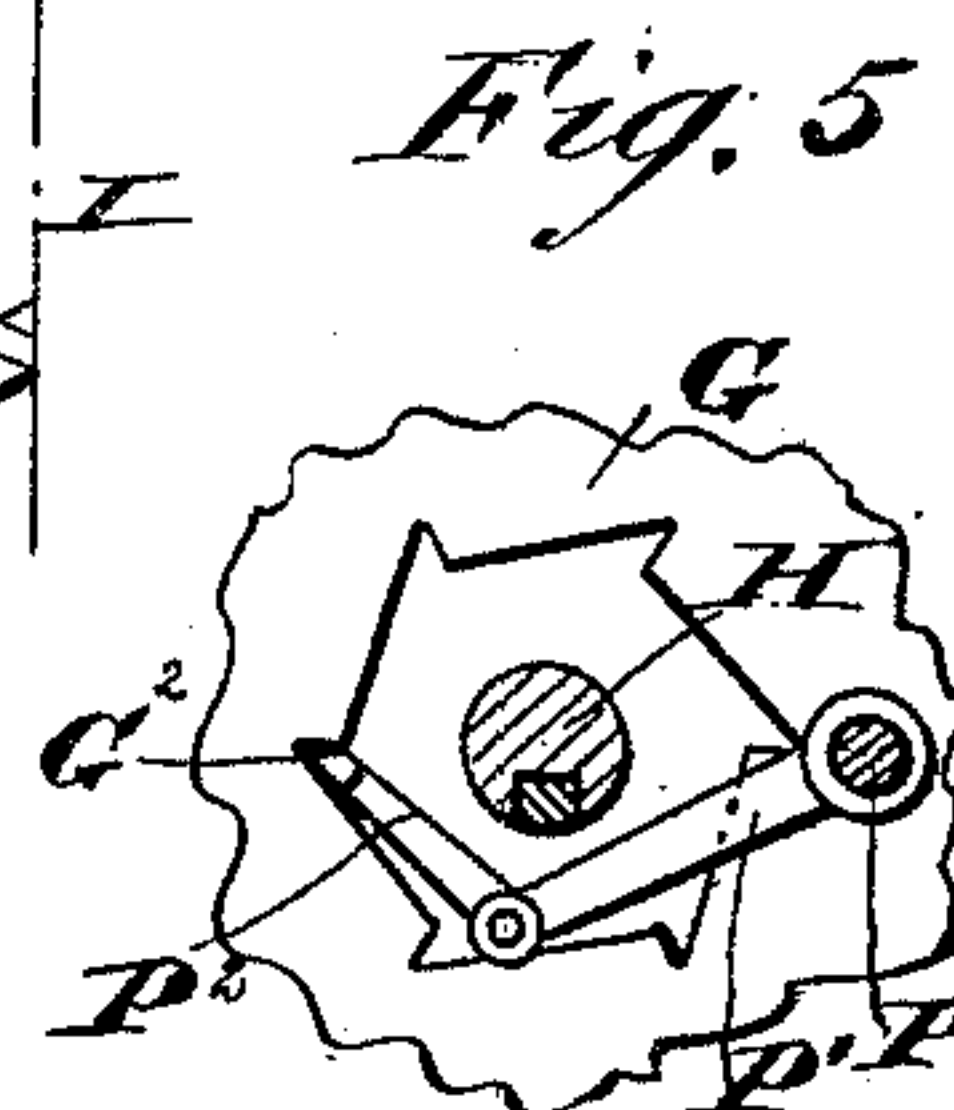
