

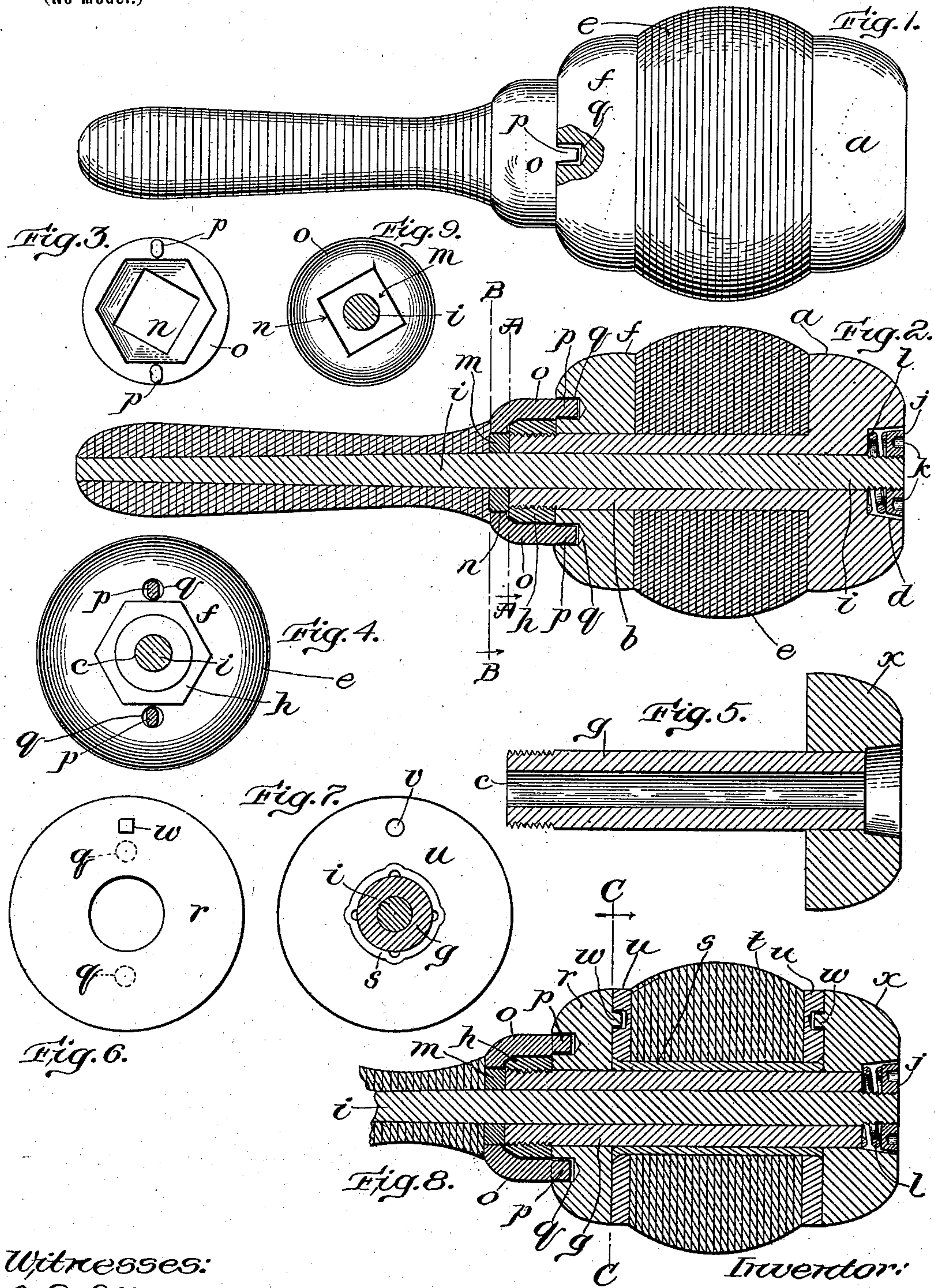
No. 698,436.

Patented Apr. 29, 1902.

W. E. BOLSTER.
Mallet.

(Application filed Dec. 19, 1901.)

(No Model.)



Witnesses:

E. A. Allen.

Arthur J. Handell

Inventor:

Walter Ernest Bolster,

by *James Hamilton*
his attorney.

UNITED STATES PATENT OFFICE.

WALTER ERNEST BOLSTER, OF BROCKTON, MASSACHUSETTS.

MALLET.

SPECIFICATION forming part of Letters Patent No. 698,436, dated April 29, 1902.

Application filed December 19, 1901. Serial No. 86,483. (No model.)

