

(No Model.)

2 Sheets—Sheet 1.

P. W. STANHOPE, Jr.
WHEEL PLOW.

No. 485,994.

Patented Nov. 8, 1892.

Fig. 1.

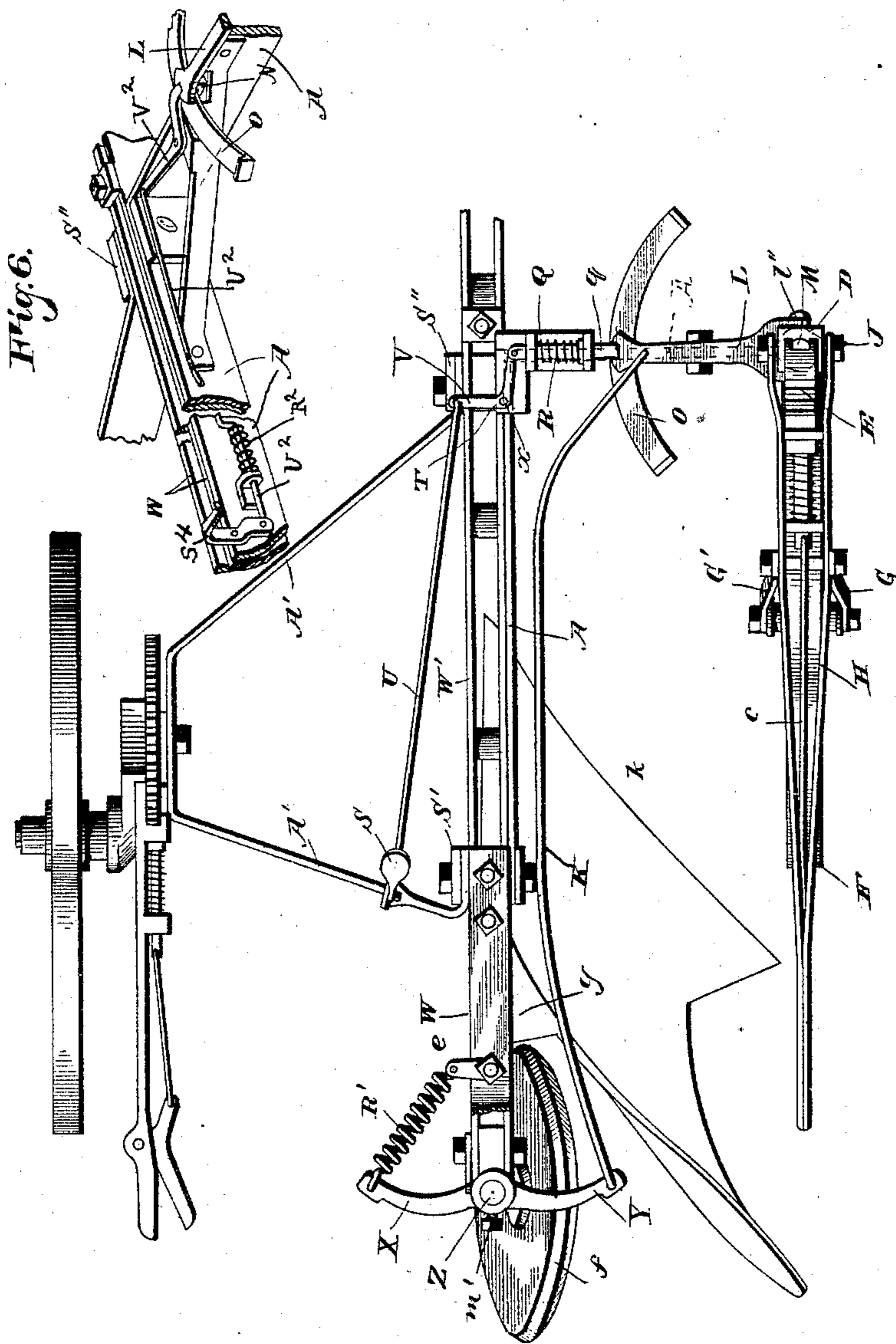
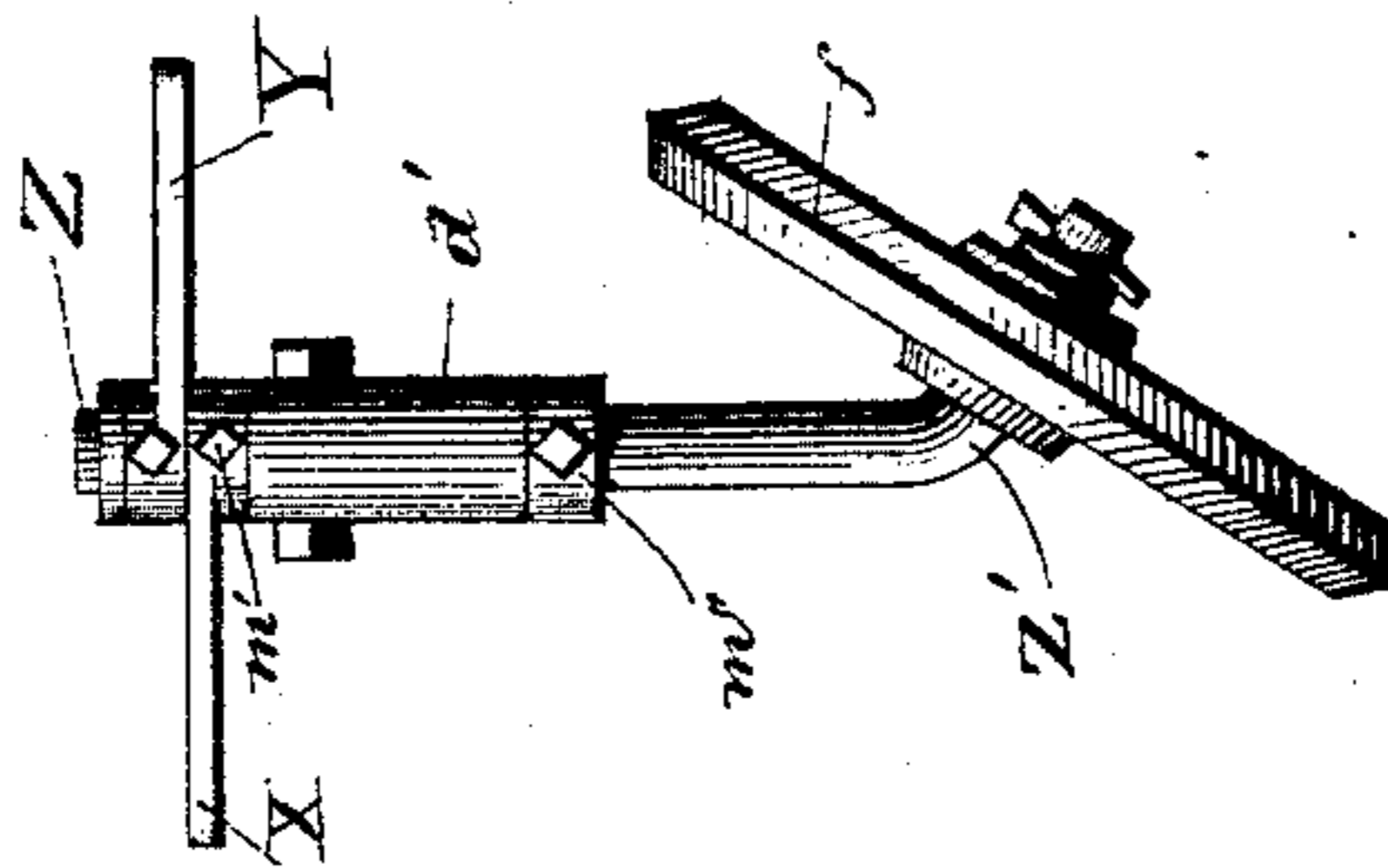


Fig. 6.

