A. H. ADAMS.

RATCHET MECHANISM.

APPLICATION FILED FEB. 12, 1912.

1,104,464. Patented July 21, 1914.

Fig. 1.

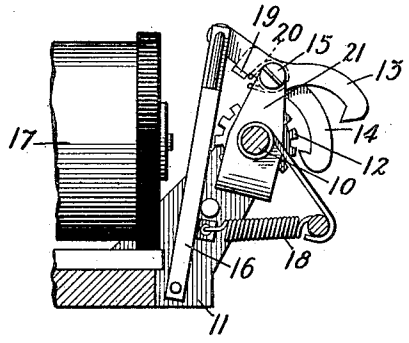
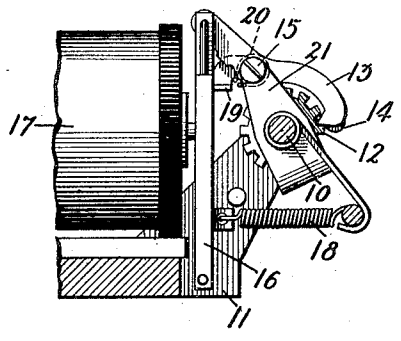


Fig. 2



Witnesses:
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Inventor:
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UNITED STATES PATENT OFFICE.

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RATCHET MECHANISM.

1,104,464. Specification of Letters Patent. **Patented July 21, 1914.**

Application filed February 12, 1912. Serial No. 677,023.

To all whom it may concern:

Be it known that I, ARTHUR H. ADAMS, citizen of the United States, residing at Sparkill, in the county of Rockland and State of New York, have invented a certain new and useful Improvement in Ratchet Mechanism, of which the following is a full, clear, concise, and exact description.

This invention relates to an improved device for rotating a shaft step-by-step, a predetermined distance at each step, in combination with means for preventing an overthrow of the shaft at the end of each stroke.

The invention is particularly applicable to printing telegraphs and the like in which the carriage is moved forward step-by-step to provide a clean surface on the paper for the letters to be printed.

In the drawings, Figure 1 is a side elevation of the device in its normal position, showing the location of the pawls with respect to the ratchet, and Fig. 2 is a side elevation of the device in its operated position showing the shaft locked in position at the end of the stroke.

The rotatable shaft 10 is mounted in suitable bearings on the base 11; and on said shaft is secured a ratchet wheel 12 and loosely mounted a carrier 21. A pair of pawls comprising a stopping pawl 13 and an actuating pawl 14 are pivoted to the carrier 21 at 15; an armature 16 of an electromagnet 17 is pivoted on the base 11 and pivotally connected to its upper end is the pawl 13. The armature 16 is held in its normal or retracted position by the spring 18. The pawl 14 has a right-angle projection 19 which extends under, and in the normal or retracted position of the device is in contact with, the pawl 13. This projection thus prevents the actuating pawl 14 from dropping too low to catch the proper tooth on the ratchet wheel 12, and upon its forward movement move the shaft 10 through too great an angle; or to cause undue friction in the bearing of the said shaft on account of the pull of the armature upon the teeth of the ratchet wheel 12 being directed along a line, extending from the pivot 15 to the hook of the pawl 14, which approaches too closely to the shaft 10. A spring 20 tends to move the pawls into contact with the ratchet 12. The magnet 17 being energized attracts its armature 16 moving it into the position shown in Fig. 2, and moving the pivotal connection 15 of the pawls about the shaft 10 as a center. As the armature moves to the left, from the position shown in Fig. 1, the pawl 14 moves into contact with the ratchet 12 rotating the shaft 10 a step in an anti-clockwise direction. The pawl 13 moves toward ratchet 12, and, as the armature 16 reaches the limit of its stroke, the pawl 13 contacts with a tooth of the ratchet 12 locking the same against further movement. Upon the deënergization of the electromagnet 17 the spring 18 moves the armature and pawls from the position shown in Fig. 2 to the normal or inoperative position shown in Fig. 1.

What I claim is:

A ratchet mechanism comprising a shaft, a ratchet wheel and a member independently and rotatably mounted thereon, an actuating pawl carried by said member and adapted to advance said wheel, a stopping pawl also carried by said member and adapted to control the advance of said wheel, and a spring coöperating with said actuating pawl, whereby said wheel may be advanced through equal spaces.

In witness whereof, I hereunto subscribe my name this 9th day of Feb. A. D., 1912.

ARTHUR H. ADAMS.

Witnesses:

IRVING MACDONALD,

WALTER FREDERIC HOFFMAN.

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