

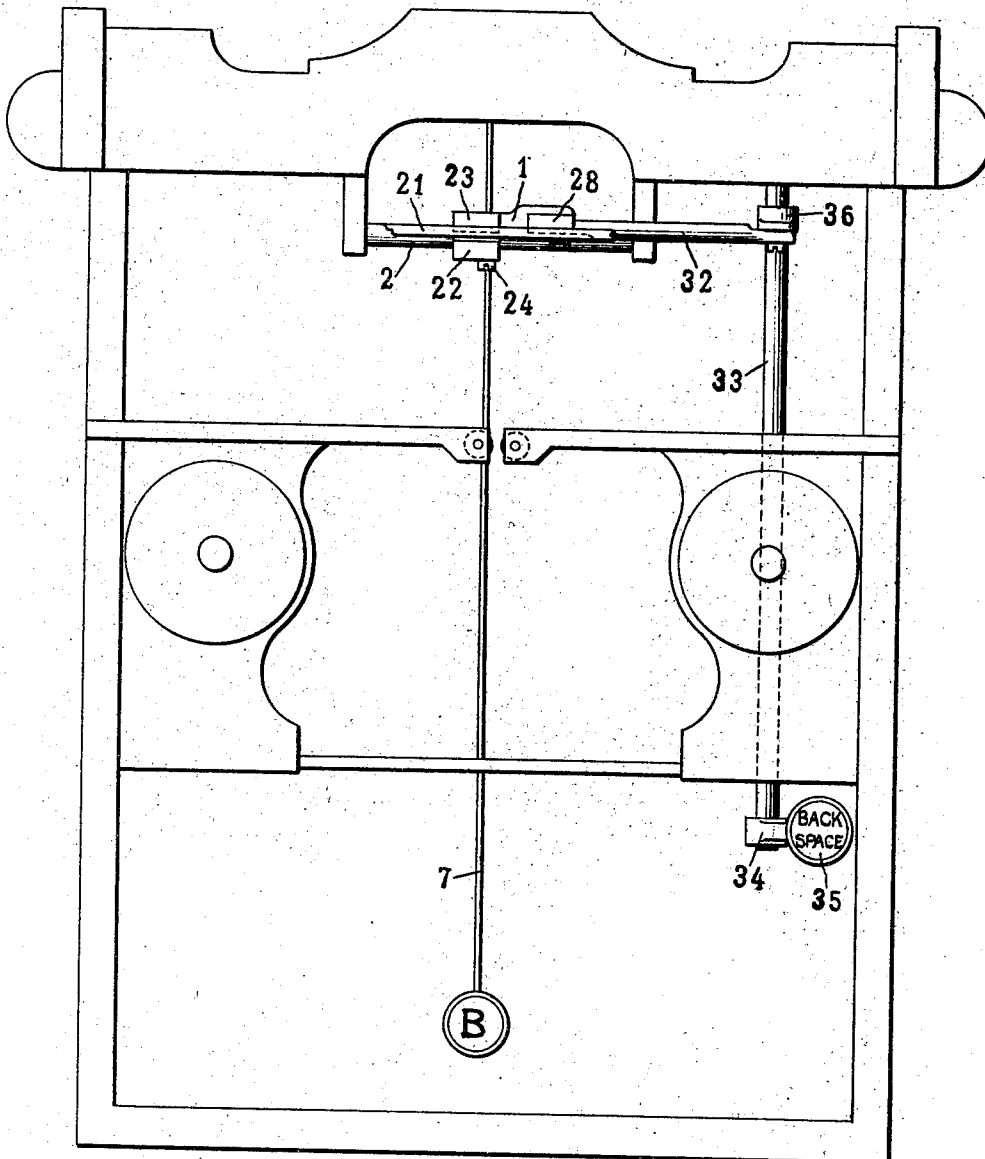
J. ALEXANDER.
TYPE WRITER CARRIAGE FEED.
APPLICATION FILED JUNE 22, 1911.

1,041,555.

Patented Oct. 15, 1912.

2 SHEETS-SHEET 1.

Fig. 1.



