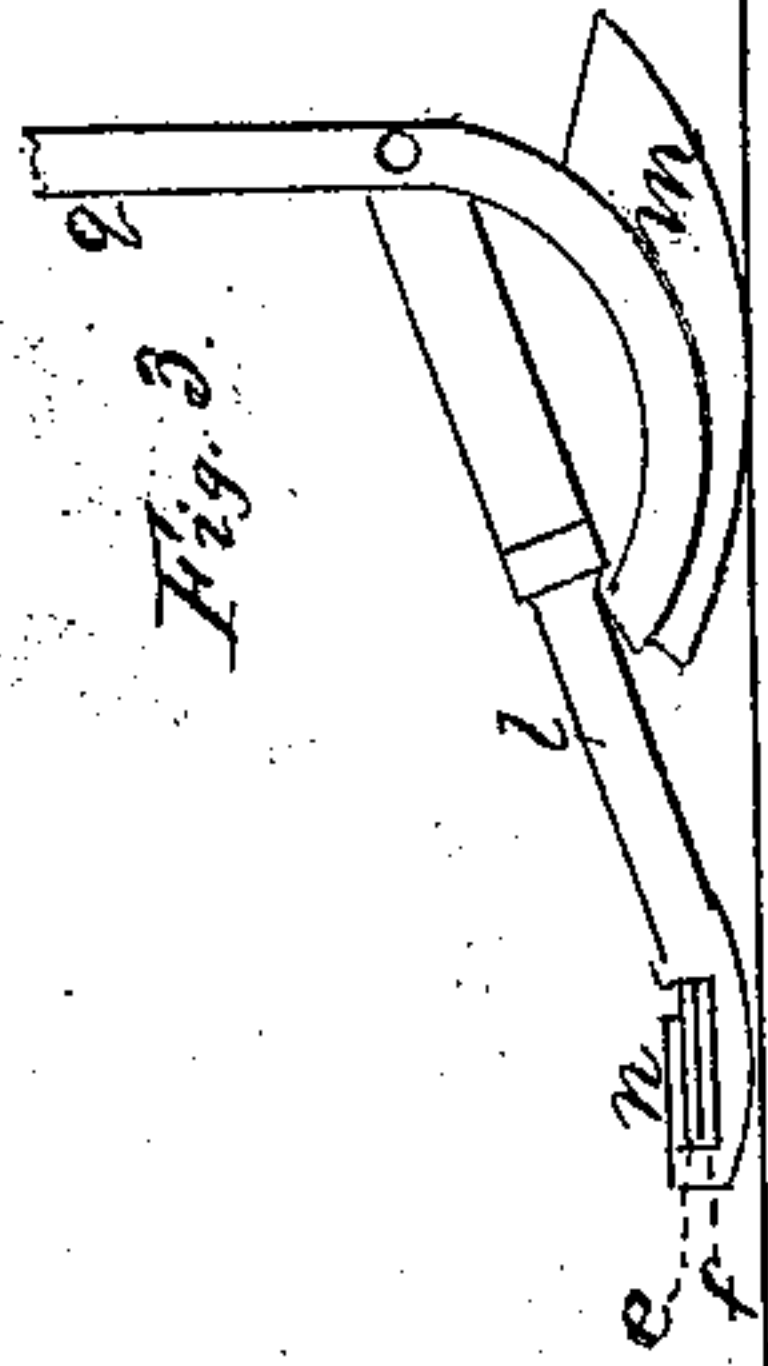
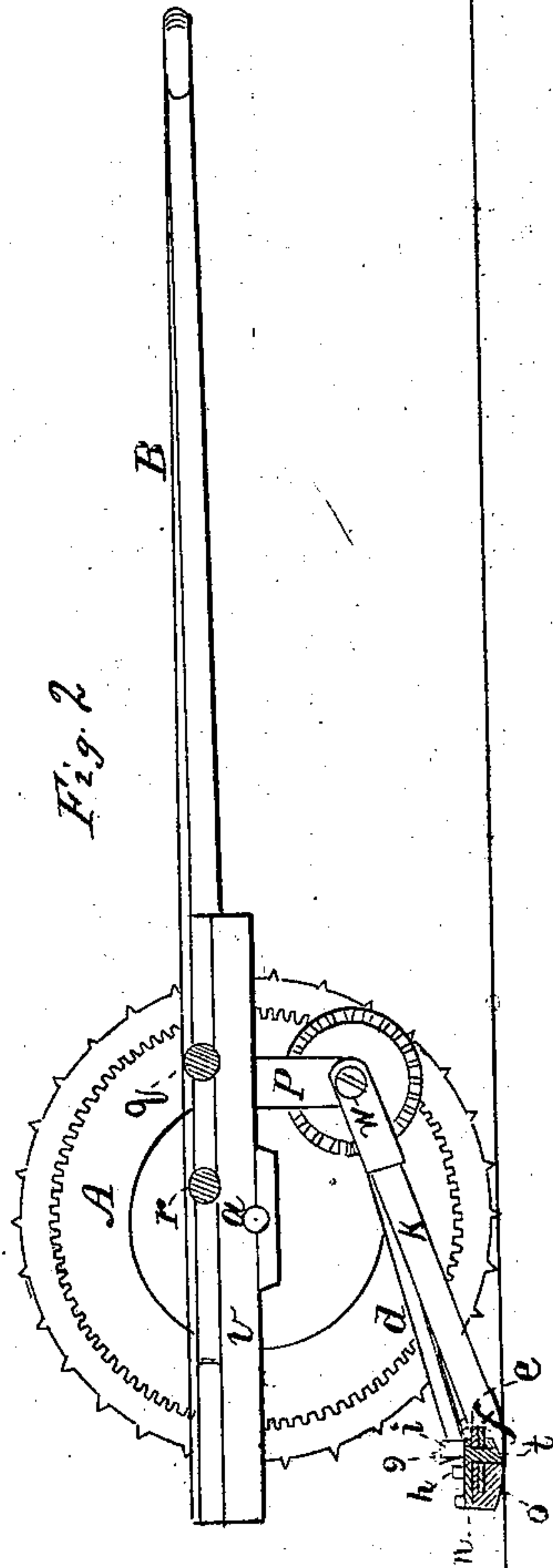