Fig. 4.



Witnesses

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Arthur E. Dowell

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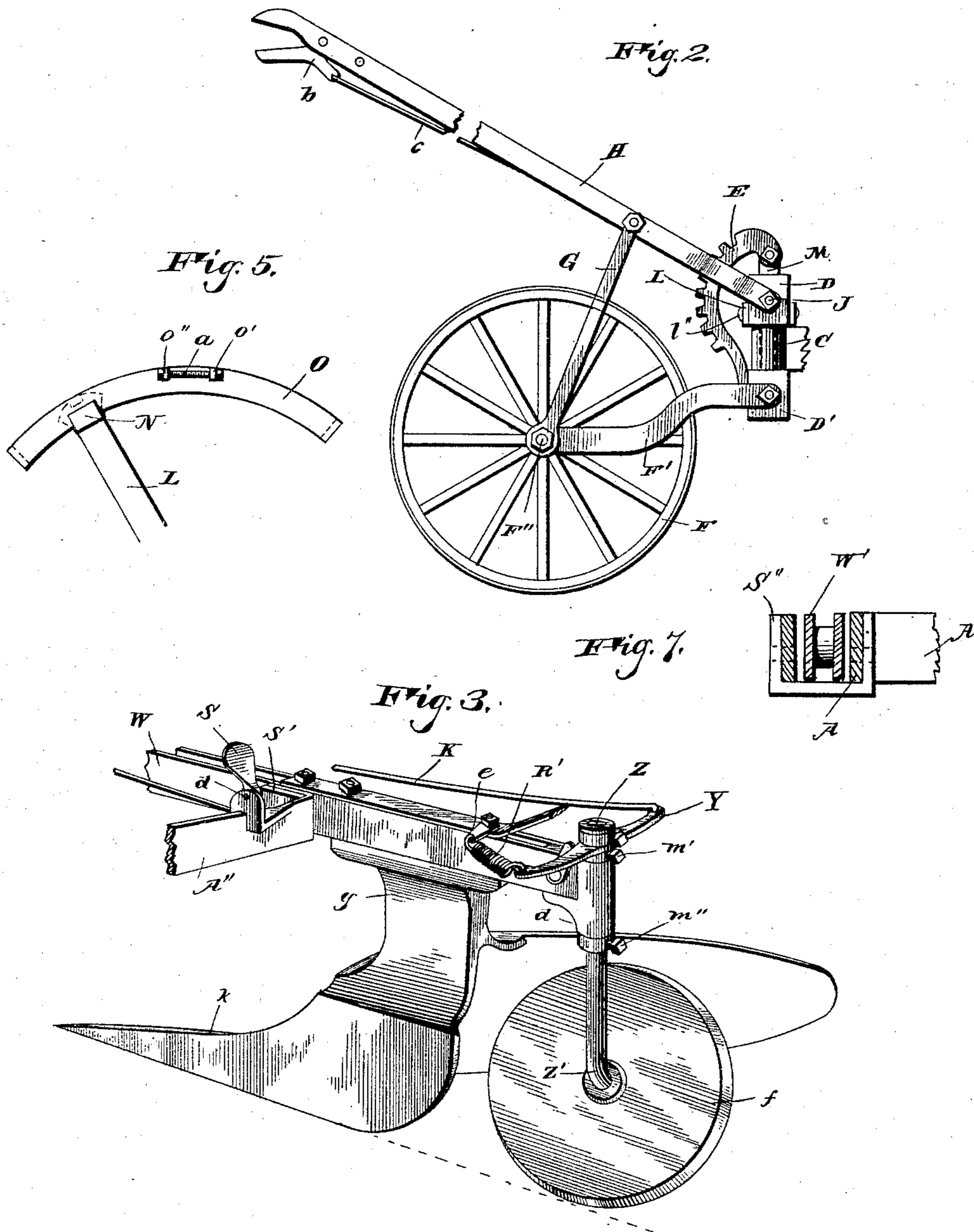
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UNITED STATES PATENT OFFICE.

