

J. R. PEIRCE.
 FEEDING MECHANISM FOR RECORDING MACHINES.
 APPLICATION FILED MAR. 11, 1909. RENEWED JAN. 20, 1914.

1,200,129.

Patented Oct. 3, 1916.
 3 SHEETS—SHEET 1.

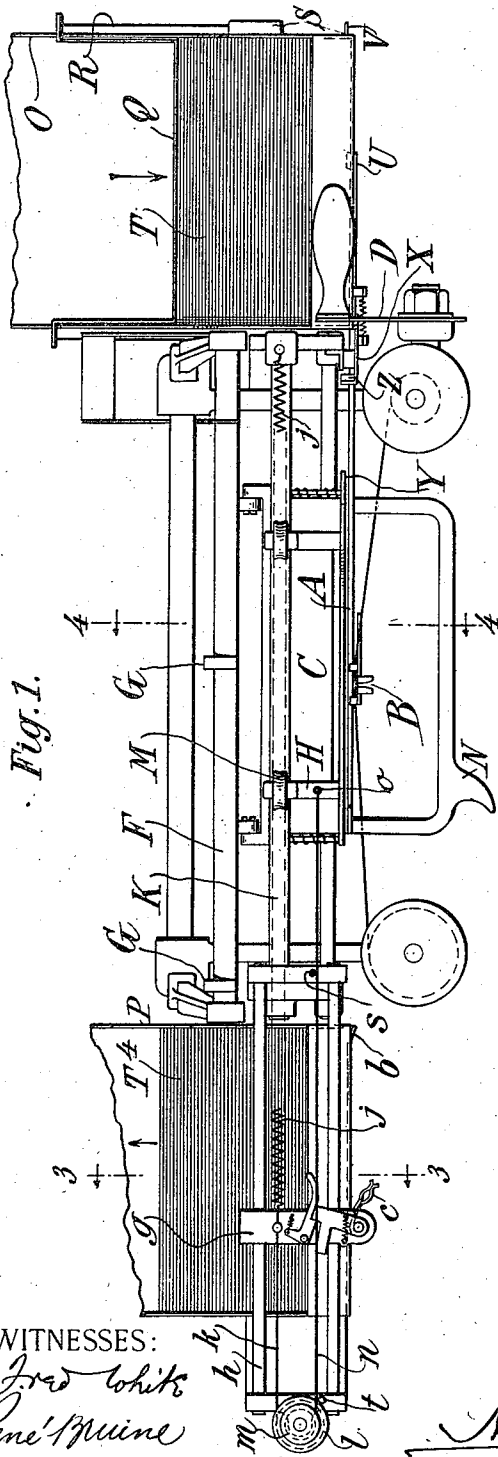


Fig. 1.

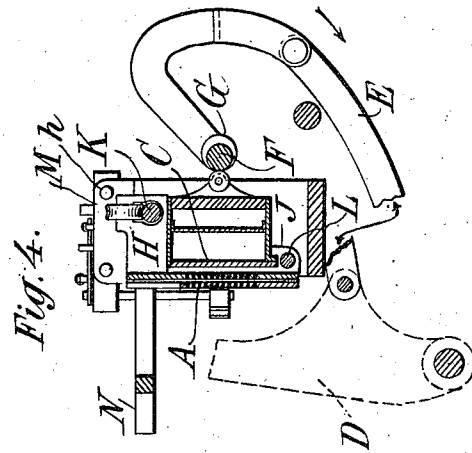


Fig. 4.

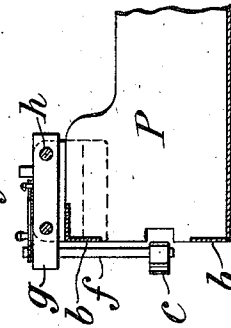


Fig. 3.