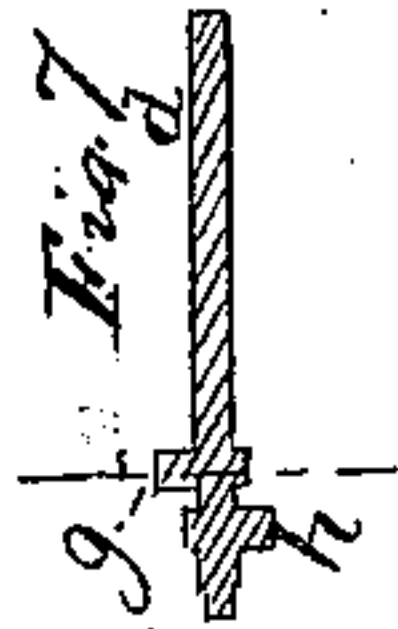
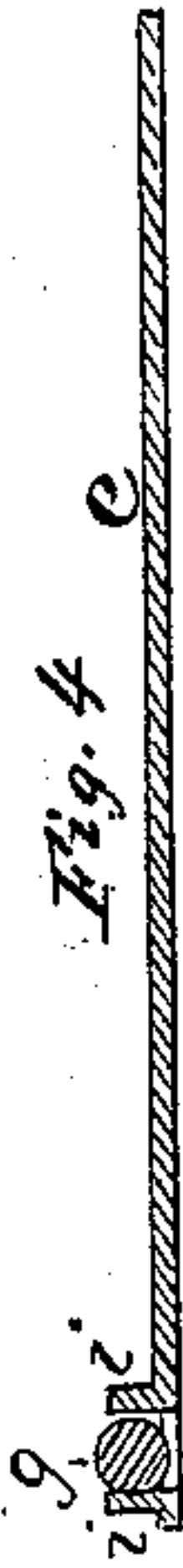
