

J. C. TODD.

Flax Hackling and Combing Machines.

No. 151,938.

Patented June 9, 1874.

FIG. I.

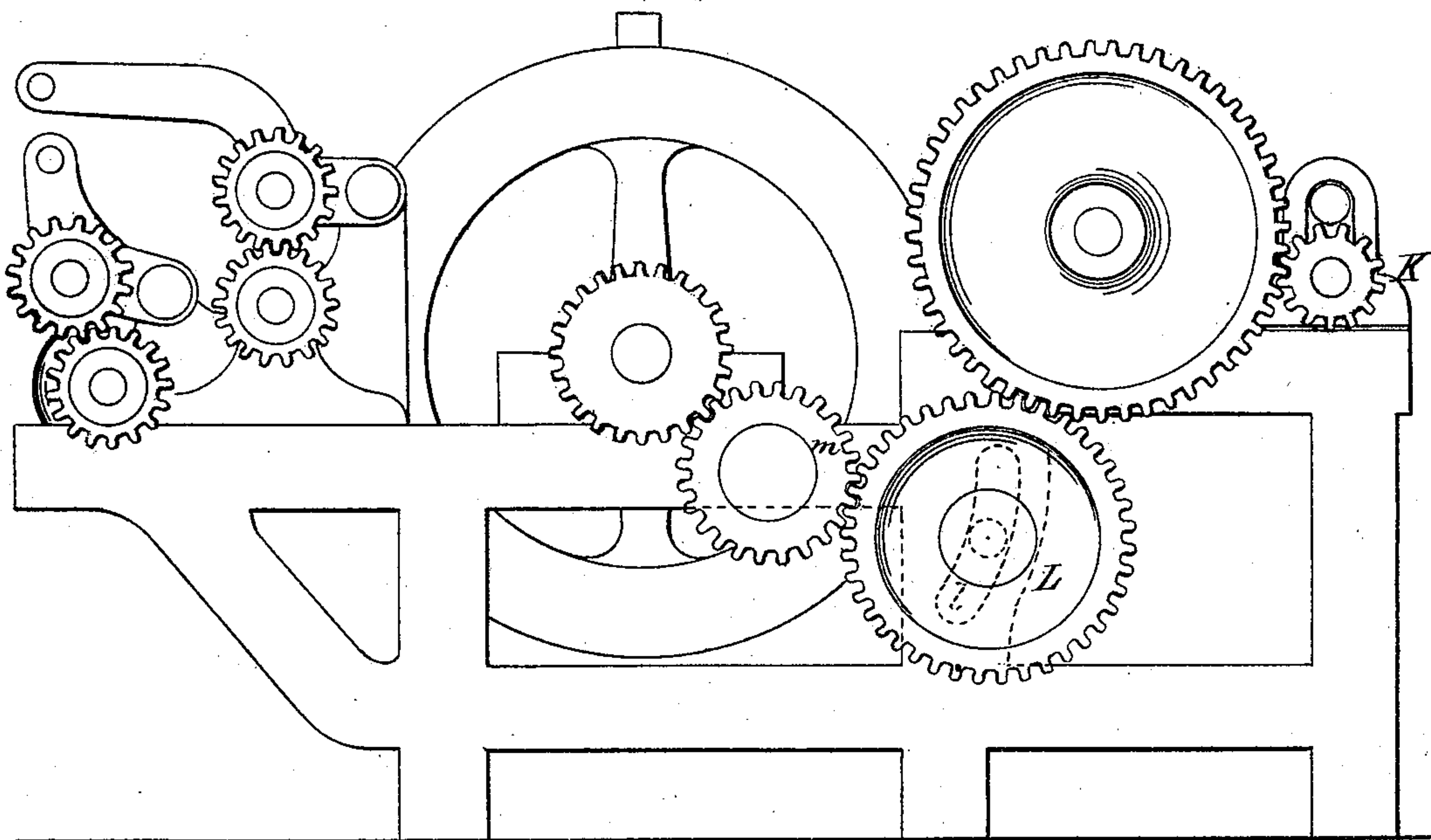
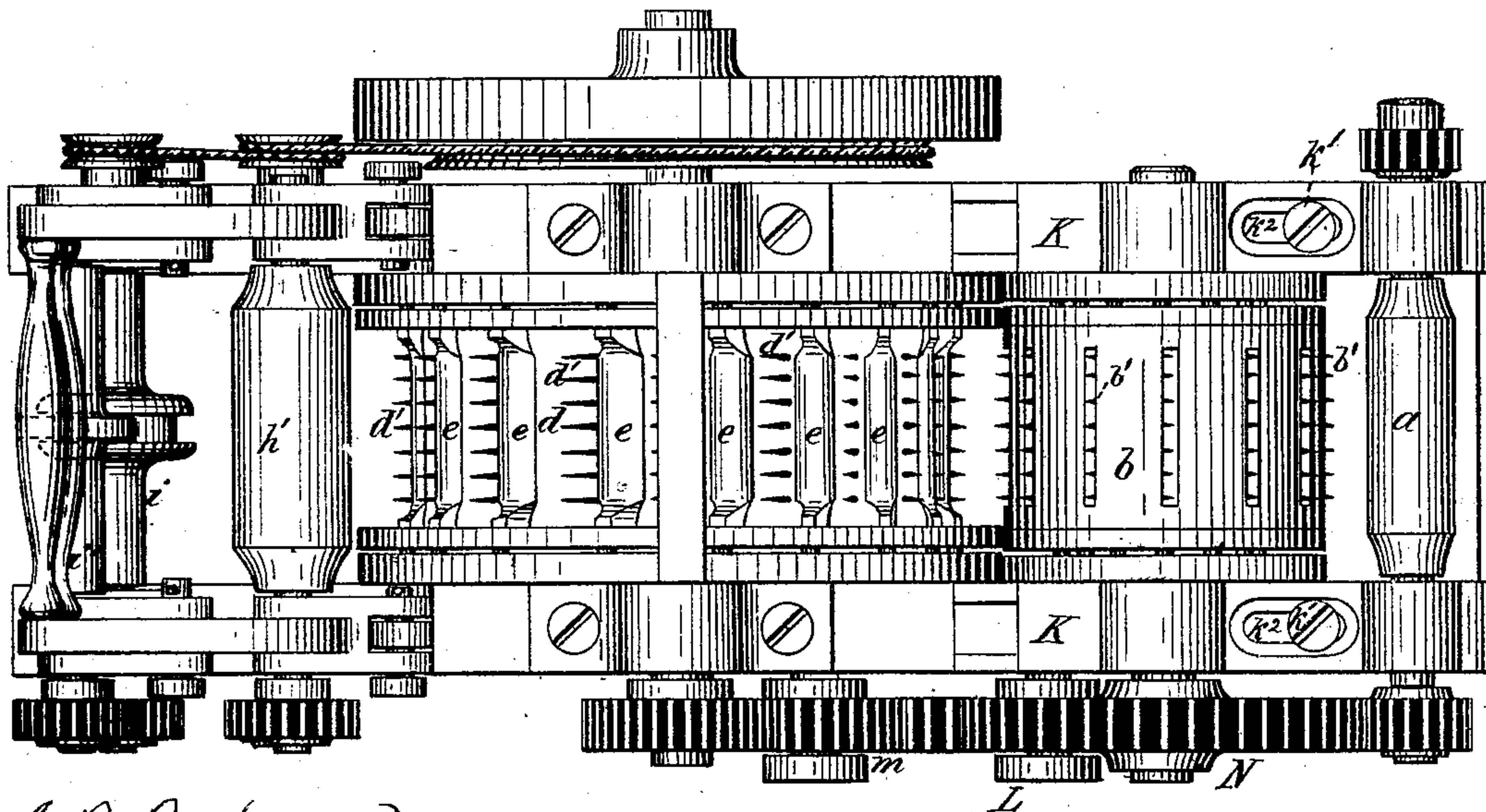


FIG. II.



