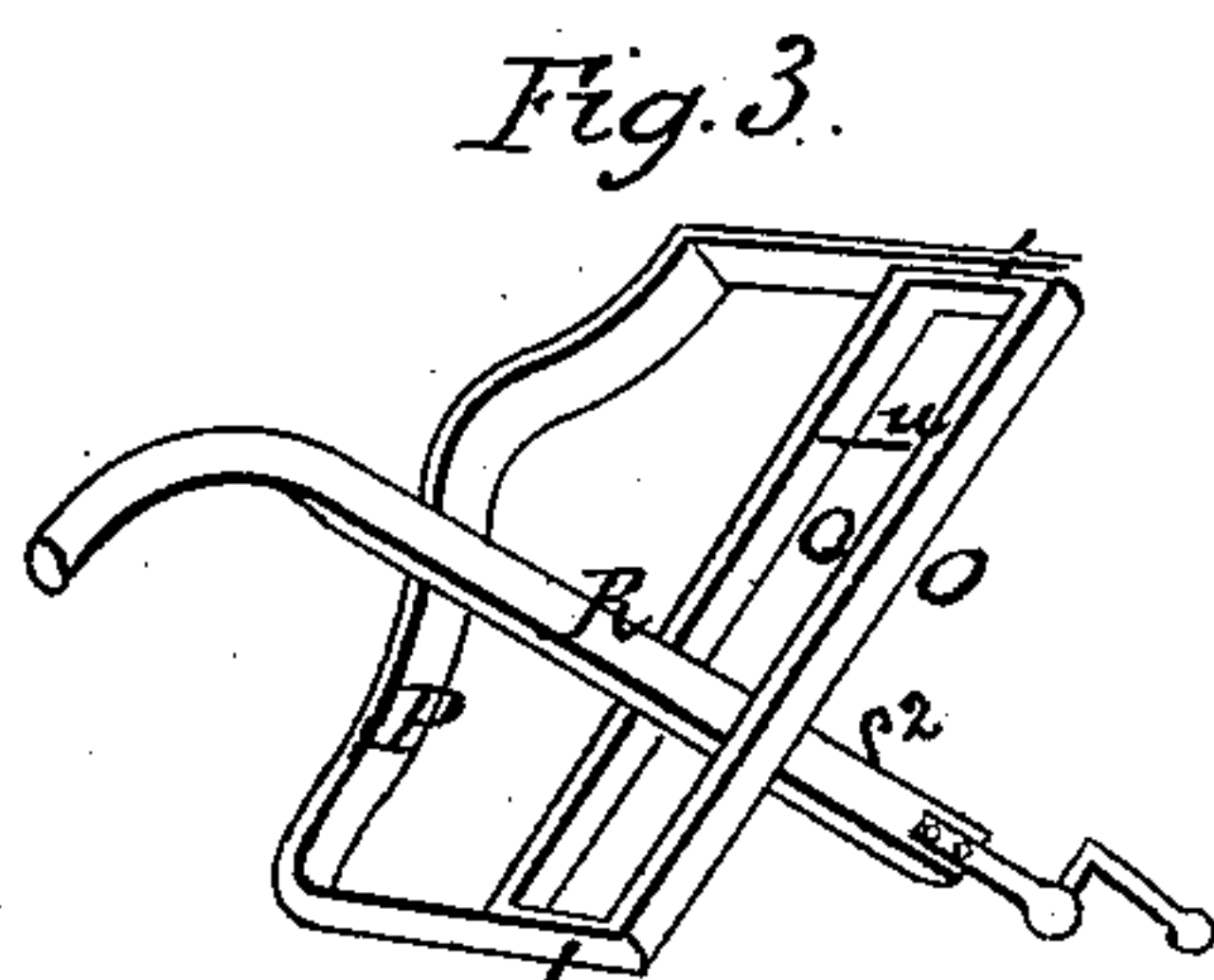
