

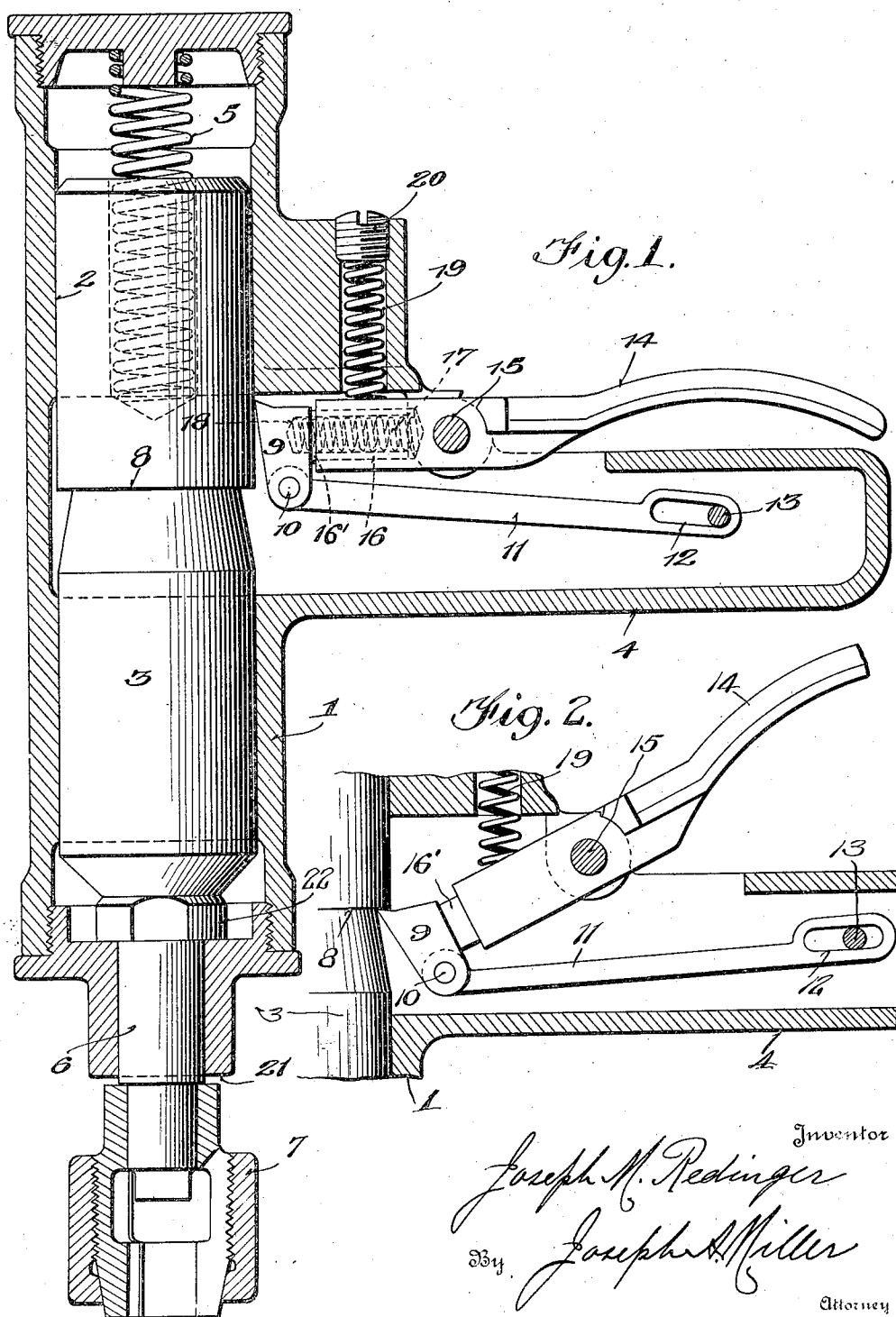
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SPRING HAMMER

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UNITED STATES PATENT OFFICE.

JOSEPH M. REDINGER, OF PROVIDENCE, RHODE ISLAND.

SPRING HAMMER.

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To all whom it may concern:

Be it known that I, JOSEPH M. REDINGER, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented new and useful Improvements in Spring Hammers, of which the following is a specification.

This invention relates to certain new and useful improvements in spring hammers and the primary object thereof is to provide a hammer which has its working stroke effected by means of a coil spring, combined with hand controlled means for restoring the hammer to a position in which the hammer stores up power in the spring by compressing the latter and for releasing the hammer to allow same to be given its working stroke by expansion of the spring.

The invention further aims to provide a device of this kind which is of simple and compact construction and which is positive and reliable in action.

Still further the invention aims to provide a hand control which not only moves the hammer on its idle stroke to compress the spring thereof, but which also upon a further and continued movement releases the hammer so that the latter is given its working stroke upon expansion of its spring.

Further and other objects will be later set forth and manifested in the course of the following description.

In the drawings:

Figure 1 is a vertical sectional view partly in side elevation, and Figure 2 is a similar view illustrating the position of the parts when the handle is in raised position.

