES GALE, of Freeport, in the county of Stephenson and State of Illinois, have invented Improvements in Plows, of which the following is a specification.

My invention relates to that class of plows which are known by the name of "sulky" or "riding" plows, and constructed of wrought and cast iron, and in which axles of various kinds are used.

The object of my invention is to provide improved means for securing in such plows a greater adjustability and ease in working. This I accomplish by bolting to the sides of an iron frame circular plates, each plate having a central rigid hollow stud, and the upper half of the periphery cogged. With each of these plates is connected an outer circular plate having a central hub, and attached to its face a spindle or journal for the wheel. I also provide an iron clasp, which is bolted to the inside of the cogged plate, and extending to the opposite side of the outer plate, so as to hold the two plates together and in place. The outer plate is furnished on its face with two flanges extending from the hub to the periphery or rim, and between which flanges a lever is bolted. This lever has a clip for keeping the lever in correct position, and through said clip a draw-bolt works. The draw-bolt engages between the cogs, and is retracted by means of a hand bell-crank lever and connecting-rod.

In the accompanying drawings, Figure 1 is a perspective view of my improved form of frame and attachments for carrying the wheels of a sulky or riding plow. Fig. 2 is a vertical section on the line 2 2, Fig. 1, viewed from the front, showing the wheels in working position. Fig. 3 is a face view of the outer plate of the furrow side. Fig. 4 is a face view of the outer plate of the land side.

Like letters of reference represent corresponding parts in the various figures.

The frame is of iron, and is constructed with sides *a a' a'*. To the sides *a' a'* are secured circular plates *b b*. Each plate *b* is constructed with ears *b' b'*, cogs *b''* on the upper half of the periphery, and a rigid hollow stud, *b'''*, and is secured to the frame by means of bolts

*c c* and nuts *d d*. *e* is another circular plate, constructed with a hub, *f*, adapted to fit over the rigid stud *b'''*, so that the inner face of the outer plate works on the outer face of the inner or cogged plate.

*h* is a hand-lever, secured to the face of the plate *e* between flanges *g g* by means of a bolt or bolts, *j*. The lever *h* is provided with a clip, *k*, engaging with the inner side of the cogged plate, so as to hold the lever to its work, and through which clip a draw-bolt, *p*, is operated by means of a rod, *o*, pressed by a spring, *l*, acting on the free end of a bell-crank hand-lever, *m*, near the upper end of the lever. The outer plate is secured to the inner plate and frame by means of a bolt, *a''*, passing through the three parts (plates and frame) and fastened by a nut, *q*. Between the head of the bolt *a''* and hub of the outer plate is a washer, *v*. *r* is a clasp bolted to the inside of the plate *b*, and extending in front of the outer plate, so as to form a hook, *s*, to hold the plates together and steady the outer plate in its rotary movement around the rigid hollow stud.

Fig. 3 represents the outer plate for use on the furrow side of the plow. This plate is provided with a spindle, *u*, for the furrow-wheel. This spindle may be secured to a projection, as indicated in dotted lines.

Fig. 4 represents the outer plate for use on the land-side of the plow. This plate is preferably constructed with a projecting portion, *t*, to which the spindle *u* may be secured for the land-side wheel.

It will be observed that the plates are secured to the sides of an iron frame instead of to an axle, as ordinarily constructed.

Both outer plates may be furnished with an elongation, *t*, equal to that shown.

Preferably the spindle of the carrying-wheel on the land side is at a greater radial distance from the axis of adjustment; but they may be equal or reversed.

The plates are secured to the frame in a higher position on the land side than on the furrow side, preferably.

The plates shown in Figs. 1 and 2 may be secured to either side of the frame *a' a'*, so as to use what is called a "right-hand" or a "left-hand" plow. In the drawings the carriage is represented as adapted for a right-hand plow.

When the spindles are in the lowest position they will be in line with each other, bringing the wheels to a level, and elevating the frame to adapt the implement for removal from place to place.

I am aware that plows have before been constructed with quadrangular frames and without through-axes. I am also aware that the carrying-wheels of plows have been mounted on bell-crank levers and on pivoted plates or frames of various kinds operating after the manner of bell-crank levers both with and without through-axes; but I am not aware that a sulky-plow has ever before been devised with an open frame so constructed as to render it efficient, strong, and durable.

On the 7th of August, 1877, a patent was granted to me for a mode of mounting and operating a plow-beam and its accessories, which necessitates the use of an open frame, preferably of quadrangular shape.

The merit of my present invention is believed to consist in devising an improved construction of frame—that is to say, a continu-

ous frame of quadrangular shape made of flat iron, to render it light, strong, and rigid, and in devising an effective means of securing to such a frame the attachments on which the supporting-wheels are mounted.

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

1. The combination of the iron frame *a a'*, the stationary side plates *b b* bolted thereto, and the adjustable outer plates *e e*, turning upon rigid studs *b'''* projecting from the faces of the inner plates *e e*, as described.

2. The combination, with the iron frame *a a'*, of the inner plates *b b* fixed thereto, the outer plates *e e*, carrying the wheel-spindles *u u*, and turning on rigid studs *b''' b'''*, the fastening-bolts *a''*, and clips *k r*, substantially as and for the purpose set forth.

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