

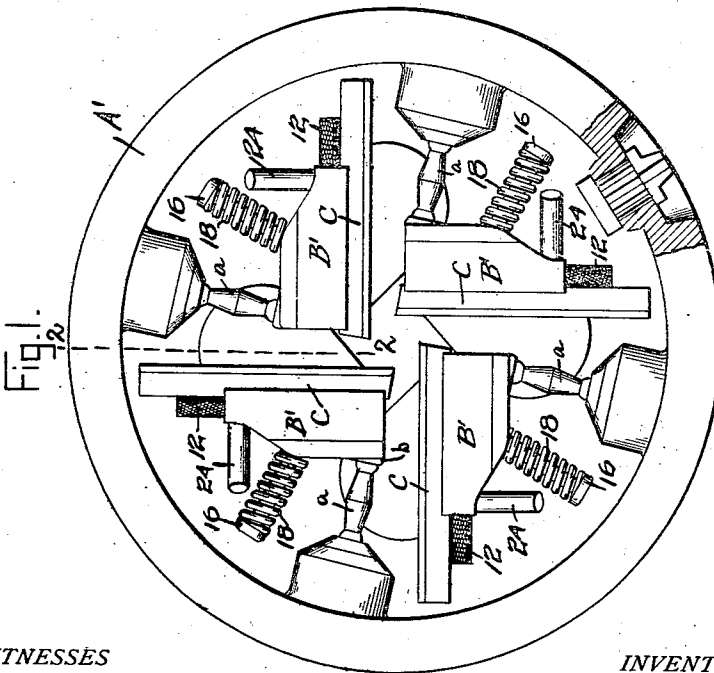
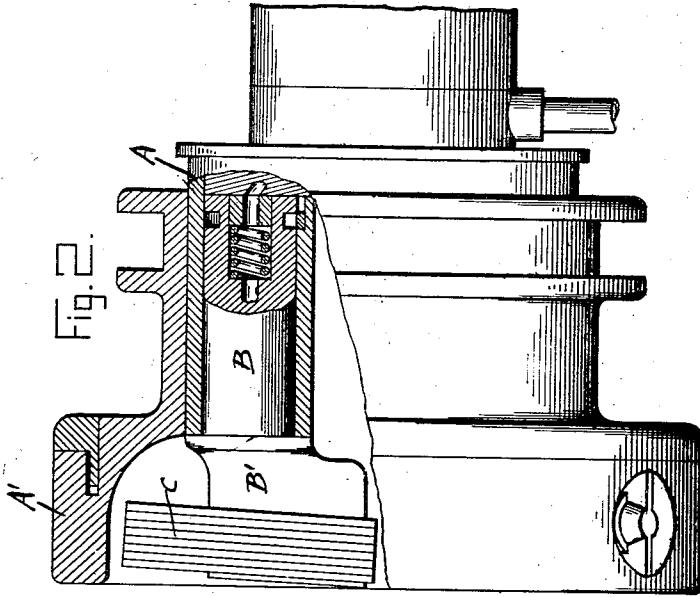
A. B. LANDIS.
CUTTER HEAD.

APPLICATION FILED DEC. 21, 1909. RENEWED DEC. 9, 1911.

1,018,394.

Patented Feb. 20, 1912.

