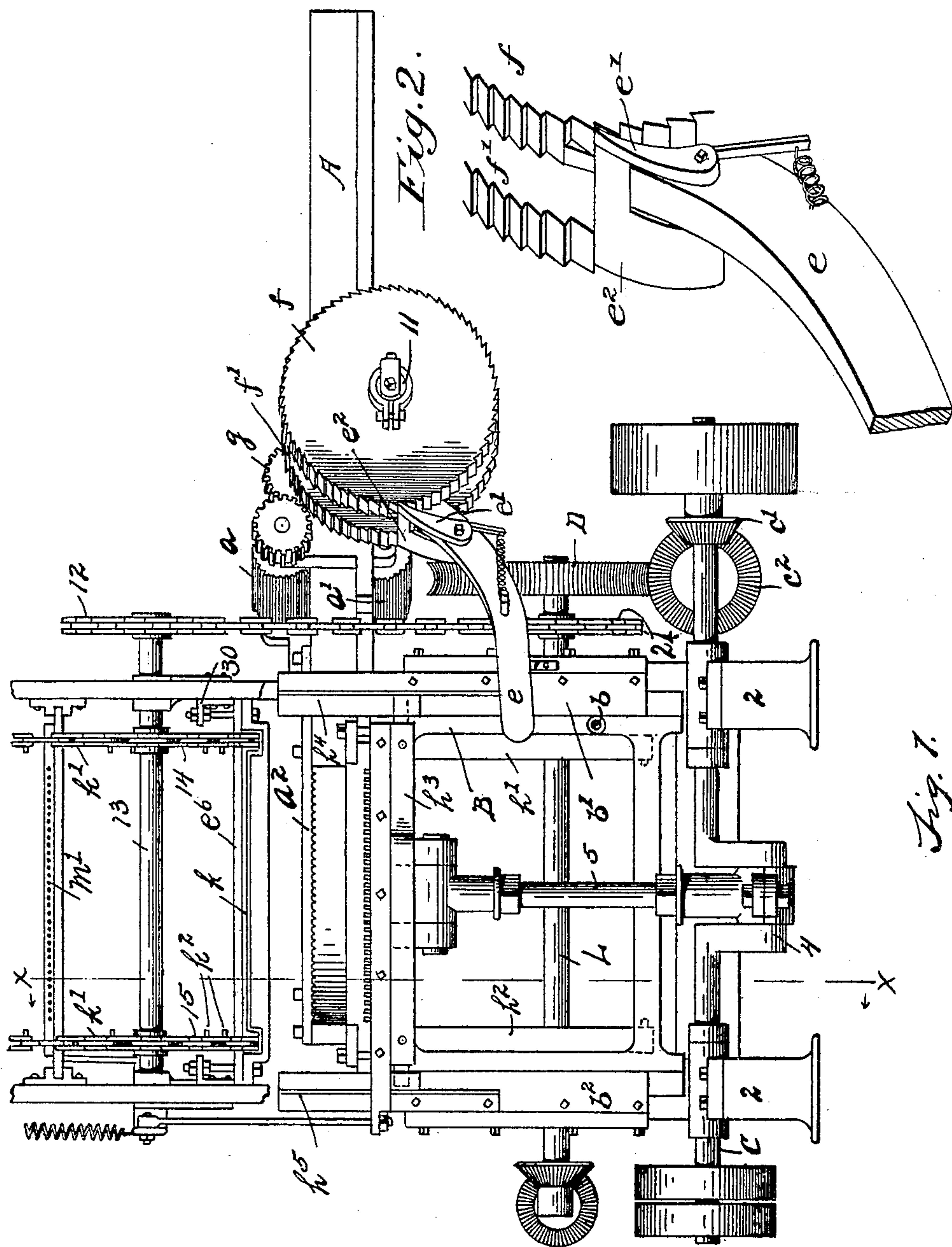


No. 795,358.

PATENTED JULY 25, 1905.

L. MENDELSSOHN.
MATCH MAKING MACHINE.
APPLICATION FILED APR. 11, 1903.



WITNESSES
Chas. E. Mier
May E. Kott.

INVENTOR
Louis Mendelsohn

By Parker & Burton

Attorneys.

UNITED STATES PATENT OFFICE.

LOUIS MENDELSSOHN, OF DETROIT, MICHIGAN.

MATCH-MAKING MACHINE.

No. 795,358.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed April 11, 1903. Serial No. 152,156.

To all whom it may concern:

Be it known that I, LOUIS MENDELSSOHN, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Match-Making Machines; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to match-machines, and has for its object improvements in that class of machines in which a match is produced from match-splints cut from blocks by the machine itself.

In the machine which embodies the invention the match-splints which are to be used in the manufacture of the finished matches are cut by means of knives from blocks of wood that are fed into the machine.

In the drawings, Figure 1 is a front elevation. Fig. 2 is a detail of the feed-ratchet.

