

H. Reimann,

Making Cigar Lighters,

N^o 18,706.

Patented Nov. 24, 1857.

Fig. 1

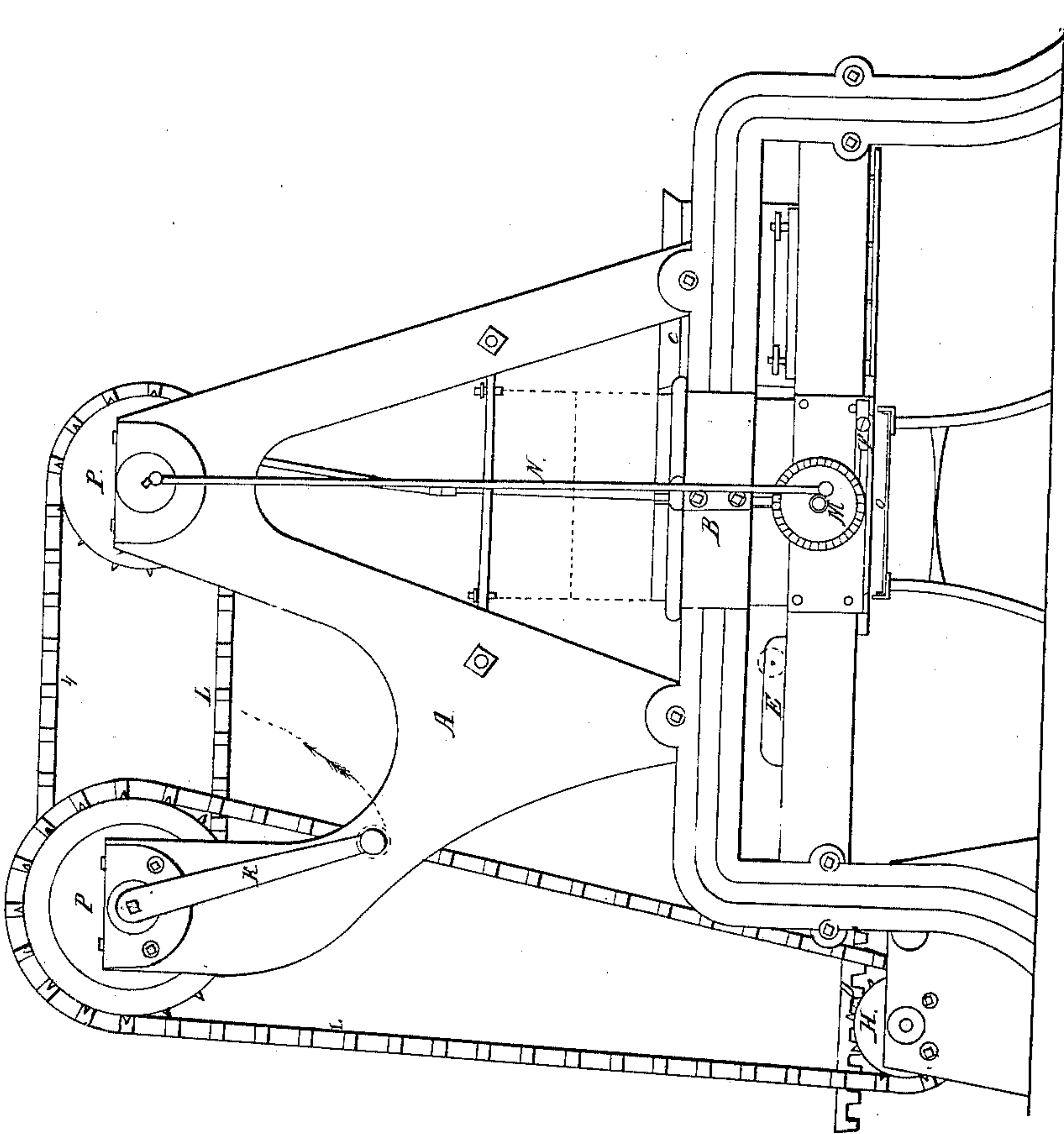
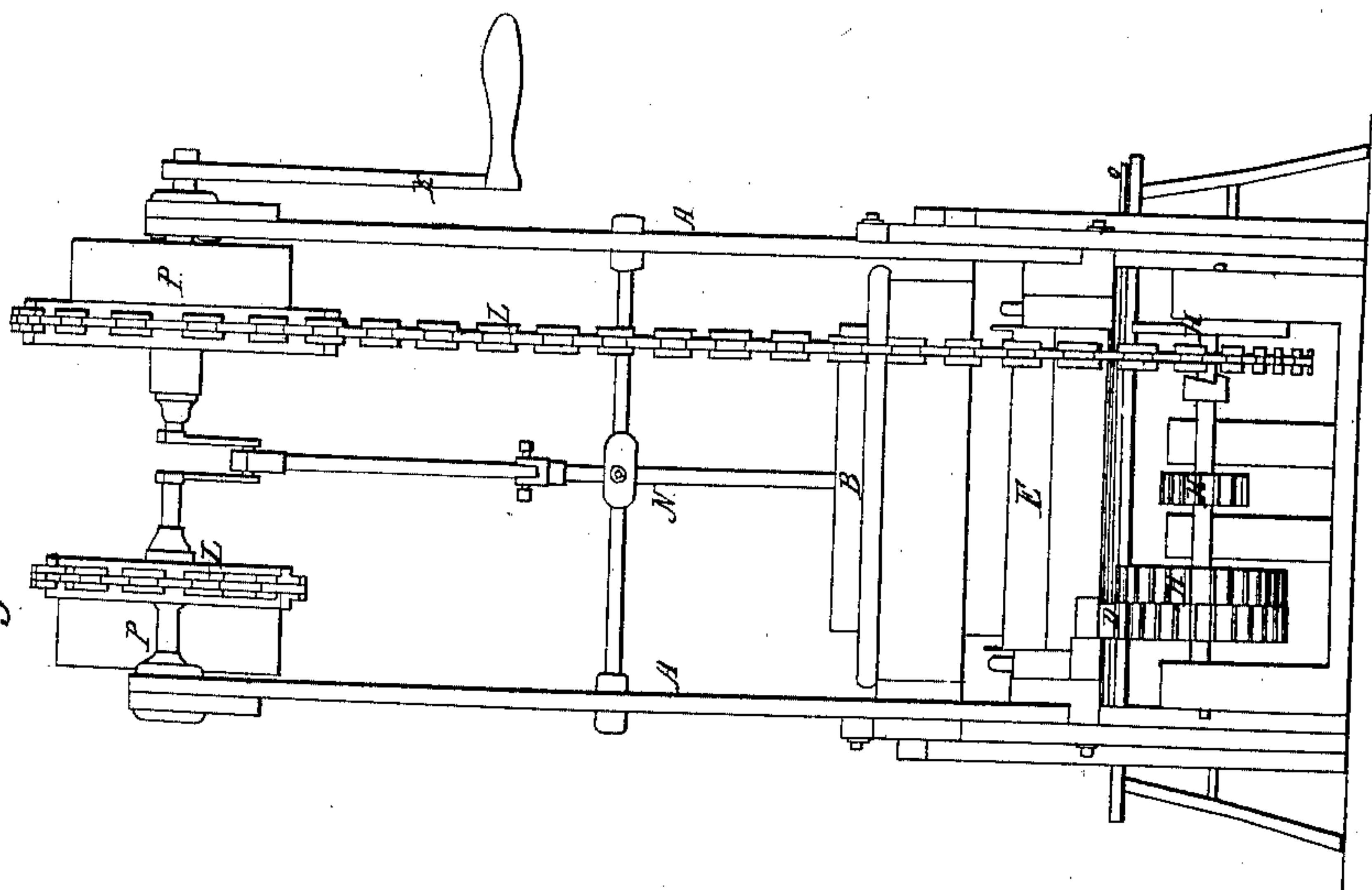


Fig. 2.