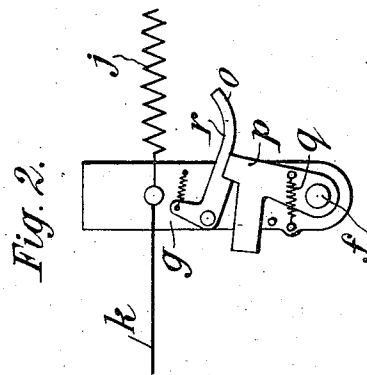


Fig. 2.

WITNESSES:

Fred White
René Muine

INVENTOR :

John Royden Peirce,
 By *Arthur C. Raper* Attorneys

J. R. PEIRCE.

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Fig. 5.

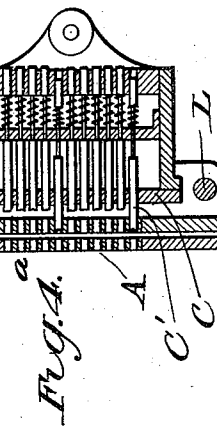
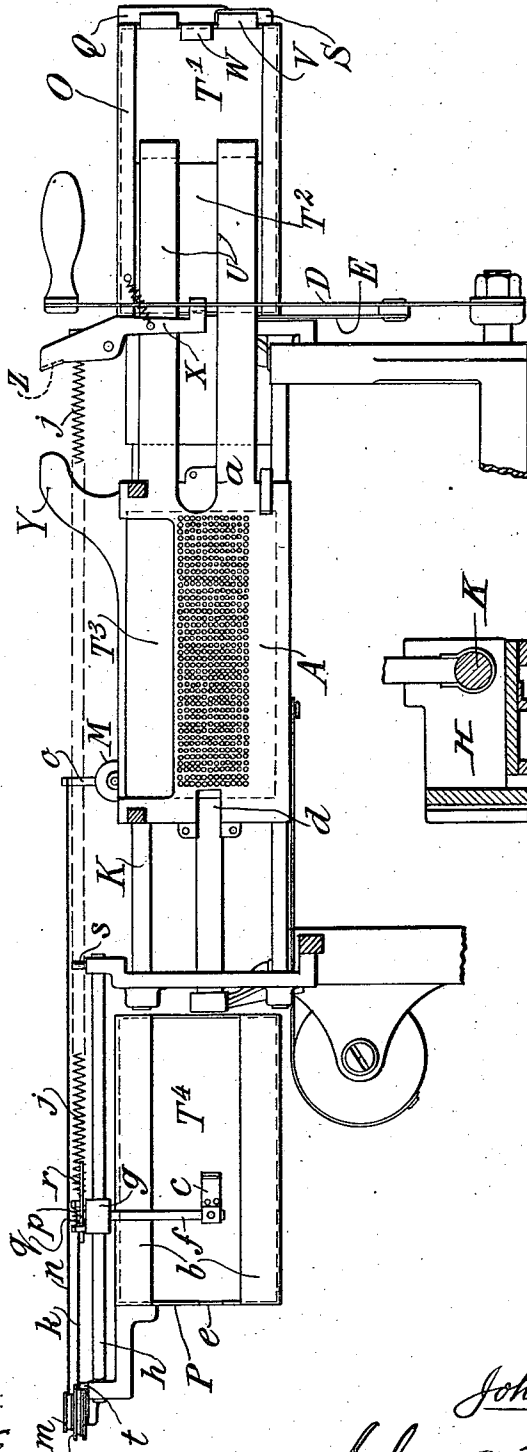


Fig. 4.

INVENTOR :

John Royden Peirce,

By *Attorneys*

Arthur C. Peirce & Co.

