

J. Crary,
Cutting Shingles,
No 18,681, Patented Nov. 24, 1857.

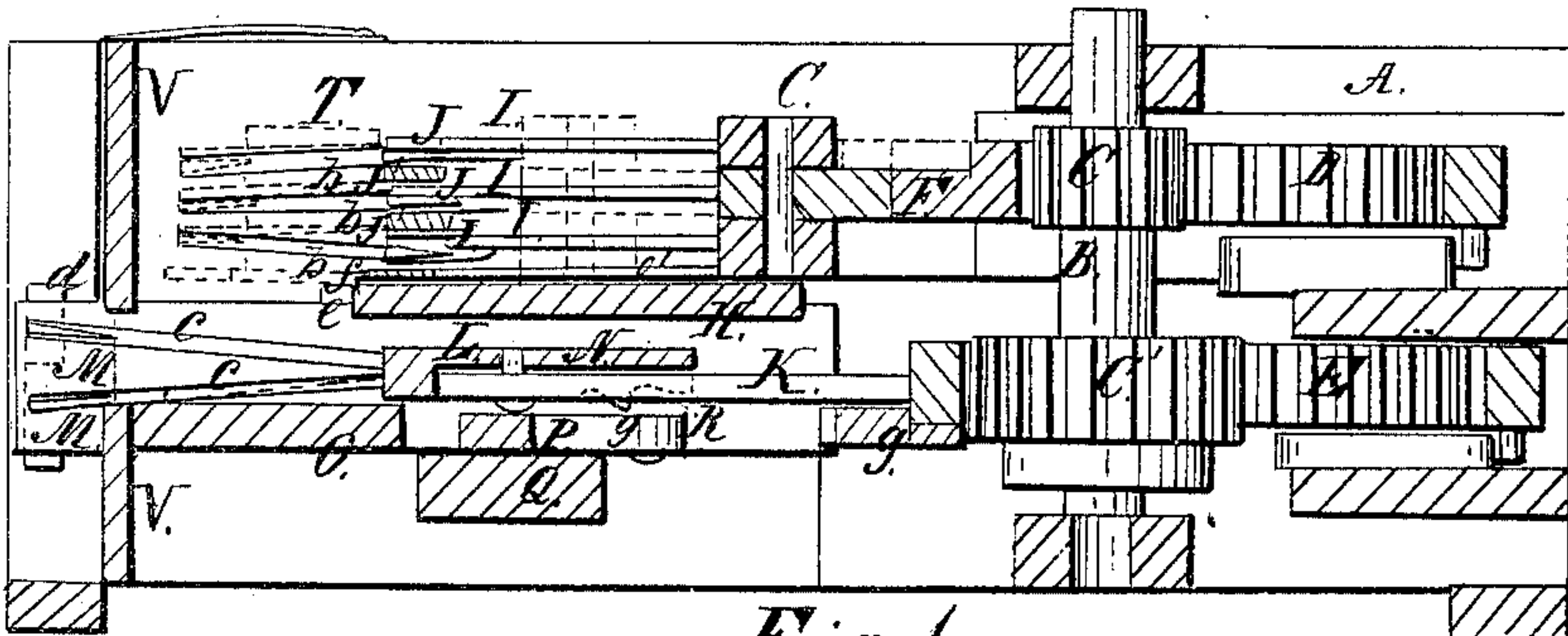


Fig. 1.

Fig. 2.

