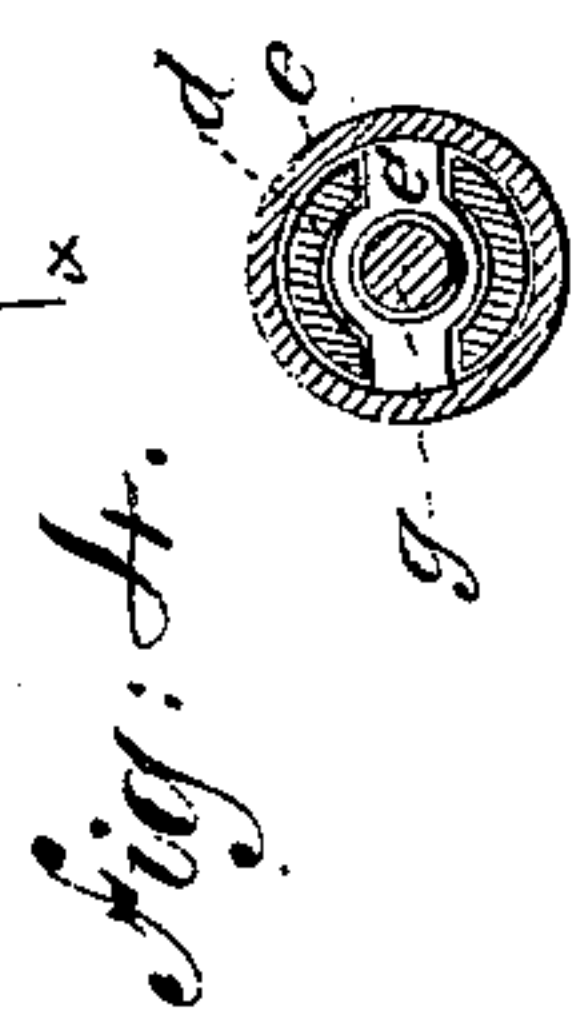
