

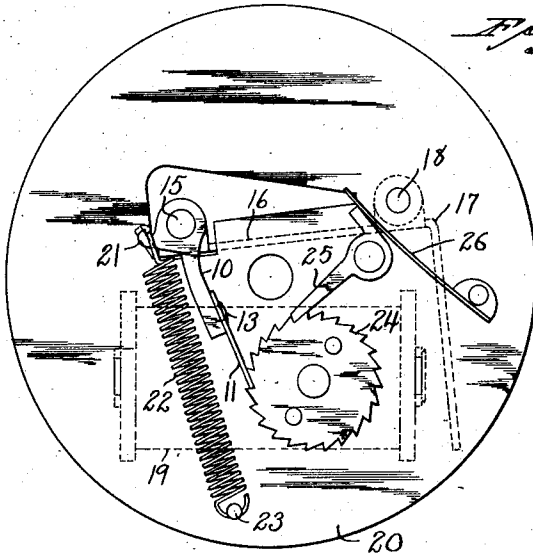
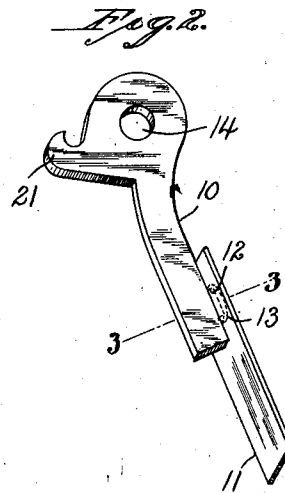
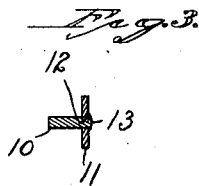
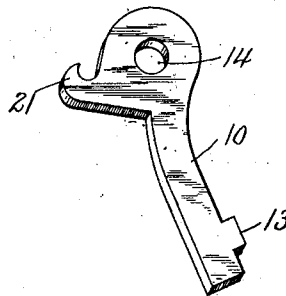
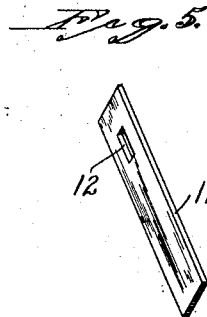
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PAWL FOR RATCHET MECHANISMS

Filed May 15, 1929



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UNITED STATES PATENT OFFICE

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PAWL FOR RATCHET-MECHANISMS

Application filed May 15, 1929. Serial No. 363,302.

My invention relates to an improvement in pawls for ratchet-mechanisms, the object being to produce a resilient pawl having a hard thin driving-edge or tip whereby it is adapted to be used with fine-toothed ratchet-wheels, though not so limited, and, on account of its resiliency, to ride over the teeth of such wheels with the minimum of noise, and, on account of its hardness, to resist prolonged incessant wear.

With these ends in view, my invention consists in a pawl characterized by having a body to which a relatively-thin resilient sheet-metal tip is applied.

My invention further consists in a pawl characterized as above and having certain details of construction as will be hereinafter described and particularly pointed out in the claims.

In the accompanying drawings:

Fig. 1 is a view in front elevation of an electric clock embodying my improved resilient-tipped pawl;

Fig. 2 is a detached perspective view of my improved pawl on an enlarged scale;

Fig. 3 is a view thereof in transverse section on the line 3—3 of Fig. 2;

Fig. 4 is a perspective view of the pawl-body; and

Fig. 5 is a similar view of the spring-tip thereof.

As herein shown, my invention is applied to the driving-mechanism of an electric clock but its use is not so limited, being applicable indeed to a great variety of situations in which pawls are used.

As herein shown, my improved pawl consists of a flat struck-up sheet-metal body 10 and a resilient sheet-metal tip 11 consisting, by preference, of a relatively-long narrow strip of hardened spring steel having near its inner end an oblong rectangular opening 12 receiving a rivet 13 of corresponding shape and formed integral with one edge of the pawl-body 10 aforesaid, the rivet being headed down after the resilient tip 11 has been applied to it, as shown in Fig. 3. The flat body 10 and flat tip 11 are thus disposed at a right angle to each other. The pawl-body 10 is formed with a pivot-hole 14 receiv-

ing a stud 15 upon which the pawl swings and which is mounted in the arm 16 of an armature 17 rocking upon a stud 18 and co-acting with the magnet 19 of an electric clock, with the details of which we are not here concerned and to which I have applied the general designating numeral 20.

The pawl-body 10 is also formed with a hook 21 receiving one end of a helical pawl-spring 22, the opposite end of which is engaged with a pin 23 of the clock 20. The free end of the pawl-tip 11 is held by the said spring 22 in engagement with the teeth of a ratchet-wheel 24 forming a member of the driving mechanism of the clock, the said wheel being also engaged by a pawl 25 engaged by a flat spring 26 and preventing the said wheel 24 from being reversely rotated when the resilient pawl-tip 11 is being dragged back over its teeth by the rocking of the armature 17 under the influence of the magnet 19.

By providing my improved pawl with an independent resilient tip of hardened sheet-metal, the tip may be made so thin as to provide for its unfailing and accurate engagement with the teeth of a ratchet-wheel, however fine, and the metal of the tip being very hard, it will not wear unduly, though subjected to incessant prolonged use. Moreover, on account of the resiliency of the tip, it rides over the teeth of the ratchet-wheel in "ratcheting back," as the term is, with the minimum amount of noise.

My improved pawl is, therefore, peculiarly adapted for use in delicate mechanisms in which a pawl having a thin durable edge is called for.

I claim:

1. A pawl having a struck-up sheet-metal body provided upon one edge with an integral rivet and a resilient pawl-tip consisting of a strip of sheet-metal located at a right angle to the plane of the body and formed with an opening for the reception of the said rivet.

2. In a ratchet and pawl device, the combination with a ratchet-wheel provided with ratchet-teeth; of a pivotal pawl comprising a relatively-soft body-member; a pivot for

the said body-member; and a relatively-hard
spring-tempered sheet-metal tip engaged at
its outer end with the teeth of the said
ratchet-wheel and secured at its inner end to
5 the said body-member and extending sub-
stantially-radially outward therefrom in a
plane perpendicular to the path of swinging
movement of the pawl around the said pivot
and perpendicular to the path of movement
10 of the said ratchet-wheel.

In testimony whereof, I have signed this
specification.

ELOF L. CARLSON.

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