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Edw. Payson

Witnesses:

Inventor;
Joseph C. Todd.
per Edw. C. Quimby
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FIG. III.

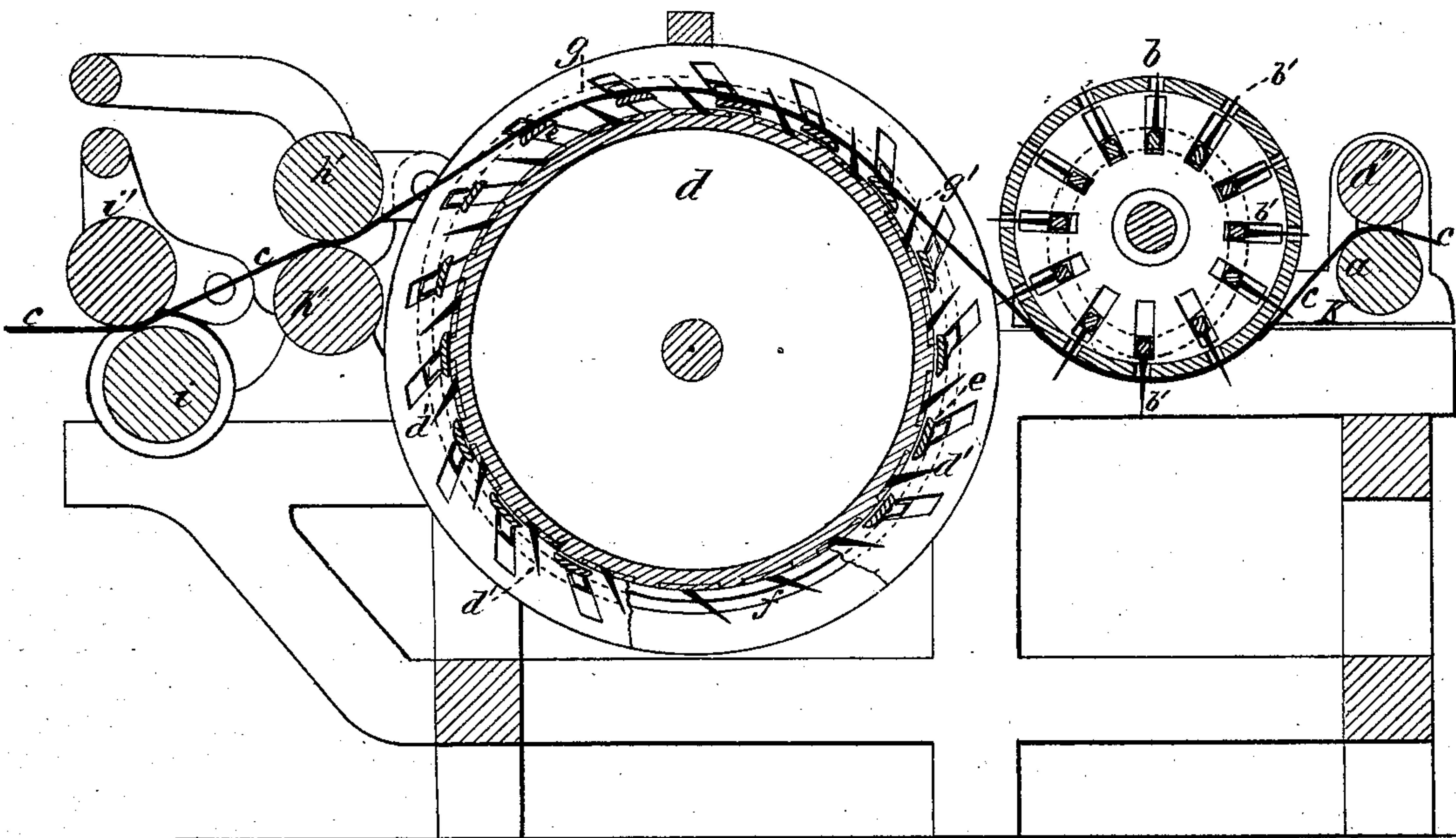


FIG. IV.