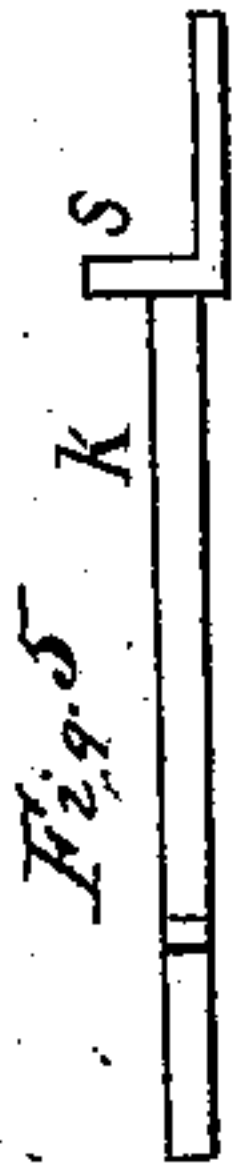
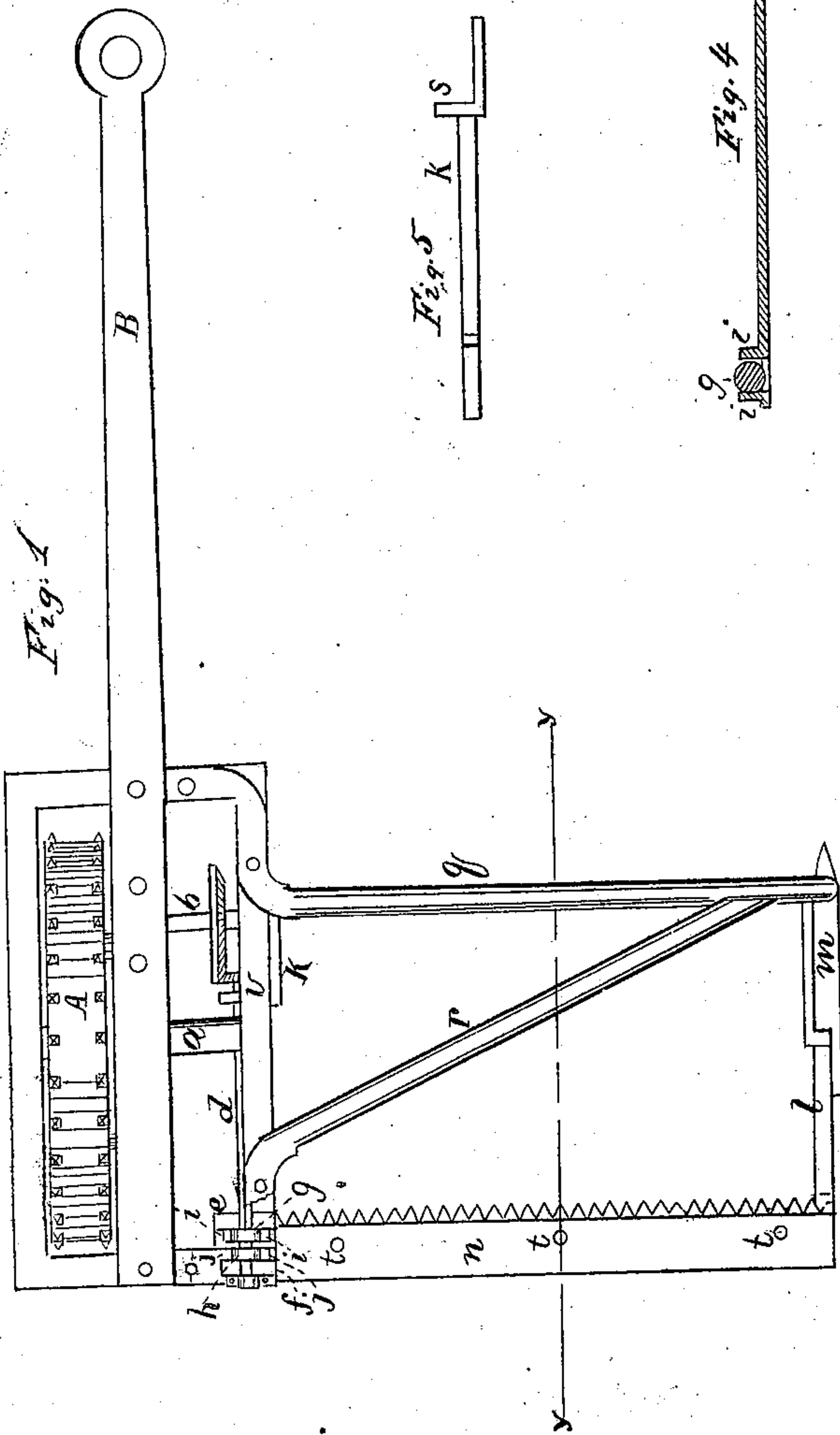