PHILIP W. STANHOPE, JR., OF PEORIA, ILLINOIS.

WHEEL-PLOW.

SPECIFICATION forming part of Letters Patent No. 485,994, dated November 8, 1892.

Application filed December 15, 1890. Serial No. 374,839. (Model.)

To all whom it may concern:

Be it known that I, PHILIP W. STANHOPE, Jr., of Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Wheel-Plows; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a top plan view of my improved plow. Fig. 2 is a detail side elevation of the furrow-wheel attachments. Fig. 3 is a detail perspective view of the inclined wheel-land-side and plow, looking from the landside. Fig. 4 is a rear view of the wheel-landside. Fig. 5 is a detail of the furrow-wheel-locking devices. Fig. 6 is a detail perspective view illustrating a modification of the locking devices for the furrow-wheel. Fig. 7 is a detail transverse sectional view of the beam and frame.

This invention is an improvement in sulky or riding plows; and its objects are to provide the same with an improved wheel-landside, which also serves as a carrying-wheel for the plow when on the road, and to provide improved devices for adjusting and controlling the furrow-side wheel, and other devices whereby the furrow-side wheel may be caused to control the movements or the position of the inclined wheel-landside, or the latter may be independently controlled by a spring, all of which will be clearly understood from the following description and claims.

Referring to the drawings by letter, W' designates the plow-beam, k the plow attached thereto, and g the standard.

A' A' designate a V-shaped portion of a frame connected to the beam and projecting over the landside thereof, to the extremity of which can be connected in any suitable manner a wheel. The ends of pieces A' A' of the frame are connected to U-shaped irons S' S'', which pass under the beam, one of these irons being connected to the beam in such manner that the frame may play up and down vertically sufficiently to prevent any slight inequalities in the surface over which the supporting-wheels of the frame are running from affecting the plow while in operation. The

ends of straps S' S'' on the side opposite pieces A' A' are connected by a piece A, running parallel with the beam; but in front of strap S'' piece A bends outward at right angles to the beam and projects over the furrows and has an eye C formed on its end, through which passes a bolt M, which also transfixes blocks or castings D D', arranged above and below eye C, as shown. (If desired, blocks D D' might be united by a cylindrical portion journaled in eye C and bolt M omitted.) The blocks and bolt M constitute a revoluble post or standard and are referred to as such in the claims. To the lower block D' are connected the ends of yoke-irons F', in the other ends of which is fixed a short shaft F'', on which is journaled a wheel F, as shown, and from this shaft rise uprights G G', which are connected by their upper ends to the legs of a lever H, which projects above and over wheel F and has its bifurcated lower end pivotally secured to block D by a bolt J.

E designates a toothed cast segment secured to blocks D D' and passing between the legs of lever H and adapted to be engaged by a spring-latch attached to the lever and operated by a rod c and thumb-latch b, as usual. By shifting lever H up or down wheel F is consequently raised or lowered in relation to the portion A of the frame, and it can be turned laterally as it is swiveled by its connections on eye C.

L designates an arm overlying the projecting part A and having its outer end bifurcated and connected to block D by bolt l''. The front or inner end of this arm is rounded and centrally notched to engage a spring latch-bolt q, mounted in a casting Q, attached to part A by bolts a and controlled by a spring R, as usual.

O designates a curved plate lying across part A and secured thereto by lugs o' o'', depending from its lower side, and a bolt a, as indicated in the drawings. This plate O supports the inner end of arm L as it is swung back and forth when released from the bolt q. On the under surface of arm L is a lipped lug N, which loosely engages the edge of plate O, so that vertical play of the arm in relation thereto is prevented. The end of bolt q is pivotally connected to one end of a bell-crank lever t, pivoted at x on casting Q

and having its other arm V projecting horizontally over the plow-beam and connected to a rod U, which extends rearwardly and is connected to one end of an oscillating piece or treadle S, fulcrumed on a bolt d , attached to an upstanding lug on the portion A'' of the frame in a convenient position to be operated by the foot of the driver, by which means the driver can at any time release arm L, so as to permit wheel F to turn at an angle to the beam while the plow is turning corners.