In proceeding in accordance with the present invention a substantially T-shaped casing 1 is employed so as to afford a vertical chamber 2 in which the hammer piston 3 reciprocates and a horizontal hand grip 4. A coil spring 5 acts to tension the hammer piston 3, the latter striking against a stem 6 carrying a chuck 7 in which the hammer tool, not shown, is secured. Obviously various forms of tools can be placed in the chuck 7. The piston or plunger 3 is formed with a peripheral cut-out providing a circular shoulder 8 the latter adapted to be engaged by a dog 9 pivoted at 10 to a link 11. The link 11 has an elongated slot 12 receiving a pin 13 therein which latter is secured in the hollow handle 4 and limits the movement of the link 11. A hand lever

14 is pivoted between its ends at 15 and has its forward end provided with a socket 16 in which a sleeve 16' forming part of the dog 9 is arranged so that the dog 9 will be under spring tension by reason of the spring 17 which is contained within the sleeve 16', the coil spring at its forward end being received in the socket 18 formed in the dog 9. The hand engaging end of the lever 14 extends through a slot in part 4 to lie exteriorly thereof. The coil spring 17 acts to urge the dog 9 outwardly in engagement with the plunger 3. A coil spring 19 is secured in the casing and is confined by means of a screw 20, the spring 19 engaging on top of the hand lever 14 to normally urge the latter downwardly. Space 21 is left between the bottom end of the casing 1 and the chuck 7 so as to give slight flexibility to the adjustment of the tool.

In the position shown in the drawings the plunger 3 has completed its working stroke and the hand lever 14 is in its down position, or in other words its outer end is in the position in which the operator will hold the same, and upon release of the hand lever by the operator the spring 19 will force the inner end of the hand lever down, and the spring 17 will act on the dog 9 to force the latter toward the plunger 3 so that the nose of the dog will engage under the shoulder 8, due to the fact that the spring 17 will have moved the link 11 to the right, which movement is permitted by the slot 12 in the link. In this position of the parts shown in Figure 2 the outer end of the hand lever 14 will be in upward position, and in order to operate the hammer the operator first depresses the outer end of the lever 14 which causes the inner end thereof to move upwardly carrying with it the dog 9, due to sleeve 16' of the dog engaging in socket 16 of lever 14 and since the dog is engaged beneath the shoulder 8 the hammer plunger will be raised thereby compressing the spring 5, and upon continued depression of the hand lever 14 the dog 9 will slip off from the shoulder 8 due to the movement of link 11, thereby allowing the spring 5 to expand and move the plunger 3 to impact against the shank 6 or more properly speaking against the head 22 of the latter.

The link 11 controls the position of the dog 9 so that upon the full upward move-

ment of the dog 9 to the position shown in the drawings, the pin 13 will be in contact with back of the slot 12 thus causing the dog 9 to slip off from the shoulder 8.

5 Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a spring hammer, a T-shaped casing affording a cylinder and a hand grip, a hammer carrying shank and a spring tensioned plunger in the casing cylinder, a slotted link in the hand grip, a pin passed through the slot of the link and carried by the hand grip, a hand lever pivoted to the hand grip, a spring carried by the casing and bearing on top of the lever for urging the latter downwardly, a dog pivoted to the link, a spring between the hand lever and dog for urging the latter toward the plunger, and a shoulder on the plunger for engagement with the nose of the dog, whereby upon depression of the hand lever the nose of the dog will engage beneath the shoulder and raise the plunger, and upon continued depression of the hand lever the dog will move out of engagement with the shoulder to permit the plunger to move to its working stroke.

2. In a spring hammer, a casing having a spring tensioned shouldered plunger therein, a link having pivotal and longitudinal movement carried by the casing, a spring pressed hand lever pivoted to the casing, and a spring pressed dog pivoted to the link whereby upon depression of the hand lever the dog will engage the plunger shoulder to raise the plunger against the action of its spring, and upon continued depression of the hand lever the dog will be moved out of engagement with the shoulder to permit the plunger to be moved by its spring to its working stroke.

3. In a spring hammer, a spring pressed plunger having a shoulder, a link, means to mount the link to allow same to have pivotal and sliding movement, a dog pivoted to the link to engage the shoulder, a spring pressed lever, and connecting means between the dog and lever to effect engagement of the dog with the shoulder upon movement of the

lever in one direction to raise the plunger and for subsequently permitting the dog to be disengaged from the plunger to release the latter.

4. In a spring hammer, a spring pressed plunger having a shoulder, spring tensioned lifting means engageable with the shoulder, means to pivotally support the first named means, means to pivotally and slidably mount said supporting means, and operating means for effecting vertical movement of the lifting means.

5. In a spring hammer, a spring pressed plunger having a shoulder, lifting means engageable with the shoulder, operating means connected to and for effecting vertical movement of the lifting means, and means for mounting the lifting means for both pivotal and sliding movement.

6. In a spring hammer, a spring pressed plunger having a shoulder, vertically disposed lifting means engageable with the shoulder, horizontal operating means connected to the upper end of the lifting means, and controlling means for pivotally mounting the lower end of the lifting means.

7. A hammer comprising a plunger having a shoulder, a lever, a dog movably supported by the lever and movable to and from engagement with the shoulder to lift and release the plunger, and means for moving the dog on the lever to disengage the plunger by and during movement of the lever in an operative direction.

8. In a spring hammer, a casing having a vertical part and a lateral hand grip, a hammer plunger movable in the vertical parts, and means for controlling the plunger, including a horizontal lever extending without the hand grip and approximately parallel thereto whereby the hand grip and the lever may be each gripped in one hand.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH M. REDINGER.

Witnesses:

M. A. KINGSLEY,
J. A. MILLER.