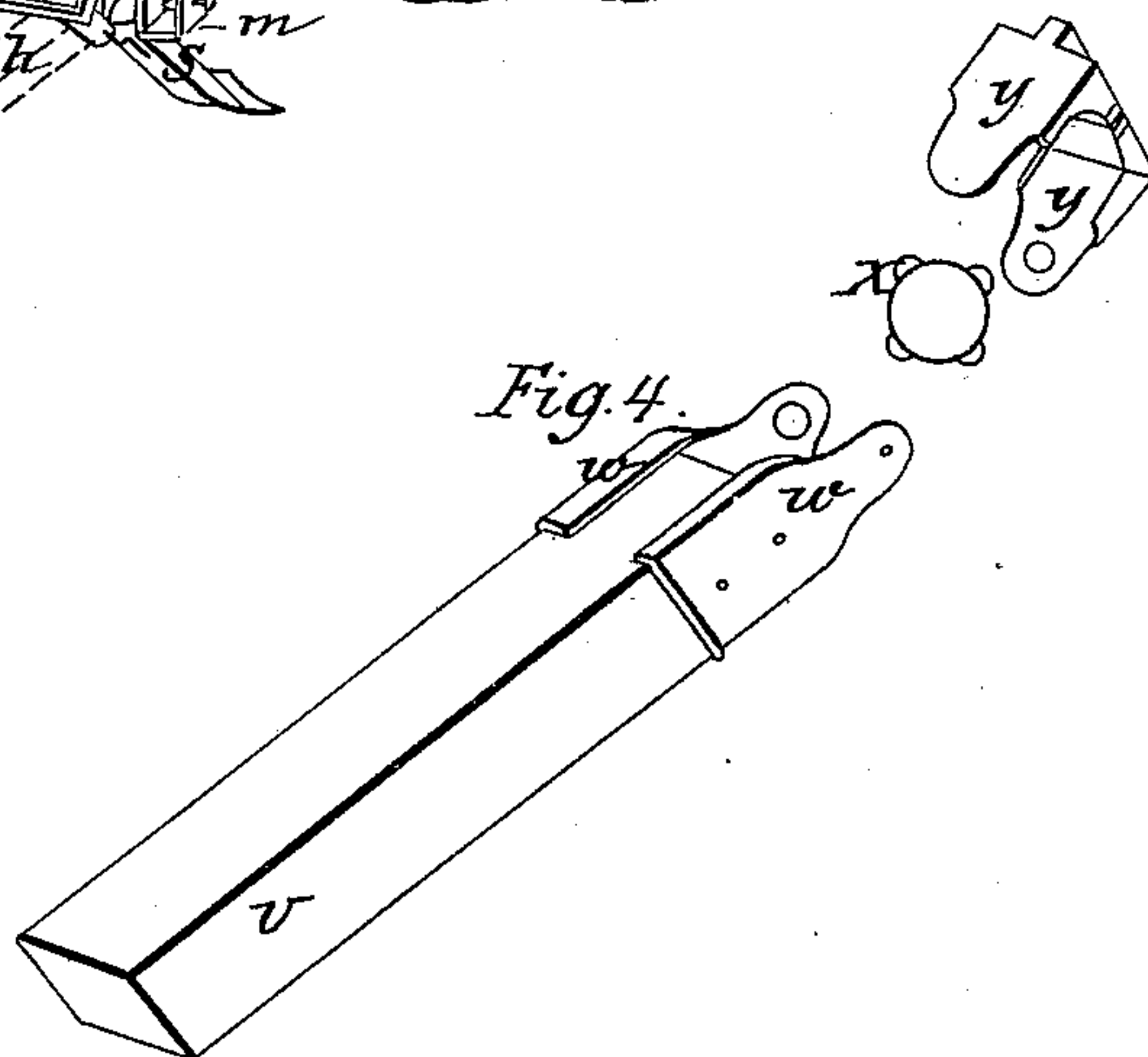
