(No Model.) 3 Sheets—Sheet 1.

K. PEUKERT.

MATCH MAKING MACHINE.

No. 386,264. Patented July 17, 1888.

Fig. 1.

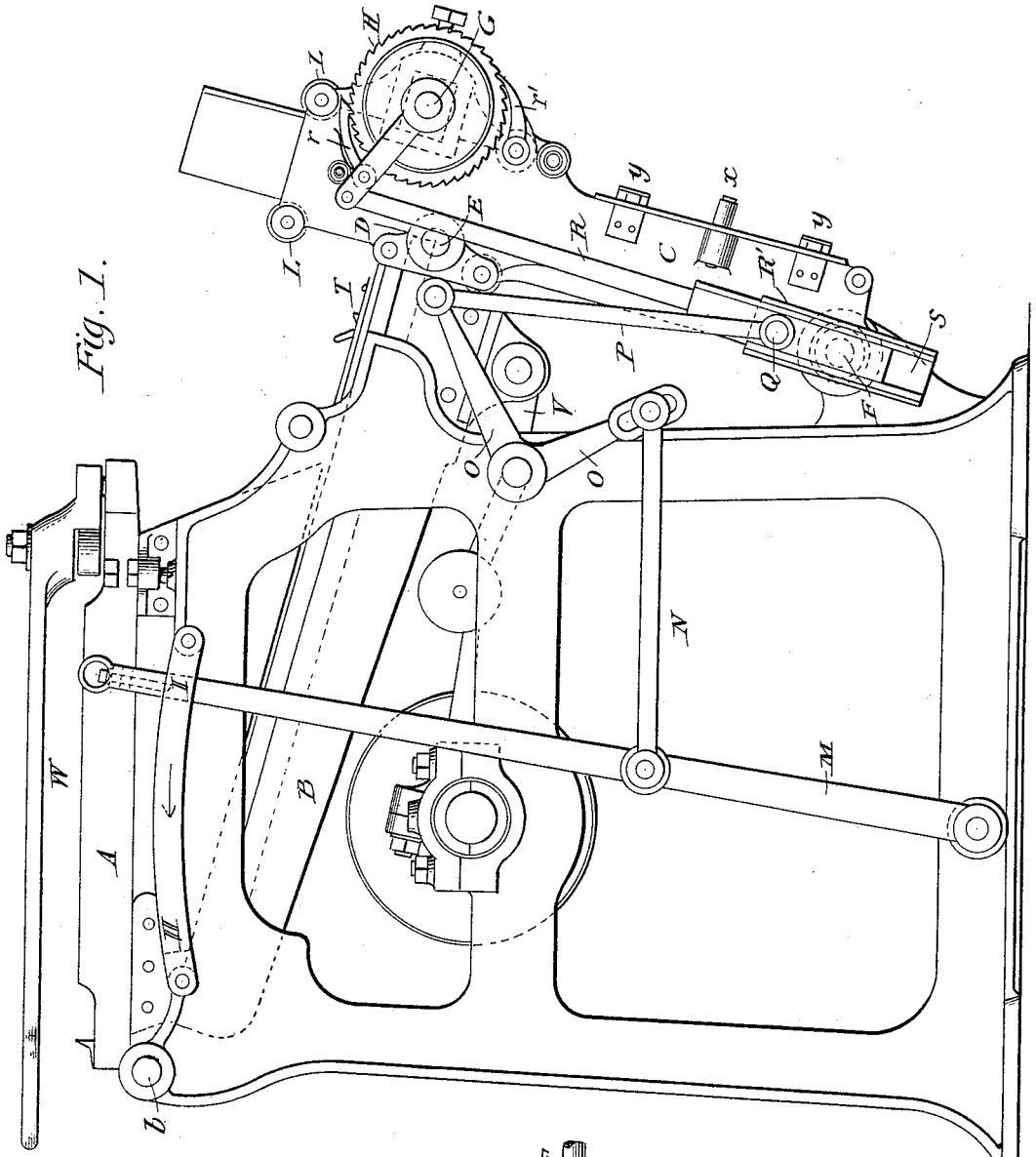
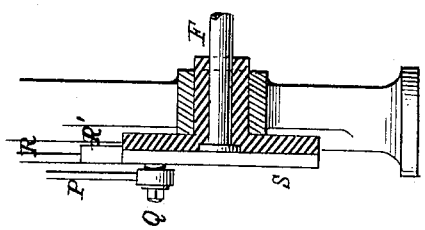


