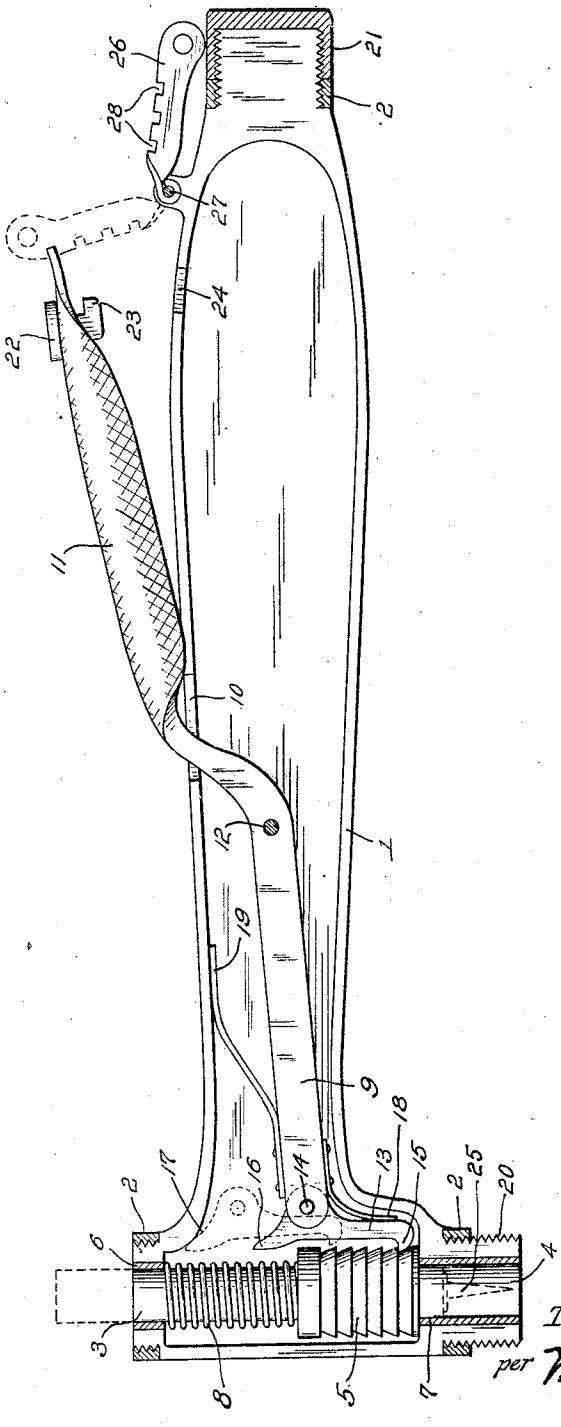
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HAMMER

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HAMMER.

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In this specification, and the accompanying drawing, I shall describe and show a preferred form of my invention, and specifically mention certain of its more important objects. I do not limit myself to the forms disclosed, since various changes and adaptations may be made therein without departing from the essence of my invention as hereinafter claimed; and objects and advantages, other than those specifically mentioned, are included within its scope.

My invention relates to hand hammers and has for its principal object the provision of certain novel features that will adapt it for use in very restricted spaces where it is impossible to swing for a blow, so that an ordinary hammer could not be used. Another object is to produce a hammer adapted to retain a nail or tack on its driving face by magnetic attraction.

My objects are attained in the manner illustrated in the accompanying drawing, in which the figure is a longitudinal central section of the tool with the interior parts shown in elevation.

In the form of tool selected for illustrative purposes the body portion comprising the head and handle is made up of two similar steel castings or drop forgings 1, assembled face to face by means of three screwed-on rings 2. Both the head and body portions of these body parts are recessed for the accommodation of the interior mechanism in the assembled tool.

In the head is a specially shaped plunger having cylindrical extremities 3 and 4 and an enlarged intermediate portion 5 with circumferential ratchet teeth thereon. The plunger is strongly magnetized so as to be adapted for picking up tacks or nails and for retaining them by magnetic attraction in proper position for driving. Bushings 6 and 7 of non-magnetic metal surround the plunger extremities where they are supported in the head castings to obviate the possibility of magnetic sticking, and the plunger is free to slide longitudinally. It is however normally held in the position shown by the relatively strong helical spring 8.

Within the handle portion of the body is the operating lever 9, extending outside of the handle through longitudinal slots 10 in the body parts, and having a spoon-shaped palm grip 11 at its outer extremity. The operating lever is intermediately pivoted at 12, and at its inner extremity carries a specially shaped pawl 13 pivoted thereto at 14. The pawl has a hook 15 at its lower extremity adapted for engaging ratchet teeth 5, and an upwardly extending extremity 16 adapted for engaging the interior wall of the head in the manner indicated by dotted lines at 17 for tripping the pawl to disengage the plunger.

A flat spring 18 normally maintains the pawl hook in engagement with the ratchet teeth of the plunger, and a larger spring 19 normally holds the operating lever in the position shown in the drawing.