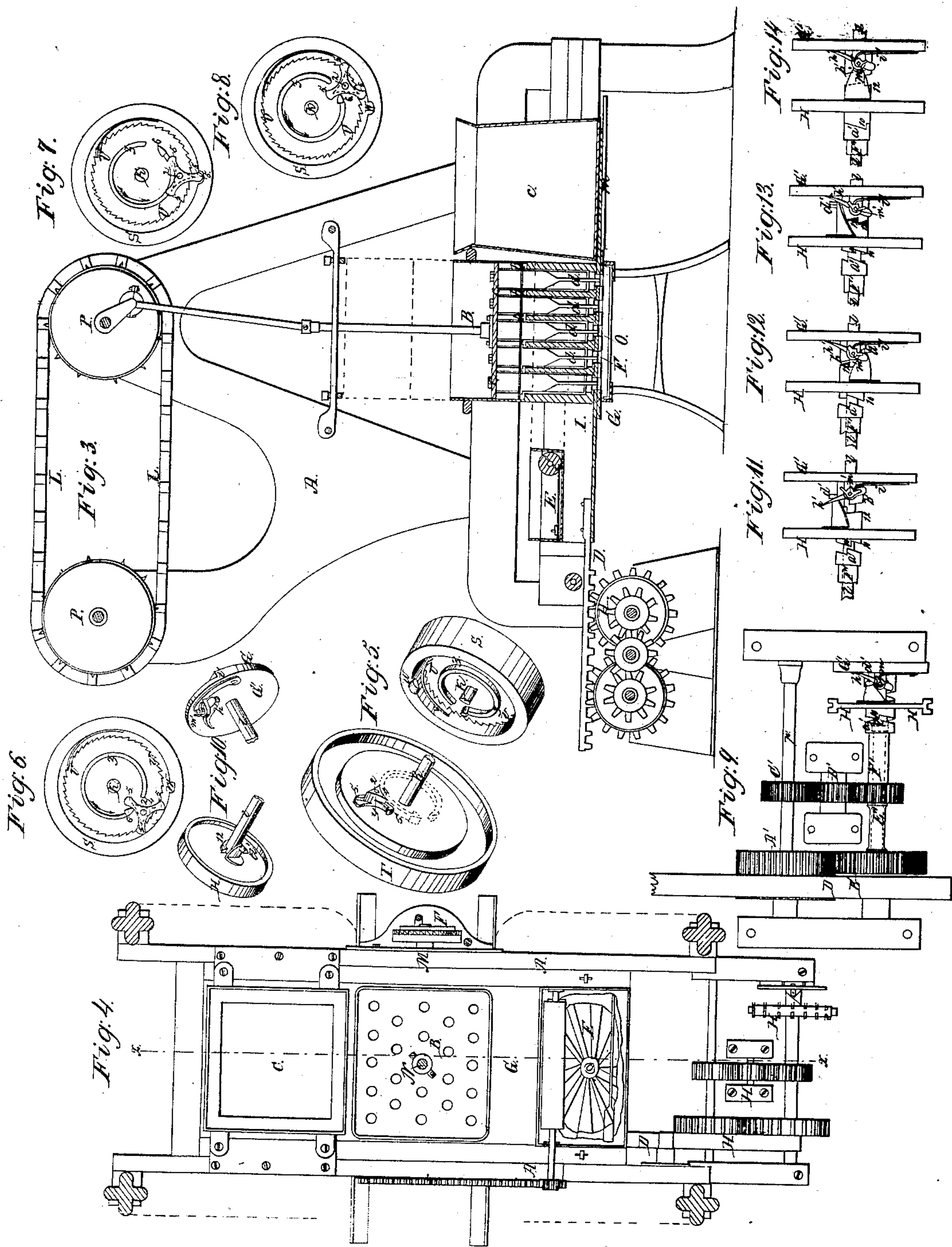
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UNITED STATES PATENT OFFICE.

H. REIMANN, OF HARTFORD, CONNECTICUT.

MACHINE FOR MAKING CIGAR-LIGHTERS.

Specification of Letters Patent No. 18,706, dated November 24, 1857.

