Oct. 23, 1928. 1,688,552

J. NOBS

SELF REGISTERING AND TICKET DISTRIBUTING PERSONAL WEIGHING SCALE

Filed Oct. 11, 1926

Fig. 4.

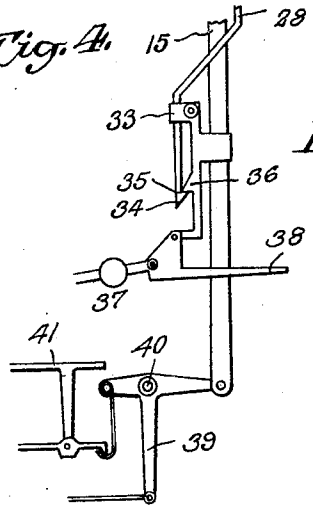


Fig. 1.

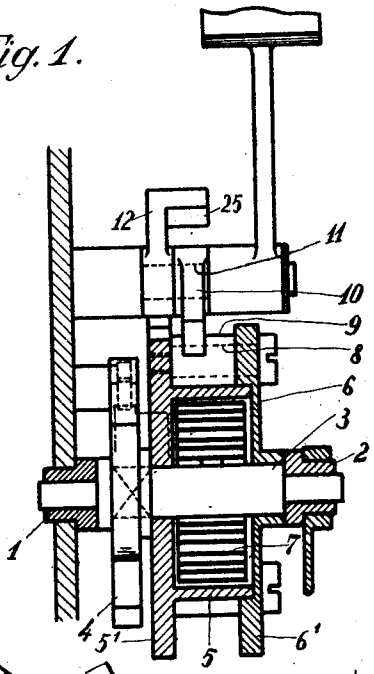


Fig. 2.

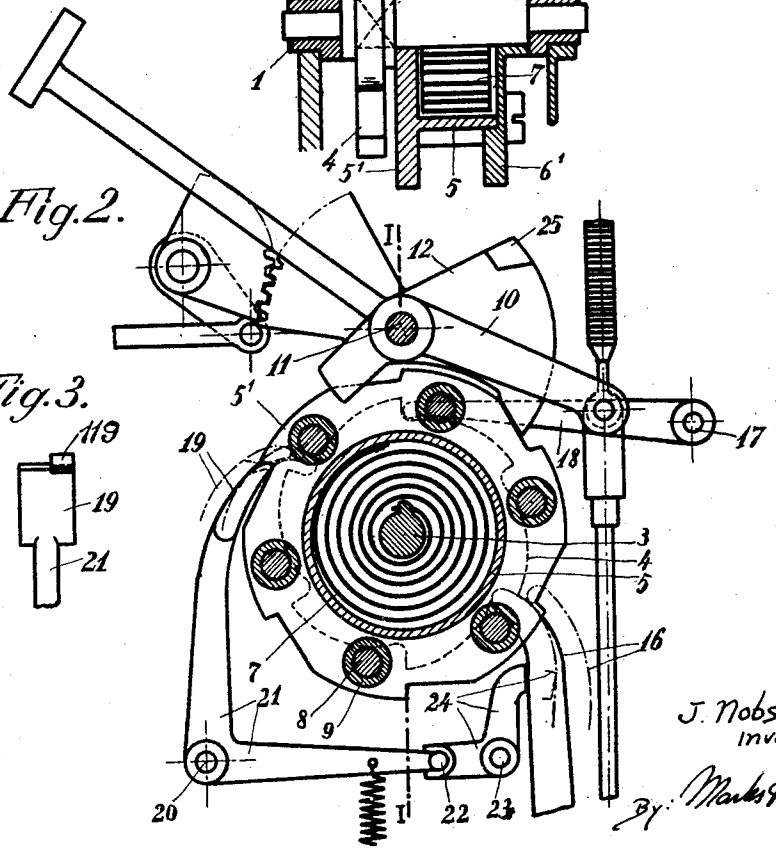


Fig. 3.

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Patented Oct. 23, 1928. 1,688,552

UNITED STATES PATENT OFFICE.

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SELF-REGISTERING AND TICKET-DISTRIBUTING PERSONAL-WEIGHING SCALE.

Application filed October 11, 1926, Serial No. 140,992, and in Switzerland October 13, 1925.

The present invention relates to a self-registering and ticket-distributing people's balance of the kind in which the devices for registering the weight on a ticket, for cocking a stamping-hammer and for ejecting the ticket are started by the dropped coin and by the weight of the person on the platform.

The novel feature of the present invention consists in a cocking device of the stamping hammer which is controlled by a spring barrel and is arranged in such a way that an overstraining of the spring is prevented in the case of any irregular handling of the scale.

In the annexed drawing representing one working form of the object of the invention

Fig. 1 is a vertical section on line I—I of Fig. 2,

Fig. 2 a cross section,

Fig. 3 a detail, and

Fig. 4 an elevation to be joined to the bottom of Fig. 2.