Fig. 4.



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(No Model.) 3 Sheets—Sheet 2.

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Fig. 2.

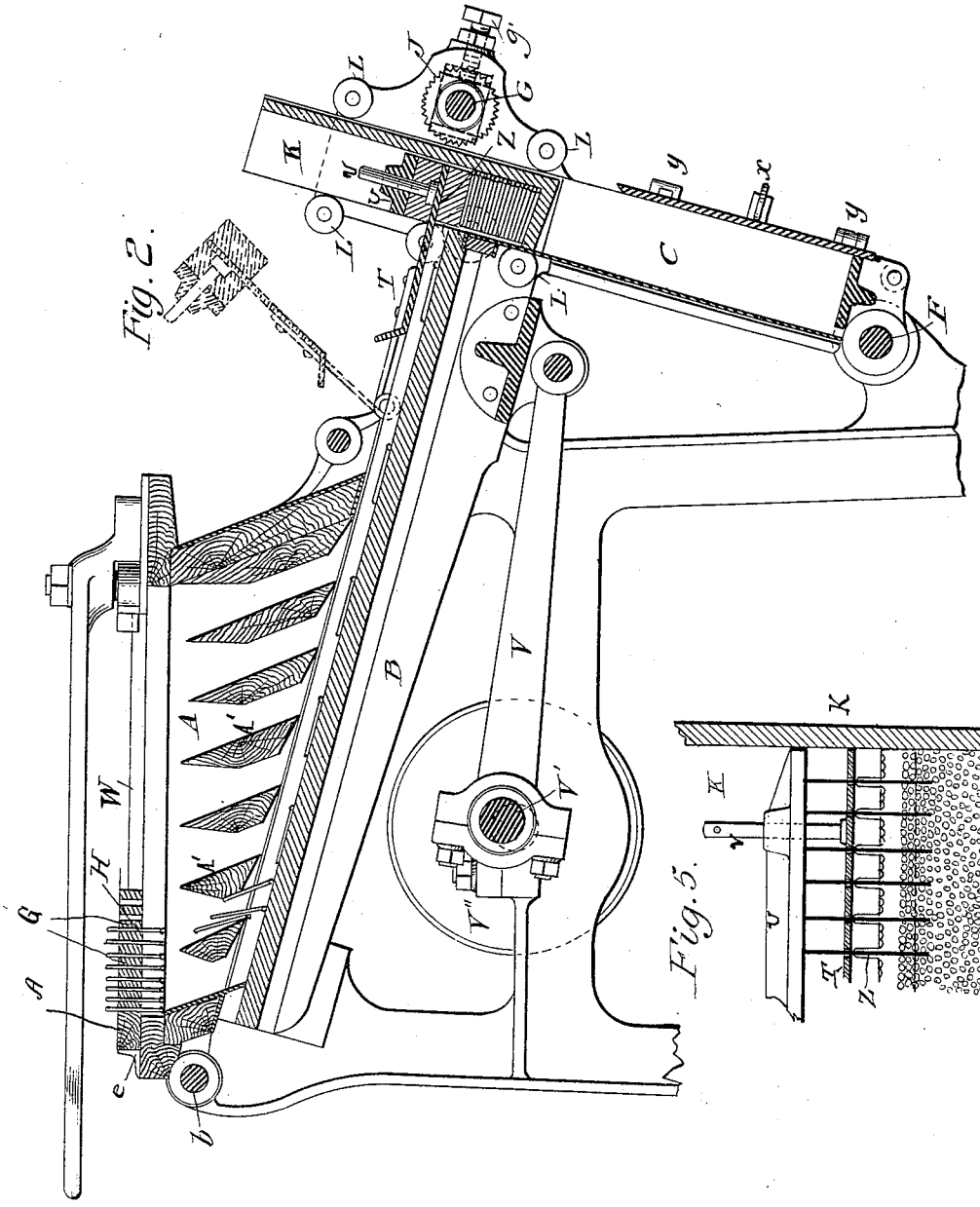
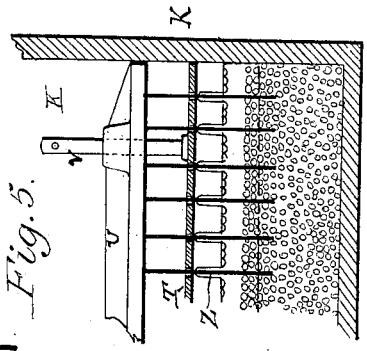