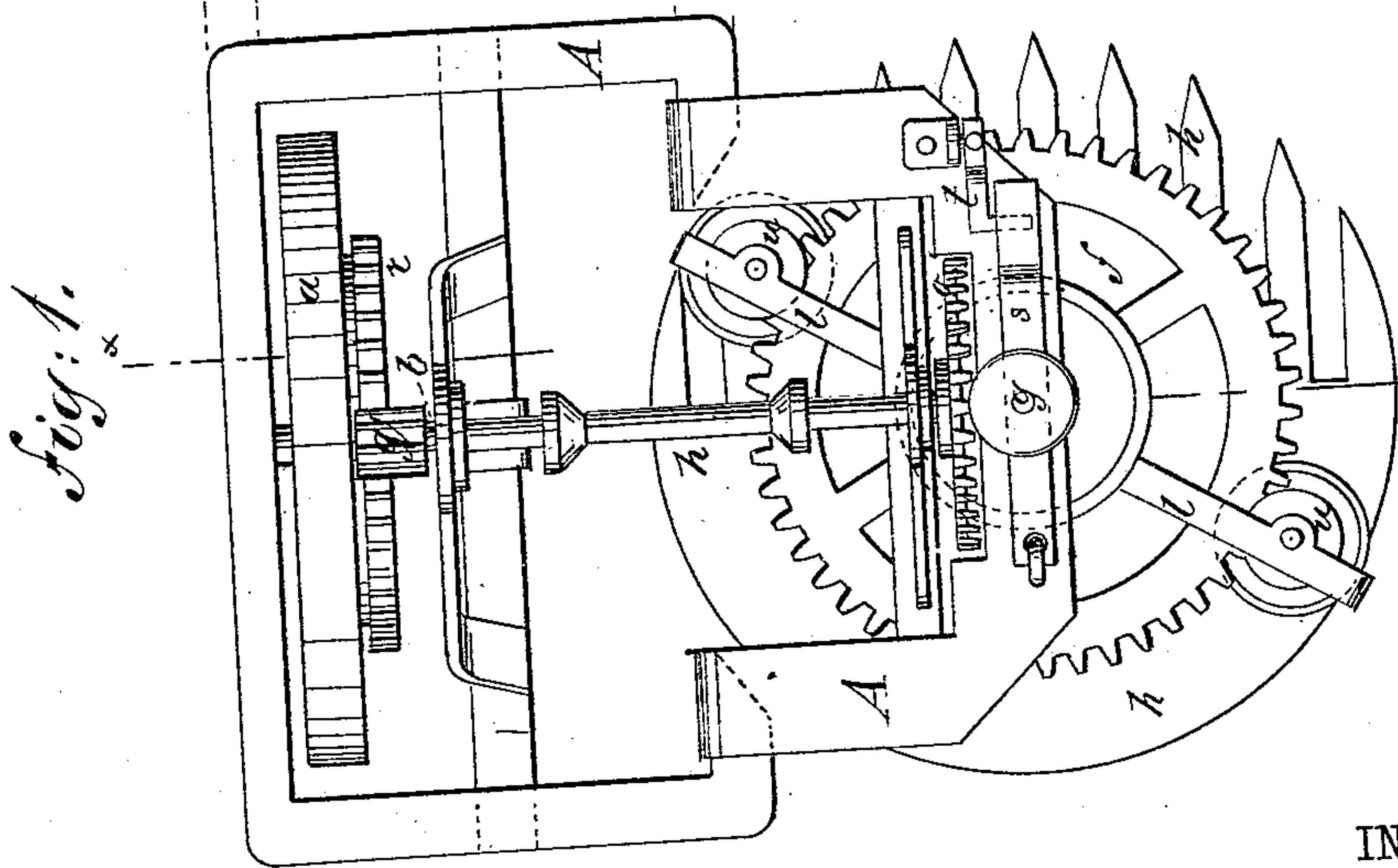
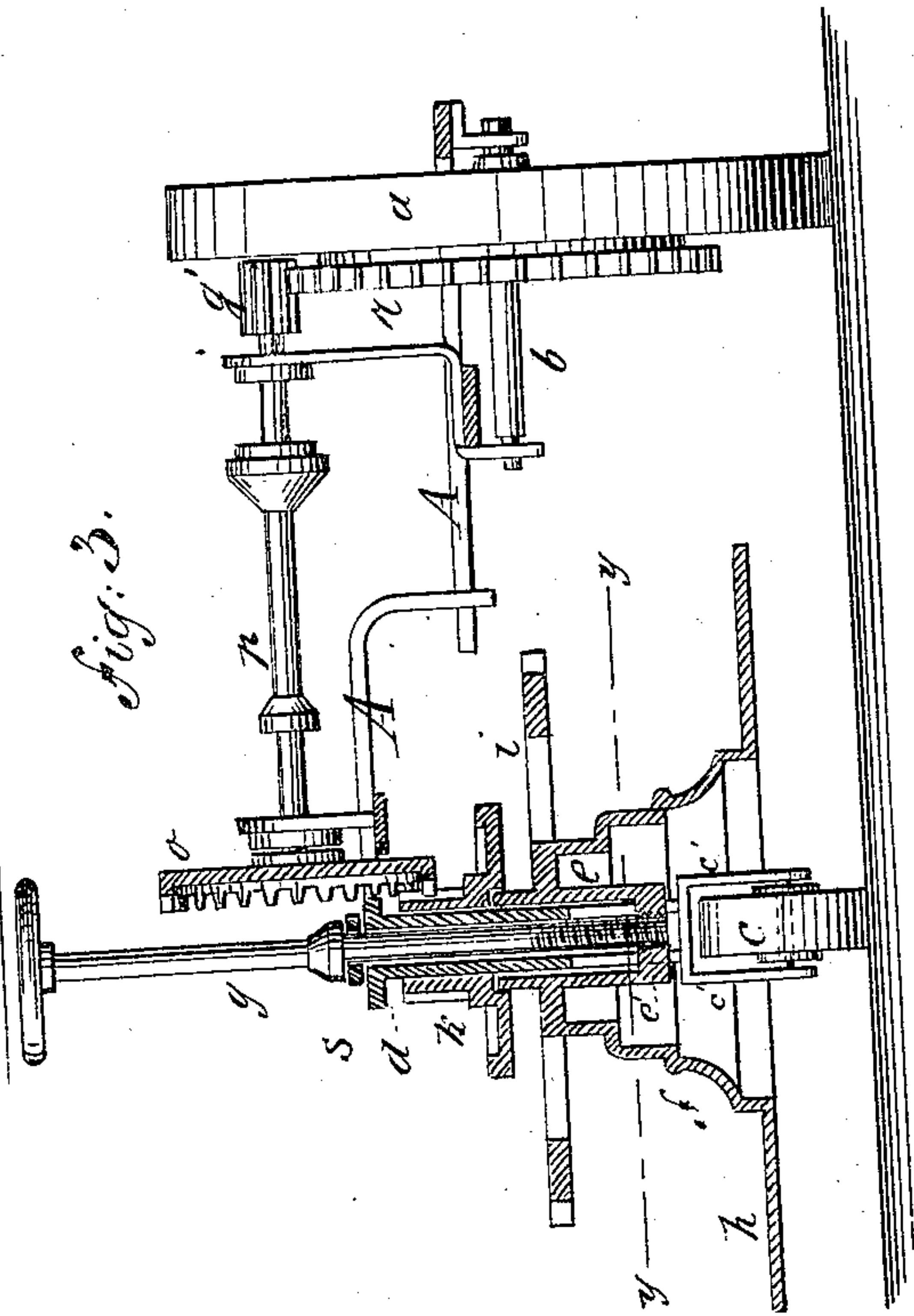
