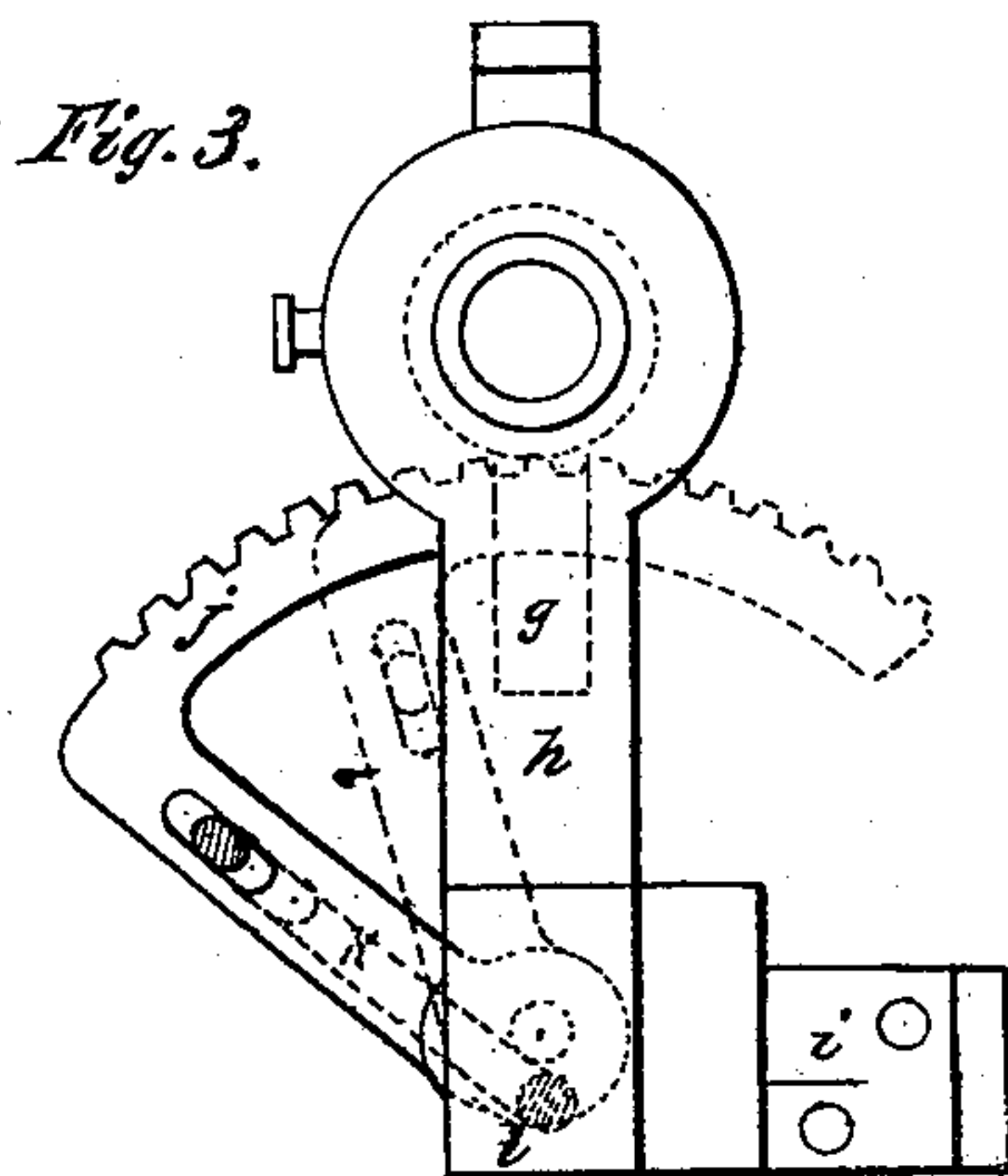
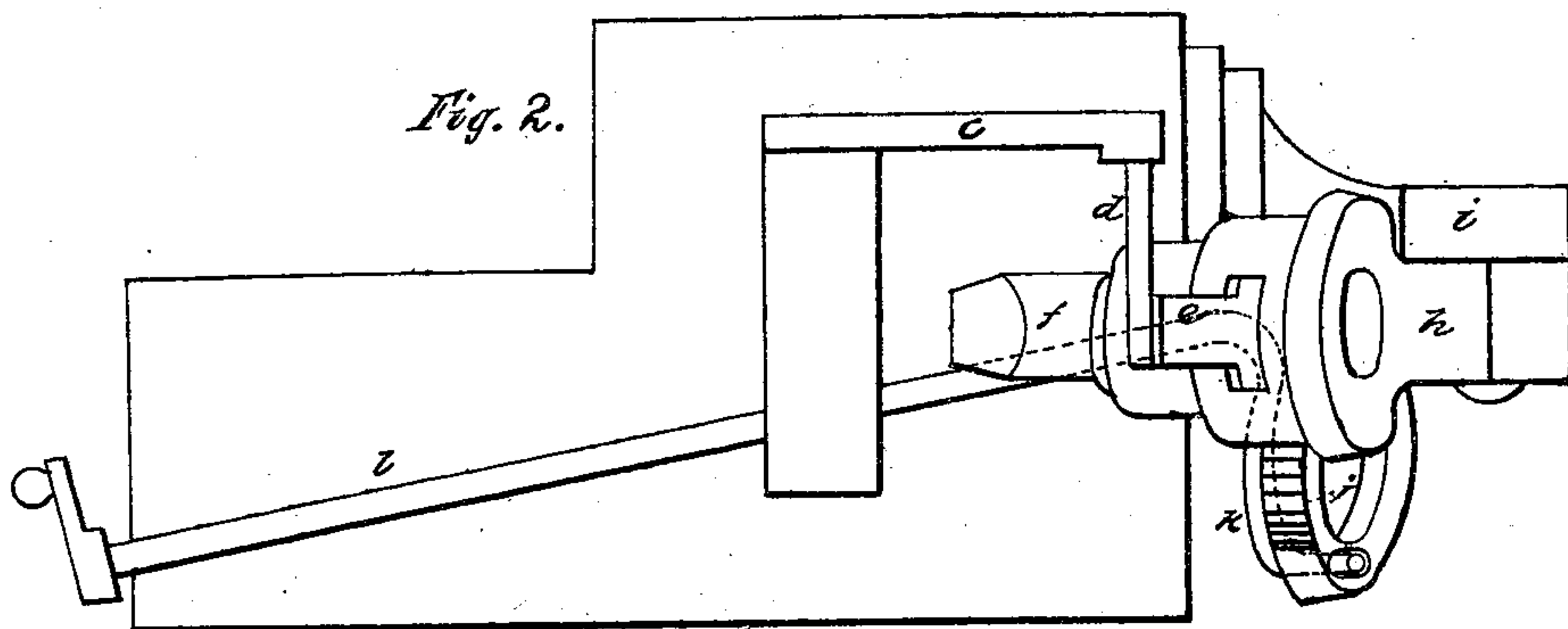