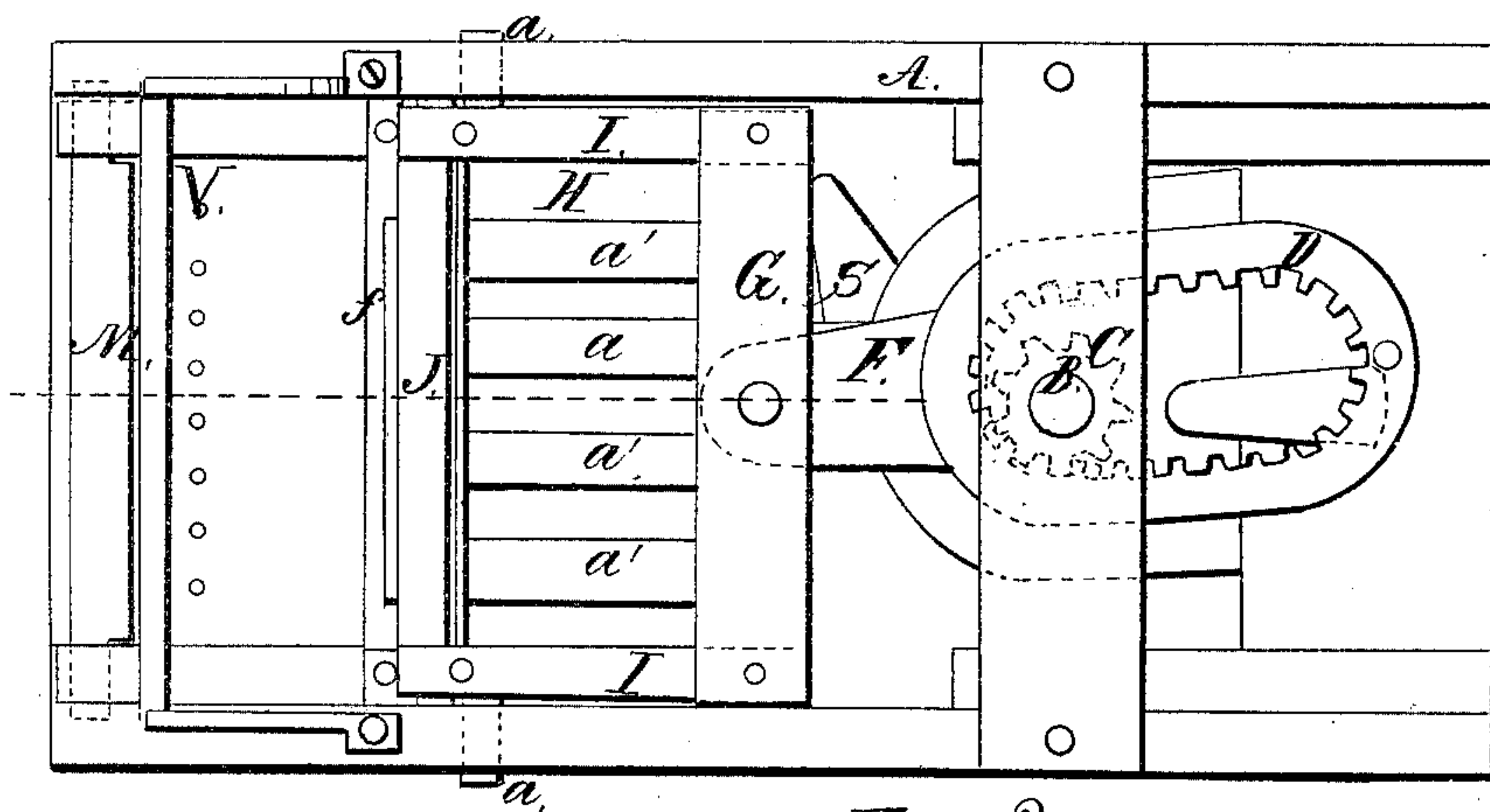
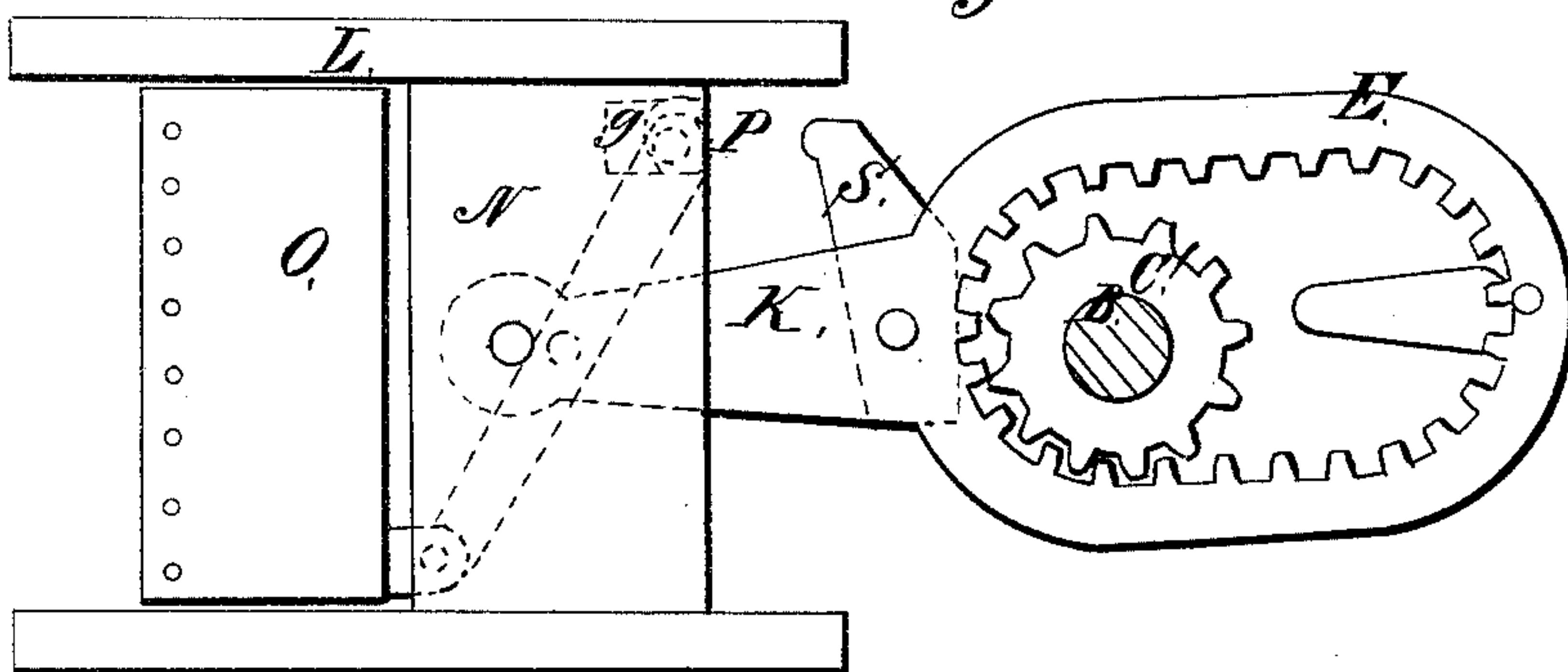