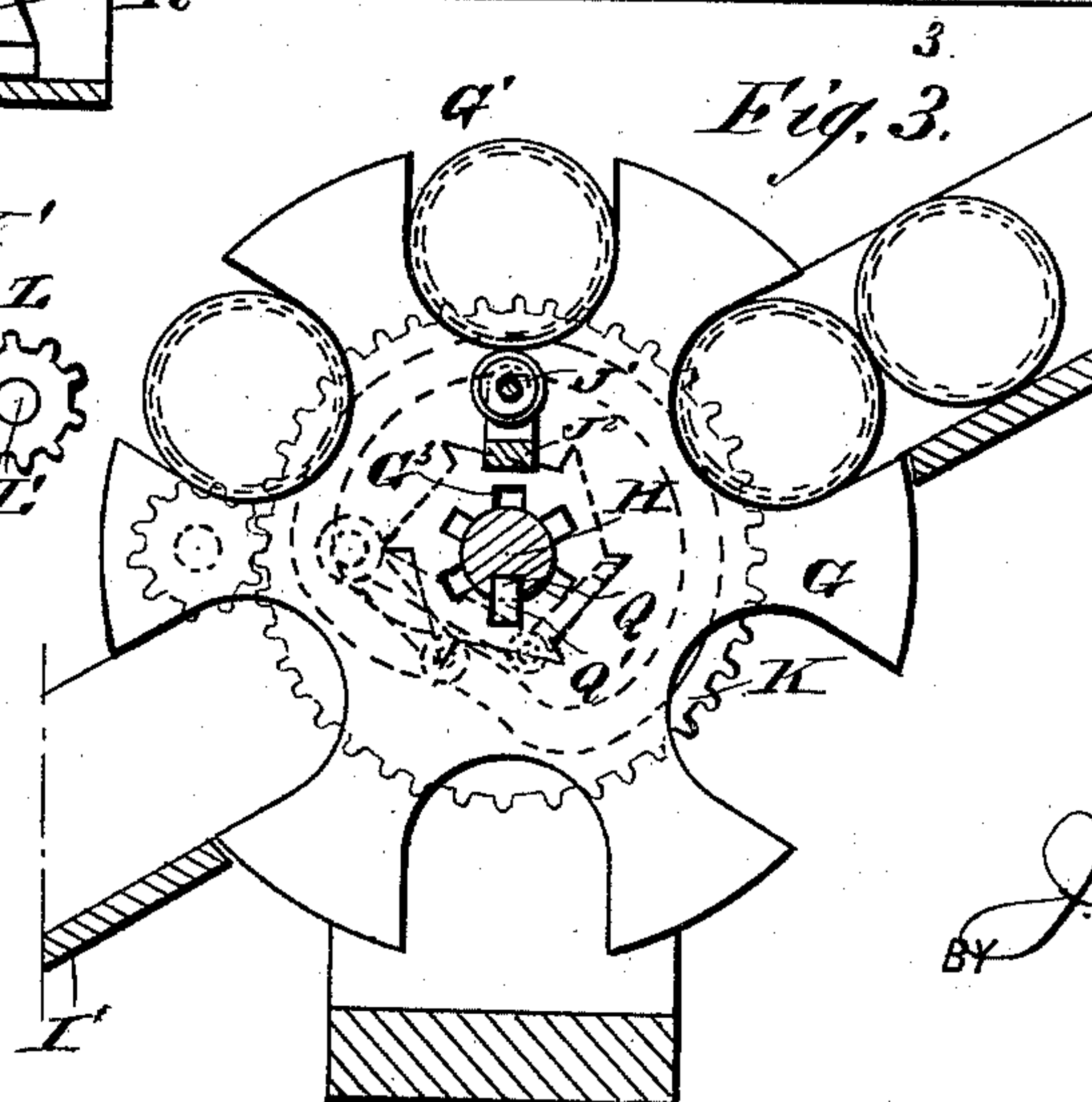
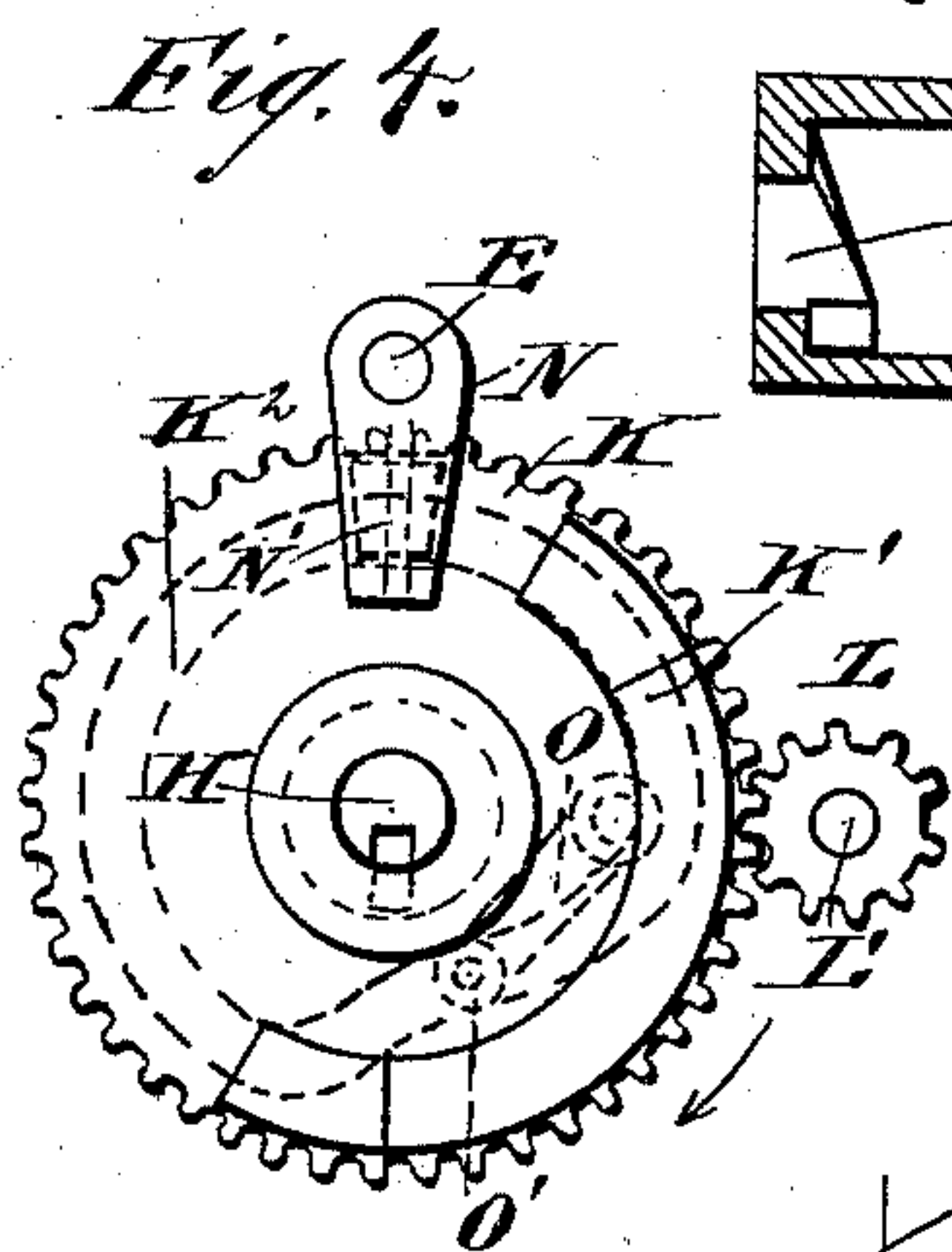