WITNESSES:

Dred White
Rene's Peirce

J. R. PEIRCE.

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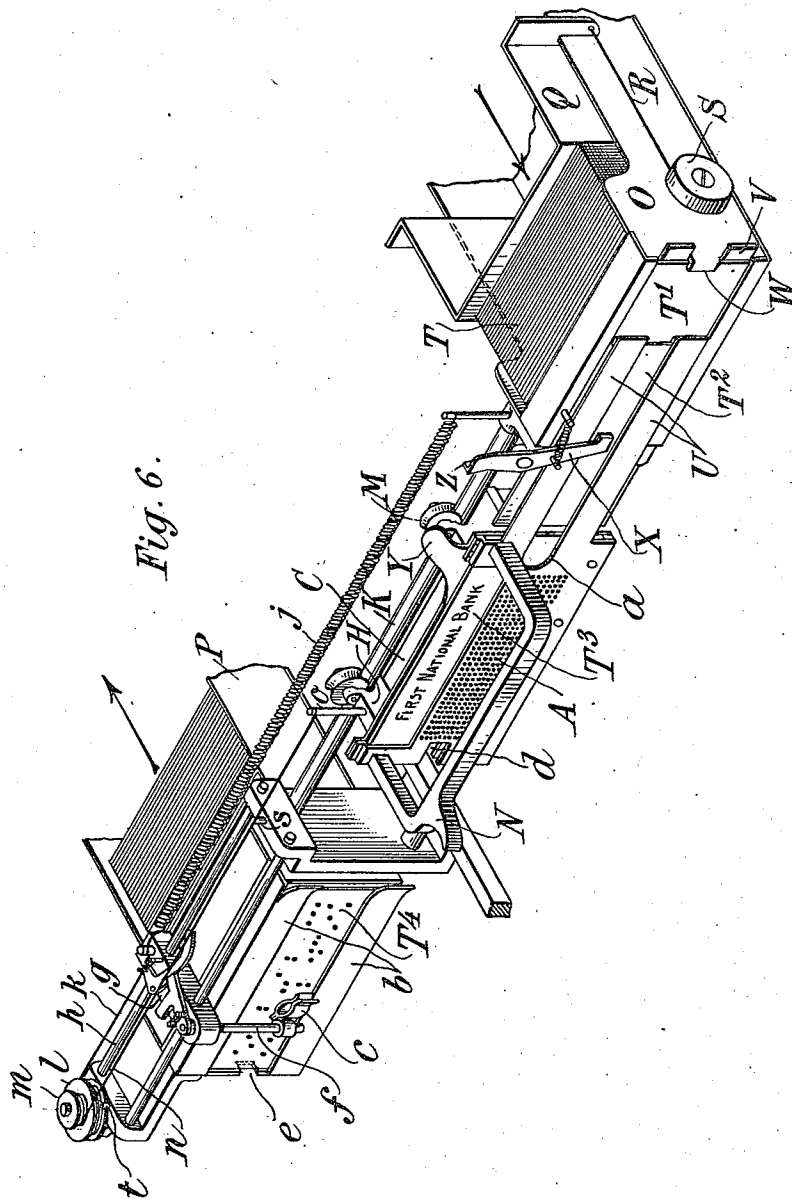


Fig. 6.

INVENTOR :

John Hayden Peirce,

By Attorneys,

Arthur Hazard Hanna

WITNESSES:

Fred White
Rene McGuire

UNITED STATES PATENT OFFICE.

JOHN ROYDEN PEIRCE, OF NEW YORK, N. Y.

FEEDING MECHANISM FOR RECORDING-MACHINES.

1,200,129.

Specification of Letters Patent.

Patented Oct. 3, 1916.

Application filed March 11, 1909, Serial No. 482,755. Renewed January 20, 1914. Serial No. 813,257.

To all whom it may concern:

Be it known that I, JOHN ROYDEN PEIRCE, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Feeding Mechanisms for Recording-Machines, of which the following is a specification.

This invention aims to provide a feeding mechanism for machines which typewrite, perforate or otherwise make a record upon a card, sheet or the like.

An embodiment of the invention is illustrated which is designed particularly for use in connection with the perforating and typewriting machine described in my previous application for patent, No. 396970 (Patent No. 998,631, July 25, 1911).

