

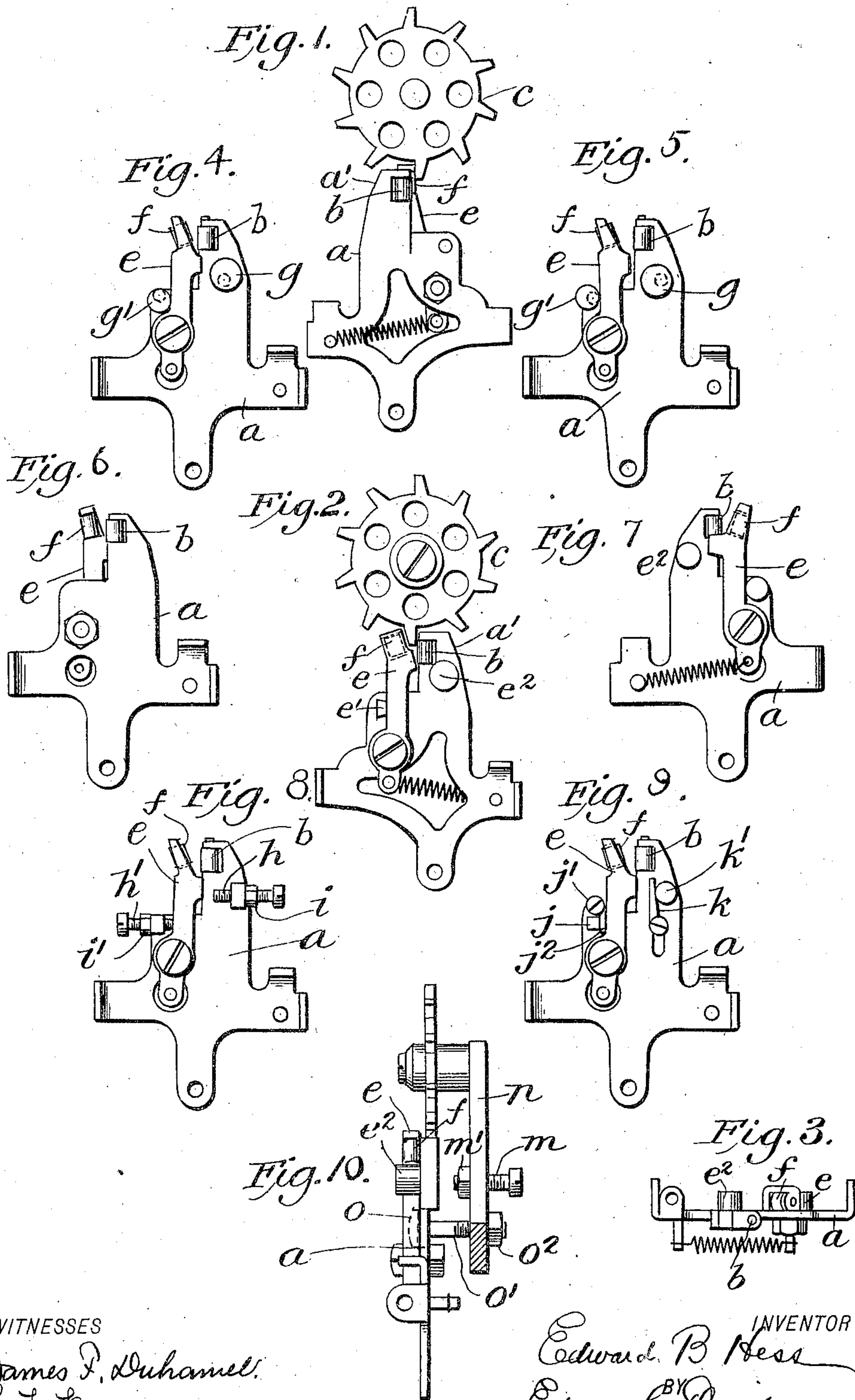
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PATENTED JULY 30, 1907.

E. B. HESS.

ESCAPEMENT MECHANISM FOR TYPE WRITING MACHINES.

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WITNESSES

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ESCAPEMENT MECHANISM FOR TYPE-WRITING MACHINES.

No. 862,076.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWARD B. HESS, a citizen of the United States, residing in the borough of Brooklyn, city of New York, State of New York, have invented certain new and useful Improvements in Escapement Mechanism for Type-Writing Machines, of which the following is a specification.

This invention is an improvement upon the roller escapement mechanism disclosed and claimed in my application Serial Number 276,486 filed August 31, 1905.