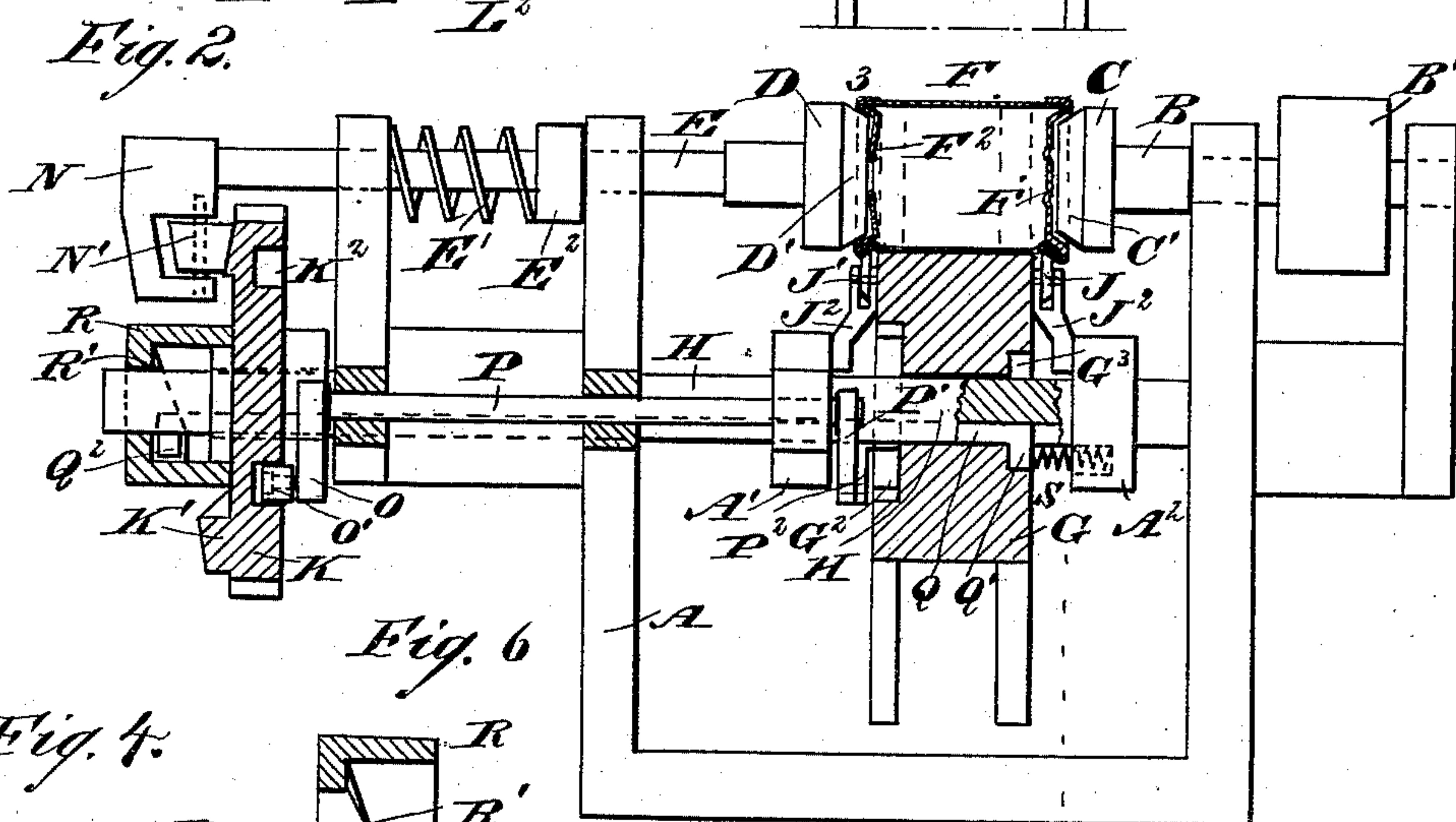