In the drawings illustrating the embodiment of this invention, Figure 1 is a plan view; Fig. 2 an enlarged detail of Fig. 1; Fig. 3 a sectional view on the line 3—3 of Fig. 1; Fig. 4 a sectional view upon the line 4—4 of Fig. 1; omitting the punches for the sake of clearness; Fig. 4^a is an enlargement of Fig. 4, showing the punches; Fig. 5 an elevation of the mechanism of Fig. 1 with parts broken away for the sake of clearness; and Fig. 6 a perspective view of the same mechanism.

Referring to the embodiment of the invention illustrated a pocket A is provided which receives a card and which moves the card along step by step from right to left so as to bring successive vertical lines on the card from left to right in position to receive a stroke of a printing type at the point B, Fig. 1. As described in the previous application above referred to a box C moves with the pocket and carries a series of vertical lines of punches C'; and the keys which operate the type also operate a setting mechanism at the back of the machine which sets in punching position certain selected punches of each vertical line as such vertical lines come in succession into position opposite the point B at which are located the usual means for directing or centering the types. When the pocket and the box of punches have moved to the extreme position to the left, the previously selected punches of the several vertical lines are advanced by pulling a lever D connected to a link E and turning a shaft F so that a cam or cams G thereon press forward the

box C and cause the punches carried thereby which were selected and set to pass through the card in the pocket A; the pocket A being provided with perforations through its walls registering with the several punches, so as to permit the latter to pass through the card. The pocket A and the box C are provided with upper and lower transverse flanges H and J traveling on rods K and L fixed in the frame of the machine, the flanges H having anti-friction rollers M to ease the movement along the rod K. At the end of each movement of the card to the left and the following punching operation, the card is removed and the pocket is shifted again to the right. Preferably a finger hold N (Fig. 6) is provided by which the operator returns the pocket to its righthand position; any usual or suitable means being provided for leading it step by step from right to left, such as are common for feeding the carriages of typewriters, and are explained more fully in my previous application above referred to. The card may be carried in a pocket such as shown at A or in any other suitable form of carriage.

Further description of the operating mechanism for the punches and types is thought unnecessary, such mechanism being fully illustrated and described in my aforesaid patent.

According to this invention mechanism is provided for feeding the cards to the carriage or to the recording position in succession from a supply receptacle carrying a number of such cards, such mechanism being preferably automatically actuated upon the return movement of the carriage to its starting point, and being preferably combined with mechanism for withdrawing the previous card from the carriage or from the recording position.

In the machine illustrated a supply receptacle is shown at O and a discharge receptacle at P, these receptacles being at the right and at the left respectively of the printing and perforating mechanism and arranged to cause or permit the movement of the cards in a direction transverse to that of the movement of the pocket. When the pocket is shifted to its righthand position, a new card is engaged and is thereafter carried forward in the lefthand movement of the pocket to approximately the initial

point of the recording position. During the next backward movement of the pocket the card is held in this initial recording position, and enters the pocket or rather the pocket embraces it and carries it forward step by step during the recording operation. At the next backward movement of the pocket said card is engaged and carried forward by withdrawing mechanism to a position in the rear of the stack of cards in the discharge receptacle P. The cards in this receptacle are gradually pressed back in the direction of the arrow by the incoming cards. The new cards are pressed forward toward the machine as indicated by the arrow by means of the slide Q pulled forward by a cord R which is wound on a spring barrel in the circular casing S.

