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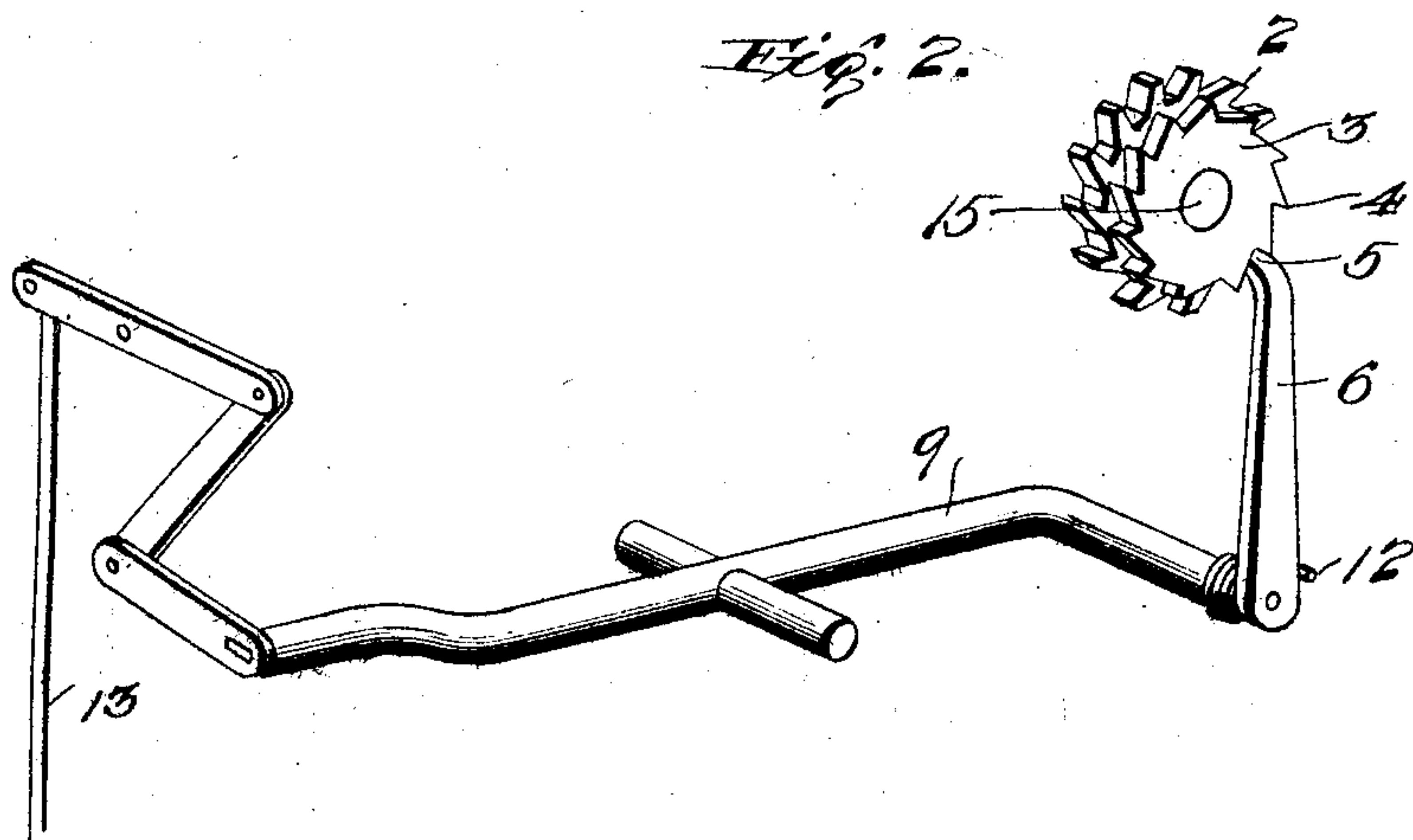