Fig. 5.



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(No Model.) 3 Sheets—Sheet 3.

K. PEUKERT.

MATCH MAKING MACHINE.

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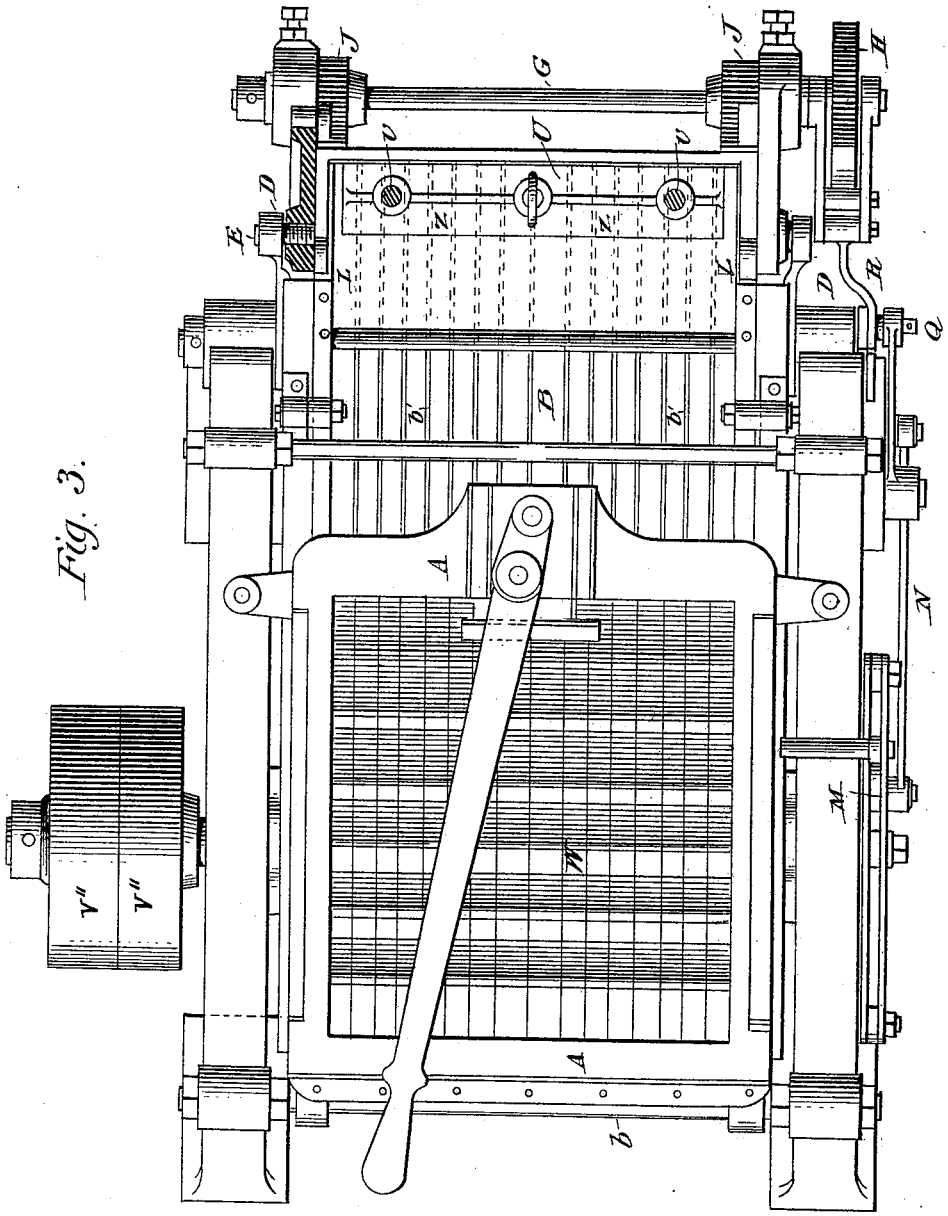
Fig. 3.



