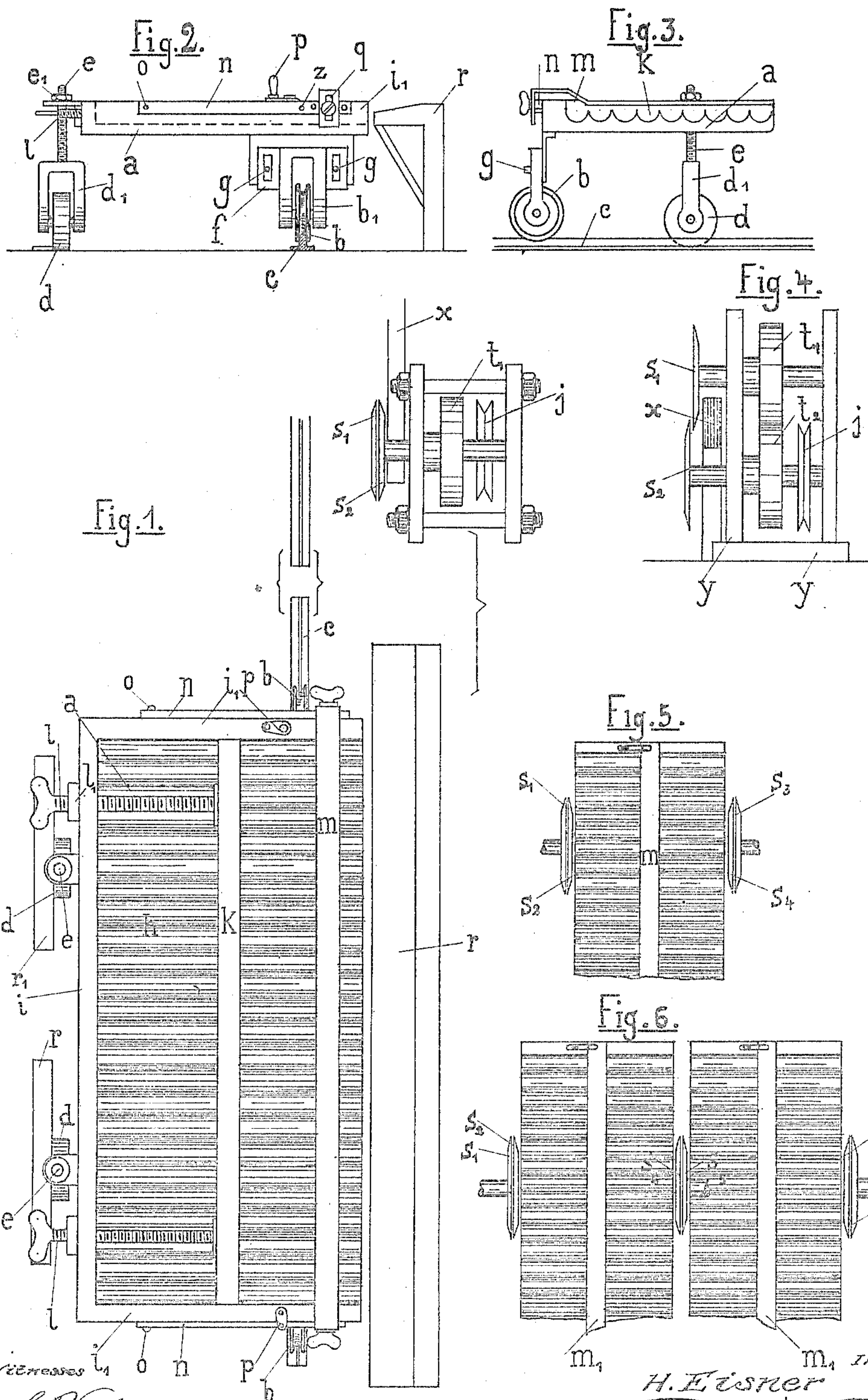


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MACHINE FOR CUTTING CIGARS AND CIGARETTES.

APPLICATION FILED NOV. 8, 1904.



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UNITED STATES PATENT OFFICE.

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MACHINE FOR CUTTING CIGARS AND CIGARETTES.

No. 804,651.

Specification of Letters Patent.

Patented Nov. 14, 1905.