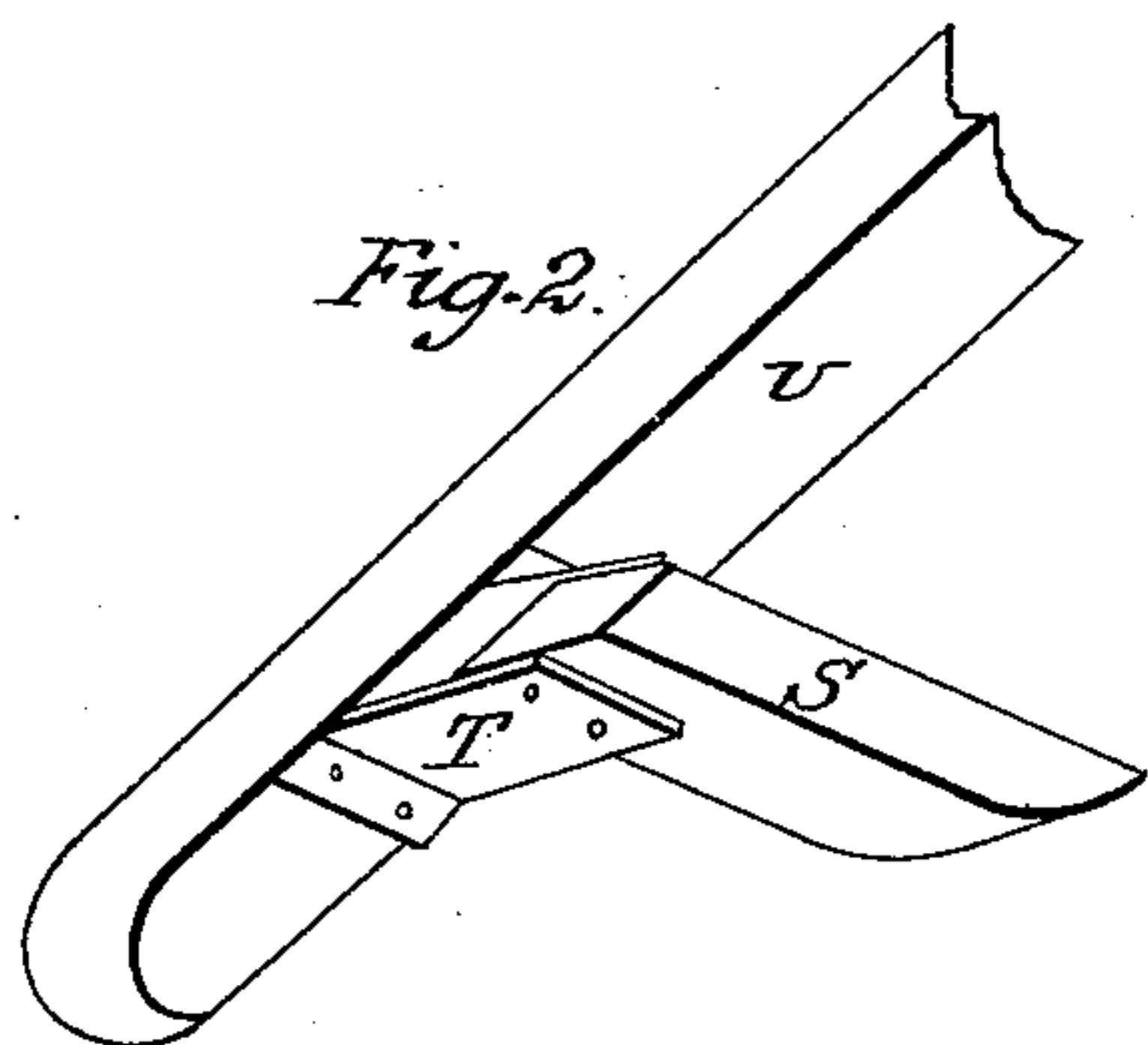
