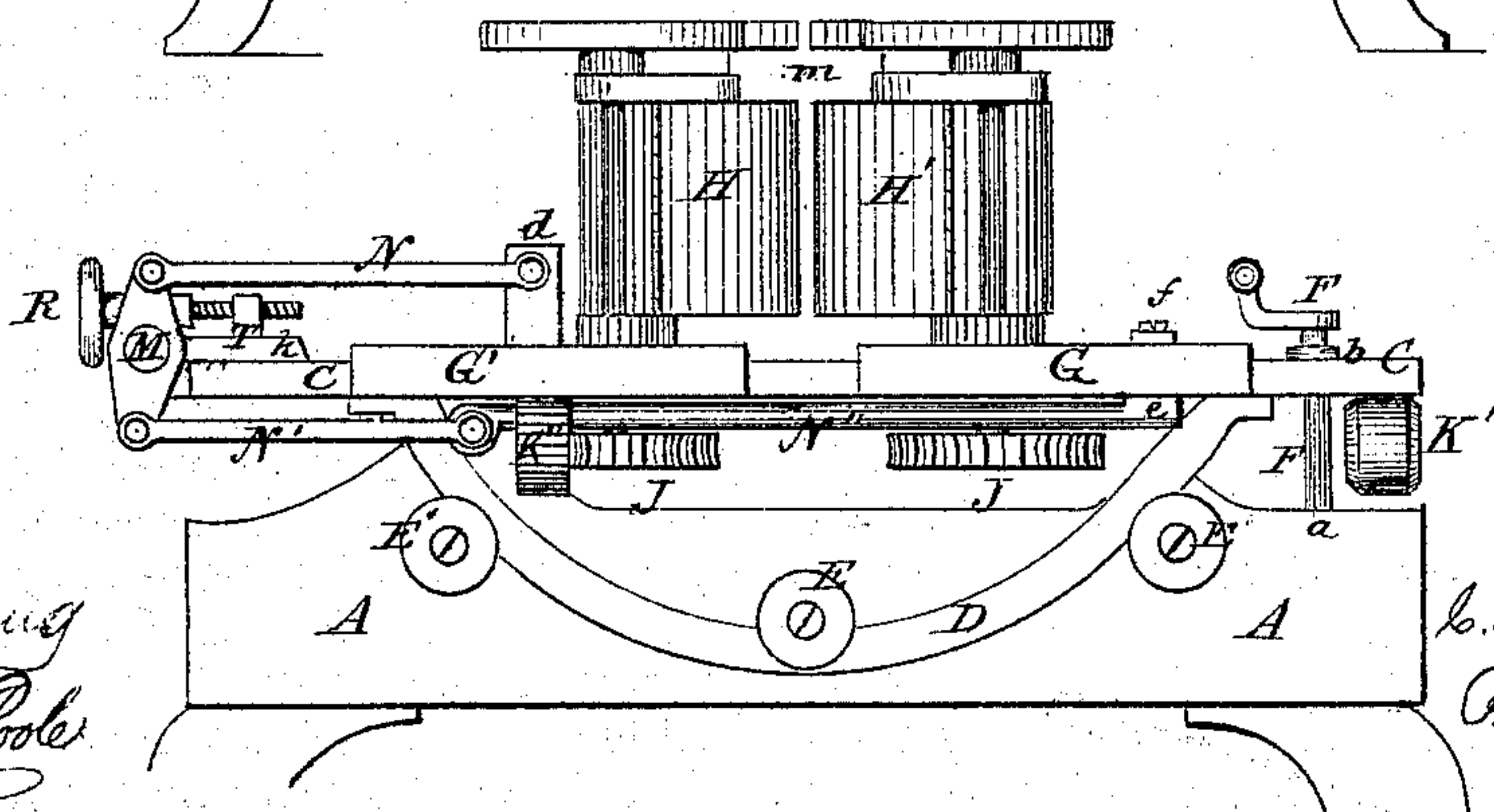
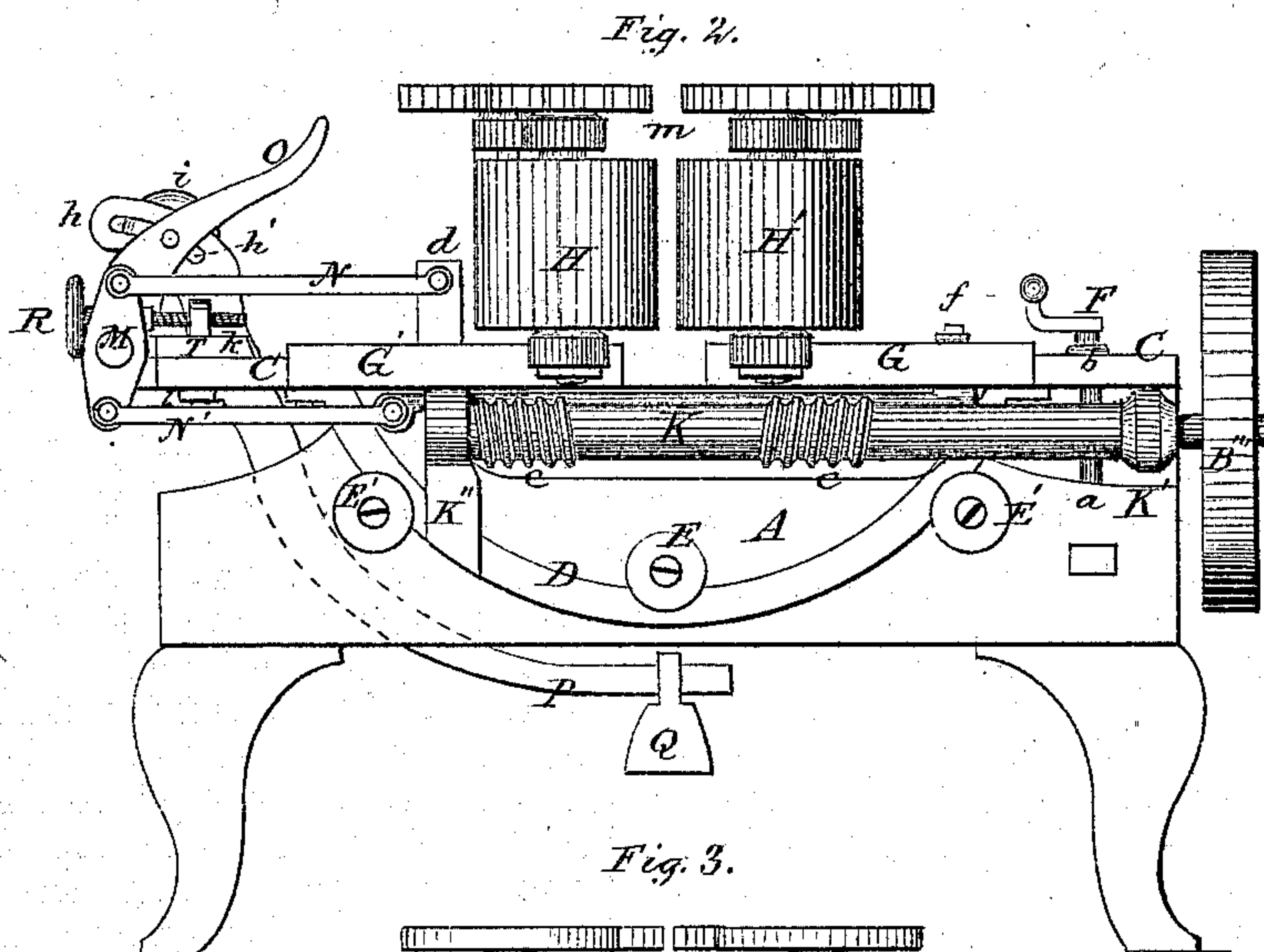