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UNITED STATES PATENT OFFICE.

KARL PEUKERT, OF DURLACH, BADEN, GERMANY, ASSIGNOR TO THE BADISCHE MASCHINEN AND EISENGIESSEREI, VORMALS G. SEBOLD AND SEBOLD AND NEFF, OF SAME PLACE.

MATCH-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 386,264, dated July 17, 1888.

Application filed June 6, 1887. Serial No. 240,424. (No model.)

To all whom it may concern:

Be it known that I, KARL PEUKERT, of Durlach, in the Empire of Germany, have invented new and useful Improvements in Match-Making Machines, of which the following is a specification.

My invention relates to that class of machines which lay out the finished matches out of the dipping-frames, this operation being quickly effected, the matches being placed in the filling-out frames close together in good order with the heads all in one direction. By this machine a substitution of machine for manual labor is effected, which labor, it is to be observed, is highly injurious to the health of the workman, as it is impossible to avoid touching the phosphorous mass.

My improved machine is represented on the accompanying drawings, like letters denoting like parts in all the figures.

Figure 1 represents my machine in side elevation. Fig. 2 is a sectional view, Fig. 3 a plan, and Fig. 4 a section, through the shaft F, of the box-holding frame C. Fig. 5 is a detailed sectional view, parts being broken away.

The machine consists of the box A, divided into sections by means of a series of transverse slanting cross-pieces or laths, A′ A′, and pivoted on the shaft *b*, which fits with its lower side upon the slanting shaking-frame B. This frame is provided with ribs *b′* on its upper surface, which serve as parallel guides for the matches, and is given a reciprocating movement from the connecting-bar V, crank-shaft V′, and pulleys V″, in place of which latter, however, an ordinary hand-crank or foot-treadle movement can be employed.

To the lower end of the reciprocating frame B is attached, by means of the eyes D and bolts E, the box-holding frame C. The box-holding frame C is pivoted at its lower end to the frame of the machine by means of the shaft F, so that as the frame B is reciprocated the box-holding frame C will rock on the shaft F. In the upper part of the box-holding frame C is journaled the shaft G, the said shaft being mounted in movable bearings, to which are applied the adjusting-screws *g′*. On one end of the shaft G, outside of the bearing, is the ratchet-wheel H, and on each end of the said shaft, inside of the bearings, are the two spur-wheels J. The teeth of the spur-wheels J engage the back of the filling-box K, so as to hold and lower the same as the shaft G is turned by ratchet-wheel H. The filling-box K is open at the top and one side, and is guided in its movement by the guide-rollers L, journaled in the box-holding frame C.