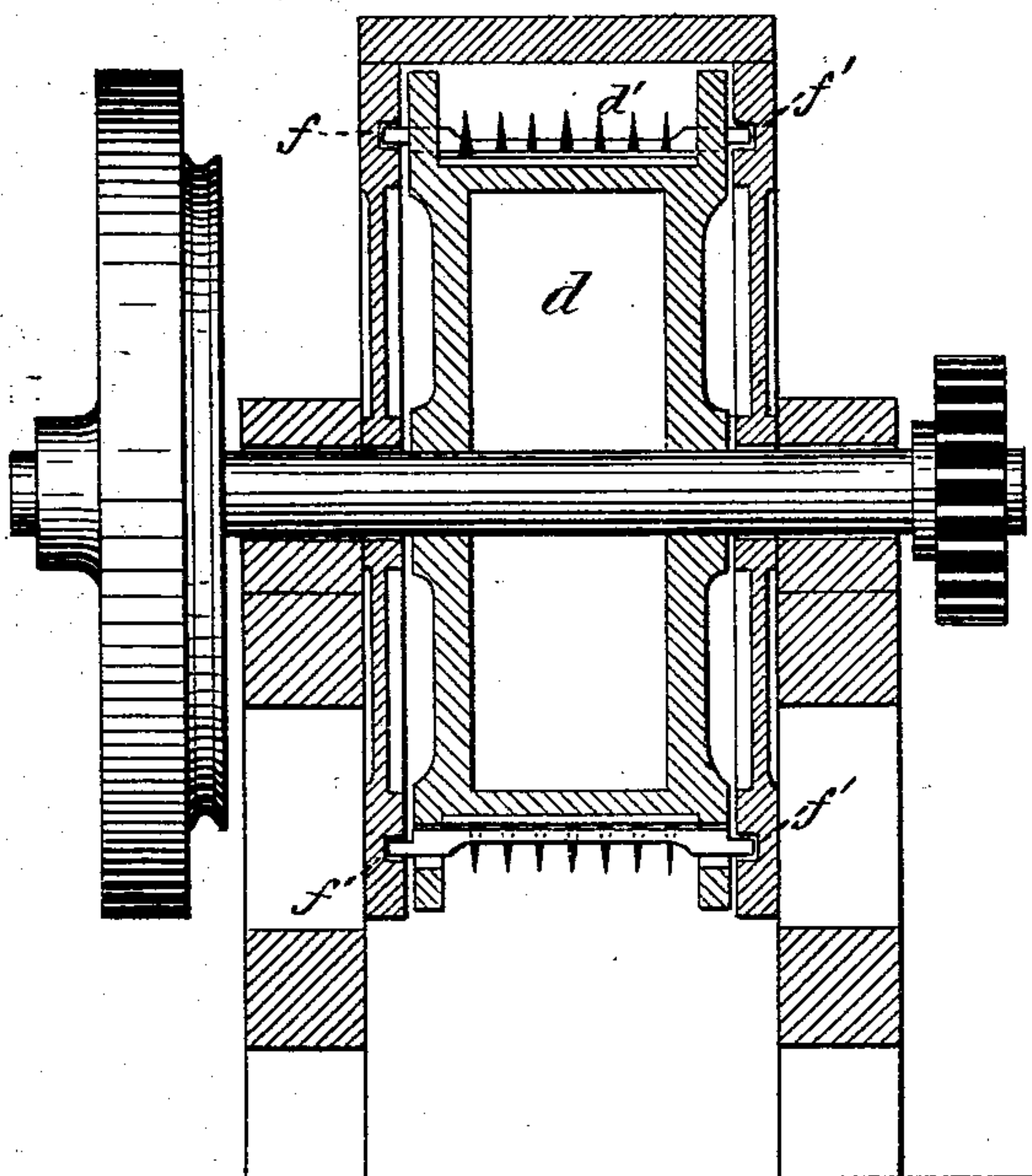