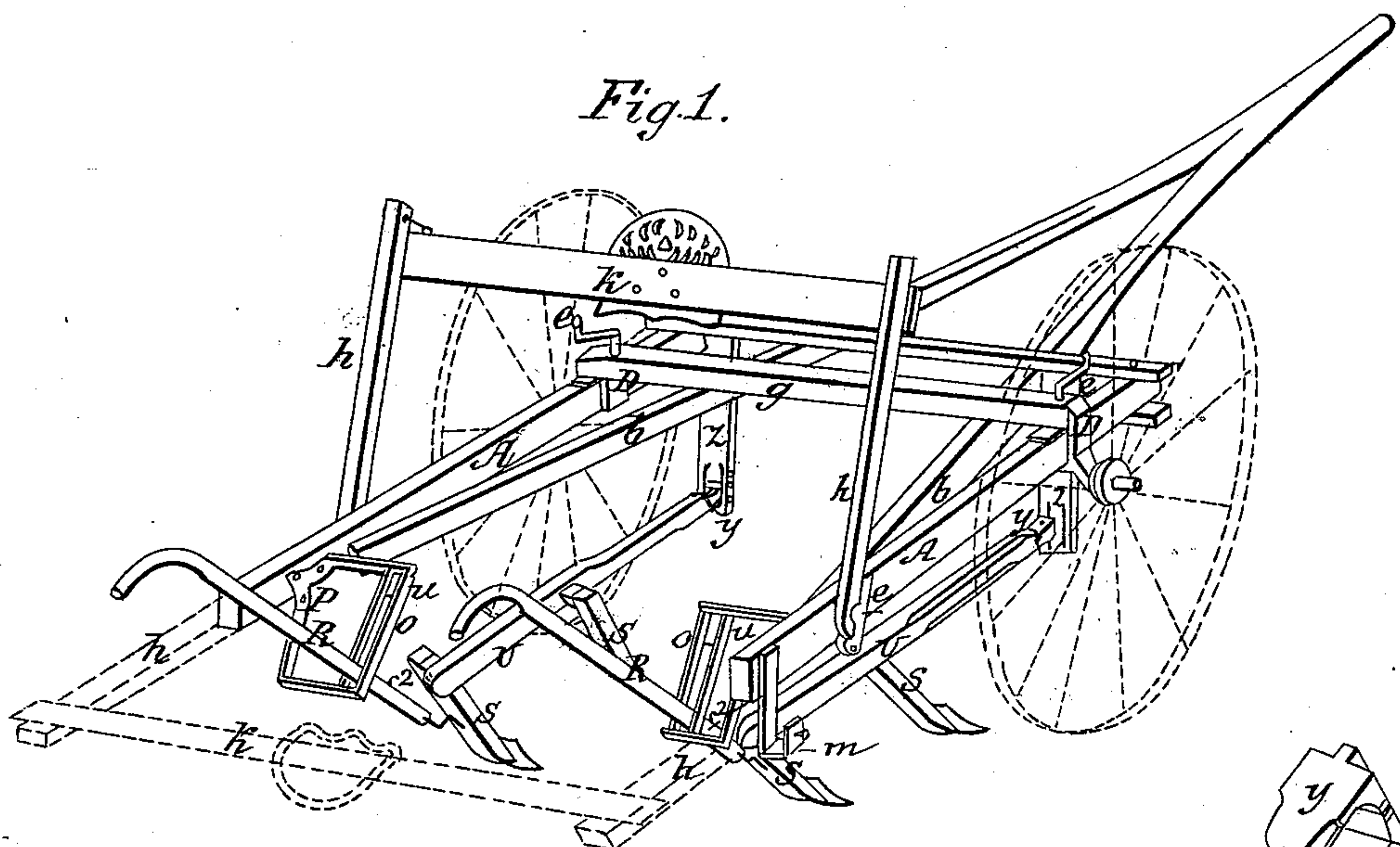