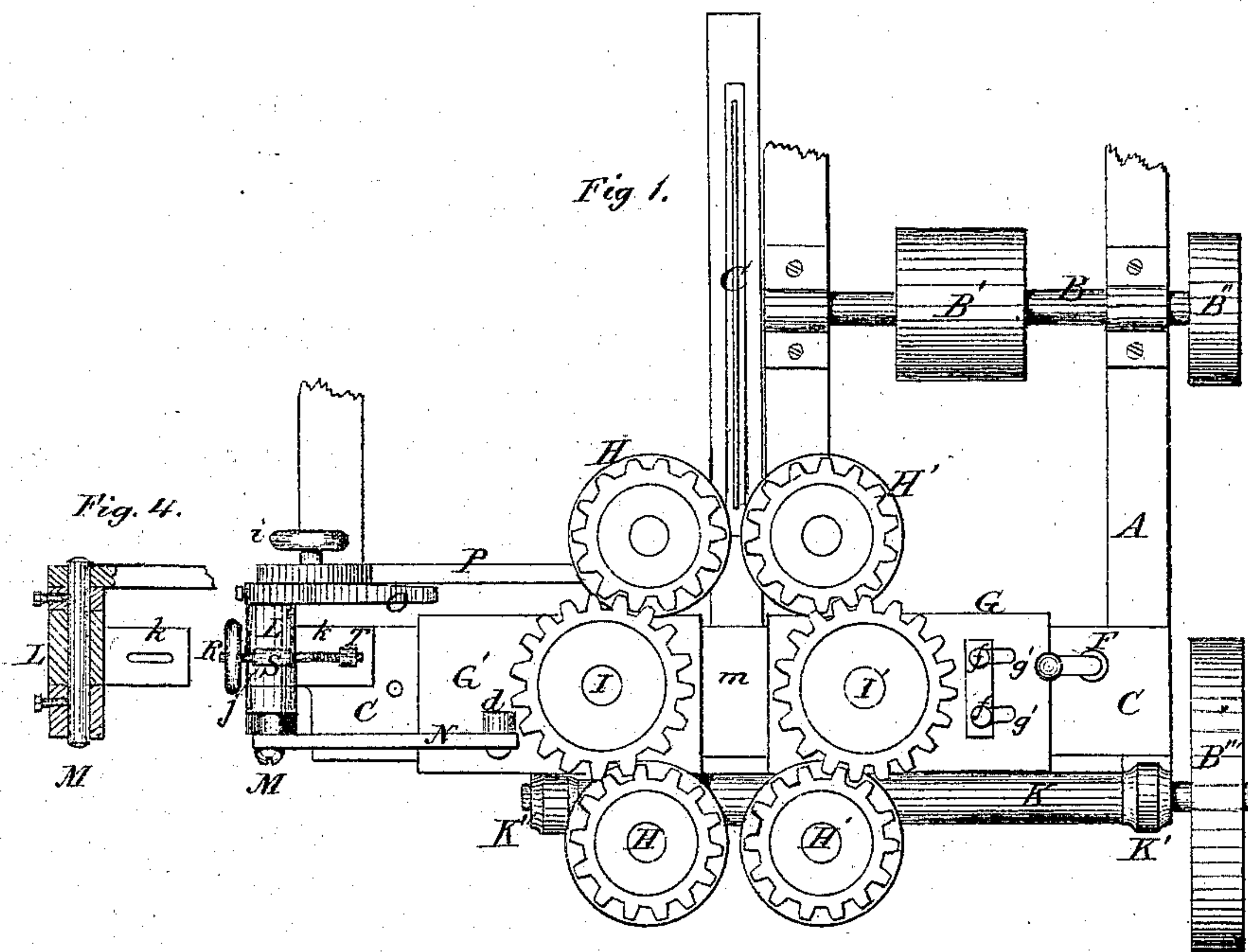