To all whom it may concern:

Be it known that I, WALTER ERNEST BOLSTER, a citizen of the United States, residing in the city of Brockton, county of Plymouth, and State of Massachusetts, have invented a new and useful Improvement in Mallets, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to mallets, and particularly to mallets for pounding dies for cutting leather and similar material; and the object of my invention is to provide a mallet in which the parts are so securely interlocked as to prevent their becoming loosened under the repeated shocks to which the succession of blows subject it in use.

One feature of my invention is the yielding means which I employ to secure the handle-shank to the mallet. The upper end or end of the handle-shank farthest from the handle is screw-threaded to engage a nut which works into a socket in the top disk of the mallet-head. Between the inner surface of the nut and the bottom of the socket is interposed a yielding device, as a spring. By this construction the mallet-head is securely fastened to the handle-shank and will not become loosened even though the nut be so loose on its threads as to be easily turned. Without this device the nut will unscrew and become loosened under the succession of blows to which the mallet-head is subjected in use, and even a check-nut will not suffice to retain it in place.

Another feature of my invention lies in the means devised by me to prevent the nut which holds the lower disk on the stem from becoming loosened. These means comprise a nut-lock secured to the handle-shank and provided with a socket, the walls of which are fitted to engage snugly over the nut. The lower disk is formed with sockets, into which enter lugs that project from the nut-lock. The nut-lock is thus prevented from turning, and so locks the securing-nut inclosed by it.

A third feature of my invention resides in the means adapted to prevent the handle-shank from turning. Upon the handle-shank is cast (or may be formed integral therewith)

a nut which fits into a square hole in the top of the nut-lock above referred to. This construction locks the handle-shank and prevents it from turning off the screw-nut on its upper end.

Other features of my invention and modifications illustrating the same will be hereinafter described.

In the drawings illustrating the principle of my invention and the best mode in which I have contemplated applying that principle, Figure 1 is an elevation showing my new mallet, a part being broken away to show the interlocking construction between the nut-lock and the lower disk. Fig. 2 is a central longitudinal sectional view of the mallet shown in Fig. 1. Fig. 3 is an end view of the nut-lock. Fig. 4 is a sectional view on line A A of Fig. 2, the handle and nut-lock being removed. Fig. 5 shows in elevation a modified and cheaper construction, the top disk being cast upon the stem and not integral with it. Figs. 6, 7, and 8 are details illustrating a modified construction hereinafter referred to and described. Fig. 9 is a sectional view on line B B of Fig. 2.

The mallet-head is made up of a top disk *a*, provided with a stem *b* and formed with a central aperture *c* and socket *d*, a body *e*, of rawhide or other suitable material, surrounding the stem *b*, and a lower annular disk *f*, through which projects the stem *b*. The rawhide body *e* is made up of annuli compressed under hydraulic pressure between the end disks *a* and *f*. The top disk *a* may be cast integral with the stem *b*, as shown in Fig. 2, or may be cast upon the stem or pipe *g*, as is shown in Fig. 5. The end of the stem *b* is screw-threaded to engage a nut *h*, which is screwed against the lower disk *f*.

Through the central aperture *c* passes the handle-shank *i*, screw-threaded at its upper end to engage the nut *j*, which works into the socket *d* and is formed with holes *k*, adapted to receive the prongs of a spanner. Between the lower face of the nut *j* and the bottom of the socket *d* is interposed a spiral spring *l*, which acts as a yielding medium between the nut *j* and the mallet-head and serves to prevent the nut *j* from becoming loosened under

the effect of repeated blows. Near its middle there is cast or otherwise firmly secured upon the handle-shank *i* a nut *m*, having a polygonal periphery or outline, which fits
 5 into an opening *n*, polygonal in form, in a nut-lock *o*. This nut-lock *o* is prevented from turning by means hereinafter described and serves by its engagement with the nut *m* to prevent the shank *i* from turning and
 10 becoming loosened from the nut *j*.

To prevent the nut *h* from turning and becoming loosened from the stem *b*, I provide a nut-lock *o*, which fits snugly over the nut *h* and which is provided with one or more (in
 15 the drawings two are shown) lugs *p*, that engage in sockets *q* in the annular disk *f*. The engagement of the lugs *p* in the sockets *q* locks the nut-lock *o* in place and prevents its turning, and the nut-lock *o* locks the nut *h*
 20 and holds it securely against the tendency to unscrew due to the shock of the succession of impacts. Hence the nut-lock *o* serves a double purpose in that it locks the nut *h*, as well as the handle-shank *i*, from turning.