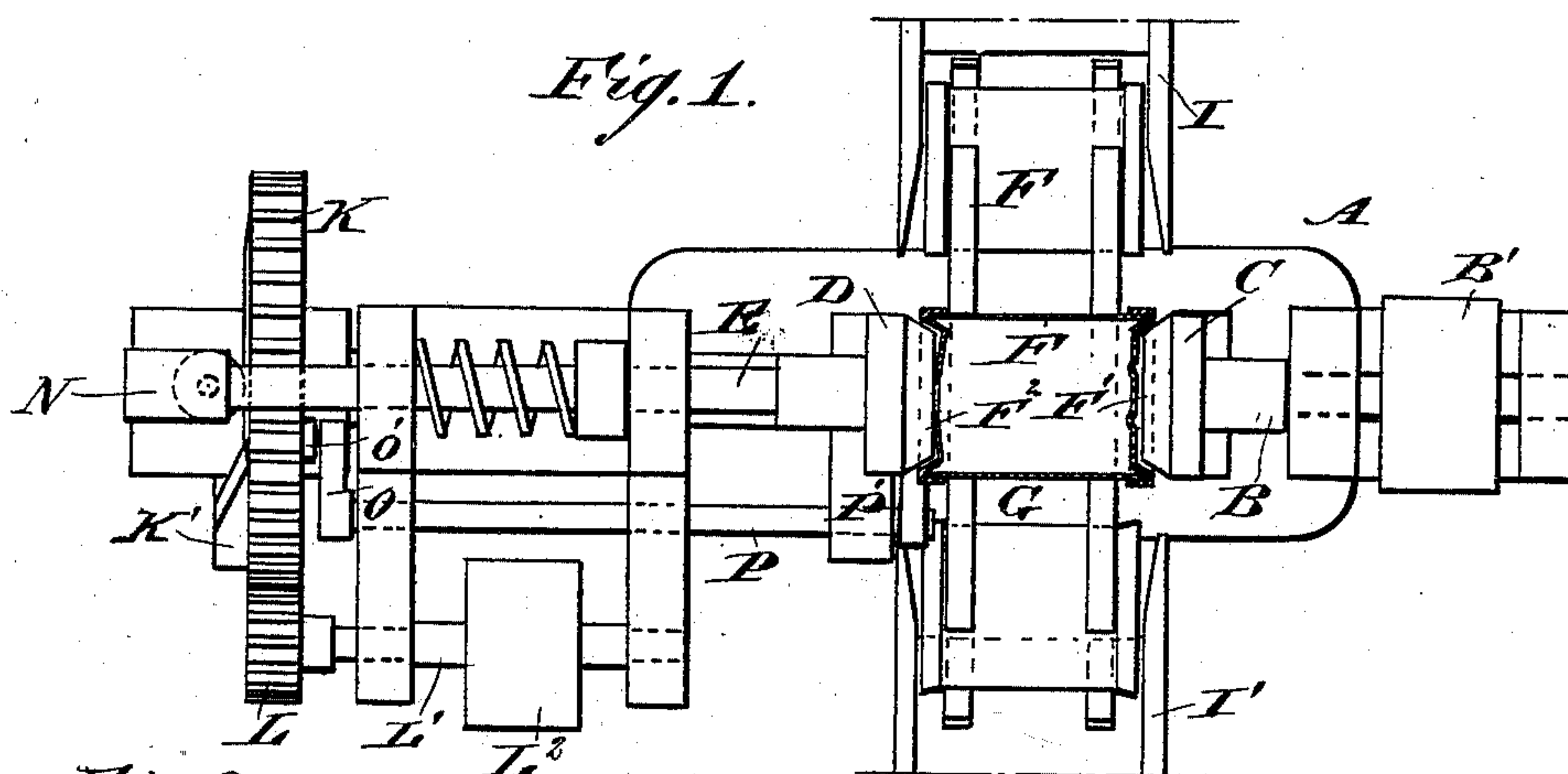