d' designates a casting secured to a rear extension W of the beam, and Z is a short vertical shaft journaled in said casting and having a collar d and set-screw m'' on its lower end and a crank-arm X, attached to its upper end by a set-screw m' , by which vertical play of the shaft through the casting is prevented. The lower end Z' of the shaft is bent downwardly and outwardly at an angle, and on this portion is journaled an inclined wheel-landside f , the periphery of which is beveled so that it works snugly in the corner of the new cut furrow-relieving thrust on the mold-board when the plow is in operation. The arm X projects at about right angles to beam W', but is connected thereto at its extremity by a stout coiled spring R', fastened to the beam at e , and which operates to keep the landside in proper working position in the furrow and to return it to such position after it has been displaced during the turning of the machine.

I do not wish to confine myself to any particular kind of spring or way of attaching same to accomplish the same results. I preferably show it and use it in the way above described and shown, although a coiled spring around top of shaft would answer or a flat or other kind of spring attached in a little different manner will accomplish the same result.

An arm Y is attached to the upper end of shaft Z by a set-screw m and projects at an opposite angle to arm X, and the end of arm Y is connected by a link-rod K with the arm L, as shown in Fig. 1. By means of this connecting-rod the inclined furrow-wheel will be controlled by the operating devices of wheel F, substantially in the manner and for the purpose described in my application for patent on sulky-plows, filed July 9, 1890, Serial No. 358,181. The spring R' will in this case assist in throwing the wheels back to working position—i. e., in line with the plow-beam—after displacement in turning. If desired, by loosening set-screw m' arm X and spring R' have no further effect on the shaft Z and the inclined wheel-landside in this case is controlled entirely by its connections to arm L. By loosening set-screw m , however, and tightening set-screw m' the landside-wheel is made independent of wheel F or arm L, and it is controlled entirely by the spring R' and arm X. The inclined wheel-landside, with its arm X and spring R', are useful in connection with ordinary plows, as the spring permits the plow to be turned while the landside-wheel is sta-

tionary; but as soon as the plow is started forward in cutting a furrow the spring draws the landside-wheel into working position, insuring clean-cut corners and furrows.

In Fig. 6 I show a modified arrangement of the locking devices for the furrow-wheel. In this the bell-crank V² is adapted to engage lever L direct, and it is operated by a rod U², connected to a treadle or foot-piece S⁴, pivoted to the frame A in convenient position to be operated by the foot of the driver, and a spring R² is placed on rod U², so as to normally shift lever V² into engagement with lever L. This construction dispenses with bolt q and bracket Q.

Having thus described my invention, I claim—

1. In a wheel-plow, the combination, substantially as set forth, with a wheeled frame and a plow carried thereby, of a wheel-landside at the rear of the plow, a vertical pivot connecting said wheel-landside with the plow-beam and permitting the wheel-landside to swivel upon a vertical axis, a stop to limit said swiveling motion in one direction, and a spring to hold said wheel-landside in the normal line of draft as determined by said stop, substantially as set forth.

2. In a wheel-plow, the improved furrow-wheel mounting consisting of a vertical spindle, a furrow-wheel holder linked thereto, a furrow-wheel journaled in said holder, a handle lever pivoted to said spindle, and a link pivoted to said holder and lever, substantially as specified.

3. The combination of a plow-beam, the frame connected thereto, the standard swiveled on the end of said frame, carrying a wheel and adjusting devices therefor, and a locking device for said standard active only when the furrow-wheel is in the normal line of draft with the short vertical shaft connected to the rear end of the plow-beam, the wheel journaled thereon, and a spring controlling the position of said shaft, substantially as specified.

4. The combination of the plow-beam, the frame connected thereto, the standard swiveled on the end of said frame, carrying a wheel and a single lever for adjusting said wheel both vertically and laterally, and a locking device for said standard, adapted to lock the same only when the furrow-wheel is in the normal line of draft, substantially as set forth.