In Figs. 6, 7, and 8 is shown a modified construction, Fig. 8 being a central longitudinal sectional view, Fig. 7 a sectional view on line C C of Fig. 8, and Fig. 6 a view of the inner
 25 face of the annular disk *r*. In this modified construction the central body portion of the mallet is made separable from the other parts of the head, and when one of these separable or interchangeable rawhide body portions is worn out it may be replaced readily by an-
 30 other. Thus economy in use is obtained. On the central pipe *s* are threaded the rawhide annuli *t*, compressed under hydraulic pressure between the metal annuli *u*. The pipe *s* is upset at both ends, as is best shown in
 40 Fig. 7, and is thereby secured to the metal annuli *u*. In the outer face of each of the metal annuli *u* is formed a socket *v*, adapted to receive lugs *w*, that project from the inner face of each of the end disks *x* and *r*. The
 45 lug-and-socket connection between the upper annulus *u* and the upper end disk *x* holds the rawhide body portion against turning, and the lug-and-socket connection between the lower annulus *u* and the lower disk *r* pre-
 50 vents the latter from turning.

In contour my mallet presents no sharp edges, all edges being rounded. This is a valuable feature, for all mallets heretofore made for pounding dies for cutting leather,
 55 so far as known to me, have had sharp edges, which are liable to mar the leather—as, for example, the dropping inadvertently or otherwise of a mallet with sharp edges upon a soft skin ruins the skin by reason of the sharp
 60 edge cutting into it.

What I claim is—

1. In combination, a mallet-head; a handle-shank formed with a flanged part substantially integral therewith and non-rotatable
 65 thereon, and secured to said mallet-head by

means locking by rotation; said securing means locking by rotation; a locking-sleeve formed with an aperture adapted to receive said flanged part and to prevent said flange
 70 from turning therein; and interlocking means between said mallet-head and said locking-sleeve which prevent said locking-sleeve from rotating.

2. In combination, a mallet-head; a handle-shank provided with a flanged part polygonal
 75 in outline, substantially integral therewith and non-rotatable thereon, and secured to said mallet-head by means locking by rotation; said securing means which lock by rotation; a locking-sleeve formed with an aperture
 80 adapted to receive said flanged part; and a lug-and-socket connection between said mallet-head and said locking-sleeve, to prevent said locking-sleeve from rotating.

3. In combination, a mallet-head made up
 85 of separable parts; a securing device for holding the parts of said mallet-head together; a locking-sleeve which engages said securing device and prevents it from turning therein; interlocking means between said mallet-head
 90 and said locking-sleeve to prevent said locking-sleeve from rotating; a handle-shank engaged non-rotatably with said locking-sleeve, and secured to said mallet-head by means which lock by rotation; and said securing
 95 means which lock by rotation.

4. In combination, a mallet-head made up of separable parts; a nut for holding the parts
 100 of said mallet-head together; a nut-lock which engages said nut and prevents it from turning therein; a lug-and-socket connection between said mallet-head and said nut-lock to prevent said nut-lock from rotating; a handle-shank engaged non-rotatably with said
 105 nut-lock and secured to said mallet-head by means which lock by rotation; and said securing means which lock by rotation.

5. A mallet-head made up of annuli, between which is interposed a body portion of rawhide or other suitable material, said an-
 110 nuli and body portion being suitably connected to form a separable member; said body portion; a disk provided with a stem; an annular disk secured on said stem; said annuli and said disks being connected by a lug-and-
 115 socket connection.

6. In combination, a pair of annuli suitably secured together; a body portion of rawhide or other suitable material interposed between
 120 said annuli; a disk secured to one of said annuli by a lug-and-socket connection to prevent turning of said annuli; a handle; and means for connecting said disk to said handle.

7. A mallet made up of the following instrumentalities, viz: a mallet-head; a handle-
 125 shank secured thereto by means which lock by rotation and engaged non-rotatably with a nut-lock; said securing means which lock by rotation; and said nut-lock engaged non-rotatably with said mallet-head.
 130

8. A mallet made up of the following instrumentalities, viz: a mallet-head; a handle-shank yieldingly secured thereto by means which lock by rotation and engaged non-rotatably with a nut-lock, said securing means
5 which lock by rotation; and said nut-lock engaged non-rotatably with said mallet-head.

In testimony whereof I hereunto set my

hand and affix my signature, in the presence of two witnesses, at Boston, in the county of 10 Suffolk and State of Massachusetts, this 17th day of December, A. D. 1901.

WALTER ERNEST BOLSTER.

Witnesses:

JAMES HAMILTON,
W. H. EMERY.