In the drawing, 13 designates the stamping hammer of a weighing and recording scale and 5, 6 a spring barrel mounted loose on an axle 3 supported in bearings 1, 2 by a casing 26. One of these side walls of this barrel is formed like a ratchet wheel 5′, while a somewhat smaller ratchet 4 having its teeth set in a contrary sense is fast on a squared part of the axle 3 and is worked in an anti-clockwise sense by a finger 16 provided at the end of a rod 15 attached to the platform of the scale in order to bend the spiral spring 7 of the barrel 5. The rod 15 as shown in Fig. 4 is attached to the one arm of a T lever 39 which is pivoted at 40 and is supporting with another arm the platform 41 of the scale in such a manner that the loading of the platform will cause an upward movement of the rod 15 and thereby a feeding movement of the pawl 16. A stationary pawl 18 pivoted at 17 prevents ratchet 4 from falling back and another pawl 19 provided at the one arm of an angular lever 21 blocks the ratchet 5′ and extends with a lengthened part 119 and with some play behind one of the teeth of the ratchet 4. The other arm of this lever is engaged with its cylindrically shaped end 22 in the bifurcated arm of an angular pivoted lever 24 which leans with his other arm against the finger 16. The two face plates of the barrel are held together by a trundle gearing formed by screw bolts 8 provided with rollers 9. Said trundles are adapted to engage the tail 14 of the stamping hammer 13 pivoted on an axle 11. Fast to the hub of said hammer is also an arm 10 to the end of which is attached an upwardly directed tension spring 27 and in a downward direction a rod 28. This rod as shown in Fig. 4 is ending in a hook 34 engaging a hook 35 at the end of a bar 36 suspended at 33 which bar is hinged to a weighted lever pivoted at 37. Bar 36 will be moved sideways so as to free hook 34 from hook 35 when a coin is striking the arm 38 of said weighted lever. While the hooks 34 and 35 are engaged the rod 28 maintains the hammer in its uplifted cocked position. Fast to the same hub of the hammer is also a toothed segment 29 geared with another segment 30 unto which is attached a carrier 31 adapted to forward the tickets into the path of the stamping hammer. Finally loose on said axle 11 is mounted a stationary pawl 12 having a lateral projection 25 arranged in such a way that the arm of the stamping hammer 13 when rising will take said pawl along with it so as to disengage it from the ratchet 5′. A traction spring 32 attached to one arm of the lever 21 secures the constant contact of the pawls 119 and 19 with the surfaces of the respective ratchets.

The working of this cocking device is as follows:

The Fig. 2 represents the cocked position of the hammer. It is supposed that the hammer be in its uncocked position and the balance in its position of rest. The barrel 5, 6 will be locked in this position by the pawl 19 engaging the ratchet 5′. Therefore if the platform, not shown, is loaded the angular lever 24 will be positioned such that the finger 16 turns the axis 3 by means of the ratchet 4 so as to bend thereby spring 7. The moving ratchet 4 disengages the pawl 19 from the ratchet 5′ and simultaneously therewith also the finger 16 will be disengaged from the ratchet 5′ by means of the angular lever 24, while pawl 18 blocks the ratchet 4. Now the barrel 5, 6 will be turned so far as the play between the stationary pawl 12 and the next tooth of the ratchet 5′ will allow and thereby pawl 19 will be raised so as to bear on a tooth of the ratchet 5′ and will be prevented thereby from falling in. Therefore also the finger 16 will remain disengaged even if the platform would become unloaded and loaded again. The purpose of this arrangement is to prevent any overstraining of the spring 7 by any irregular handling of

the scale. In the lowered position of the hammer however the arm 10 will be raised so far that the pawl 12 becomes disengaged from its engagement with the ratchet 5′ by means of the projection 25 and the barrel will become operative and will turn so as to cause a roller 9 of the trundle gearing to operate the tail 14 of the hammer which will assume the position shown in Fig. 2. The barrel will then turn until the next tooth of the ratchet 5′ gets stopped by the pawl 19. But as this pawl has again fallen in also the finger 16 has fallen in and likewise the pawl 12 into the ratchet 4 but at a certain distance from the next tooth and the tail 14 will remain half-ways between two rollers of the trundle gearing. The hammer 42 will be maintained in this cocked position by releasing means not shown and not forming part of this invention.

What I claim as new is:

In a self-registering and ticket-distributing personal weighing scale and in combination, a cocking-device of the stamping hammer in operative dependence of said scale and comprising a journalled axle, a ratchet wheel fast to this axle and a spring barrel mounted loosely thereon and having one side wall formed as a second ratchet wheel toothed in an opposite sense to the first ratchet, a rod attached to the platform of the scale and adapted to engage said first ratchet with a finger-shaped end, a stationary pawl engaged in this same ratchet, a pivoted tail-hammer and a trundle-gearing at the periphery of the barrel within operative reach of the hammer's tail and adapted to establish the cocked position of the hammer, a tension spring attached to the hammer in a way to increase its striking power, a rod attached to the hammer so as to maintain its striking position and depending on releasing means, a stationary pawl adapted to engage the second ratchet and provided with a lateral projection established in the path of the hammer's tail and a set of angular levers arranged so as to be capable of regulating the blocking and unblocking of the two ratchet wheels and to throw-out the finger controlled by the scale's platform and a lengthening provided on one of said angular levers and extended into the path of the first ratchet so as to constitute the operating means of the said levers.

In testimony whereof I affix my signature.

JAKOB NOBS.