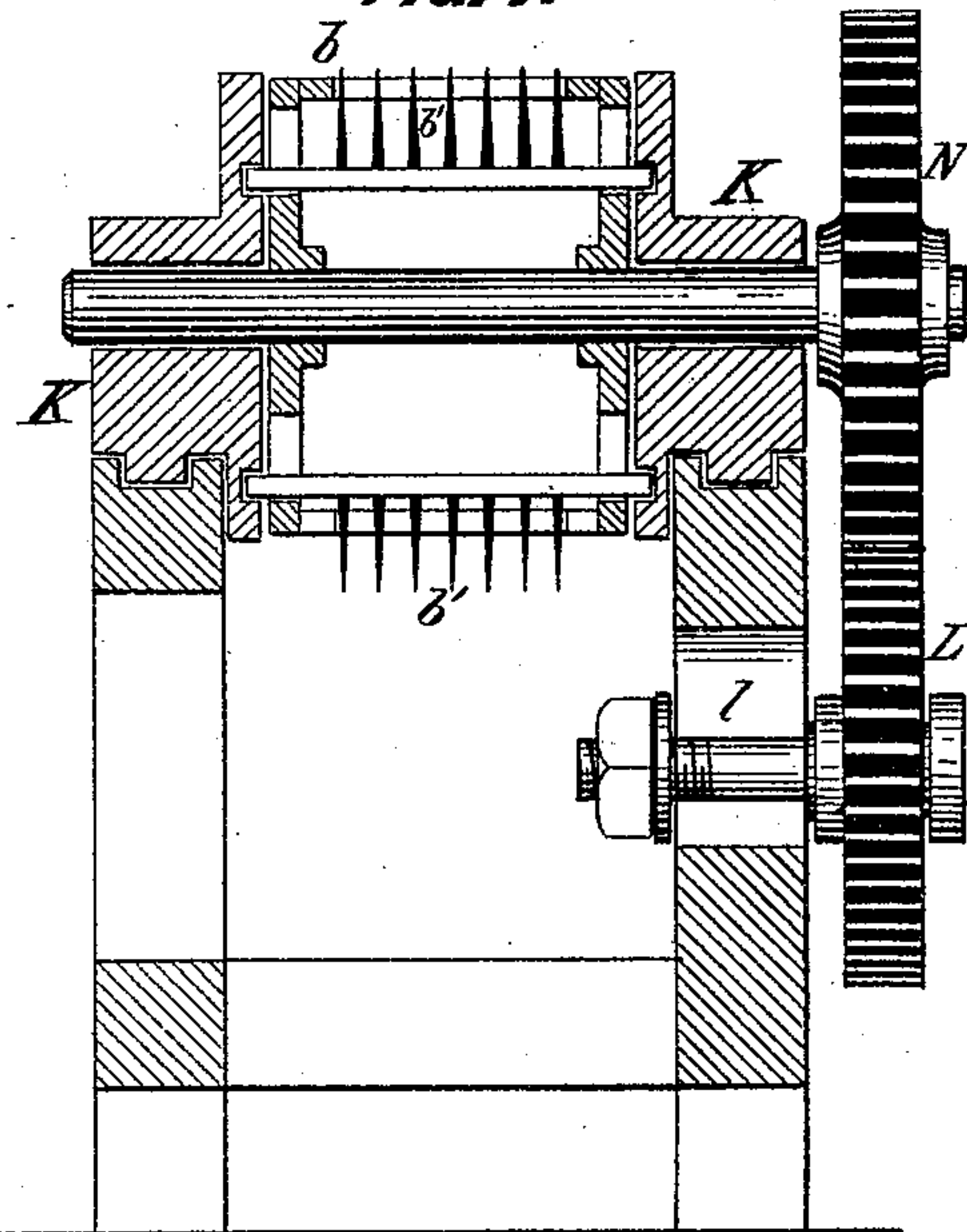