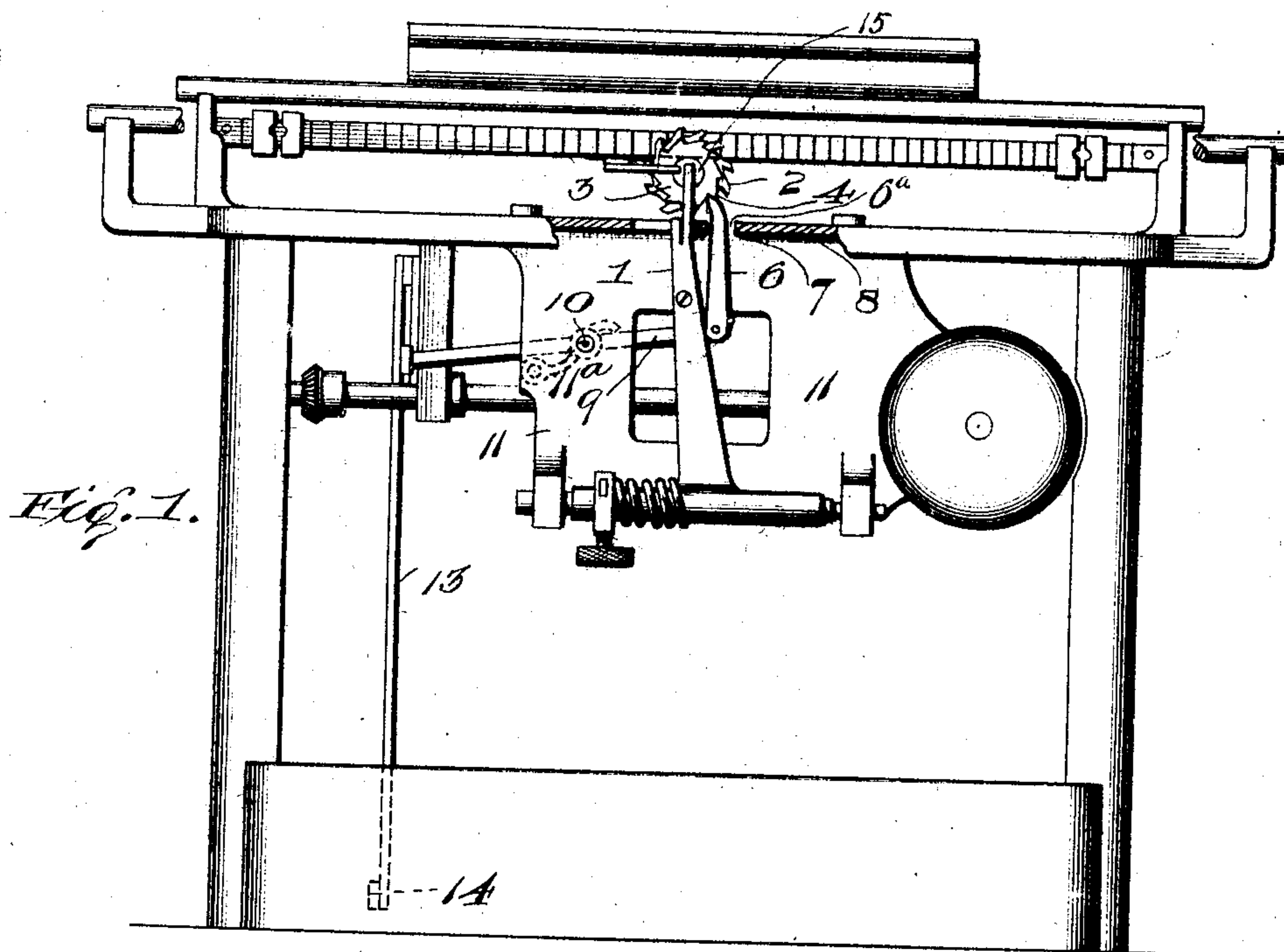
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PATENTED FEB. 13, 1906.