The extracting of the cards T from the supply receptacle O is effected by means of two fingers or hooks U moving with the carriage and having a slight inward spring pressure so that when the pocket is fully retracted they spring inward a distance equal to approximately the thickness of a card, their inward movement being limited by flanges V on the wall of the pocket constituting stops. The position of the foremost card T' is limited by an opposite flange W. After the foremost card T' is thus engaged by the fingers U the step by step forward movement of the pocket causes these fingers to carry the card along, an intermediate position of such a card being indicated at T² and a third card in the pocket being indicated at T³, this being the card upon which the recording operation is being performed. When the pocket has advanced as far as possible the fingers U have carried the card T² to a point beyond the lower end of the lever X. This lever has its lower end projecting inward between the two fingers U and adapted to spring inward over the rear edge of the card T² as soon as the latter is moved beyond the lower end of the lever. The card T² will thus be held in approximately the initial recording position upon the following backward movement of the pocket. The previous card T³ is withdrawn by the withdrawing mechanism at the very beginning of the backward movement of the pocket, so that the forward edge of the card T² will enter the pocket freely as the latter is retracted, and will move almost to its desired position in the pocket. For moving it completely to its proper position in the pocket, the lever X is swung to give its lower end a slight forward movement. This movement of the lever is effected by means of a projection Y of the pocket which at the end of the retractile movement strikes the flange Z upon the upper end of the lever X. The front wall of the pocket is cut away as at a to permit the entrance of the lower end of the lever X thereinto. The card is held

in position in the pocket by light springs or equivalent devices.

The front end of the pocket P is composed of a pair of flanges b, open at the right, and bent slightly outward so as to permit a card to be transferred edgewise from the pocket A into the space at the front of the cards in the pocket P, and between the foremost card T⁴ and the flanges b. The shifting of the card from the pocket A to the discharge receptacle P is effected by a spring clip c comprising a pair of bowed springs connected together at their lefthand end and pressing against each other but slightly flared at their righthand end, which clip moves first to the right to engage the edge of the card T³ in the pocket, and then to the left to draw the card thus engaged to the discharge pocket P. The walls of the pocket A are provided with notches d in the lefthand edge to permit access of the clip c to the edge of the card, and the rear wall of the discharge receptacle P is provided with a similar notch e to permit the passage of the clip. Besides its reciprocating movement the clip c is turned about a vertical axis so as to swing it outward during its return movement to permit it to clear the last card T⁴. It is supported upon an oscillating shaft f mounted upon a carriage g sliding upon a pair of fixed rods h and pulled always to the right by means of the long spiral spring j. It is retracted in the lefthand direction by means of a cord or other flexible connection k wound on a drum l which is fixed to and rotates with a second drum m upon which is wound a cord or similar connection n, the opposite end of which is connected to a part of the pocket A, as for example a pin o projecting upward from the transverse flange H which is carried by the pocket. The drum m is of smaller diameter than the drum l and the cords on the two drums are wound in opposite directions. As the pocket is forcibly shifted to the right by the hand of the operator, the carriage g is drawn to the left by its cord k, and at a more rapid rate of speed than that with which the pocket is moved. This increase of speed is important in providing for the carrying of the cards T⁴ completely into the pocket P. The spring j, besides serving to pull the carriage g with its spring clip c to the right, may also be designed to effect the desired movement of the pocket A to the left and with the arrangement of pulleys shown the force exerted by it upon the pocket A is multiplied.

The shaft f which carries the spring clip c is provided at its upper end with an arm p drawn to the left by a spring q and normally restrained by a spring pawl r. At opposite sides of the pocket P are carried fixed pins or stops s and t. When the carriage g is moved to the right the pawl r

strikes the stop pin *s* and releases the arm *p*, and the latter is pulled to the left by its spring *q*, thus swinging the spring clip *c* inward just in time to cause it to engage the lefthand edge of the card *T*³ in the pocket, 5 The spring clip remains in this angular position during the succeeding movement to the left. At the end of the lefthand movement of the carriage *g* the stop pin *t* strikes a projecting portion of the arm *p* and 10 throws the latter to the right until it is caught and held by its pawl *r* thus swinging the spring clip *c* outwardly for its return movement.