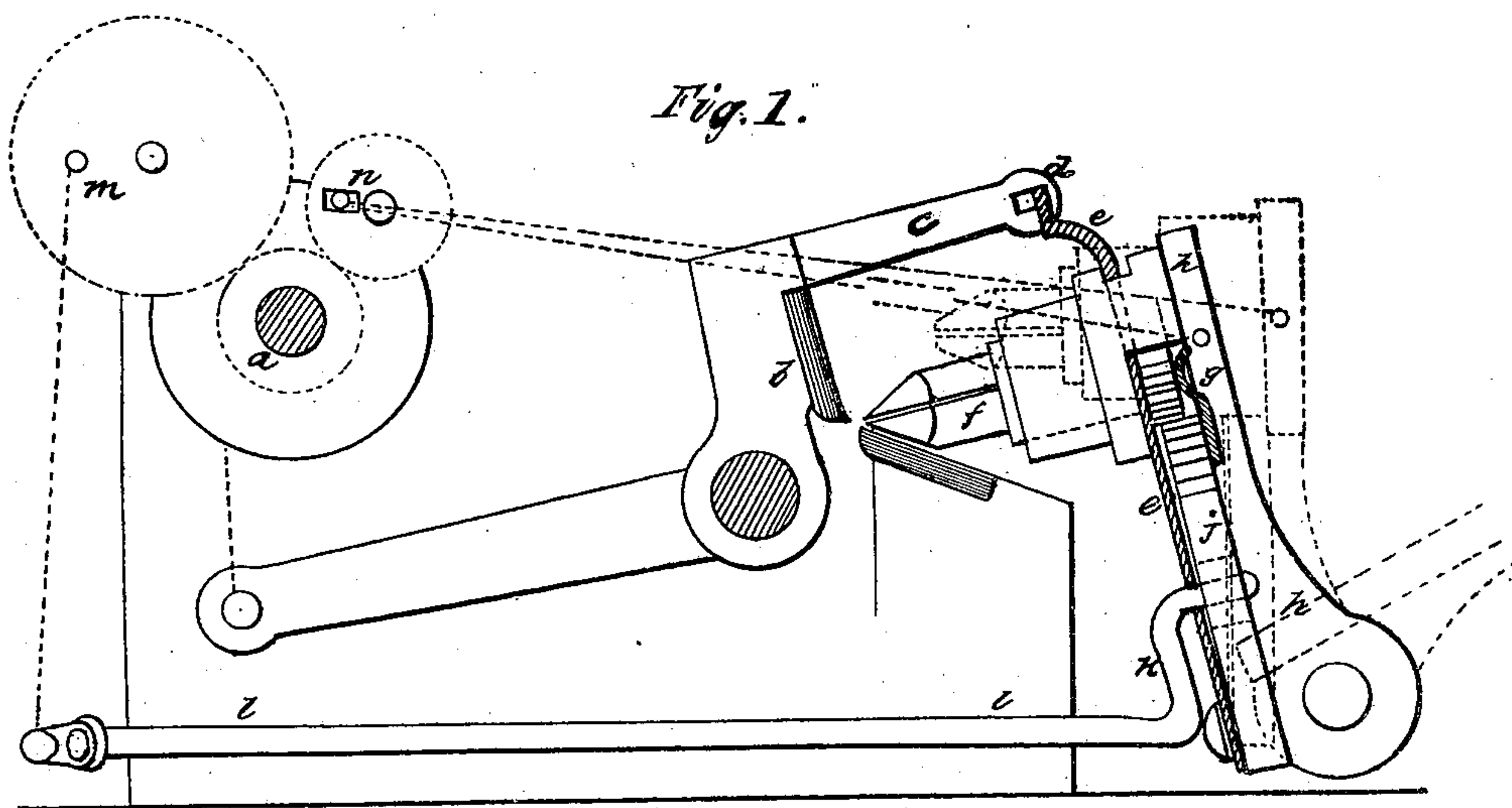