5. The combination of the plow-beam and plow with the vertical shaft journaled on the rear end thereof, the inclined wheel-landside attached to the lower end of said shaft and a spring for controlling said shaft so as to normally keep the wheel-landside in working position, substantially as specified.

6. The combination of the plow-beam, the plow, the frame, and supporting-wheels connected thereto, substantially as described, with the casting attached to the rear end of the beam, the vertical shaft journaled therein, the inclined wheel-landside journaled on

the lower end of said shaft, the laterally-projecting arm connected to the upper end of the shaft, and the spring connecting said arm to the beam, all substantially as specified.

5 7. The combination of the plow-beam, the frame connected thereto, the standard swiveled on the end of said frame, carrying a wheel and adjusting devices therefor, and an arm projecting from the standard toward the beam, 10 and the latching devices for engaging and locking said arm, with the short vertical shaft connected to the rear end of the plow-beam, the wheel journaled thereon, and the spring controlling the position of said shaft, substantially as set forth. 15

8. The combination of the plow-beam, the frame connected thereto, the standard swiveled on the end of said frame, carrying a wheel and adjusting devices therefor, and an arm 20 projecting from said standard toward the beam, and latch devices for engaging and locking said arm, with a short vertical shaft connected to the rear end of the plow-beam, the inclined wheel-landside journaled thereon, the oppositely-projecting crank-arms con- 25 nected to the upper end of said shaft, the spring connecting one arm to the beam and the rod connecting the other arm to the arm attached to the standard, substantially as set forth. 30

9. The combination of the plow, the frame having a portion projecting from the furrow side of the beam, the standard swiveled on the end of said projecting portion, the yoke 35 and wheel connected to the standard, the lever and segment for adjusting said wheel vertically, and an arm attached to the standard and overlying the projecting portion of the frame, the plate supported on said frame and 40 upholding the end of said arm, the spring-controlled latch adapted to engage and lock said arm, and the bell-crank lever, rod, and foot-treadle for operating said latch, substantially as specified.

45 10. The combination of the plow, the vertical shaft connected to the rear end of the beam thereof, the inclined wheel-landside on said shaft, and the crank-arm on the upper end thereof, with the frame connected to the 50 beam and having an outstanding arm at the

furrow side, a wheel adjustably mounted and swiveled on the extremity of said arm, the arm connected to the support of said wheel and movable therewith, the rod connecting said arm with the crank-arm on the wheel- 55 landside shaft, the guide-plate, and the spring-controlled locking device for said arm, all substantially as specified.

11. The combination of the plow-beam, the shaft attached to the rear end thereof, carry- 60 ing a wheel on its lower end and a crank on its upper end, and a frame connected to said beam, having a wheel on its landside and a standard swiveled in proper bearings on its furrow side, with the segment attached to 65 said standard, the wheel, and yoke and lever for adjusting the same, connected to said standard, the inwardly-projecting arm connected to the standard, the spring-controlled latch adapted to engage and lock said arm 70 when the wheel turns parallel with the beam, and the rod connecting said arm with the crank on the shaft attached to said beam, all substantially as specified.

12. The combination of the plow-beam, the 75 wheel attached to the rear end thereof, the frame connected to said beam, having projecting portions at the land and furrow sides, a wheel connected to the frame at the landside, and a standard swiveled to the frame at the 80 furrow side, a notched arm connected to said standard, a guide-plate for said arm, connected to the frame, a spring-controlled latch adapted to lock said arm, a treadle and rod for releasing said latch, a yoke pivotally connected to 85 said standard, and a wheel connected to the yoke, a segment connected to the standard, a lever pivoted to the standard and engaging said segment by suitable devices, and links connecting said lever with the yoke, whereby 90 the wheel can be vertically adjusted in relation to the standard, all substantially as set forth.

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

PHILIP W. STANHOPE, JR.

Witnesses:

JNO. W. CULBERTSON,
ISAAC M. HORNBACKER.