Application filed November 8, 1904. Serial No. 231,907.

To all whom it may concern:

Be it known that I, HANS EISNER, a subject of the Emperor of Germany, residing at Frankfort-on-the-Main, Germany, have invented a new and useful Improvement in Machines for Cutting Cigars, Cigarettes, and the Like; and I hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to a machine for cutting cigars, cigarettes, and the like; and the improvement consists, essentially, in the arrangement of a frame or carriage mounted to travel on rollers on a work-table and filled with cigars, cigarettes, or the like, which frame is led past two cutting-disks rotating in opposite directions, which effect the cutting action, as distinguished from the existing practice of cutting the cigars singly by a manually-operated cutter. The apparatus can be utilized for any desired form and size of cigar or cigarette, for which purpose the frame is so adjustable that the cigar, cigarette, or the like always comes with the center part of its forward end in front of the cutting edges of the disks. By the use of two pairs of cutters arranged opposite one another cigars, cigarettes, and the like can be simultaneously cut at both ends, or by means of three pairs of cutter-disks cheroots or the like can be cut at both ends and also in the middle. The formation of the disks also enables the finishing off of tobacco-rolls while still in the roll-mold.

In the accompanying drawings, which illustrate the invention, Figure 1 is a plan showing the frame and the cutting mechanism and omitting the work-table. Fig. 2 is an end view showing the frame without the cutting mechanism. Fig. 3 is a side elevation of part of said frame. Fig. 4 is an end elevation of the cutter mechanism alone. Fig. 5 shows the arrangement of two, and Fig. 6 shows the arrangement of three, pairs of cutters.

As shown, the frame *a* is mounted on wheels, one pair *b* of which is provided with flanges and is guided by a rail *c*, while the object of the other pair of wheels *d* is only to support the frame. The said rail *c* may be of T iron or the like and extends the entire length of the work-table. In order to be able to vary the height of the frame according to the thickness of the goods being cut, the axle-bushes *e'* of the wheels *d* are secured to screw-threaded spindles *e*, adjusted by means of nuts *e'*. The axle-bushes *b'* of the wheels *b* have lateral lugs *f*, through slots in which pass fastening-bolts *g*, adjust-

ably securing the same to depending portions of said frame. The bottom of the frame is formed with grooves or channels *h*, which receive the cigars or the like, and the said frame is railed in on three sides only by bars *i i'*, the side directed toward the cutter-disks being left open. Between the two end rails is a longitudinal bar *k*, the under face of which is grooved, corresponding to the grooves *h*, and said bar *k* is adjusted by means of screw-threaded spindles *l*, according to the length of the goods being cut, for which it forms an abutment, being secured in position by means of nuts *l'* on said spindles. In order to avoid displacement of the cigars or the like when cutting, a pressing-rail *m* is laid above the same and is adapted to be turned around pivots *o* by means of arms *n* and held in closing position by means of bolts *p*, secured to the end bars *i*. In order to vary the pressure according to the thickness of the goods, the said rail *m* is adjustable by means of slots *q* in said arms *n* and is moved longitudinally of the cigars by being set in different perforations *z* in said arms. To the side of the frame next the open end is a support *r* for the cigars, attached to the work-table, and projections or abutments *r'* are provided laterally of the ground-wheels on the other side.

The cutting mechanism consists of disk-blades *s' s''*, having beveled edges and arranged on a framing, the edges overlapping somewhat and being directed toward each other, so that the rotating blades work in the manner of shears. The disks are rotated in opposite directions by means of toothed wheels *t t'*, driven by a cord-pulley *j*, and between the disks and the said framing is a chute *x* for catching the chippings resulting from the cutting operation, the opening in which chute is beneath the point where cutting action takes place and which chute terminates in a box beneath the work-table.

For cutting short cigars and cigarettes two pairs of disks *s' s''* and *s''' s''''* are employed, which are disposed opposite one another at a distance apart corresponding to the length of the finished cigars, cigarettes, and the like, one set of disks being movable. For the preparation of short Swiss cheroots cut at both ends, wherein a tobacco-roll of two cigar lengths is cut in mid-position to form two cheroots there is employed a third set of blades *s''' s''''*, the said third set being driven independently of the others, the upper blade being driven from

above and the lower blade from beneath. The cheroots or the like are arranged on two carriages alongside each other, the connection between the carriages being formed by the
 5 double cigars entering alining grooves, and thus forming a coupling.