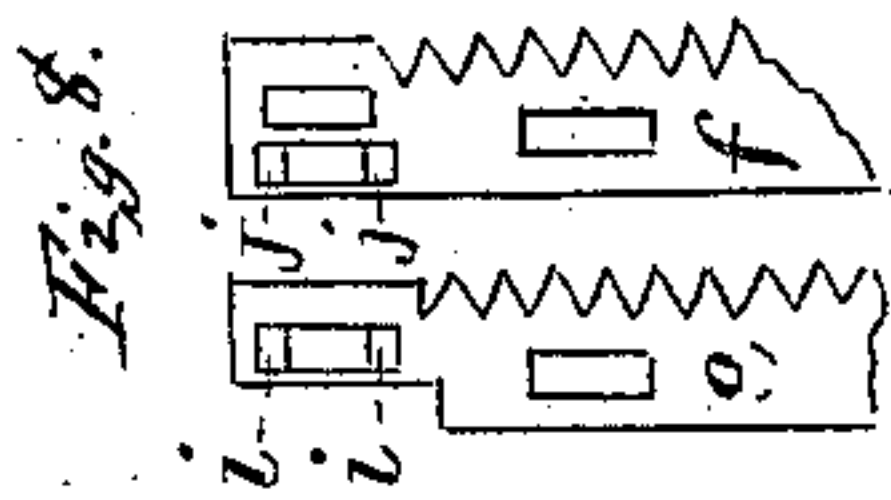
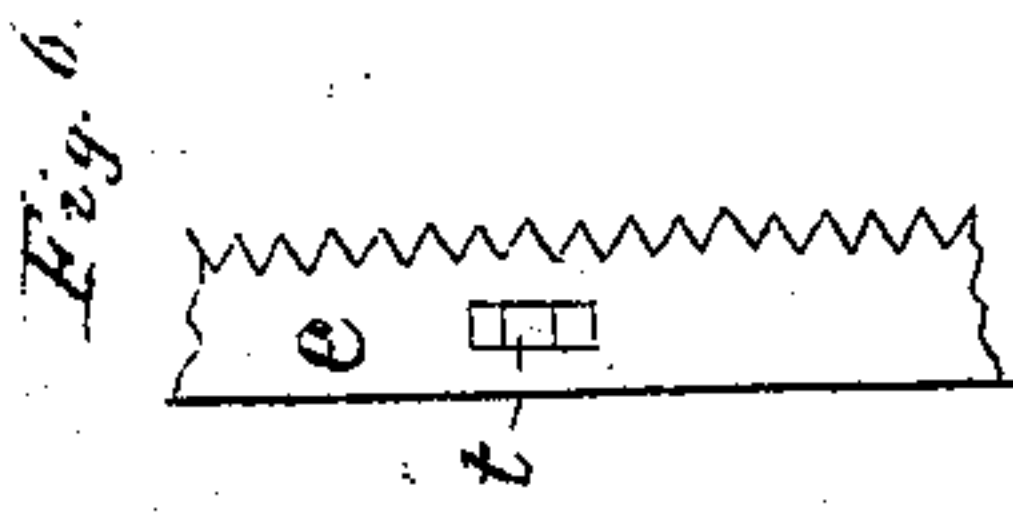