G. A. RINE.

BACK SPACING ATTACHMENT TO TYPE WRITING MACHINES.

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WITNESSES:

J. L. Mocham
James Hamilton

INVENTOR

George A. Rine

BY

William B. Deane
Attorney

UNITED STATES PATENT OFFICE.

GEORGE A. RINE, OF WILLIAMSPORT, PENNSYLVANIA.

BACK-SPACING ATTACHMENT TO TYPE-WRITING MACHINES.

No. 812,680.

Specification of Letters Patent.

Patented Feb. 13, 1906.

Application filed June 20, 1904. Serial No. 213,303.

To all whom it may concern:

Be it known that I, GEORGE A. RINE, a citizen of the United States, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Back-Spacing Attachments to Type-Writing Machines, of which the following is a specification.

This invention relates to a back-spacing attachment to type-writing machines, and particularly to one having special utility in connection with the Remington and similar types of machines.

Referring to the drawings, Figure 1 is a rear elevation, partly in section, of a Remington type-writer provided with my new back-spacing mechanism, and Fig. 2 is a perspective view of the back-spacing mechanism detached from the machine.

Like reference-numerals designate corresponding parts in both the figures in the drawings.

Since the construction of the Remington machine is familiar to all skilled in this art, it will be sufficient herein briefly to refer to old and well-known parts thereof. The carriage is provided with the usual rack-and-pinion mechanism through which by means of the escapement-wheel and its coacting dog the movements of the carriage in its travel from right to left are controlled. On the inner end of the pinion-shaft is fast the pinion of this rack-and-pinion mechanism, and on the other end thereof is fast a disk. The escapement-wheel is mounted loose upon said pinion-shaft and is connected with the disk in such manner that in the travel of the carriage from right to left the disk drives the escapement-wheel; but when the carriage is moved in the reverse direction the disk rotates without driving the escapement-wheel, which remains stationary. This mechanism being well-known to all skilled in this art is not illustrated in the drawings. The parts hereinbefore described are old, and as heretofore made the disk has had a smooth peripheral surface. By a simple change in a single one of these old members and the provision of a pawl-carrying lever suitably connected with a key I am able to equip the common Remington machine with a back-spacing device, and this simple change in the member in no wise interferes with the performance of its former functions, but enables it to perform new functions in the operation of moving the car-

riage from left to right space by space or back-spacing.

The disk 3 is provided according to the present invention with ratchet-teeth adapted to coact with the pawl 6, controlled by the spring 12 and mounted upon the back-space lever 9. As previously stated, this disk has heretofore been provided with a smooth peripheral surface. Disk 3 is mounted fast on the pinion-shaft 15 and abutting the loosely-mounted escapement-wheel 2 previously referred to, and, as previously stated, the disk 3 drives the escapement-wheel 2 during the movement of the carriage from right to left, but permits it to remain stationary while it (the disk) itself rotates during the reverse movement of the carriage.

The back-space lever 9 is fulcrumed in the hanger 11 at 10 and by suitable link connections 13 is connected with the back-space key 14. A spring 11^a throws the right arm of the lever 9 down and normally retains said arm in such position, so that the pawl 6, which is guided to the teeth of disk 3 by the aperture 6^a in the frame, normally rests below and out of engagement with said teeth.

The operation is as follows: Depression of the back-space key 14 throws the right arm of lever 9 up against the tension of the spring 11^a, and thereby causes the pawl 6 to move upwardly through guide-aperture 6^a and engage a tooth of and rotate the disk 3 backward, and thereby move the carriage one space from left to right. Subsequent to the described movements of the lever 9, pawl 6, and disk 3 the spring 11^a serves to move the right arm of the lever downwardly, so as to carry the pawl out of engagement with disk 3, as before mentioned. The office of the spring 12 is to press the pawl 6 toward the left, so as to assure said pawl properly engaging one of the teeth of the disk 3 when the pawl is moved upwardly in the manner before described. In forward spacing the dog 1 coacts with the escapement-wheel 2 in the usual manner.

What I claim is—

In a type-writing machine, the combination of a frame, the shaft of a rack-and-pinion mechanism, an escapement-wheel loose on said shaft, a disk fast on the shaft and arranged to cooperate in the ordinary manner with the escapement-wheel; said disk having ratchet-teeth, a lever fulcrumed at an intermediate point of its length in the frame, a back-space key connected with one arm of said le-

ver, a spring-pressed pawl carried by the
other arm of the lever and arranged to turn
the disk through the teeth thereof, means for
guiding said pawl in its vertical movements,
5 and a spring arranged to move the last-men-
tioned arm of the lever downwardly subse-
quent to upward movement of said arm.

In testimony whereof I affix my signature
in presence of two witnesses.

GEORGE A. RINE.

Witnesses:

ANNA WILLIAMSON,
HARRY PARSONS.

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