In the employment of several sets of disks the longitudinal bar K is dispensed with, and the cut articles may be kept the same length
 10 by means of a rail slidably mounted opposite the stationary support *r*.

The operation of the machine is as follows: The traveling frame is placed in front of the support *r*, the cigars or the like being placed
 15 loosely in the grooves and the bar K being beforehand adjusted in the desired position. In order to facilitate mounting said frame on the guide-rail, the same is supported with the outer edge of the wheels *d* against the abut-
 20 ments *r'* aforesaid and is lowered on the table, the flanges of the other set of wheels straddling the web of the rail *c*, so that the carriage of itself comes into the right position. By this method the cigars are caused to lie
 25 against the bar K, so that they will afterward be all cut the same length. The rail *m* is now turned over on the cigars and secured in position by the bolts *p*. Similarly, the machine is used for cutting short cigars, cheroots, and
 30 the like, said articles, however, being laid on the carriage, which has been set on the rails, and being positioned so as to be cut of the same length by a rail arranged above the stationary support.

35 In order to effect the cutting operation, the disks *s' s''* are rotated by any suitable means—treadle-gear or motive power—and the traveling frame is moved forward past the same, the said frame being steadily guided by the
 40 wheels *b* engaging the rail *c*. The tobacco cut off falls into the chute *x* and is caught in a box beneath. After cutting the bolts are moved back and the rail *m* lifted, whereupon the cigars, cigarettes, and the like may be re-
 45 moved. The cutting of short cigars and cigarettes takes place in the same manner, but with this difference, that two pairs of cutters are used which have been disposed at the desired distance apart. In order to cut cheroots,
 50 on the forward ends of the two carriages cords may be secured, which are connected behind the knives to a common cord, so that both carriages move simultaneously over the worktable and the cheroots are cut midway.

55 The formation of the cutter-disks also enables the use of the apparatus for finishing off tobacco-rolls which are still in the roll-mold, these being set on a carriage guided on said rail *c* and led past the cutting edge of
 60 the upper rotating disks, the parts projecting from the roll-molds being cut off.

Having now described my invention, what

I claim, and desire to secure by Letters Patent of the United States, is—

1. The improved machine for cutting cigars, 65 cigarettes and the like, comprising in combination, a movable frame the bottom of which is formed with grooves to receive the cigars and the like, said frame being railed in on three sides only and having one side open, a longi- 70 tudinal bar having corresponding grooves, determining the length of said cigars, means for retaining said cigars against displacement, means for guiding said frame, and rotary cutters past which said frame is led, substantially 75 as and for the purpose set forth.

2. The improved machine for cutting cigars and the like, comprising, in combination a movable frame the bottom of which is formed with grooves to receive said cigars, a bar ad- 80 justable laterally of said frame and having its under face formed with corresponding grooves, said bar serving to determine the length of the cut cigars, a second bar, arms pivoted to said frame, and carrying said sec- 85 ond bar, means for securing said bar in position to press against the cigars to prevent the same from displacement, wheels on said frame and a guide-rail supporting said wheels, sub- 90 stantially as described.

3. The improved machine for cutting cigars, cigarettes and the like, comprising in combination, a movable frame carrying the cigars and the like in fixed relation to said frame, two sets of wheels for said frame, the axle- 95 bushes of one set having slots, bolts adjustably securing said axle-bushes to said frame, a guide-rail for said set of wheels, screw-threaded spindles securing the axle-bushes of the other set of wheels to said frame, and ro- 100 tary cutters past which said frame is guided, substantially as described.

4. The improved machine for cutting cigars, cigarettes and the like, comprising in combination, a movable frame, two sets of wheels, 105 vertically adjustable, secured to said frame, a guide-rail for one set of wheels, abutments to the side of the other set of wheels, and rotary cutters past which said frame is guided, sub- 110 stantially as described.

5. The improved machine for cutting cigars, cheroots, cigarettes and the like comprising two parallel movable frames carrying the goods to be cut, means for guiding said frames to move together, and three pairs of rotating 115 disks serving to cut said goods, substantially as described.

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

HANS EISNER.

Witnesses:

BERNHARD KAISER,
 JEAN GRUND.