FIG. V.



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UNITED STATES PATENT OFFICE.

JOSEPH C. TODD, OF PATERSON, NEW JERSEY.

IMPROVEMENT IN FLAX HACKLING AND COMBING MACHINES.

Specification forming part of Letters Patent No. **151,938**, dated June 9, 1874; application filed February 5, 1874.

To all whom it may concern:

Be it known that I, JOSEPH C. TODD, of Paterson, New Jersey, have invented certain Improvements in Machinery for Hackling and Combing Flax, Wool, and other Fibrous Substances, of which the following is a specification:

My invention relates to that class of hackling-machines in which a system of feed-rolls, primary and secondary combing-cylinders, and delivery-rolls are arranged to act upon the mass of fibers operated upon with successive increments of speed, corresponding to the successive degrees of attenuation of the "sliver;" and consists in providing for such adjustability of the combing mechanism as will adapt the machine to effectually operate upon fibers of variable length or condition.

In the drawings, Figure 1 is a side elevation of a machine embodying my improvements; Fig. 2, a plan of the same; Fig. 3, a vertical longitudinal section; Fig. 4, a transverse section through the secondary comb-cylinder and stationary cams; and Fig. 5, a transverse section through the primary comb-cylinder, sliding bed, &c.

The feed-rollers *a a'* deliver the material to be operated upon to the primary comb-cylinder *b*, provided with the ordinary retractile teeth *b'*, which are drawn inward radially, as shown, to permit the sliver *c* to pass freely to the secondary comb-cylinder *d*, the teeth of which, *d'*, are radially inclined, but are immovably fixed in the periphery of the cylinder. Between the rows of teeth are movable slats *e*, operated by stationary cam-grooves *f f'*, which engage the opposite ends of the slats, and force them outward at the proper time to lift the sliver from the pins, as shown at *g*, and then draw the slats inward, so as to expose the pins in time to enable them to re-engage the sliver, as shown at *g'*, Fig. 3. The sliver passes from the secondary cylinder, through the rollers *h h'*, into the usual con-

tracting-trunk, and from thence to the tongued and grooved delivering-rollers *i i'*. The primary cylinder and the feed-rollers are mounted upon a sliding bed, *K*, to permit adjustment of the distance between the cylinders. If a short fiber is to be treated, the cylinders are placed as near together as may be necessary. In the case of a long fiber, or a badly-snarled material, the primary cylinder is moved back from the secondary cylinder, in order that the secondary comb-teeth may take light hold of the sliver at first, and draw out the fibers so as to attenuate the sliver, instead of engaging the entire mass as it comes from the primary cylinder. The sliding bed *K* is held in any required position by means of the screws *k¹*, which pass, through the slots *k²*, into the frame of the machine. The cylinders are geared together, so that motion is transmitted from one to the other; but it will be seen that the axle of the intermediate pinion *L* is adjustable in the slot *l*, formed in the frame concentric to the stationary gear *m*, so that the pinion *L* may be raised or lowered to conform to the position of the primary cylinder-gear *N*.

I claim—

1. In a hackling-machine, substantially such as described, the combination of the combing-cylinder *b*, mounted upon the sliding bed *K*, with the combing-cylinder *d*, for the purpose of varying the distance of the two combing-cylinders from each other, and thus adapting the machine to act upon fibers of variable length or condition, substantially as set forth.

2. The arrangement of the adjustable pinion *L* with relation to the train of gearing for transmitting motion from the stationary comb-cylinder to the adjustable comb-cylinder, substantially as set forth.

JOS. C. TODD.

Witnesses:

J. J. SALTERS,
SAMUEL HOLLYWOOD.