The ratchet-wheel H receives its motion from the hand-lever M through the bar N, double-armed lever O, the rods P and R, and the pawl *r*, pivoted to the upper end of the rod R. The rod R, which operates the ratchet gearing into the ratchet-wheel H, is provided at its lower end with a plate, R′, sliding in the guide S. To this plate is attached a bolt, Q, to which the lower end of the rod P is pivoted. By this arrangement the oscillations of the box-holding frame C are not transmitted to the hand-lever M nor to the ratchet-wheel H, but are taken up by the slide S. The lower end of the shaking-frame B is provided with a hinged cover T. The cover T extends into the box-frame C, and is slotted to receive the tongues Z, which are secured to the plate U carried by the cover. The plate U is secured to the cover T by means of the bolts *v*, which pass freely through apertures in the said plate, so that the plate, with its tongues, is free to move up and down. These tongues serve as guides for the matches as they pass from the frame B into the filling-box K.

The machine operates in the following manner. The cover T being thrown back into the position shown in dotted lines, Fig. 2, the filling-box K is placed between the guide-rolls L in such a manner that its open side is toward the shaking-frame B. The cover T is now closed down and the box K is pushed far enough down to allow the lower edges of the tongues Z to rest on its bottom. At the time this is effected the hand-lever M must be in the position I. The machine is now put in motion and a dipping-frame, W, of the usual construction, full of matches with their heads downward, is placed upon the section-box A. The matches fall row by row into the section-box A, and, falling with their heads against

the slanting cross-pieces, arrive in good order onto the shaking-frame, and are thus shaken down parallel to each other into the filling-box K, held in the box-frame C, as before described. At the same time that the matches begin to pass from the dipping-frame to the filling-box the workman with his right hand pushes the hand-lever M over from the position marked I to that marked II on the drawings. The hand-lever M being thus moved over from I to II, lowers the filling-box K in proportion to the number of matches it receives. This is effected by the mechanism, as before described. The empty dipping-frame being replaced by a full one and the hand-lever M put back to position I, the operation as described above is repeated. After some six or seven dipping-frames have been emptied in this manner and the filling-box K is nearly full, the machine is stopped and the filling-box K lowered to the bottom of the box-frame C by moving the hand-lever M several times backward and forward. The lower back part of the box-frame C, hinged at *y y*, is now opened by the bolt *x* and the filling-box K lifted out, after which the frame is reclosed, a fresh empty filling-box put in at the top, and the whole operation recommences.

Having thus described my invention and the manner of employing the same, what I claim, and wish to have secured to me by Letters Patent of the United States of America, is—

1. In a match making machine, the combination, with a shaking-frame, of a box-frame pivoted to the main frame and connected to the lower end of the said shaking-frame, and means for holding and lowering the filling-box in the said box-frame, substantially as described.

2. In a match-making machine, the combination, with a shaking-frame and a pivoted box frame connected to said shaking-frame, of a shaft journaled in the box-frame and provided with wheels for engaging the filling-box, and means for imparting motion to the said shaft, substantially as herein shown and described.

3. The combination, with the filling-box K, of the ratchet-wheel H, rod R, slide-plate R′, guide S, hand-lever M, and rods N O P, all substantially in the manner and for the purpose as described and shown.

4. In a match-making machine, the combination, with a shaking-frame and a box-frame connected to the lower end of the shaking-frame, of a hinged cover on the shaking-frame projecting into the box frame and provided with downwardly-projecting tongues, substantially as described.

5. In a match-making machine, the combination, with the shaking-frame and box-frame on the lower end of the shaking-frame, of a hinged cover projecting into the box-frame and having its lower end slotted and provided with the pins *v*, and the plate U, secured on the said pins and provided with the tongues *z*, projecting through the slots in the said cover, substantially as herein shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

KARL PEUKERT.

Witnesses:
H. E. HAMMOND,
C. ROCHLITZ.