On a suitable framework 2 is mounted a main driving-shaft C, provided with a crank 4 intermediate the posts 2 2 of the frame. The two posts 2 2 are provided with guides b' b'' , in which travel the side bars of a vertically-reciprocating frame B, connected to the crank 4 by pitman 5. The vertically-reciprocating frame has pivotally connected with it a second frame composed of cross-bar h^3 and side bars h' and h'' . The secondary frame swings on pivots. The frame carries a series of knives each of which consists of a tubular cutting part with a short length of tube lying transverse the shank. The knives are carried in their vertical reciprocation by the frame.

The block of wood is fed to the knives by a step-by-step movement by mechanism that is shown in Fig. 1 and in detail in Fig. 2. The blocks, cut to a suitable length lengthwise of the grain, are placed in a trough A and are driven forward by a fluted pressure-roll a , that bears on their upper face and acts in connection with a similar fluted pressure-roll a' , that is below the trough and bears against the under side of the blocks, which here pass over an opening through the floor of the trough. The rolls are driven by gearing on the ends of the shafts of the rolls that mesh with gearing on a short shaft 11, held by brackets to the frame.

On the shaft 11 are two ratchet-wheels f and f' , both of them loose, and one of them, f' , provided with a gearing that meshes with the idler g and with a corresponding idler that forms part of a chain of gearing terminating with the gear on the end of the roll a' . The ratchet-teeth on the ratchet-wheel f are equal in number either to the number of rows of holes in the dipping-plate plus one or to a multiple of that number plus one, and the length of feed of the blocks produced by a movement of the ratchet-wheel of one tooth is equal to something less than the thickness of a match-splint. The ratchet-wheels have a one-tooth advance movement with each rise of the vertically-reciprocating main frame, and the movement is produced by a ratchet-lever whose tail e is engaged by the friction-roll on a stud b at each rise of the frame. The lever e is pivoted on the shaft 11 and carries two pawls e' and e'' . The pawl e' engages and actuates the ratchet-wheel f at each upward movement; but each time that the extra tooth on the ratchet-wheel f reaches a position where the pawl e'' would engage with it the pawl e'' is lifted or held from actuating engagement by a filling inserted in the notch between the teeth at this point. This causes the pawl e'' to ride over without dropping into engaging position. The pawl e'' extends over the ratchet-wheel f' and actuates the wheel f' at all times when not lifted out of actuating engagement by the filling between the teeth in the wheel f . The wheel f' can only actuate the rollers when it is itself actuated and can only be itself actuated when the pawl e'' drops into the notch behind the tooth, and inasmuch as the pawl e'' is held out of engagement each time that it reaches a point on the wheel which is a multiple of the number of holes in the plate it follows that once for each plate there is a cessation of feed of the blocks, and the plates are arranged for this cessation of feed by spacing them at junction-line to bring the last row of holes on one plate just twice as far from the first row of holes on the succeeding plate as is the distance between the consecutive rows of holes on the first plate. This spacing between consecutive plates enables them to change their direction of travel in passing around the bends of the machine.

The block is fed at an angle to the knives in order to save material. One cut is made across the face of the wood, and the portions that are not cut are equal in width to the cut

portions, and upon the next forward movement of the wood the uncut portions are brought under the knives.

At the end of trough A next the knives is a plate a^2 , provided on its under side with sharp V-shaped points. These resist the forward movement of the wood block and prevent a block from falling out when nearly used up.

What I claim is—

1. In a match-making machine, the combination of a plate-carrying chain, a block-feeding mechanism, means for producing a regularly-spaced feed-movement of the plate-carrying chain, a block-feeding movement comprising rotating cylinders provided with gear-wheels intermeshing with a master-wheel, having two ratchet-wheels, a ratchet-lever common to both wheels and provided with a pawl which engages both wheels and with a pawl which engages only one of said wheels, a filler in the loose wheel filling a notch between two of the teeth therein underneath the pawl that is common to both wheels and acting to lift said pawl intermittently, substantially as described.

2. In a match-making machine, the combination of dipping-plates with holes for splint

ends arranged in rows across the plate, carrying-chains arranged to engage and support said plates with intervals between consecutive plates spaced to bring adjacent rows on adjacent plates with a spacing equal to a multiple of the distance between adjacent rows across the same plate, means for inserting splints in the plate, means for feeding the blocks from which splints are cut with a period of intermission timed to register with the plate travel to cause the feed to intermit when a row of holes is not presented for the reception of splints, the means for such intermittent feed comprising driving-rollers actuated by a gear-wheel on the same shaft with a fixed and a loose ratchet-wheel, and a ratchet-lever with a pawl engaging the loose ratchet-wheel without intermission and a pawl common to the loose wheel and the fixed wheel, with means for lifting the common pawl at intervals, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

LOUIS MENDELSSOHN.

Witnesses:

CHARLES F. BURTON,
MAY E. KOTT.