C. L. & L. P. HOYT.

Improvement in Sawing Machines.

No. 125,570.

Patented April 9, 1872.



Witnesses.

Witnesses,
John C. Young
Chas. V. Pooler

Inventors.

b. L. & L. P. Hoyt, by
Prindle and Dyer, their
attys.

UNITED STATES PATENT OFFICE.

CHARLES L. HOYT AND LUCIUS P. HOYT, OF AURORA, ILLINOIS.

IMPROVEMENT IN SAWING-MACHINES.

Specification forming part of Letters Patent No. 125,570, dated April 9, 1872.

To all whom it may concern:

Be it known that we, CHARLES L. HOYT and LUCIUS P. HOYT, of Aurora, in the county of Kane and in the State of Illinois, have invented new and useful Improvements in Resawing Machines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a top-plan view of our machine; Fig. 2, a front end elevation of the same; Fig. 3, a similar elevation with the front feed-rolls and driving feed-shaft removed; and Fig. 4, a separate view, partly in section, of the means employed for adjustment of the feed-rollers.

Like letters of like kinds denote corresponding parts in each figure.

The object of our machine is such a construction as will enable it to resaw lumber more accurately, and will render it more convenient and effective in use; and our invention therein consists in the construction, combination, and arrangement of the operating parts connected with the pivotal portion of the movable frame, and in their range of motion upon the frame, all as more fully hereinafter described.

In the drawing, A represents the supporting frame, upon which is journaled the shaft B, which carries the circular saw C, which is provided with a drum, B', to receive a driving-belt, and another drum, B'', to transmit motion by means of a belt to the drum B''', upon the end of the feed-driving shaft, hereinafter mentioned. Upon and over the front of the supporting-frame there is placed an adjustable frame which carries the feed-rolls and their connecting mechanism. In this adjustable frame there is a horizontal plate, C, which extends across the supporting-frame and above the front portion thereof. To the under sides of this there is secured a yoke, D, of such a segment of a circle, that if its extremities were continued upwardly until they reached a point as high as the center of the feed-rolls, to be mentioned hereafter, the yoke would be precisely half a circle. This yoke has a rotary motion regulated by means of the grooved friction-rollers or "ways" E and E', upon the front of the supporting-frame, the first-named roller E being above the yoke and in the cen-