Fig. 3.



UNITED STATES PATENT OFFICE.

JAMES CRARY, OF KITTANNING, PENNSYLVANIA.

SHINGLE-MACHINE.

Specification forming part of Letters Patent No. 18,681, dated November 24, 1857; Reissued September 28, 1858, No. 604.

To all whom it may concern:

Be it known that I, JAMES CRARY, of Kittanning, in the county of Armstrong and State of Pennsylvania, have invented a new and useful Machine for Frowing and Shaving Shingles in Taper Form; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a longitudinal vertical section of my improvement, the plane of section being through the center. Fig. 2 is a plan or top view of ditto. Fig. 3 is an inverted plan of ditto.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and improved machine for frowing and shaving shingles in taper form and consists in the employment or use of reciprocating frows arranged in sets, in the employment or use of a pair of tapering or shaping knives, and in the employment or use of a vibrating feed-board, arranged and operated as will be hereinafter fully shown and described, whereby shingles are rived or frowed from the block and shaved or cut in taper form.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe its construction and operation.

A, represents a rectangular frame having a shaft B, fitted in it at one end, on which shaft two pinions C, C¹, are fitted, and, assuming that three frows should be employed, C¹, is, in diameter, three times greater than C.

D, E, represent two endless racks. Into the upper rack D, the pinion C, gears, and the pinion C¹, gear into the lower rack E. The upper rack D, has a projection or pitman F, attached to its inner end, and this pitman is pivoted to a bar G, which rests and works upon a bed plate H, permanently secured in the sides of the frame A. The bar G, has three arms I, attached to it, at each end, and the frows J, are secured to the ends of the arms I, the frows J, being parallel with the bar G. The arms I, have projections or wrists a, attached to them, which wrists work in grooves or slots b,

said slots being formed obliquely to each other. The purpose of this oblique position will hereinafter appear.

In the frame A, are placed two bars J¹. These bars are permanently secured to the sides of the frame A, between the arms I.