It consists primarily in providing both the rigid and loose dog of a wheel escapement with roller surfaces, arranged in the manner illustrated and hereinafter described, with the peripheries of which the working surfaces of the teeth of the escape wheel engage. Experience has demonstrated that such an organization affords not only a very high speed of the carriage but also a marked decrease in the load imposed upon the finger pieces of the typewriting machine. The area of contact between the teeth of the escape wheel and the rollers is very small and there is, for that reason, a minimum of friction between the engaging surfaces. Disengagement of a wheel tooth from a dog is facilitated by the rolling anti-friction of the dog roller, and in like manner the same kind of action of the roller facilitates engagement of the wheel teeth therewith. Thus the behavior of the wheel escapement mechanism is characterized by quick action and lightness of load on the finger piece.

In the accompanying drawing: Figures 1 and 2 are respectively rear and front elevations showing an escape wheel, and fast and loose dogs both of which are provided with rollers and the peripheries of which are adapted to engage the teeth of the wheel, the arrangement shown being such that the carriage will feed during depression of the finger pieces; Fig. 3 is a plan view of the same, the escape wheel being omitted; Figs. 4 and 5 are front elevations of escapement devices constructed in accordance with this invention and provided with special adjustable stops for the loose pawl. Figs. 6 and 7 are respectively front and rear elevations showing modifications; Figs. 8 and 9 are front elevations of escapement devices with special forms of adjustable stops for the loose dog; and Fig. 10 is a plan view showing an escapement wheel, part of the machine frame and stops for limiting in both directions movement of the rocking frame carrying the escapement dogs.

a is the ordinary rocking escapement frame, one part of which acts as the so-called fast dog whose working surface is formed by a roller b against the periphery of which the teeth of the wheel work and prolongation of whose axis approaches the axis of the wheel c .

e is an ordinary loose dog of which e' , e'' are the limit-

ing stops, and whose end is inclined away from roller b so as to leave a space between them that affords clearance for the teeth of the escape wheel. During depression of a finger piece, and consequently during the excursion of a type bar to the printing point, the rigid roller-faced dog passes out of engagement with the wheel and the loose dog into engagement with it. There is also a roller f on the loose dog, on the periphery of which the working surfaces of the teeth of the wheel bear. The axis of this roller has the same general relation to the wheel as does that of the roller b . In this construction also the loose dog is set in advance of the roller h providing an intervening space for clearance of the teeth of the wheel. There is in this construction a minimum of the friction between both roller dog faces and the teeth of the wheel, occasioned by the pull of the usual carriage spring, or motor (not shown) imparted to the wheel and transferred to the dogs by the wheel teeth.

In Figs. 4 and 5 adjustable stops for limiting movement of the loose dog in both directions are provided in the form of eccentrics g , g' , the adjustment being effected by partial rotation thereof.

Figs. 6 and 7 show the escapement dogs arranged in the ordinary way for feed of the carriage as the key lever rises, the loose dog being, however, as before, set in advance of the fast dog to afford clearance for the teeth of the wheel, and provided with a roller f .

In Fig. 8, the adjustable stops for the loose dog are adjusting screws h , h' , working in brackets on the frame a and provided with check nuts i , i' .

In Fig. 9, one of the adjustable stops comprises a projection j on the frame, a screw clamp bolt j' working in the frame and a metal strip or wire j'' having an eye through which the bolt passes and which, when set in place, lies against the projection j . Adjustment is effected by removing the screw j' and changing the strip j'' for one of greater or less width as desired. The other stop is adjustable and in the form of a wedge-shaped piece k having slot-and-set screw connection with the frame, the adjustment being effected by endwise movement. The wedge-shaped piece is backed by a projection k' on the frame a .

In Fig. 10, the rocking escapement frame a is provided with adjustable back and front stops, the back stop being a screw m working in a threaded aperture in the fixed plate n and provided with a check nut m' . The front stop is afforded by the head o of a threaded bolt o' passing through the rocking frame a and having its threaded end screwing into a threaded aperture in the fixed plate n . This bolt also is provided with a check nut o'' .

I claim as my invention:

1. A wheel escapement for typewriting machines com-

prising an escape wheel, fast and loose dogs each provided with a roller against the periphery of which the teeth of the wheel bear and prolongation of whose axes approach the axis of the escape wheel.

2. A wheel escapement for typewriting machines comprising a fast dog, a loose dog set in advance of the fast dog to afford clearance for the teeth of the wheel when released by the fast dog each dog having a roller forming its working surface against the periphery of which the teeth
10 of the wheel work.

3. An escapement for typewriting machines, comprising an escapement frame movable back and forth and having

fast and loose pawls the working face of each of which is a roller upon the periphery of which the teeth of the escape wheel bear, and adjustable back and front stops for
15 the escapement frame mounted in a fixed plate located in rear of the movable escapement frame.

In testimony whereof, I have hereunto subscribed my name.

EDWARD B. HESS.

Witnesses:

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