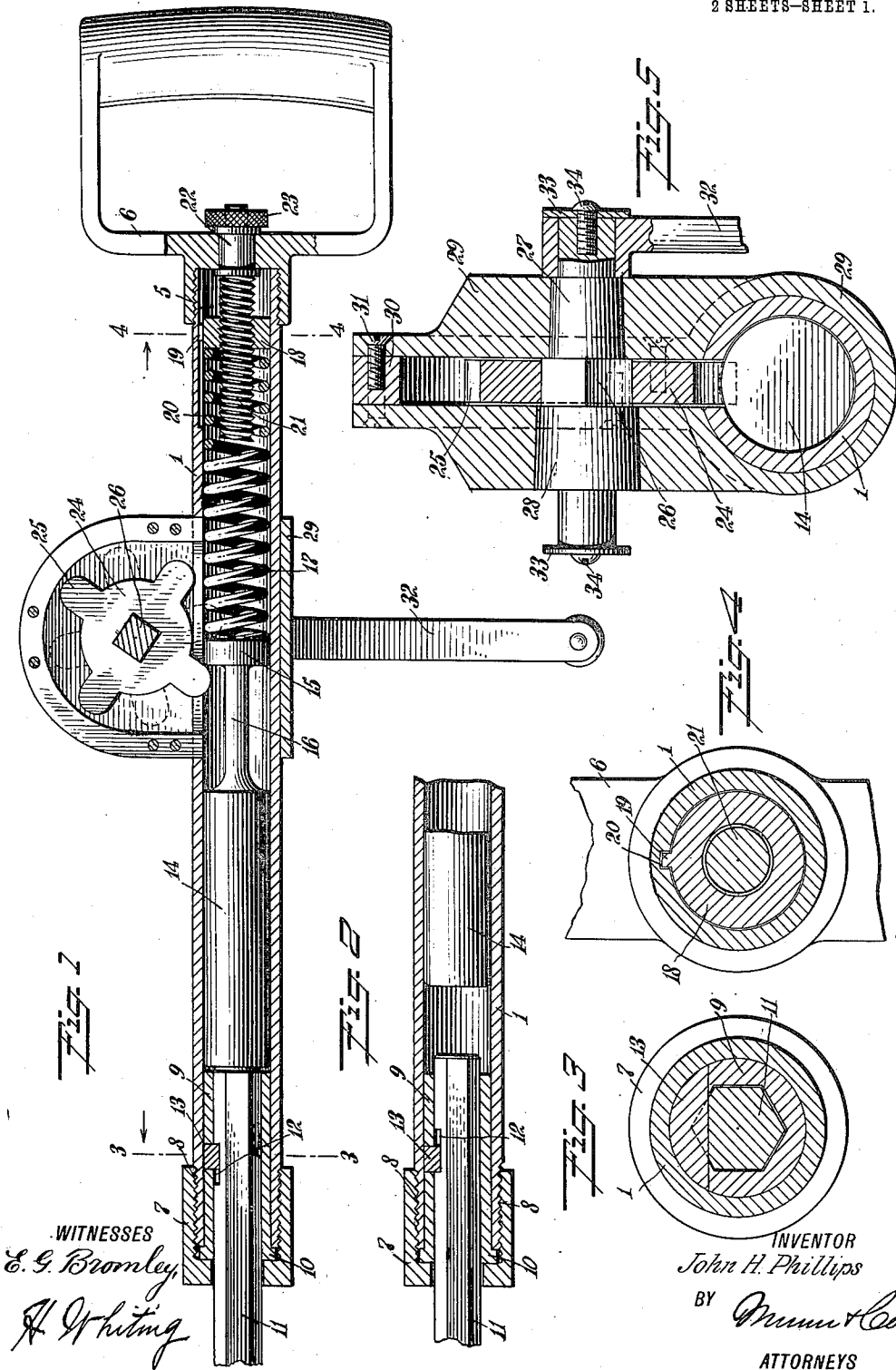


J. H. PHILLIPS.
 SPRING HAMMER.
 APPLICATION FILED DEC. 18, 1909.

1,006,873.

Patented Oct. 24, 1911.

