(No Model.)

W. S. HUSON.

RATCHET MOVEMENT.

No. 383,054. Patented May 15, 1888.

Fig. 2.

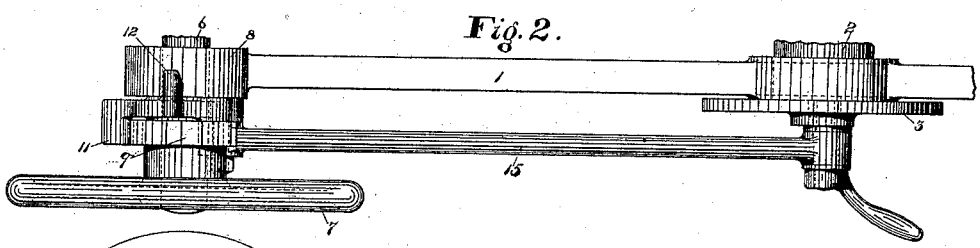


Fig. 1.

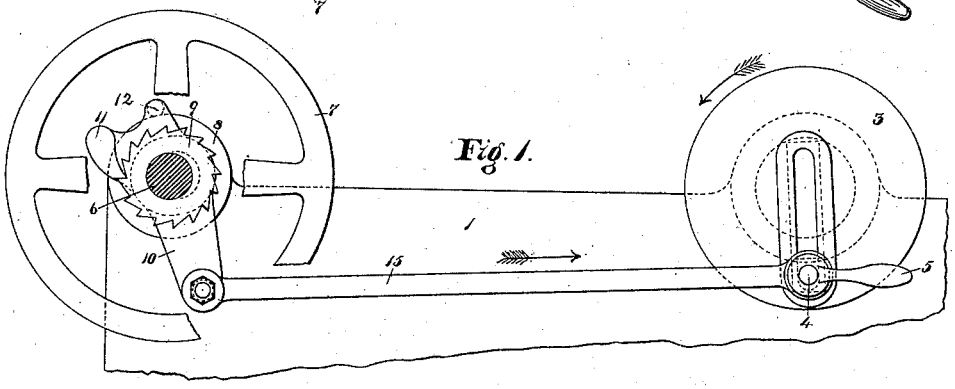


Fig. 3.

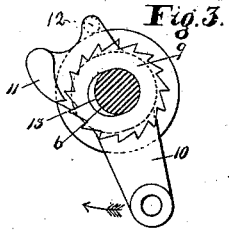


Fig. 4.

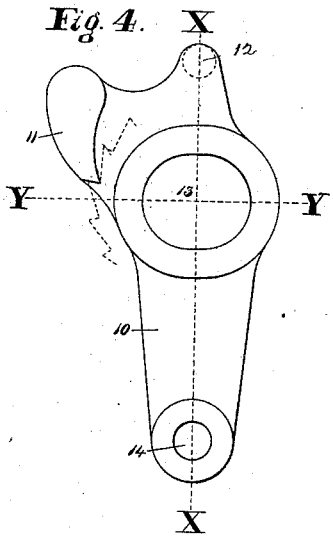


Fig. 5.

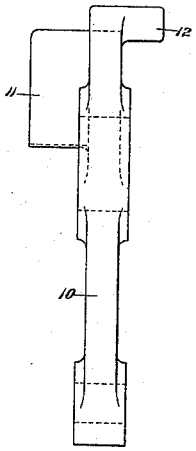
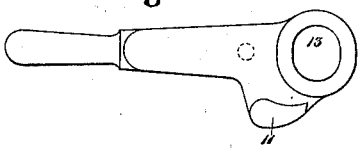


Fig. 6.



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UNITED STATES PATENT OFFICE.

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RATCHET-MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 383,054, dated May 15, 1888.

Application filed December 14, 1887. Serial No. 257,874. (No model.)

To all whom it may concern:

Be it known that I, WINFIELD S. HUSON, of Taunton, in the county of Bristol and State of Massachusetts, have invented a new and useful Ratchet Movement or Mechanism for Transmitting Power or Motion, which invention is fully set forth and illustrated in the following specification and accompanying drawings.

The object of this invention is to provide a ratchet motion or mechanism applicable to many uses, notably for the ink-fountains of printing-machines, and other purposes where intermittent action may be desired, which mechanism shall be positive in action, and avoid the use of the usual pivoted pawl and its liability to fail to act through the breaking of springs, usually resorted to to cause them to engage the ratchet. It is also the object to make a stronger construction than that having the pivoted pawl and to cheapen the whole.

