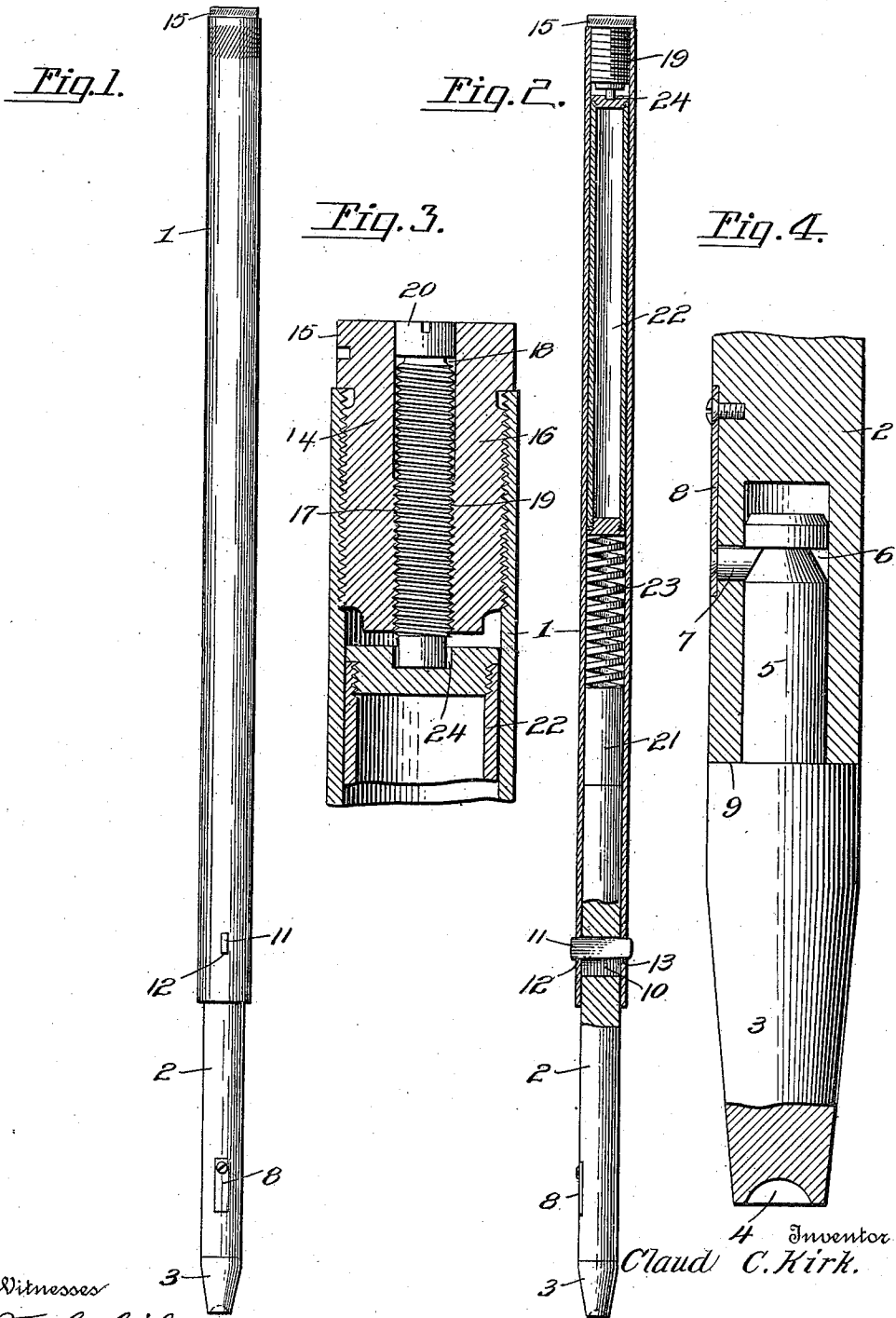


C. C. KIRK.
DOLLY BAR.
APPLICATION FILED FEB. 1, 1910.

974,677.

Patented Nov. 1, 1910.



Witnesses
F. C. Gibson;
K. Allen

Inventor
C. C. Kirk.
By Victor J. Evans
Attorney

UNITED STATES PATENT OFFICE.

CLAUD C. KIRK, OF NEWCASTLE, INDIANA.

DOLLY-BAR.

974,677.

Specification of Letters Patent.

Patented Nov. 1, 1910.

Application filed February 1, 1910. Serial No. 541,357.

To all whom it may concern:

Be it known that I, CLAUD C. KIRK, a citizen of the United States, residing at Newcastle, in the county of Henry and State of Indiana, have invented new and useful Improvements in Dolly-Bars, of which the following is a specification.

This invention relates to rivet holders of the type commonly known as "dolly bars," employed in the operation of heading rivets by hand or pneumatic riveters, and particularly designed for use in connection with riveters of the latter-named character.

In heading rivets, particularly with pneumatic riveters, the blows upon the rivet produce heavy concussions against the dolly bars which is held against the rivet head, resulting in severe shocks or strains being thrown upon the operator who holds the dolly bar, and in the bar being driven away from the rivet head at each blow, with liability of imperfection in the formation of the rivet. In order to overcome this objection, two dolly bars and an equivalent number of workmen have been employed in pneumatic riveting, but this operation is attended with increased expense and does not wholly prevent the jumping back of the dolly bar engaging the rivet when a high power pneumatic riveter is used.

