

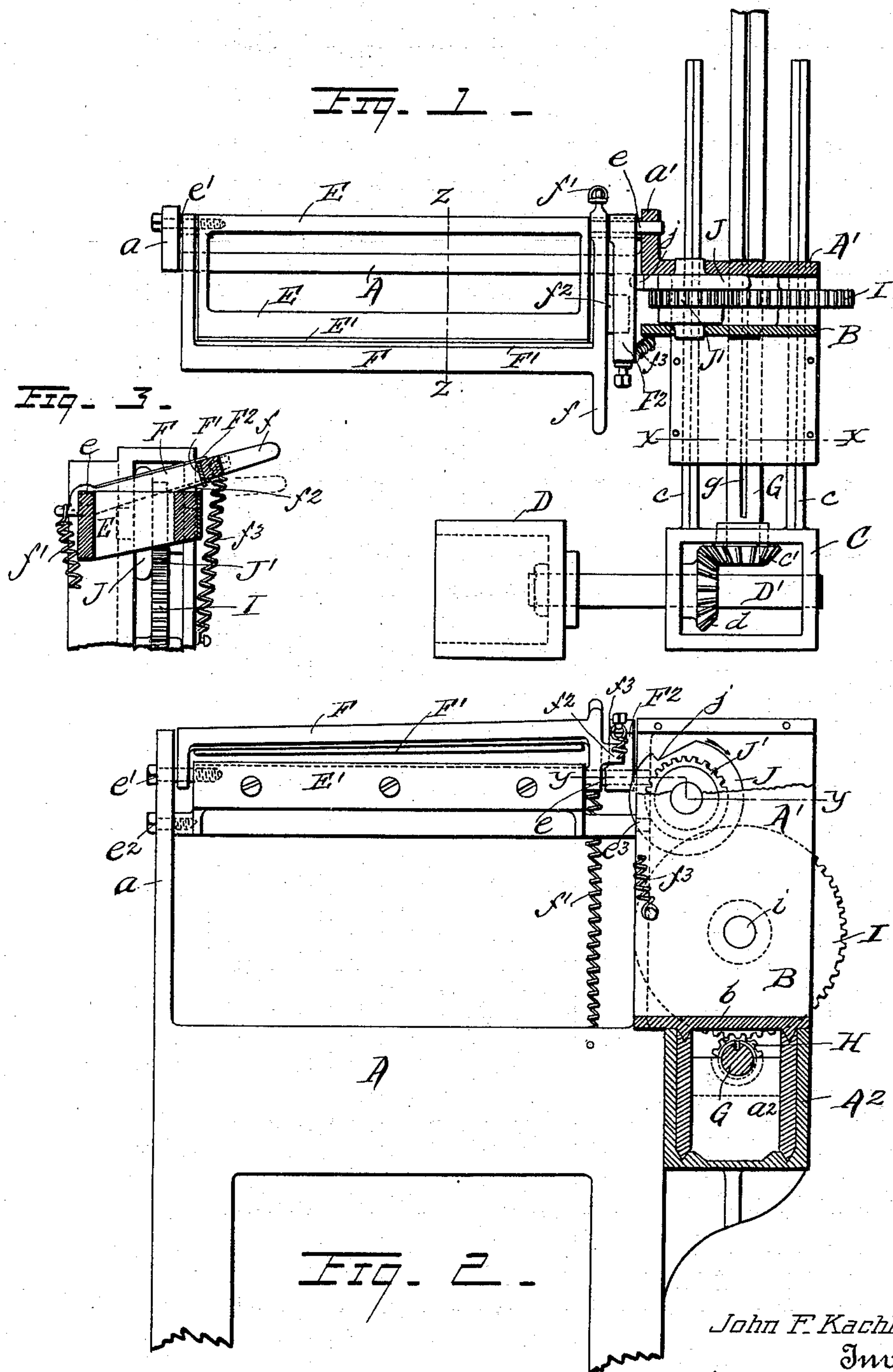
No. 652,000.

Patented June 19, 1900.

J. F. KACHLINE.
BOX COVERING MACHINE.

(Application filed Dec. 19, 1899.)

(No Model.)



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JOHN F. KACHLINE, OF READING, PENNSYLVANIA.

BOX-COVERING MACHINE.

SPECIFICATION forming part of Letters Patent No. 652,000, dated June 19, 1900.

Application filed December 19, 1899. Serial No. 740,854. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. KACHLINE, a citizen of the United States of America, and a resident of Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Box-Covering Machines, of which the following is a specification.

My invention relates to machines for covering pasteboard boxes; and it consists in improved mechanism for automatically cutting the paper to proper length to suit any particular size of box and for properly adjusting the cooperating form-block.

The features of the invention are fully described in connection with the accompanying drawings and are specifically pointed out in the claims.

Figure 1 is a plan view of a machine embodying my invention, it being shown partly in section on the line $y y$ of Fig. 2. Fig. 2 is a front elevation, partly in section, on the line $x x$ of Fig. 1 and showing part of the gear-casing plate broken away. Fig. 3 is a partial cross-sectional view on the line $z z$ of Fig. 1.

A represents the frame of the machine, which has side standards a and a' , between which is secured in any suitable manner a fixed cutter-frame E, having removably fastened thereto a cutter-blade E' . This cutter-frame E is, as shown, separately formed and fixed to the uprights a a' at points e e' and e^2 e^3 . A movable cutter-frame F is pivoted, as shown, on the pins e e' and so adjusted that its cutter-blade F' will cooperate with the fixed cutter E' to shear a strip of paper passed between them. The movable cutter F F' is normally raised or retracted by a spring f' .