To the outer end of the bed-plate H, is a ledge or shelf e, projecting beyond the outward throw of the frows J.

a¹, are gage-springs attached to the under side of the bar G. To the other end of these gage-springs and beneath them, is attached the driver f, which shoves the bolts or unshaved shingles from the bed-plate onto the feed-board O.

The lower rack E, has a projection or pitman attached to it, and this projection or pitman is pivoted to a horizontal frame L, in the frame A. The side pieces of the frame L, have two slots, c, made through them, placed obliquely to each other, corresponding with the taper form intended to be given the shingles.

M, M, are a pair of tapering knives, the ends of which pass through the slots c, and into the vertical slots d, in the sides of the frame A, as shown in Fig. 1.

The frame L, has a board or driver N, fitted in it. The use of this board or driver is to force the bolts, one by one, through the tapering knives, M, M.

O, represents a feed board in the frame A, and under frame L. In the upper surface of this feed-board are set many steel pins. Their upper ends are sharp and stand obliquely outward. This feed board is made to vibrate, by means of a lever P, hinged or pivoted to its back or inner end. This lever is pivoted, at its center, to a cross-piece Q, in the frame A. The opposite end of the lever P, has a pin R, attached to it, by which the frame L, by means of a cam g, on its under surface, by its inward movement, communicates an outward movement to the feed-board O.

S, is a projection or cam attached to the inner end of the rack E, which, by moving lever P, communicates an inward movement to the feed board O, when the frame L, is moving outward.

In front of the knives M, M, are two throat plates, V, V, between which is the throat or orifice for the shingle bolts to pass

through in order to be forced between and through the tapering knives M, M.

A rotary motion is given the shaft B, in any proper manner and a reciprocating motion is communicated to the bar G, and frows J, and to the frame L, by means of the pinions C, C¹, and racks D, E, when the frows J, are thrown outward from the bars J¹, as shown in red in Fig. 1.

The block T, shown in red, and from which the shingle blocks are rived, is placed between the frows J, and bars J¹ and on the gage springs a¹, and as the frows J, move inward, the frows J, will rive or split three shingle bolts from the under side of the block T. The outer ends of the slots b, in which the wrists a, of the arms I, work are at such proper distances from each other as to accurately direct the frows as they enter the block T, thereby riving all the bolts of equal thickness at their butt ends, and as the frows J, are passing through the block T, they are caused to recede from each other by means of the wrists a and slots b, so as to allow space for the increased thickness of the block T, on account of the frows J, having entered it, and also to allow space for curves, inequalities, or unevenness that may be in the block of wood, T. In passing out of the block T, and when nearing the point ends of the bolts, the frows J, are guided or directed by wrists a and slots b, until they incase themselves between bars J¹, at which time the bolts fall on bed-plate H, with their point ends in front of driver f, which, moving outward, moves or forces said bolts outward onto the feed-board O. Their butt ends are then in contact with the upper throat plate V, and their point ends are lying on the ledge e, when the feed board O, by its outward vibration, draws outward the lower bolt, by means of its obliquely-set pointed pins, inserting the butt end of said bolt in the throat or orifice between the two

throat plates V, V. Its point end is simultaneously drawn from the ledge e, when it falls wholly on to the feed board O, and the driver N, passing outward from under the ledge e, forces said bolt through the knives M, M, which are made to approach each other, by means of the obliquely formed slots c, in the side pieces of the frame L, and as the bolt is forced through the knives M, M, it is shaved on both sides in taper form.

The frame L, moves, by means of the gearing, with three times more velocity than the bar G, and frows J, so that the knives M, M, shave or taper at three vibrations of the frame L, the bolts that are rived by frows J, at one vibration, thereby keeping the machine in uninterrupted operation.

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

1. The use of the sliding side pieces L L with converging slots C. C. in combination with the upright grooves d. in the frame, in which the wrists of the shaving knives are inserted for the purpose of effecting the gradual approximation of the shaving knives in giving the proper taper to the shingles.

2. The combination of the lever P with its pin R, the projecting cam S, and cam on the frame L, for the purpose of communicating the requisite relative motion to the vibrating feed board O, the driver N, and frame L, whereby one bolt only, at a time, of the three riven by the frows is driven outward and forced through the shaving knives, no matter how short or thin the bolt may have been frowed.

JAMES CRARY.

Witnesses:

G. W. NULTON,
P. O'BRIAN.