ter thereof, and the last-named, E', being below said yoke and near the ends thereof, and all serving to keep said yoke, the plate C, and all the connecting mechanism upon and against said supporting-frame. The rotary motion of the yoke, before spoken of, is caused by a set-screw, F, passing through one end of the plate C, and down into a suitable socket, a, in the supporting-frame, and having upon its shaft suitable stops, b, above and below said plate, so that it carries said plate by its movement in either direction. The position of this set-screw is not important, as it may be differently placed with the same effect. Upon the plate C are the slides G and G', upon which, in turn, is placed the frame which carries the feed-rolls H and H'—one pair of each—upon each slide, provided with gear-wheels, and actuated simultaneously by the gear-wheels upon the shafts I and I', which pass down through said slides, and through the plate C, having longitudinal motion therein in slots in said plate. To the bottom of said shafts, and immediately beneath the plate C, are secured the gear-wheels J, with the fronts of their teeth hollowed out in a central circular bevel in the periphery of the wheel, which gear-wheels mesh with the right-and-left hand worm-threads c upon the driving-shaft K. This shaft is journaled in a hanger, K', secured to one end of the plate C, and in a bearing, K'', secured to the yoke D. Connection is made with the slides G and G', and motion imparted to them by means of a rock-shaft, L, pivoted upon a shaft, M, to the upper end of which rock-shaft is pivoted a pitman, N, the other end of which is pivoted upon a standard, d, upon the slide G', while to the lower end of said rock-shaft is pivoted a pitman, N', in turn pivoted to a connecting-rod, N'', the opposite end of which is secured to a plate, e, which has a longitudinal adjustment by means of screws f, working in slots g, in the slide G, and corresponding slots in the plate C. To the opposite end of the shaft M is secured a hand-lever, O, by means of which, through the connections above named, the slides G and G' are moved toward or away from each other simultaneously and regularly. To the same end of said shaft and outside of the hand-lever is pivoted, near its upper end, the curved pressure-lever P, upon the lower

horizontal part of which is placed a suitable weight, Q, so arranged as to be moved along said lever. Upon the extreme upper part of this lever is a projection, *h*, provided with a slot, *h'*, through which passes a set-screw, *i*, into the hand-lever O, the office of which set-screw is to secure said lever in position so as to limit the extent of movement apart from the feed-rolls. A set-screw, R, turning in a bearing, *j*, upon a collar, S, upon the shaft M, has its threaded end penetrate a standard, T, whose shoulders retain it upon a plate, *k*, secured to said collar and resting upon one end of the plate C. The body of this standard passes down through a slot in said plate *k*, and a corresponding slot in the plate C, and has its lower threaded end provided with a nut, *l*, by which it may be kept in a fixed position. By means of this contrivance, acting in concert with the plate *e* and its set-screws, a longitudinal adjustment of the slides G and G' is effected, so as to have the feed-rolls in the proper and exact position with regard to the path of the saw.

In the operation of our machine, it will be seen that the yoke rotates uniformly upon an axial center, which is a vertical central point between the feed-rolls, marked by the letter *m*, and consequently about the center of the board or plank which is resawn. In the operation of sawing such a board or plank diagonally, so as to make two boards of different thicknesses upon their several edges, by reason of the center of the board agreeing nearly with this axial center in every instance, the machine without any adjustment will resaw it

into two pieces of uniform thickness in all corresponding parts.

The arrangement of the yoke upon friction-rollers, in the manner described, gives great ease of movement, easily effected, and as easily restrained. The spiral worm-threads upon the driving-shaft to the feed-rolls, in combination with the grooved gear-wheels, which engage with such threads, while it gives an easy and effectual rotation to such feed-rolls, does not disturb said shaft in the least when the rolls are moved asunder or toward each other. The means employed for adjusting the central space between the feed-rolls and their range of motion are simple and convenient.

Having thus described our machine and some of its advantages, what we claim as new therein and our invention, is—

1. The yoke D, of the form described, and connected and combined with the friction-rollers or ways E and E', so as to have its axial center of rotation at the central point between the feed-rolls, substantially as described and shown.

2. The combination of the pressure-lever P, provided with the slot *h'*, the set-screw *i*, and the hand-lever O, all constructed, arranged, and operating substantially as described and shown, for the purposes set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 30th day of December, 1871.

CHARLES L. HOYT.

LUCIUS P. HOYT.

Witnesses:

D. W. HURD,

WILLIS HOYT.