To all whom it may concern:

Be it known that I, HENRICH REIMANN, of the city of Hartford, county of Hartford, and State of Connecticut, have invented a new and useful Machine for Manufacturing Composition Igniting-Cinders for Lighting Cigars; and I do hereby declare that the following is a correct description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

Figure 1, represents a side view of said machine. Fig. 2, represents an end view. Fig. 3, a longitudinal vertical section through the same. Fig. 4, a top view of the same. Figs. 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, represent detached views of details hereafter to be described.

A, represents the frame of the machine.

B, represents a press box which during the operation of the machine is caused to move up and down within suitable guides of the frame. This box contains a number of pistons *a*, which correspond with an equal number of holes in the plate G, and which serve to stamp and press the cinders through the holes of said plate as will be more fully explained. The pistons *a*, are secured to the plate *c*, which plate can be moved within the box B, down to the plate *b*, to which the rods *d* are secured permanently the rods *d*, passing through the pistons or plungers *a*. The press box B, is connected with shaft *f*, by means of rod *g*, pitman *h*, and crank *i*; the pulley P' on the shaft *f*, receives its motion by means of a chain from the pulley P, on shaft *k*.

C represents a reservoir to receive the composition of which the body of the cinders is formed; the plate G, rests on the bottom *m*, of said reservoir, and has a vibrating motion imparted to it by means of a rack D, which is operated by a number of gearings which are secured to shafts *l*, *o*, *p*.

F represents a perforated plate similar to plate G, the holes in both plates corresponding exactly. The plate F is vibrated by a ratchet M, the teeth of which come in contact with projection *q*, of the plate F, and as the latter is vibrated it cuts off or detaches the cinders from plate G.

E, represents a box for the reception of the igniting material to be applied to the cinders; this box is attached to the carriage I, to which the plate F is also secured; within the box E, is a roller Q, to the shaft of

which is secured outside the box E, a pinion *r*, which as the carriage I, is moved longitudinally causes the roller E, to revolve and to take up the paste-like igniting material for the purpose of distributing it to the points of the rods, *d* as will be more fully described. The box E, is provided with an agitating apparatus consisting of a plate *t*, which is pivoted to the bottom of the box by the pivot *u*, as the roller Q revolves the projections *v* on the shaft of said roller operate upon a projection on plate *t*, thus turning it on its pivot, while the spring *w*, causes said plate to return to its former position, thus a continuous vibration is kept up whereby the paste is stirred and fed to the roller Q.

S, represents two cylindrical boxes which are connected respectively with the chain pulleys T and P'; these boxes are provided in their interior with a mechanism, which when set in operation, connects and disconnects the pulleys P' and T, at each alternate revolution with and from the shafts *f* and *k*. This device is illustrated in Figs. 5, 6, 7, 8. The box S, is secured permanently to the frame of the machine, and is not connected with shaft *k*, the ratchet U, which is formed on one side with an open ring *z*, is firmly secured to shaft K, the chain pulley T, which runs loosely on shaft *k* has pivoted to it on the side facing the box S, a cam triangle *y*, which can turn and play loosely on its pivot 2. This cam is formed in the shape of a triangle 4, the sides of which are arcs of circle *z*, and from which extend the pawls 5. When the parts are put together the ring *z*, comes to rest against the triangle 4, as represented in red lines in Fig. 5, and one of the pawls 5, comes to rest within the recess W, of the stationary box S, as represented in Fig. 7. When now the shaft *k*, and ring *z*, are turned in the direction of the arrow they do not operate upon the triangle *y*, as one of the pawls 5 rests within the recess W, and the circumference of the ring *z*, corresponds with the side of the triangle with which it is in contact. The position of the parts thus remains the same until the point 6, comes in contact with and operates upon the point of the triangle to the left, turning said triangle to the position represented in Fig. 8, thus withdrawing the pawl 5, from its recess; two of the pawls 5, come to bear against the inner circumference of box S, while the third is carried around by point *b*, as shaft *k*, turns the triangle, and consequently the

chain pulley T, thus moves with shaft *k*, and will eventually assume the position represented in Fig. 6, where the pawl to the right is about to enter the groove W, and thus to return to the position represented in Fig. 7. Thus it will be seen that as the shaft *k*, is revolved, the chain pulley T, will at each alternate revolution be connected and disconnected with the shaft *k*.