15 The withdrawing mechanism may be used independently of any feeding mechanism, in which case the operator would only have to place the new cards in the empty pocket at each shift of the pocket to the right 20 and this he could easily do, shifting the pocket with his left hand and inserting the cards with his right, without a serious loss of time. Or the feeding mechanism for supplying the cards might be used without 25 any mechanism for withdrawing them, in which case the operator could very quickly shift the carriage with one hand after withdrawing the finished card with the other. Preferably however, both the feeding and 30 the withdrawing mechanisms are provided.

Various other embodiments of the invention may be provided by those skilled in the art.

What I claim is:

35 1. A machine of the class described, including a supply receptacle for a number of cards and mechanism for feeding said cards in succession from said receptacle to the recording position and separate mechanism 40 for withdrawing said cards from the recording position, and means connecting one of said mechanisms to the other to cause a simultaneous operation thereof, the next card to be fed, the last card discharged and 45 the recording position being in line with one another.

2. A machine of the class described, having a reciprocating carriage for the card and means automatically actuated upon the 50 reciprocation of the carriage for causing the feeding of a new card and the withdrawing of a previous card.

3. A machine of the class described including a carriage adapted to be reciprocated, a supply receptacle for a number of 55 cards, an extractor for taking said cards in succession from said receptacle as said carriage is reciprocated, and shifting them to a position where they are adapted to enter 60 the carriage upon the next backward movement thereof, and a device for giving to said card a short extra movement to cause it to enter fully into the carriage.

4. A machine of the class described including a clip adapted to grip the edge of a

card frictionally, a stop for the card and means for moving the clip forward to engage the edge of a card and backward to withdraw said card until it engages said stop and further backward to release the 70 card.

5. A machine of the class described including a clip, means for moving the same forward to engage the edge of a card and backward to withdraw said card, a discharge pocket adapted to carry a number of 75 such cards and to receive at its front the last card withdrawn, and mechanism for shifting said clip out of the plane of said card during the forward movement of the clip. 80

6. In a machine of the class described, a carriage, feeding means for feeding cards thereinto at one side, withdrawing means for withdrawing cards therefrom at the 85 opposite side, the positions of the card before entry into and after withdrawal from the carriage being in line with its position in the carriage, and connections between such feeding means and such withdrawing means to cause the simultaneous operation 90 thereof.

7. In a machine of the class described, a carriage, feeding means for feeding cards thereinto at one side, withdrawing means for withdrawing cards therefrom at the 95 opposite side, and connections between such carriage and such withdrawing means to cause the withdrawing means to move at a more rapid rate than the carriage.

8. In a machine of the class described, a 100 reciprocable carriage adapted at one end of its movement to receive a card, means for placing a card approximately in recording position and where it will be received into said carriage as the latter arrives at said 105 end of its movement, and means for giving to said card an additional movement into the carriage.

9. A machine of the class described including in combination a carriage, a lever *X* 110 adapted to engage and hold a card in position to enter said carriage as the latter is shifted toward the card, and a projection carried by said carriage and adapted to actuate the lever *X* to cause the latter to 115 give to said card a movement toward the carriage.

10. In a machine of the class described, withdrawing mechanism comprising a clip *c*, a carriage supporting the same, a spring 120 for advancing said carriage to cause said clip to engage a card, and means for retracting the carriage to cause the clip to withdraw a card.

11. In a machine of the class described, 125 withdrawing mechanism comprising a spring clip *c*, a carriage supporting the same, a spring for advancing said carriage to position for engaging a card, means for retracting the carriage to cause the clip to 130

withdraw a card, an arm *p* held by a pawl
r, fixed stops *s* and *t* for alternately with-
drawing said pawl to release said arm and
restoring said arm to engagement by its
5 pawl, a spring for swinging said arm when
released from its pawl, and a shaft carry-
ing said spring clip and said arm.

In witness whereof, I have hereunto signed
my name in the presence of two subscribing
witnesses.

JOHN ROYDEN PEIRCE.

Witnesses:

D. ANTHONY USINA,
THEODORE T. SNELL.