The object of the present invention is to provide a dolly bar which may be held in position by a single operator, which will sustain shocks or jars from the concussion of the riveter and relieve the operator from a greater portion of the strain thereof, which will maintain contact with the head of the rivet and thus enable a perfect rivet to be formed, and which may be regulated for use in connection with high or low power pneumatic riveters.

The invention consists of the features of construction, combination and arrangement of parts hereinafter fully described and claimed, reference being had to the accompanying drawings, in which:—

Figure 1 is a side elevation of a dolly bar embodying my invention. Fig. 2 is a longitudinal section of the same. Fig. 3 is a detail longitudinal section through the rear end of the bar. Fig. 4 is a similar section through forward end of the bar.

Referring to the drawings, 1 designates the body of the bar, which forms a tubular holder or casing of the required length and diameter. Fitted within the forward end

of this casing is a die holder 2, which is adapted to receive the riveting die 3. The die 3 is provided at its outer end with the usual riveting countersink 4 and at its inner end with a shank 5, which latter enters the outer end of the holder 2 and is provided with an annular groove or recess 6 to receive a stud 7 on a spring latch or lock plate 8 mounted upon the holder whereby the die in use may be removed at any time and a new die substituted therefor. At the juncture of the head and shank of the die a shoulder 9 is formed to bear against the forward end of the holder and to back the die to sustain the shocks and jars falling upon it in the operation of riveting. The rear end of the holder 2 is formed with a transverse slot 10 through which passes a tapered pin 11 which also passes through openings 12 and 13 formed in diametrically opposite sides of the casing 1, by which the holder is detachably secured to the casing, the slot 10 being of sufficient width to permit the die holder to have a limited reciprocatory movement back and forth within the casing, as hereinafter described.

The upper or outer end of the casing 1 is closed by a screw plug 14 having a milled outer surface 15 and a reduced threaded portion 16 engaging screw threads upon the interior of the casing. Extending through the plug is a threaded opening 17 communicating at its outer end with a recess 18, formed in the outer surface of the plug, in which opening operates an adjusting screw 19 provided at its outer end with a nicked head 20 or its equivalent disposed within the recess 18 and adapted to be engaged by a screw-driver or other suitable tool, whereby the screw may be adjusted inwardly and outwardly, as desired.

Disposed within the casing between the die holder and the plug is a plunger formed with two sections to wit:—a lower or forward cylindrical block 21 and an upper or rearward cylindrical block or its equivalent 22, between which sections of the plunger is arranged a coiled cushioning spring 23. The block 21 bears directly upon the inner end of the die holder 2 and is yieldingly backed by the spring 23, thus permitting the die holder to yield inwardly under the blows or shocks of the riveter and then returning or projecting the same outward to normal position, while the block or section 22 backs the spring 23 and limits its yielding move-

ment. The inner or upper end of the section 22 is formed with a recess 24, receiving the inner end of the adjusting screw 19, by which the pressure of said section 22 upon the spring may be increased or diminished to tension the spring to increase or decrease its resistance to the inward movement of the die holder, by which the spring may be regulated to properly back the die holder to sustain the blows from long or short stroke pneumatic riveters or pneumatic riveters varying in power, as circumstances may require in the use of the implement.

In operation, the die is engaged with the head of the rivet and held in place by a single operator, who grasps the stock or casing 2. When the blows on the hammer fall upon the rivet, the die and its holder are permitted to recede thereunder by the yielding action of the spring 23, which absorbs the shocks or jars and relieves the operator from the strain thereof. It will be understood, if course, that at all times in the riveting operation the die will remain in contact with the rivet head, so that a perfect rivet will be formed. By the adjustment of the screw 19 the pressure of spring against the die holder and its resistance to the inward movement of said holder may be regulated, so that the implement may be adjusted to sustain the blows imparted by high or lower power pneumatic hammers.

By the use of the device, it is found that a single dolly bar held in position by a single operator will perform the services ordinarily performed in heavy riveting by the use of two dolly bars and two operators, thus decreasing the cost of operation to a material extent.

I claim:—

1. A dolly bar comprising a casing, a die slidably connected with the casing, a spring yieldingly backing the said die, and means for regulating the resistance of the spring.
2. A dolly bar comprising a casing, a die having a limited sliding movement in the

casing, a closure for the outer end of the casing, a spring yieldingly backing the die, and means carried by said closure and for operative connection with the spring for regulating the resistance thereof.

3. A dolly bar comprising a casing, a die carrier fitted at one end within the casing and having a transverse slot, a key extending through the casing and said slot and detachably connecting the die with the casing to permit the die to have a limited reciprocatory movement therein, a spring backing on the die, and means for regulating the resistance of said spring.

4. A dolly bar comprising a casing, a die fitted in one end thereof to have a limited reciprocatory movement, a closure for the opposite end of the casing, a spring yieldingly backing said die, a block disposed between the spring and closure, and an adjusting device carried by the closure and acting on said block.

5. A dolly bar comprising a casing, a die fitted in one end thereof to have a limited reciprocatory movement, a closure for the opposite end of the casing, a plunger composed of sections, one arranged to bear against the die, an adjusting device carried by the closure and bearing against the other plunger section, and a spring disposed between said plunger sections.

6. A dolly bar comprising a casing, a die holder fitted in one end thereof to have a limited reciprocatory movement, a plug closing the opposite end of the casing, an adjusting screw carried by said plug, a plunger within the casing and composed of two sections one bearing against the die and the other engaged by the screw, and a spring disposed between said plunger sections.

In testimony whereof I affix my signature in presence of two witnesses.

CLAUD C. KIRK.

Witnesses:

WILLARD MOGLE,
H. O. POWELL.