I will now describe the mechanism for converting the rotary motion of chain pulley T, into a rectilinear reciprocating motion for the purpose of operating rack D, and perforated plate G. This apparatus is represented in Figs. 2, 4, and 9. The chain pulley H, runs loosely on shaft *l*, and has its hub formed with coupling teeth 10, 12, which as the pulley is shifted on shaft *l*, are caused alternately to mesh into the coupling teeth of the couplings *a'*, *b'*. This operation of shifting is performed by means of a tooth *d'* operating in conjunction with a swinging dog *h'*, which is retained in its position by means of spring *i'*, the point of which falls in between the teeth of the piece *m'*. In Fig. 11, the tooth *d'*, has been caught by pawl *h'*, and thus draws the pulley H, toward the coupling *b'*; Fig. 12, represents pulley H, as being coupled with coupling *b'*, the tooth *d'*, as it escapes from pawl *h'* acts upon the short blunt arm and thus turns it to the position represented in Fig. 12. In Fig. 13, the tooth *d'* slides on the inclined face of the pawl *h'*, thereby pushing pulley H, toward coupling *a'*. In Fig. 14, pulley H, is represented as being coupled with coupling *a'*, and the tooth *d'*, is just on the point of acting upon the short arm of pawl *h'* to return said pawl to the position represented in Fig. 11. When the pulley H, is coupled with coupling *a'* it turns the hollow shaft F', which is attached to said coupling, and the cogged wheel E' which operates wheels D', C', A' and rack D; but when the pulley H, is connected with coupling *b'*, it will turn shaft *l*, as the coupling *b'* is keyed to said shaft, and will turn the wheel B, which meshing into wheel A' will turn the latter in a direction opposite to that when driven by coupling *a'*, and the rack D, will then be made to return.

The operation of the entire machine is as follows: The composition to form the body of the cinder being placed in the receptacle C, and the igniting composition into box E, the crank M' is turned in the direction of the arrow, shaft *k*, is turned in the same di-

rection, and the pulley T is rotated at regular intervals as above described while the pulley P, has a continuous rotary motion imparted to it, it being keyed on shaft *k'*. The pulley P' being connected with pulley P, by a chain has an intermittent rotary motion imparted to it by the same means as pulley T. When the crank *i*, is turned to its highest position and also the press box B, to its highest position, then the pulley P' is just detached from shaft *f*, and consequently the press box remains in this elevated position during the next revolution of pulley P'. At the same moment as the pulley P' is disconnected from shaft *f*, the pulley T, is connected with shaft *k*, and operating upon pulley H, the rack D, is run in and out from under the press box as above described. As the rack D, together with perforated plate G, and carriage I, is run under the elevated press box, the plate G, is pushed into the receptacle containing the material for the cinders, which by its own weight will settle into the holes of the plate G, at the same time the roller Q, which has been rotated by the action of pinion *r*, and rack *s* distributes the igniting paste to each of the ends of the rods, *d*, which in this elevated position of the press box protrude beneath the plungers *a*. As the rack D', returns the plate G, returns with the cinder material in each cell, and at the moment, when the cells or holes in plates G, come directly under the plungers *a*, the pulley T, is disconnected from shaft *k*, and pulley P' is connected with shaft *f*, the press box commences its downward motion and the igniting paste is first transferred to the cinders which are then pressed out of the holes of plate G, by the plungers *a*, which are moved down with plate *c*, within box B, and finally the cinders are detached from plate G by the cut off plate F, the holes of which correspond with the holes in plate G, and which is operated by the action of ratchet M, upon pin *q*, and the cinders drop into the receiving box O.

Having thus fully described the nature of my invention what I claim therein as new and desire to secure by Letters Patent is—

The arrangement of the mechanism substantially as herein described and for the purpose set forth.

H. REIMANN.

Witnesses:

WM. VINE,
GEO. S. GILMAN.