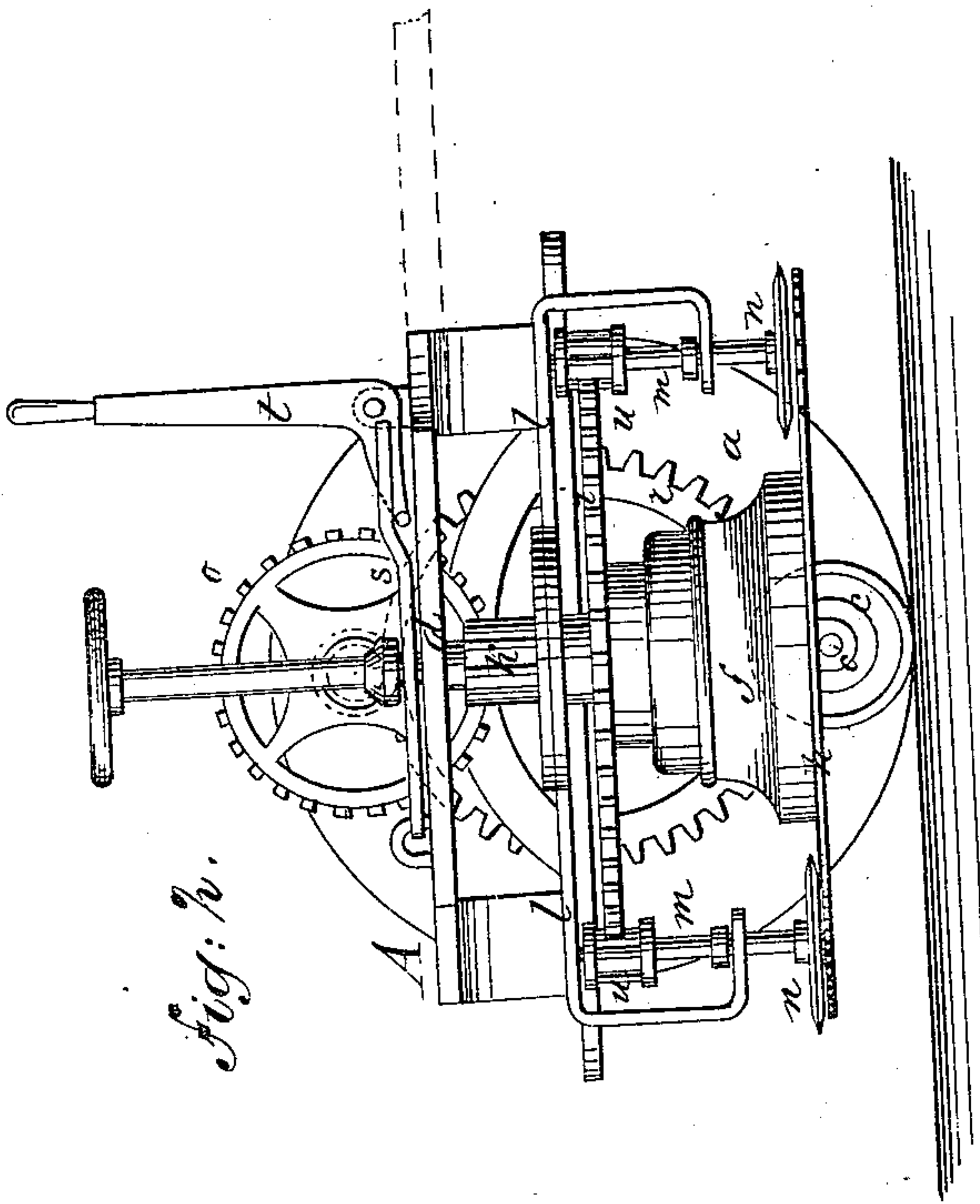