WITNESSES

J. S. H. H. H. H. H.
E. Bradford.

INVENTOR

Jesse Alexander,

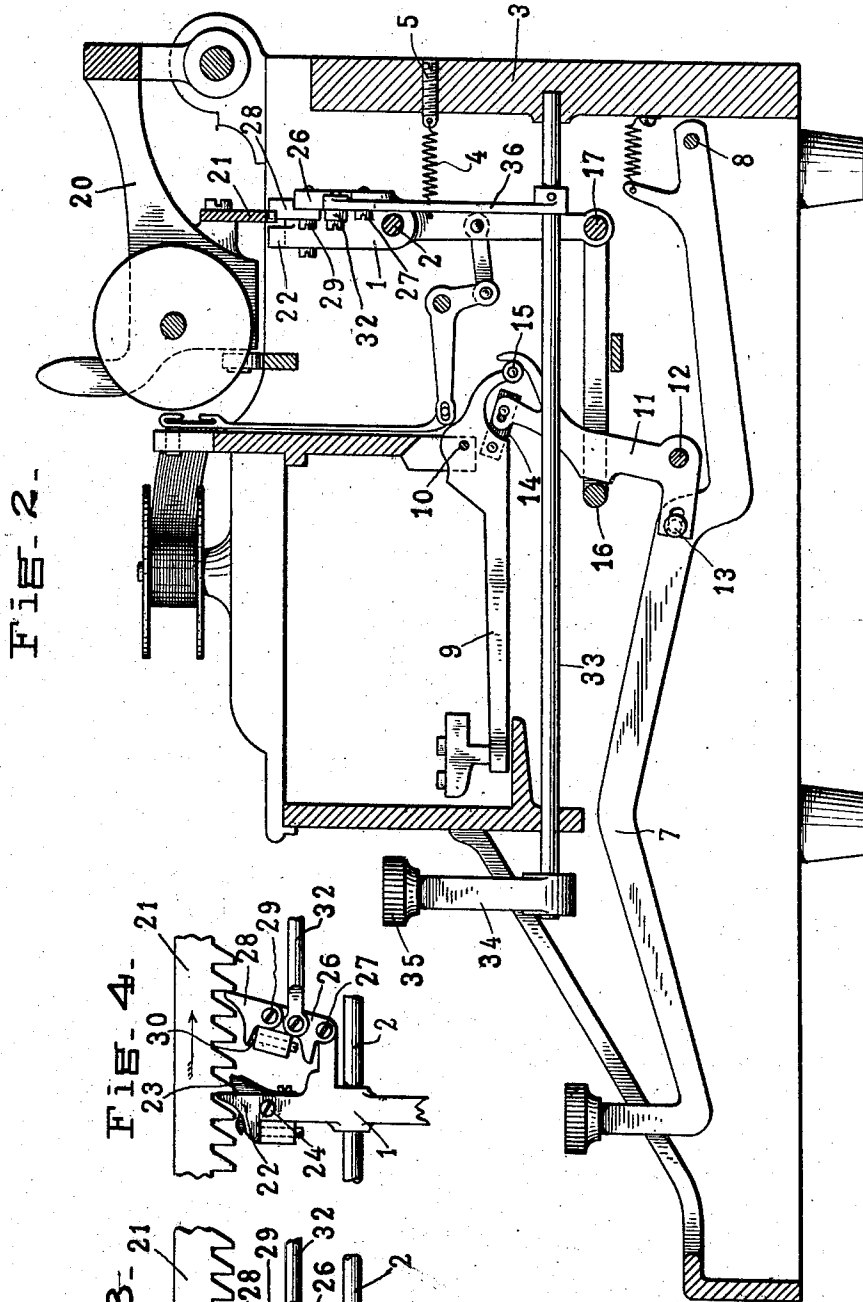
J. S. H. H. H. H. H.
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2 SHEETS—SHEET 2.



WITNESSES:
J. C. K. K. K.
E. B. K. K.

INVENTOR
Jesse Alexander.
J. S. K. K.
ATTORNEY

UNITED STATES PATENT OFFICE.