(No Model.)

J. A. PECK.
CAN CRIMPING MACHINE.

No. 477,575.

Patented June 21, 1892.



WITNESSES:
Donn Twitchell
C. Sedgwick

INVENTOR
J. A. Peck
BY
Munn & Co.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES A. PECK, OF BREWSTER, NEW YORK.

CAN-CRIMPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 477,575, dated June 21, 1892.

Application filed March 7, 1892. Serial No. 424,023. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. PECK, of Brewster, in the county of Putnam and State of New York, have invented a new and Improved Can-Crimping Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved can-crimping machine which is simple and durable in construction, very effective in operation, and designed for rapidly and effectively crimping the heads or covers of cans onto the can-bodies.

The invention consists in certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improvement with the can in section. Fig. 2 is a sectional side elevation of the same. Fig. 3 is a transverse section of the same on the line 3 3 of Fig. 2. Fig. 4 is a face view of the mechanism for actuating one of the dies and imparting motion to the can-carrier. Fig. 5 is a face view of the central portion of the carrier and the mechanism for imparting an intermittent rotary motion to the same, and Fig. 6 is a sectional side elevation of the cam for actuating the carrier-locking mechanism.

The improved can-crimping machine is provided with a suitably-constructed frame A in the upper part, and on one side of which is journaled the shaft B, provided with a pulley B', connected by belt with suitable machinery for imparting a continuous rotary motion to the said shaft B. On the inner end of the latter is secured a die C, made in the shape of a disk and having a beveled rim C', as is plainly shown in Figs. 1 and 2. Opposite this die C is arranged a similar die D, also provided with a beveled rim D' and mounted to rotate loosely on the inner end of a shaft E, journaled in suitable bearings on the frame A and having its axis arranged in line with the axis of the shaft B. The beveled rims C' and D' of the dies C and D face each other, as is plainly shown in the drawings, and the said rims are adapted to engage the covers F' and F², respectively, for the can-body F, the said cov-

ers being provided with external flanges fitting over the exterior of the can-body, while the middle portions of the covers are beveled to correspond approximately with the bevels of the rims C' and D' of the dies C and D. The can-bodies F, with the covers F' and F² in place, are held in a carrier G, mounted to turn loosely on a shaft or spindle H, supported in suitable bearings A' and A² in the main frame A. The carrier G is preferably made circular and provided with side flanges formed with longitudinal recesses G', arranged in a circle concentric to the shaft H and adapted to receive the cans delivered to the carrier from an inclined chute I, located at one side of the carrier, as is plainly indicated in Figs. 1 and 3. A similar chute I', arranged on the opposite side of the carrier G, serves to carry off the crimped cans.