W. A. & C. E. DRYDEN.

Wheel-Cultivator.

No. 67,173.

Patented July 30, 1867.



Witnesses:

W. B. Richards.
J. A. Young

Inventors:

W. A. Dryden.
C. E. Dryden

UNITED STATES PATENT OFFICE.

W. A. DRYDEN AND C. E. DRYDEN, OF MONMOUTH, ILLINOIS.

IMPROVEMENT IN CULTIVATOR.

Specification forming part of Letters Patent No. 67,173, dated July 30, 1867.

To all whom it may concern:

Be it known that we, W. A. DRYDEN and C. E. DRYDEN, of the city of Monmouth, county of Warren and State of Illinois, have invented a new and useful Machine for Cultivating Plants in Rows, to be called "The Champion of the West;" and we 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 drawings, making a part of this specification, in which—

Figure 1 is a perspective view; Fig. 2, a detached section, showing the manner of attaching the cultivator-shanks to the beams. Figs. 3 and 4 are also detached views of sections of the machine.

To enable others skilled in the art to make and use our invention, we will proceed to a fuller description of its construction and operation.

In the first place, we construct our frame with the side pieces *a a*, held in position by the cross-pieces in front, and the extended braces *b b* projecting beyond the frame for the purpose of a guide-pole. The axle we construct with slots, as at *d*, Fig. 1. These slots move freely on the frame-pieces *a a*, and are held firm by the screws *e e*. This arrangement admits of balancing the weight of any different-sized driver, or of balancing the frame when there is no driver on at all.

As seen at Fig. 1 the plow is balanced for no driver. To change it we simply loosen the screws *e e*, hold the axle *g* with the hand, start the team, and draw the frame-pieces *a a* through the slots in axle to the desired place, tighten the screws again, and all is ready by turning down the seat-pieces *h h* for a riding-cultivator.

For the convenience of balancing while riding, when the plows are out of the ground or in the ground, and for other occurring different degrees of weight, we make the cross-piece *k* to slide on the seat-pieces *h h*. The dotted lines *h h* and *k*, Fig. 1, show the position of these parts when in use as a riding-cultivator.

The seat-pieces *h h* are so arranged, in connection with the irons *l* and *m*, that they can be adjusted vertically for plowing small or large plants.

To admit of giving the plows a revolving motion, vertical and horizontal, we connect the beams to the projecting pieces *z z*, Fig. 1,

in the manner seen at Fig 4. The side pieces *w w* are fitted onto the beams *v*, and corresponding pieces are fitted into the projecting pieces *z z*.

The beam-pieces are placed with their faces vertical, and the others, *y y*, with their faces horizontal. Between the four we place the sphere *x*, with four warts, at right angles, which fit in four corresponding depressions in the plates *w w* and *y y*.

To give more purchase and better control of the plows we construct the slotted fulcrum *o*, Fig. 1. These are fully shown at Fig. 3, with one handle passed through, showing the amount of leverage, &c. By means of the hooks *2 2* and the cross-pieces *u u* in the fulcrum the plows may be held up while turning, &c.

We attach our plow-shanks to the beams, as seen at Fig. 2, saving braces and producing simpler and better work. The plate *T*, made of metal and hollow, with projecting flanges to engage with the shank, is screwed or bolted onto the beam, and the shank being placed in position is easily held there by small screws, while the flanges receive the strain, and the extension of the plate on the beam serves the purpose of braces.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The frame *a a*, in connection with the extended braces *b b*, substantially as described, and for the purpose set forth.

2. The slotted axle, in combination with frame *a a* and seat-pieces *h h*, for the purpose set forth, and substantially as described.

3. The sliding seat-piece *k*, in combination with pieces *h h*, for the purpose set forth.

4. The vertical adjustment of seat, as described.

5. The arrangement of pieces *y y*, *w w*, and *x*, for giving circular motion, substantially as described.

6. The slotted fulcrum, in combination with the frame *a a*, for the purpose set forth, and substantially as described.

W. A. DRYDEN.

C. E. DRYDEN.

Witnesses for W. A. Dryden:

W. B. RICHARDS,
JOHN PORTER.

Witnesses for C. E. Dryden:

J. A. YOUNG,
J. R. ROBERTSON.