The driving end of the hammer head is exteriorly threaded at 20, and a cap 21 is provided for screwing on this thread when it is desired to use the tool in the manner of an ordinary hammer. The cap is retained on the end of the handle when not in use, as shown on the drawing, and its face is hardened to make it suitable for driving purposes. For such use it is desirable to hold the operating lever down against the handle and I have therefore provided a slidable catch 22 at the extreme end of the lever. The hook end 23 of this catch is adapted to pass through a slot 24 in the handle and engage the inner wall of the same, the catch being slid in a slot provided for that purpose in the end of the operating lever.

For operating in very restricted places where it is impossible to swing for a blow, a tack or nail is placed with its head against the lower extremity of the plunger, and is retained in contact therewith by magnetic attraction. Grip 11 is then pressed part way down by the palm of the hand which results in drawing the plunger upward within the hammer head. The tack of course follows the plunger and assumes the position shown in dotted lines 25 within the hammer head. The driving face of the head is then placed against the work where it is desired to drive the tack, and grip 11 is pressed still further downward until the end 16 of the pawl comes in contact with the inner wall of the hammer head and releases the plunger by disengaging hook 15. Spring 8 then violently drives the plunger downward, and the pressure of the spring, combined with the relatively great inertia of the then rapidly moving plunger, drives the tack.

It should particularly be noted that provision has been made for varying the stroke of the plunger at will, by making a plurality

of ratchet teeth on its intermediate portion. If the pawl is made to engage one of the upper teeth, the plunger stroke will be relatively short when the pawl is released. Conversely engaging the lower teeth results in a longer plunger stroke.

I have further arranged so that my hammer may be utilized in places not easily reached by the arm as, for instance, in driving tacks near a high ceiling for supporting pictures and similar purposes. For such uses cap 21 is removed, and the end of the handle is screwed into a suitable socket at the end of a pole. A cocking device consisting of a notched trigger 26, pivoted to the end of the handle at 27, is adapted to swing upward to the dotted position for engaging the end of the operating lever in any one of its notches 28. In any such engaged position the operating lever is cocked for a corresponding length blow of the plunger. The trigger may be released by a cord attached thereto.

Having thus fully described the construction and operation of my invention, I claim;

1. A hand hammer comprising; a longitudinally bored head having a handle extending laterally therefrom, a slidable striking plunger within said bore; a spring adapted for causing said plunger to strike a blow; a lever having a palm-grip cooperative with said handle, whereby said plunger may be engaged and moved against the reaction of said spring; and means for freeing the plunger from said engagement after the spring has been stressed for causing the plunger to strike.

2. A hand hammer comprising; a longitudinally bored head having a handle extending laterally therefrom; a slidable striking plunger within said bore; a spring within the bore adapted for causing said plunger to strike a blow; a lever having a palm-grip cooperative with said handle, whereby said plunger may be variably engaged and moved against the reaction of said spring; and means for freeing the plunger from said engagement after the spring has been stressed for causing the plunger to strike.

3. A hand hammer comprising; a longitudinally bored head; a handle extending laterally from the head and having a hollow portion communicating with said bore; a slidable striking plunger within said bore; a spring within the bore adapted for causing said plunger to strike a blow; a lever within said hollow portion having an external palm-grip cooperative with said handle, whereby said plunger may be engaged and variably moved against the reaction of said spring; and means for freeing the plunger from said engagement after the spring has been stressed for causing the plunger to strike.

4. A hand hammer comprising; a longitudinally bored head; a handle extending laterally from the head with a hollow portion communicating with said bore; a striking plunger having a plurality of circumferential teeth slidable within said bore; a spring within the bore adapted for causing said plunger to strike a blow; a pivoted lever within said hollow portion having an external palm-grip cooperative with said handle, a pawl on said lever at its inner end adapted for variably engaging said teeth for moving said plunger against the reaction of said spring; and means for disengaging said pawl for causing said plunger to strike, when said grip has been fully compressed.

5. A hand hammer comprising; a longitudinally bored head; a handle extending laterally from the head with a hollow portion communicating with said bore; a striking plunger having a plurality of circumferential teeth slidable within said bore; a compression spring within the bore adapted for causing said plunger to strike a blow; a pivoted lever within said hollow portion having an external palm-grip cooperative with said handle, a pawl on said lever at its inner end adapted for variably engaging said teeth for moving said plunger against the reaction of said spring; and a trigger whereby said grip may be held in a plurality of positions, with said spring compressed for causing the plunger to strike.

6. A hand hammer comprising; opposed assembled recessed members constituting a bored head with a hollow handle extending laterally therefrom communicating with the bore; a magnetized striking plunger having a plurality of circumferential teeth slidable within said bore; a compression spring within the bore adapted for causing said plunger to strike a blow; a pivoted lever within said hollow handle having an external palm-grip cooperative therewith; a pawl on said lever at its inner end adapted for variably engaging said teeth for moving said plunger against the reaction of said spring; means for disengaging said pawl for causing said plunger to strike, when said grip has been fully compressed; and a trigger whereby said grip may be held in a plurality of positions, with said spring compressed for causing the plunger to strike.

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