*J. C. Gould.*

*Nail Cutting Mach.*

*N<sup>o</sup> 87,924*

*Patented Mar. 16, 1869.*



*Witnesses:*

*Edwin R. Alexander*  
*John Kemble Hall.*

*Inventor:*  
*John C. Gould*

# UNITED STATES PATENT OFFICE.

JOHN C. GOULD, OF OXFORD, NEW JERSEY.

## IMPROVEMENT IN MACHINES FOR CUTTING NAILS.

Specification forming part of Letters Patent No. 87,924, dated March 16, 1869.

*To all whom it may concern:*

Be it known that I, JOHN C. GOULD, of Oxford, in the county of Warren and State of New Jersey, have invented certain new and useful Improvements in Nail-Plate Feeders; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, making a part of this specification, and to the letters of reference marked thereon.

The said invention relates to the automatic nail-plate feeder for which Letters Patent were issued to me on the 12th day of May, 1857, and reissued on the 10th day of July, 1866, on an amended specification; and it consists of certain improvements by which the construction of the machine is simplified, and it is rendered more capable of attachment to an ordinary nail-making machine. It is also more easily managed in operation, and effects a saving of material by cutting the butt of the nail or tack plate down to the smallest piece that can be retained in the point of the nose-piece, by which it is held, without the intervention of an additional nipper or nipper-rod, as has hitherto been the case.