In the accompanying drawings, Figure 1 is a side elevation of the ratchet mechanism as the same may be applied to the inking apparatus of a printing-machine. Fig. 2 is a view in plan of Fig. 1. Fig. 3 shows the ratchet and pawl lever as in Figs. 1 and 2, except that the pawl is disengaged. Figs. 4 and 5 show two views of the ratchet-lever on an enlarged scale. Fig. 6 shows the pawl-lever as adapted to be operated by hand for ordinary drilling or other purposes.

In said figures the several parts are indicated by numbers as follows:

The number 1 indicates a part of the framing of a printing or other machine; 2, a shaft journaled in said frame, making one revolution for each required operation of the ratchet; 3, a slotted plate secured to shaft 2. A stud, 4, is adjustably secured in the slot of plate 3 by the tail-nut 5 for varying the number of ratchet-teeth which may be engaged by increasing or reducing the angular movement of the free end of the lever 10.

The number 6 indicates the end portion of a shaft—such as an ink-fountain roller of a printing-machine—journaled in the frame 1. A hand-wheel, 7, is secured thereto, by means of which the shaft or ink-roller 6 may be rotated by hand, when desired, independently of the ratchet-pawl. A smooth boss, 8, is formed on the frame 1, concentric with the shaft or ink-fountain roller 6. Secured to said shaft 6 is a ratchet-wheel, 9. The length of said shaft 6 is immaterial. It may be long or short, even a mere hub, the purpose it has to accomplish in transmitting motion determining its length, and the ratchet-wheel 9, instead of being secured to said shaft as a separate piece, may be formed thereon as a part thereof. On the lever 10, upon one side, is formed or secured a fixed pawl, 11, and upon the other side a fixed pin, 12. In the lever 10 is a slightly-elongated hole or eye, 13, embracing the shaft 6, the pin 12 being placed at about a right angle to the line of elongation of the eye 13. The actuating-arm of the lever 10 is so placed that a line, X X, through the point of application of the power 14, Fig. 4, and the pin 12 will be at about a right angle to the line Y Y, Fig. 4, taken through the elongation of the eye 13. The pin 12 rests upon the concentric hub 8, forming a suspending-fulcrum, upon which the lever 10 may be oscillated by action of any power applied at 14, Fig. 4, to effect the engagement and disengagement of the pawl 11, according as the point 14 is moved to the right or left. A connecting rod, 15, is articulated at one end to the stud 4 and at the other end to a stud, 16, secured in the hole 14 of the lever 10.

In Fig. 6 the application of the power to a ratchet and pawl is effected by hand direct.

Having thus fully described my new ratchet mechanism as of my invention, I claim—

1. A ratchet mechanism or movement consisting of the following-named elements: a power-transmitting shaft provided with ratchet-teeth, in combination with a boss concentric with said shaft, and a power-lever provided with an elongated eye spanning said shaft, a fulcrum-pin bearing on the circumference of said boss, and a rigid pawl, whereby, upon the application of a reciprocating force to the freed end of said lever, its pawl will positively engage and disengage said ratchet-teeth and rotate accordingly the power-shaft, substantially as and for the purposes set forth.

2. An automatic ratchet mechanism or move-

ment consisting of the following-named elements: a power-transmitting shaft provided with ratchet-teeth, a boss concentric with said shaft, and a lever provided with an elongated eye spanning said shaft, a fulcrum-pin bearing on the circumference of said boss, and a rigid pawl, in combination with reciprocating mechanism connected to the free end of said lever, substantially as described, whereby the ratchet mechanism is automatically operated, substantially as and for the purposes set forth.

3. An automatic ratchet mechanism or movement consisting of the following-named elements: a power-transmitting shaft provided with ratchet-teeth, a boss concentric with said shaft, and a pawl-lever provided with an elongated eye spanning said shaft, a fulcrum-pin bearing on the circumference of said boss, and a rigid pawl, in combination with a rotary shaft, as 2, carrying a slotted plate, as 3, an adjustable stud, as 4, and a connecting-rod articulated at one end to said stud and at the other to said pawl-lever, whereby the ratchet-shaft is intermittently and positively rotated and its degree of rotation adjustably varied, substantially as and for the purposes set forth.

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