2 SHEETS—SHEET 1.



WITNESSES
 E. G. Bromley
 A. Whiting

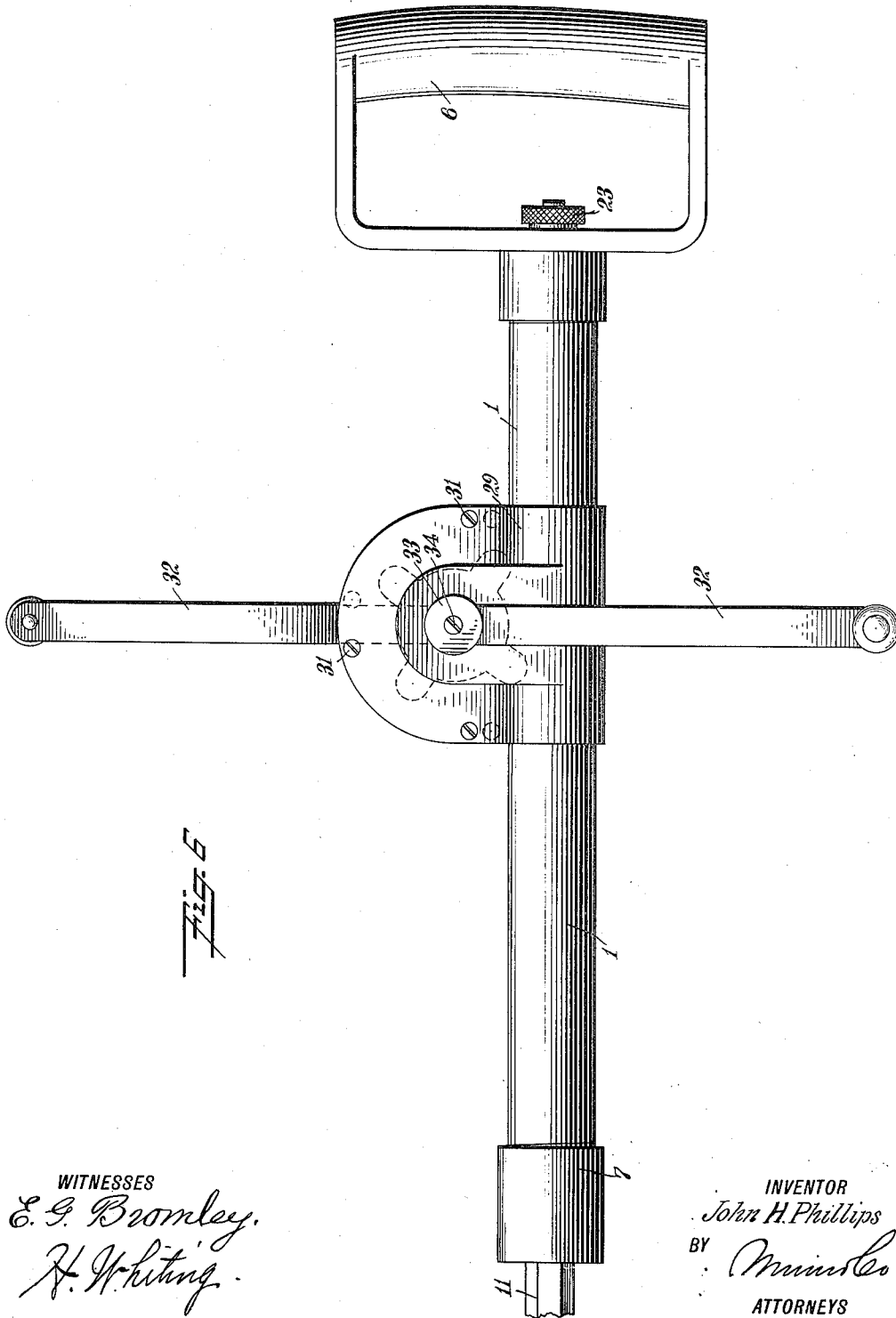
INVENTOR
 John H. Phillips
 BY *Mum & Co.*
 ATTORNEYS

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2 SHEETS—SHEET 2.



WITNESSES

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H. Whiting.

INVENTOR

John H. Phillips

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UNITED STATES PATENT OFFICE.

JOHN HARRY PHILLIPS, OF OKLAHOMA, OKLAHOMA.

SPRING-HAMMER.

1,006,873.

Specification of Letters Patent.

Patented Oct. 24, 1911.

Application filed December 18, 1909. Serial No. 533,867.

To all whom it may concern:

Be it known that I, JOHN H. PHILLIPS, a citizen of the United States, and a resident of Oklahoma city, in the county of Oklahoma and State of Oklahoma, have invented a new and Improved Spring-Hammer, of which the following is a full, clear, and exact description.

This invention relates to a portable hammer for shop or field work, which is adapted to be used in various operations, such as riveting, punching, calking, shearing, spike driving, stone, brick and concrete drilling, etc.

An object of this invention is to provide an automatic trip hammer which receives its motive force from a compressible spring, the latter having means thereon whereby the tension may be adjusted.

A further object of this invention is to provide a device which will be simple in construction, inexpensive to manufacture, easily operated and easily adjusted.