In order to crimp the straight flanges of the covers or heads F' and F², beveled wheels J and J' are employed, located at opposite faces of the carrier G and journaled in brackets J², supported from the main frame A. The beveled wheels J and J' are adapted to engage the flanges of the covers F' and F², respectively, and their bevels extend in line with the beveled rims C' and D' of the dies C and D. The carrier G has an intermittent rotary motion, so as to bring a recess carrying one of the cans in line with the dies C and D to permit the latter to engage the covers F' and F² of the respective cans. The chutes I and I' are arranged on the sides of the carrier, while the dies C and D are located on top, so that a can is always delivered into one of the recesses G' during the time the carrier G is at a standstill and while the dies C and D and wheels J J' crimp the can in the top of the carrier. After the can is crimped it is carried to one side and is finally delivered to the chute I', which latter is located in such a position with relation to the carrier that the can is held in an intermediate position after crimping and before delivery to the said chute I'. (See Fig. 3.)

On the outer end of the shaft H is mounted to turn loosely a gear-wheel K, in mesh with a pinion L, secured on a shaft L', mounted to turn in suitable bearings on the main frame A and carrying a pulley L², connected by a belt with other machinery for imparting a

continuous rotary motion to the said shaft L', so that the motion of the latter is imparted to the gear-wheel K by the pinion L. On the outer face of the gear-wheel K is arranged a cam K', on which travels a friction-roller N', journaled in an arm N, attached to the outer end of the shaft E carrying the die D. A spring E' is coiled on the shaft E and presses with one end against a collar E², held on the said shaft E, and with its other end presses on one of the bearings of the said shaft. When the gear-wheel K is rotated, the cam K' acts on the wheel N', so as to move the arm N outward, whereby the shaft E, with the die D, is moved longitudinally. This motion of the die D disengages the latter from the cover F², so that the can-body F is released after it is crimped to permit the carrier G to carry the crimped can-body forward to an intermediate position. A return movement of the shaft E and die D is accomplished by the spring E', which is compressed on the outward sliding movement of the shaft E. On the inner face of the gear-wheel K is formed a cam-groove K², engaged by a friction-roller O', journaled on a crank-arm O, secured on the outer end of a shaft P, extending longitudinally and mounted to turn in suitable bearings in the frame A. On the inner end of this shaft P is secured a crank-arm P', carrying a pawl P², engaging a ratchet-wheel G², formed on one face of the carrier G. When the gear-wheel K is rotated, the friction-roller O' during part of the revolution of the said wheel imparts a swinging motion to the crank-arm O, so that the shaft P is turned and by its crank-arm P' and the pawl P² causes the carrier G to turn on the shaft H.

As shown in the drawings, the proportion between the several parts is such that at every revolution of the shaft K the carrier G is given one-sixth turn, so as to bring the corresponding recesses G' into register with the chutes I and I' and the dies C and D.

In order to prevent the carrier G from turning during the operation of crimping, the following device is provided: On the face of the carrier G opposite the ratchet-wheel G² is formed a series of notches G³, corresponding in number to the recesses G' and located in the said carrier around the shaft G, as is plainly shown in Fig. 3. A lug Q' is adapted to engage one of the said recesses G³ at a time, the said lug being formed on a rod Q, mounted to slide longitudinally in a groove formed in the shaft H. The outer end of this rod Q is provided with a lug Q², projecting from the surface of the shaft H and adapted to engage an incline R', formed on a sleeve R, attached to the gear-wheel K. Thus when the latter is rotated the sleeve R engages with its incline R' the said lug Q², so that the latter is pushed to the right, moving the rod Q and the lug Q' in the same direction, whereby the latter is disengaged from the respective notch G³ and the carrier G is unlocked to be rotated by the pawl P² engaging the ratchet-

wheel G², as above described. A spring S presses on the lug Q', so as to insure a return movement of the rod Q and also to hold the lug Q' in position in one of the recesses G³, as above described.