D. FORREST.  
Reaping and Mowing Machine.

Patented July 20, 1880.

No. 230,263.



WITNESSES:

*Chas. Nida*  
*C. Pedgwick*

INVENTOR:

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BY *Munn Ho*  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

DAVID FORREST, OF EASTPORT, MAINE.

## REAPING AND MOWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 230,263, dated July 20, 1880.

Application filed January 30, 1880.

*To all whom it may concern:*

Be it known that I, DAVID FORREST, of Eastport, Washington county, and State of Maine, have invented a new and useful Improvement in Reaping and Mowing Machines, of which the following is a specification.

The object of my invention is to obtain a smooth and continuous cutting action by revolving knives, and to construct a machine requiring comparatively small power for its operation.

I make use of a toothed cutter bar or plate, above which is fitted vertically a revolving shaft that carries the vertical arbors of the revolving cutters, which arbors are revolved axially by gearing, whereby the knives are carried over the cutter-plate on a circular path and revolved on their own axes. The cutter-plate is fitted for being adjusted to or from the ground by a screw without disconnecting the gearing, and for being raised bodily by a lever to clear obstructions.

The construction and operation will be more particularly described hereinafter with reference to the accompanying drawings, and the invention pointed out in the claims.

In the drawings, Figure 1 is a plan view of the machine. Fig. 2 is a side elevation at the grass side. Fig. 3 is a vertical section on line *x x* of Fig. 1, with the drive-wheel *a*, gear-wheel *r*, and small wheel, *c*, in full lines; and Fig. 4 is a horizontal section on line *y y* of Fig. 3.

Similar letters of reference indicate corresponding parts.

A is the frame of the machine, supported at one side on the driving-wheel *a*, which is fast on a short axle, *b*, and at the other side by a caster wheel or roller, *c*, that is journaled between jaws *c'* at the lower end of a tubular post, *d*, that depends from the under side of frame A. Around the lower end of post *d* is a sleeve, *e*, to which is attached the hollow cone-shaped cutter-head *f*, and a cross-bar, *e'*, at the lower end of the sleeve, extends through the slotted lower end of post *d*, so that the sleeve *e* and cutter-head are prevented from turning, and may slide up and down on post *d*. The cross-bar *e'* is formed with a threaded aperture to receive the lower end of a screw-rod, *g*, that extends up through post *d* and rests,

by reason of a collar formed on the rod, on frame A. The upper end of rod *g* is provided with a hand-wheel, so that it may be turned and the cutter-head *f* thereby adjusted to and from the ground. To the lower edge of the cutter-head *f* is attached the cutter bar or platform *h*, the same consisting of a ring-shaped plate toothed at the forward edge, and to the upper part of head *f* is fixed a gear, *i*, that gives motion to the cutters, as hereinafter described.

Upon the post *d*, and resting on the upper end of sleeve *e*, is a loose sleeve, *k*, having radial arms *l*, that extend horizontally over and beyond the fixed gear *i*. At the outer end of each arm *l* are fitted bearings for a vertical arbor, *m*, that carries at its lower end the circular cutters *n*, which are thereby held contiguous to the platform *h*, and at its outer edge.

The arbors *m* of cutters *n* are fitted with pinions *u*, that mesh with the fixed gear *i*. The sleeve *k*, which carries the arms *l*, is formed with long cogs on its surface, for engagement at all times with the gear-wheel *o*, that is upon the end of the horizontal shaft *p*, which is fixed in bearings above the frame A. This shaft *p* extends to the driving-wheel *a*, and carries a pinion, *g'*, that is driven by a gear-wheel, *r*, on the axle *b*. By these connections the sleeve *k* is revolved and the cutters *n* carried around over the surface of the cutter bar or platform *h*, and by the engagement of the pinions *u* with the fixed gear of the cutter-head the arbors *m* are at the same time revolved in their bearings.

The gearing will be proportioned to obtain the desired speed, and the wheel *a* may be fitted with an internal gear instead of the gear on the axle, and, if desired, chains or belts substituted for the gearing.

The shaft *p*, in large machines, may be fitted with a clutch to throw the cutters in and out of gear.

To raise the cutter-head and cutters from the ground to clear obstructions, or in going to and from the field, a lever, *s*, is fitted on frame A, passing beneath the collar on rod *g*, and a bent lever, *t*, fitted on frame A, has its shorter arm extended beneath the outer end of lever *s*, so that by movement of the lever *t* the rod *g*, head *f*, and attached parts are raised bodily on the tubular post *d*.

The machine may be made for hand or horse power, and will cut a wide swath smoothly by continuous cutting-action with comparatively small power.

5 The cutters are preferably thin circular disks of steel beveled to a knife-edge, and a stone may be fixed on the back portion of the platform, with which the cutters will come in contact, and thus be kept sharp.

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

15 1. In reaping and mowing machines, the screw-rod *g*, supported on the frame of the machine and combined with the slotted and tabu-

lar post *d*, sleeve *e*, and sleeve *k*, carrying the cutter-head and cutters, substantially as shown and described, and for the purposes set forth.

2. In reaping and mowing machines, the driving-shaft *p* and gear-wheel *o*, combined 20 with the toothed sleeve *k*, carrying the cutters, and the supporting-post *d*, substantially as shown and described, whereby vertical adjustment of sleeve *k* may be made without disconnecting the gearing.

DAVID FORREST.

Witnesses:

FRANK MCGRAW,  
CHARLES HENRY SMITH.