To enable others skilled in the arts to which it appertains to make and use my invention, I will proceed to describe its construction and operation with reference to the drawings.

Figure 1 is an elevation of my improved feeder as applied to a nail-making machine, and Figs. 2 and 3 are, respectively, a plan and end view of the same.

The driving-shaft *a* operates the upper moving knife, *b*, of the machine in the ordinary manner. Attached to the head, carrying the upper knife, is an arm, *c*, with a projecting stud, *d*, that strikes a spring or jointed lever, *e*, passing through the journal-box of the nose-piece, and attached to the latter, so that when the stud strikes the lever and moves it back the jaws *f* of the nose-piece are also moved back.

The jaws *f* are made or set to bind the nail-plate, and may be furnished with a spring for that purpose; and the machine is so adjusted that when the projecting end of the nail-plate has been seized by the descending knife the stud *d* strikes the end of the lever *e* and presses it and the jaws of the nose-piece back, causing the latter to slip upon the plate, which is

still held between the knives. When the lever is subsequently released from the stud, the nose-piece and the projecting end of the plate are thrown forward again toward the knives by the spring *g*. The extent of this motion, occasioned by the stud *d*, and its counter-motion, by the spring *g*, represents the portion of the plate required for the formation of the nail, and may be regulated by suitable gages or means of adjustment.

The nose-piece is carried by the arm *h*, jointed to the bracket *i*, attached to the side of the machine. The joint should have a wide face to hold the arm steadily, and the bracket should be capable of transverse adjustment to suit the thickness of the heads of the nails.

The segmental rack *j* is jointed to the hub of the arm that carries the nose-piece, and receives its motion from the arm *k* of the rock-shaft *l*, that is vibrated by a connecting-rod from the gear-wheel *m*. The vibratory motion of the segmental rack turns the nose-piece back and forth through half a revolution by means of a pinion on the nose-piece in the manner described in the patent before mentioned; but the jointing of the arm to a single stud in the adjustable bracket, instead of hanging it in a pair of journals, as heretofore, and the working of the rack on a stud on the arm, makes this part of the machine much more simple than that described in my former patent.

The vibratory motion of the arm *h*, carrying the nose-piece, which is usually called the "feeder motion," and which has hitherto been obtained from an eccentric on the driving-shaft, the throw of which cannot be easily adjusted, is received in this improvement from an adjustable pin, *n*, in a slot in the gear-wheel of an independent shaft.

The continuous red lines in Fig. 1 show the extent of the motion by which the feeder is thrown back and the nose-piece lifted to permit the turning over of the nose-piece and the plate by the vibration of the segmental rack, as shown in red in Fig. 3. The dotted red lines in Fig. 1 indicate the nose-piece disconnected from its driving-pin and thrown back with its arm and the segment to admit of convenient access to the knives and heading machinery of the nail-making mechanism.

By placing the rock-shaft *l* in an angular



position, as shown in the plan, Fig. 2, it may be retained in a horizontal plane, so as to keep the machine low, and to cause the end of the bent arm *k*, in its vibrations around the center of its own motion opposite the center of vibration of the segment, to follow also the vibrations of the latter.

Having described in detail the manner in which I prefer to carry these improvements into effect, I would here state that they may be varied to obtain the same ends without departure from the principle of my invention, which consists essentially in the combination and adaptation of the several motions described.

I claim as my invention—

1. The arrangement of the feed mechanism,

by which the simultaneous action of the knives and the nose-piece causes the latter to slip back upon the nail-plate while it is held by the knives, substantially as described.

2. Jointing the segmental rack to the hub of the arm that carries the nose-piece, in the manner substantially as described.

3. The arrangement, herein described, of the shaft that operates the segmental rack in an angular position relatively to the center line of the machine, so that it may lie in a horizontal plane.

JOHN C. GOULD.

Witnesses:

WM. KEMBLE HALL,  
EDWIN L. ALEXANDER.