The operation is as follows: When the shafts B and H are rotated, an intermittent rotary motion is given to the carrier G, as described. The can-body passed into one of the recesses G' at the chute I is carried forward by the carrier G at the next movement, so as to be brought opposite the dies C and D, of which the latter is then in an outermost position and is returning to engage the cover F² as soon as the carrier G has come to rest. The rotary motion of the die C now imparts a rotary motion to the can, so that the die D also revolves. At the same time the outer surfaces of the flanges of the covers F' and F² are held in contact with the bevel-wheels J and J', respectively, so that the latter press the flanges inward toward the beveled rims C' and D' of the dies C and D, causing the outer edges of the can-body F to be bent likewise, as is plainly shown in Fig. 2. It is understood that the beveled rims C' and D' of the dies C and D act as anvils for the crimping-wheels J and J'. During the process of crimping the shaft B, and consequently the dies C and D and the can, are revolved a number of times, after which the cam K' acts on the friction-roller N' to cause the die D to slide outward away from the crimped cover F². The can is thus released, and the carrier G now receives a forward motion in the manner previously described, so that the crimped can is moved to an intermediate position and an uncrimped can is brought to the top in line with the dies C and D. At this time the die D returns and the above-described operation is repeated. It is understood that during the crimping process above described the carrier G remains in a locked position, held by the lug Q' engaging a corresponding recess G³. Previous to imparting motion to the carrier G the rod Q is moved to the right to disengage the lug Q' from the recess, after which the pawl P² acts on the ratchet-wheel G² to move the carrier forward, as previously described. The crimped can is moved to an intermediate position previous to its delivery to the chute I', so as to permit the can to come to a rest after being crimped, as the said can continues to revolve for a short time after being crimped, this being caused by the action of the revolving die C.

It will be seen that this machine is very simple and durable in construction, automatic in operation, and arranged to securely crimp the flanges of the covers or heads onto the can-bodies in the manner above described.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a can-crimping machine, the combination, with a vertically-rotating carrier having an intermittent motion and formed with peripheral recesses adapted to receive and dis-

charge the cans, of two dies at opposite ends of the carrier above its axis to align with the said recesses and each having a beveled rim engaging the covers of the can, one of the said dies having a rotary motion, so as to impart a rotary motion to the can, and the other die longitudinally movable, and bevel-wheels journaled in fixed arms at opposite sides of the carrier and engaging the flanges of the said covers opposite the said beveled rims of the dies, substantially as shown and described.

2. In a can-crimping machine, the combination, with a vertically-rotating carrier having an intermittent rotary motion and provided with peripheral recesses adapted to receive and discharge the cans, of two dies arranged on opposite faces of the said carrier above its axis and adapted to engage the covers of the cans held in the carrier, both of the said dies adapted to have a rotary motion and one of them a longitudinal sliding motion, substantially as shown and described.

3. The combination, with the frame, the vertically-rotating peripherally-recessed carrier, the beveled crimping-wheels mounted in stationary bearings at opposite ends of said carrier above its axis, and the rotary clamping-dies above said wheels, one of which dies is

adapted to slide toward and from the other, of a pawl-and-ratchet mechanism for operating the said carrier and a cam-wheel actuating the said pawl and the said sliding clamping-disk, substantially as set forth.

4. A can-crimping machine comprising the frame, the vertically-rotating carrier provided with peripheral recesses to receive and discharge the cans as the carrier rotates, a ratchet at one end of the carrier and locking-notches at the other, a sliding locking-rod having a lug to engage said notches and extending through the center of the carrier, a rock-shaft parallel with said locking-rod and having a pawl engaging the said ratchet, the rotary clamping-dies at opposite ends of the said carrier above its axis, a sliding shaft carrying one of said dies, a wheel provided with three cams for actuating, respectively, the rock-shaft, the slide-rod, and the clamping-die shaft, and the crimping-wheels at opposite ends of the carrier below the clamping-die, substantially as set forth.

JAMES A. PECK.

Witnesses:

GEORGE W. HALL,
WM. WALTER SMITH.