J. W. Thompson,
Mower.

No. 15354

Patented July. 15. 1856



UNITED STATES PATENT OFFICE.

JOHN W. THOMPSON, OF GREENFIELD, MASSACHUSETTS.

IMPROVEMENT IN MOWING-MACHINES.

Specification forming part of Letters Patent No. 15,354, dated July 15, 1856.

To all whom it may concern:

Be it known that I, JOHN W. THOMPSON, of Greenfield, in the county of Franklin and State of Massachusetts, have invented a new and Improved Mowing-Machine; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification—

Figure 1 being a top view of my said machine; Fig. 2, a section in part in the line *y y* of Fig. 1 and a side elevation of the remainder of the machine; Fig. 3, an elevation of the extreme inner side of the machine; and Figs. 5, 6, 7, and 8 represent portions of the machine in detail.

Similar letters indicate like parts in all the drawings.

The essential feature of novelty in my improved mowing-machine is the peculiar arrangement of parts by which the cutter-plates *e f* are enabled to be perfectly operated in a box, *o n*, attached to the after ends of freely-vibrating hinged arms *k l*, which allow the cutter-plate box to rise and fall as the surface of the ground varies, for the purpose of keeping the points of the cutter-teeth always at the proper distance from said surface.

In the accompanying drawings, *v* is an oblong rectangular frame, which rests upon the arbor *a* of the broad-faced wheel *A*. The tongue *B* of the machine is secured to the upper surface of the frame *v*, as represented in Fig. 1. From the under surface of the inner portion of the frame *v*, at a point about half-way between the center and the forward end thereof, there descends a pendant, *p*, and immediately opposite said pendant, and corresponding therewith in size, another pendant (not shown in the drawings) descends from the under side of the tongue *B*. The said pendant *p* and the corresponding pendant descending from the under side of the tongue *B* serve to support the shaft *b*. Motion is imparted to the shaft *b* by means of a pinion on one end thereof, which gears into the teeth which project from the inner periphery of the inwardly-projecting rim of the wheel *A*. (Shown in Fig. 2.)

An arm, *q*, is bolted to the forward inner corner of the rectangular frame *v*, which arm curves rearward to a point immediately above the forward side of the pendant *p*, Fig. 2, and thence projects at right angles to the frame of

the machine a distance a little greater than the required length of the cutter-plates to be used in the machine, and then curves downward first vertically and then rearwardly a distance a little greater than the semi-diameter of the bearing-wheel *A*, so that the outer bearing end of said arm, acting in conjunction with the frame *v* and the wheel *A*, will keep said arm in a horizontal position, or a position parallel to the surface that the machine may stand upon. The bearing end of the arm *q* should be armed with a steel shoe, *m*, having a pointed projecting forward end, which shoe serves the purpose of cleanly separating a proper quantity of standing grass for the cutters to operate upon at one time, and also serves to protect the end of the said arm from being worn away by friction.

The vibrating arm *k*, which is connected to the inner end of the cutter-box *o n*, has its forward end jointed to the outer side of the pendant *p* by means of the pivot-screw *w*, and the vibrating arm *l*, which is connected to the outer end of the cutter-box, is jointed to the inner side of the vertical portion of the arm *q*, as shown in Fig. 3. The saw-teeth cutter-plates *e f* are placed one above the other in a rabbet in the shoe-piece *o*, and are covered by the protecting-plate *n*, which is combined with said cutter-plates and shoe-piece by means of the connecting-bolts *t t*, which pass through longitudinal slots in each cutter-plate. Ears *i i* rise from each end of a longitudinal slot near the front side of the inner end of the cutter-plate *e*, and similar ears, *j j*, rise from the ends of a longitudinal slot in the under cutter-plate, *f*, through a notch formed in the after portion of the inner end of the upper cutter-plate, *e*, as represented in Fig. 8. The after end of a cam-shaft, *d*, works in a journal-box secured to the after side of the inner end of the shoe-piece *o* of the cutter-plate box, while the forward end of said shaft works in an aperture in the lug *s*, which projects from the outer side of the vibrating arm *k*. (Shown in Fig. 5.) The cam *g* on the said shaft *d* works between the ears *i i* on the cutter-plate *e*, and the cam *h*, which projects from the opposite side of said shaft, works between the ears *j j*, rising from the cutter-plate *f*. It will therefore be perceived that the rotation of the shaft *d* will cause its cams *g h* to reciprocate the cutter-plates *e f* in opposite directions. Rotary

motion is imparted to the cam-shaft *d* by means of a bevel-wheel on the intermediate shaft, *b*, being geared into a bevel pinion on the forward end of said cam-shaft *d*. The axis of movement of the vibrating arms *k l* being exactly in line with the axis of the aforesaid shaft *b*, it will readily be perceived that the upward and downward movements of the box *o n* will not change the relative position of the bevel-pinion on the cam-shaft *d* with the bevel-wheel on the shaft *b*, and therefore the position of the said cutter-plate box can self-adapt itself to every inequality of surface without in the slightest degree straining or disarranging the combination of parts that serve to communicate motion from the main wheel *A* to the cutter-plates.

The outer end of the arm *q* may be supported by a brace, *r*, extending therefrom to the after

inner angle of the rectangular frame *v*, as shown in Fig. 1.

What I claim as my invention, and desire to secure by Letters Patent, is—

Connecting the cutter-plate box *o n* to the after ends of freely-vibrating arms *k l*, in combination with the rectangular frame *v* and the inwardly-projecting and sustaining arm *q*, when the said parts, together with the cutter-plates and their gearing, are arranged in relation to the main wheel *A* substantially in the manner herein set forth.

The above specification of my improved mowing-machine signed and witnessed this 23d day of May, 1856.

JOHN W. THOMPSON.

Witnesses:

Z. C. ROBBINS,

S. H. SHAKSPEARE.