The form-block D, upon which the pasteboard box is placed and rotated in the operation of applying the covering thereto, is carried upon a spindle D' , arranged parallel with the cutter-blades and mounted in an adjustable frame C, arranged to slide in or out, as required to allow for rotating different sizes of boxes, said frame C, as shown, having guide-arms cc , adapted to move in a guide-box A^2 , forming a part of or fixed to the machine-frame A, and carrying with it a grooved or splined driving-shaft G, having a bevel-gear connection to the former spindle D' and

adapted to be rotated by any suitable means. (Not shown.) This driving-shaft G passes through a pinion H, mounted in a bearing a^2 in the guide-box A^2 , in which pinion the shaft slides in adjusting the form-block to proper position relative to the cutter, while the pinion itself is rotated with it to impart movement to the pivoted cutter F F' , as herein- after described.

The mechanism for operating the pivoted cutter in unison with the form-block comprises, as shown, an idler-gear I, meshing with the pinion H and also with a gear J' , which carries a cam-disk J, both of which gears are mounted in a casing formed by a side extension A' of the machine-frame and a removable bearing-plate B, which also in the construction shown forms a top or cover for the guide-box A^2 . The rotating cam J is so arranged that its periphery, as indicated, supports in raised position a cutter-arm F^2 , which is independently pivoted at e (the pivotal center of the cutter-frame F) and which bears upon a bracket f^2 on the latter and is normally pulled down for the shearing action by a spring f^3 . When the recess or notch j , which is formed in the periphery of the cam, comes around to the cutter-arm F^2 , the latter is temporarily unsupported and is immediately lowered by the spring f^3 , carrying with it the cutter proper which effects the shearing of the paper, this action of course being properly timed with the rotation of the form-block. The continued rotation of the cam immediately reraises the cutter-arm F^2 , leaving the spring f' free to raise the cutter with it. This preferred construction, it will be observed, permits the cutter to be operated independently of the rotating mechanism, as is sometimes desirable, for instance, to cut away a defective portion of the paper strip.

What I claim is—

1. In a box-covering machine the combination with a rotary form-block of a stationary cutter, a spring-operated movable cutter, and a cutter-cam arranged to rotate with said form-block in a plane at right angles thereto and operated to control the actions of said spring-operated cutter, whereby the latter is successively retracted, held and released during each turn of the form-block.

2. In a box-covering machine, the combi-

nation with a rotary form-block, and cutters, one of said cutters being movable, of an independently-pivoted arm above said movable cutter arranged to engage the same in its descent, whereby the cutter may be lowered either by lowering the pivoted arm or independently of said pivoted arm, as specified, and means acting on said arm to lower said cutter automatically at predetermined intervals during the action of the form-block.

3. In a box-covering machine, the combination with a rotary form-block, and cutters, one of said cutters being movable, of means operated automatically during rotation of the form-block to raise and lower said movable cutter, said means including a raising means for the cutter, a movable arm above said cutter, against which the cutter is yieldingly held by said raising means, and means for supporting the arm in elevated position and for lowering it, at predetermined intervals.

4. In a box-covering machine, the combination with the rotary form-block and cutters, one of said cutters being movable, of springs connected with said movable cutter and acting in opposition to each other, one to raise and the other to lower said cutter, and a device engaging said movable cutter and controlled to support the same in elevated position and withdraw support therefrom at predetermined intervals, substantially as described.

5. In a box-covering machine, the combination with the rotary form-block, and cutters, one of said cutters being movable, of a spring connected with said movable cutter for retracting the same, a pivoted arm connected with said cutter, a spring connected with said arm and operating on the same to move the cutter in opposition to said retracting-spring, and a means rotative with the form-block and operating successively to hold the cutter in retracted position, withdraw support from said arm to permit the arm-spring to lower the cutter and to raise said arm.

6. In a box-covering machine, the combination with the rotary form-block, and cutters, one of said cutters being movable, of a retracting-spring for the movable cutter, a pivoted arm connected with said cutter in its descent only, a lowering-spring connected

with said arm, and a cam for controlling the actions of the springs and for raising said arm.

7. In a box-covering machine the combination with a stationary cutter and a movable cutter, of a rotary cam fixedly mounted in engagement with the latter to control the movement thereof, a form-block mounted in a sliding frame and a driving-shaft carried by said sliding frame and feathered in said cam whereby said adjustable form-block and relatively-fixed cam are simultaneously rotated in planes at right angles to each other and the form-block may be adjusted toward and from the cutters, substantially as set forth.

8. In a box-covering machine, the combination with the cutters, one of which is movable, and the form-block, of means for causing said parts to move in unison, embodying a shaft which carries said form-block, a driving-shaft geared therewith and arranged at right angles thereto, a pinion on the latter shaft, an idler-gear meshed with said pinion, a gear meshed with said idler-gear and carrying a cam-disk which rotates in a plane at right angles with that of the form-block, said cam-disk engaging the movable cutter and controlling the movement thereof.

9. In a box-covering machine, the combination with a stationary cutter and a movable cutter, of a frame mounted to be horizontally adjustable toward and from the cutters, a driving-shaft borne by said frame, a form-block shaft also borne by said frame and projecting at an angle from and geared with the end of said driving-shaft, a pinion rotative with the driving-shaft and through which said shaft is longitudinally adjustable, an idler-gear meshed with said pinion, and a gear meshed with said idler-gear and carrying a cam-disk which rotates in a plane at right angles with the form-block and engages the movable cutter and controls the movement thereof.

Signed by me at Reading, Pennsylvania, this 16th day of December, 1899.

JOHN F. KACHLINE.

Witnesses:

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