These and further objects, together with the construction and combination of parts, will be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, in which—

Figure 1 is a vertical longitudinal section through the center of my device, showing the parts in one position; Fig. 2 is a fragmentary view similar to Fig. 1, showing the parts in another position; Fig. 3 is a vertical transverse section on the line 3—3 of Fig. 1; Fig. 4 is a vertical transverse section on the line 4—4 of Fig. 1; Fig. 5 is a vertical transverse section through the cam shaft casing; and Fig. 6 is a side view in elevation.

Referring more particularly to the specific parts of my invention, 1 indicates a barrel, to which is secured at one end in any well known manner, as by means of a screw threaded connection, a handle 6, which may be, if desired, in the form of a breastplate. Secured in the opposite end of the barrel 1 by means of a cap 7 which has a screw-threaded connection 8 with the barrel 1, there is provided a tubular bushing 9, which

is held to the barrel 1 by a flange 10 located between the end of the barrel 1 and the cap 7.

Centrally located in the bushing 9, and passing through an opening in the cap 7, there is provided a tool 11, which may be of any suitable form. This tool 11 is provided with a slot 12, which is engaged by a lock or stop 13 secured in the bushing 9. The relative size of the slot 12 and the lock 13 is such as to allow a limited movement of the tool 11 relative to the bushing 9 and the barrel 1.

Slidably mounted in the barrel 1 adjacent to the inner end of the tool 11, there is provided a plunger 14, which is adapted to reciprocate in the barrel 1. The end of the plunger 14 opposite to the end adjacent to the tool 11 is provided with a head 15, which is connected to the body of the plunger by a stem 16. The plunger is normally actuated by a spring 17 which abuts against the head 15 at one end, and against an adjacent nut 18 at the other end. The nut 18 is provided with a key 19, which engages a slot 20 in the barrel 1, and is thus prevented from rotating relative to the barrel 1. The nut 18 has a screw-threaded engagement with an adjusting screw 21, which is rotatably supported in the handle 6 by means of a cylindrical plug 22. The plug 22 is provided with a knurled finger head 23, whereby it may be more easily manipulated to rotate the screw 21.

In order to compress the spring 17 and draw the plunger 14 away from the tool 11, there is provided a member 24, which is in the form of a gear provided with a plurality of cam teeth 25. The member 24 is secured to a shaft 26 by any suitable means, such as an angular connection, and is adapted to be rotated thereby. The shaft 26 is rotatably supported by means of a plurality of journal bearings 27 and 28 in a cam casing 29, which is secured to the barrel 1 in any well known manner. The opening in the cam casing 29 is closed by means of a suitable dust-guard 30, which is secured thereto in any well known manner, as by means of a plurality of screws 31. The outer ends of the shaft 26 which project beyond the casing 29 are each provided with a hand crank 32, which is secured thereto in any well known manner, as by means of an angular connection. In

order to prevent the cranks 32 from slipping off the shaft 26, there are provided at the ends thereof washers 33, which are secured to the shaft 26 by means of screws 34.

5 The operation of the device will be readily understood when taken in connection with the above description.

The proper tool 11 for the work to be done is inserted in the barrel 1 and placed against the article on which the work is to be performed. The tool is held against the work by means of the handle 6, which may be used as a breastplate if desired. The cam shaft 26 is then rotated by means of the crank 32. When this is done, the plunger 14 will be drawn away from the tool 11 by one of the cams 25 engaging the head 15, thus compressing the spring 17. When the cam teeth 25 slip by the head 15, the plunger 14 will be automatically released and the spring 17 will force it rapidly against the inner end of the tool 11. This operation will be continuous. Each successive cam tooth 25 coming in engagement with the head 15 will automatically compress the spring 17 and release the plunger 14, permitting it to slam against the inner end of the tool 11. Any strength of blow may be obtained by adjusting the position of the nut 18 on the screw 21, and thus adjusting the compression of the spring 17.

While I have shown the device operated by a pair of hand cranks, it may be operated in any other well known manner, as by means of a single lever connected to the

shaft 26 by a ratchet and pawl connection, or in any other suitable manner.

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

1. In a device of the class described, the combination with a barrel, of a tool connected to said barrel, a plunger adapted to operate said tool, means for operating said plunger in one direction, a spring for operating said plunger in the opposite direction, a non-rotatable nut adapted to adjust the tension of said spring, and a screw rotatably connected to said barrel and engaging said nut.

2. In a device of the class described, the combination with a barrel, of a tool connected to said barrel, a plunger adapted to operate said tool, means for operating said plunger in one direction, a spring for operating said plunger in the opposite direction, a nut adapted to adjust the tension of said spring, a key on said nut engaging said barrel and adapted to prevent the rotation of said nut relative to said barrel, a screw adjustably engaging said nut and rotatably connected to said barrel, and means for rotating said screw.

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

JOHN HARRY PHILLIPS.

Witnesses:

T. R. ANDERSON,
A. F. DICHTMAN.