JESSE ALEXANDER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO HUDSON
BIDWELL, OF NEW YORK, N. Y.

TYPE-WRITER CARRIAGE-FEED.

1,041,555.

Specification of Letters Patent.

Patented Oct. 15, 1912.

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To all whom it may concern:

Be it known that I, JESSE ALEXANDER, a citizen of the United States, and resident of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Type-Writer Carriage-Feeds, of which the following is a specification.

My invention relates particularly to the escapement mechanism by means of which the step by step movement of the carriage is accomplished.

The main object is to provide a strong and durable construction which may be operated with rapidity and in which the movement of the carriage may be controlled in its step by step movement from right to left in the ordinary writing operation and in which the carriage can be moved step by step backward toward the right under the control of a suitable operating key or lever.

In its preferred form the invention contemplates the mounting of three dogs upon an oscillating rocker and shaft for co-acting with a toothed rack carried by the carriage. Two of the dogs constitute a pair of relatively stationary and movable dogs and the other single dog is movable relative to the first two. The two movable dogs are in engagement with the toothed rack. When the shaft which carries the dogs is oscillated by the action of the universal bar both of said dogs are withdrawn from the rack and the single relatively stationary dog is interposed to prevent the movement of the carriage until the release of the universal bar. When the movable dogs are disengaged from the rack both of them are tilted toward the right and are in position to be interposed in front of the next teeth on the right when the universal bar is released after operating or spacing. The single dog also has a movement longitudinally of the toothed rack controlled by a key lever by means of which the carriage may be moved one step toward the right when the key lever is depressed so as to move the carriage backward one step at a time.

The accompanying two sheets of drawings illustrate one form of the invention.

Figure 1, is a plan view of a machine showing the elements of my invention. Fig. 2, is a vertical section of the same showing the parts inside elevation. Fig. 3, is a fragmentary detail view showing the escapement dogs and toothed rack in their normal position of rest, the carriage being under tension to move in the direction of the arrow toward the left by any suitable form of tension device. Fig. 4, is a view similar to Fig. 3 but showing the parts in the position to move the toothed rack (and carriage not shown in this figure) backward toward the right in the direction of the arrow.

The main body of the escapement rocker 1 is carried by a shaft 2 suitably supported in the frame of the machine 3, the lower arm of the rocker below the pivot shaft 2 is under tension of a spring 4 to hold the parts in their normal position of rest. This spring 4 may be adjusted by a screw 5.

The key and type bar mechanism consists in the form shown of a key lever 7 pivoted at 8, a type bar 9 pivoted at 10 and an intermediate lever 11 pivoted at 12 and connected at 13 to the key lever 7 and connected by a link 14 to the type bar and having a sliding engagement with a roller 15 on the type bar. The universal bar 16 lies in front of all the intermediate levers and is connected at its rear end at 17 to the lower end of the rocker 1 so that when any one of the key levers is depressed the universal bar is moved forwardly and the rocker 1 is oscillated about the pivot shaft 2.

The carriage 20 has any suitable form of supports to guide it in its movement across the machine and carries a toothed rack 21 with which the dogs coöperate. The left hand dog 22 is fixed to the rocker 1 and is therefore stationary with relation to it although movable about the pivot shaft 2 backward and forward. The dog 23 is pivoted at 24 in the rocker 1 and under the pressure of a spring 25 tending to tilt it toward the right.

The carrier 26 is pivoted at 27 to the rocker 1 of the escapement and carries a dog 28 pivoted at 29. The dog 28 is under pressure of the spring 30 to tilt it toward the right in the same manner as the dog 23. In the normal operation of the machine these two dogs 23 and 28 operate in a similar manner, both of them being normally engaged by the teeth of the rack 21. The pressure of the tension device in moving the carriage toward the left is therefore opposed by two teeth and the pressure and wear is thus distributed. This gives greater durability to the parts.

For the purpose of moving the carriage backward step by step the dog 28 is moved toward the right in a direction relatively longitudinal of the rack 21 by means for instance, of the rod 32. The shaft 33 extending from front to back of the machine and provided with suitable bearings has an operating arm 34 and finger cap 35. Near the rear the shaft 33 has an upwardly extending arm 36 connected to the rod 32. When the finger key 35 is depressed, the shaft 33 is rocked in a right-hand direction as viewed from the front and the arm 36 is rocked toward the right so as to pull the rod 32 toward the right and bring the carrier 26 and dog 28 in the position shown in Fig. 4. The dog 23 is constructed so as to permit the rack 21 to be moved toward the right as shown in Fig. 4. When the key 35 is released the carrier 26 and dog 28 are moved toward the left, one tooth of the rack having slipped over the top of the dog 23, the carriage will be retained in the position one space toward the right of its former position.

By this construction the back spacing dog which is not used to any such extent as the ordinary escapement dog performs also a part of the function of restraining the movement of the carriage in its ordinary writing-control feed movement.

What I claim is:—

1. In a typewriting carriage feeding mechanism, a toothed carriage rack, two dogs normally engaging said rack, a third dog adapted to engage said rack when said first mentioned dogs are disengaged, universal bar operated means for oscillating said dogs and key controlled means for moving one of said dogs laterally.

2. In a typewriting carriage feeding mechanism, two escapement dogs, a common support therefor, a toothed rack normally engaging said dogs, means for oscillating said dogs and key-controlled means for moving one of said dogs.

3. In a typewriting carriage feeding mechanism, an oscillating shaft, two dogs carried thereby, a toothed rack engaging said dogs and means for moving one of

said dogs toward the right with the rack while the other dog snaps by the teeth of the rack.

4. In a typewriting carriage feeding mechanism, two dogs pivoted on pivots parallel to each other and extending from front to rear, means for oscillating said dogs from front to rear, a toothed rack cooperating with said dogs and key-controlled means for moving one of said dogs toward the right.

5. In a typewriting carriage feeding mechanism, an escapement mechanism consisting of a rocker and two dogs carried thereby, one of said dogs being movable relatively to the other and a third dog having a moving-tension in line with the relatively movable first mentioned dog.

6. In a typewriting carriage feeding mechanism, an escapement mechanism consisting of a rack and two dogs normally engaged therewith, one of said dogs having a movement in line with the other and key-controlled means for moving the latter dog to space the carriage backward.

7. In a typewriting carriage feeding mechanism, a carriage rack, a shaft extending transversely of the machine, two escapement dogs carried thereby and normally engaging said rack, an arm extending below said shaft, a universal bar connected to the lower end of said arm and extending forwardly thereof and a key and type bar mechanism including key levers, type bars and intermediate levers connecting said key levers and said type bars, said universal bar being arranged to be operated by said intermediate levers and to operate said dogs.

8. In a typewriting carriage feeding mechanism, an escapement carrier mounted to oscillate from front to rear of the machine, a toothed rack carried by the carriage substantially parallel thereto, a back spacing dog carried by said carrier and adapted to be moved toward the right, and key-controlled means for moving said dog toward the right.

9. In a typewriting carriage feeding mechanism, an escapement carrier mounted to oscillate from front to rear of the machine, a toothed rack carried by the carriage substantially parallel thereto, a back spacing dog carried by said carrier and adapted to be moved toward the right, key-controlled means for moving said dog toward the right and another pivoted dog for cooperating with said rack.

10. In a typewriting carriage feeding mechanism, two pivoted dogs, a rack normally engaging both of said dogs, a third dog stationary relative to one of said dogs, key-controlled means for moving one of said dogs longitudinally of the rack and universal bar operated means for disengaging two of said dogs from said rack.

11. In a typewriting machine, a carriage rack, a rocker, a pivoted spring-pressed dog carried by said rocker and normally engaging said rack and key-controlled means for moving said dog for back spacing. 5

engaging said two dogs and interposing the third dog and key operated means for backwardly moving one of said dogs. 10

JESSE ALEXANDER.

Witnesses:

WARD W. SMITH,
HUDSON BIDWELL.

12. In a typewriter, a carriage rack, three dogs, two of which normally engage said rack, universal-bar operated means for dis-

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."