3 SHEETS—SHEET 1.



WITNESSES

G. K. Reichenbach.
L. A. Price

INVENTOR

Abraham B. Landis
by E. T. Bradford
Attorney

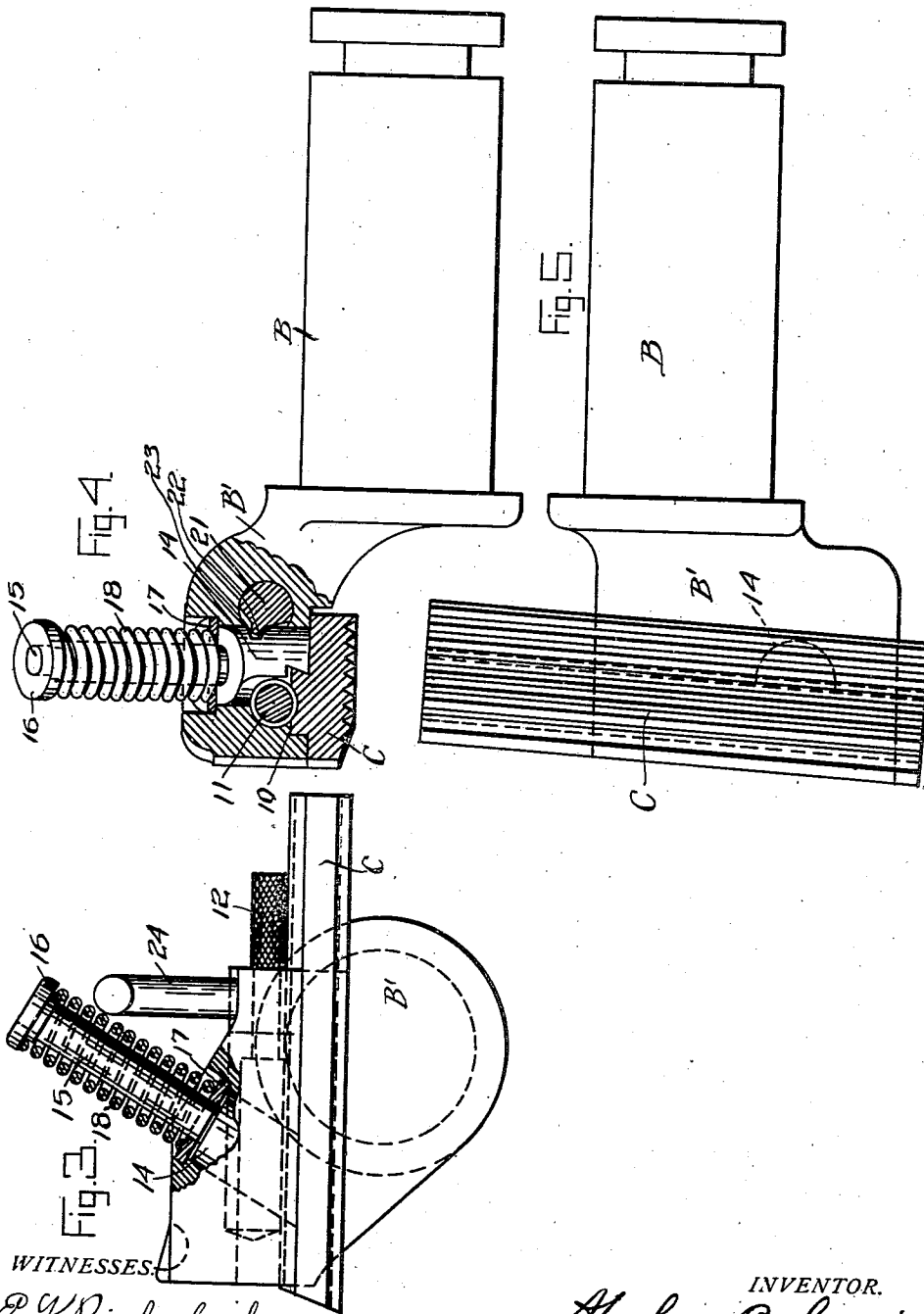
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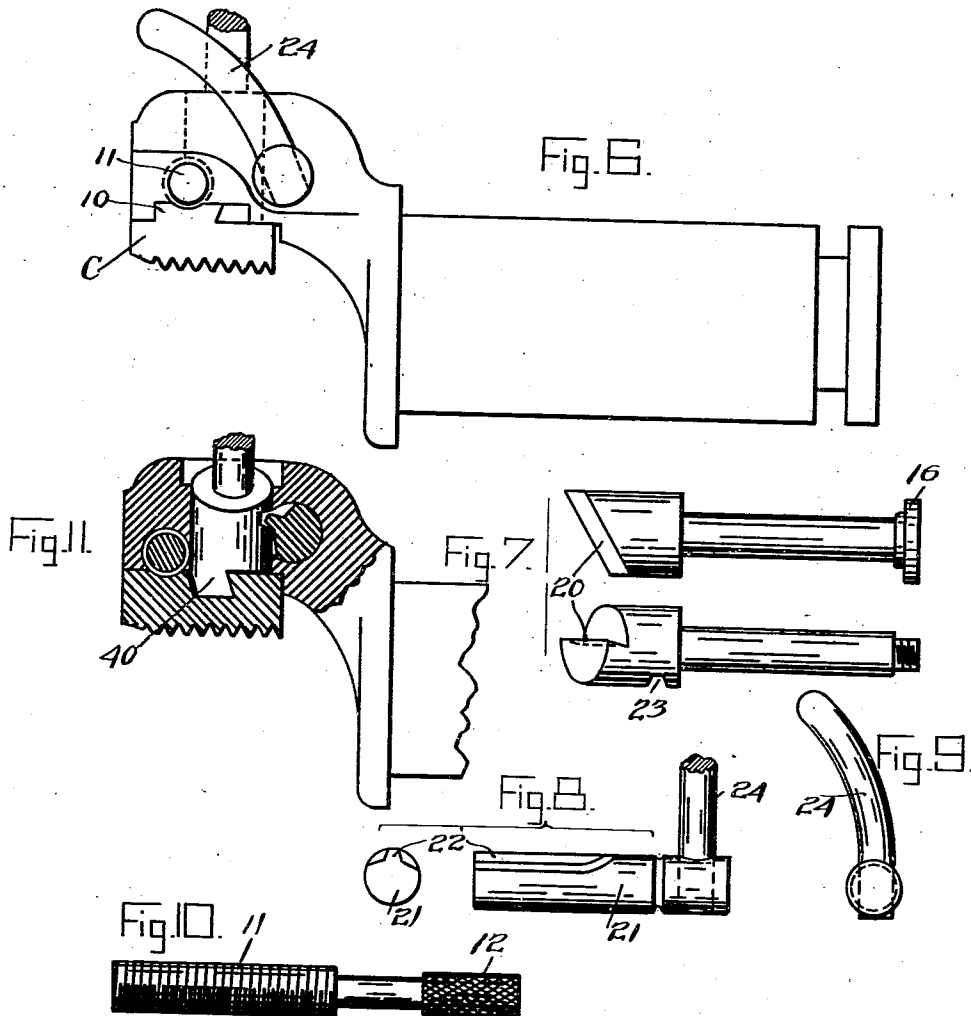
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UNITED STATES PATENT OFFICE.

ABRAHAM B. LANDIS, OF WAYNESBORO, PENNSYLVANIA.

CUTTER-HEAD.

1,018,394.

Specification of Letters Patent.

Patented Feb. 20, 1912.

Application filed December 21, 1909, Serial No. 534,389. Renewed December 9, 1911. Serial No. 664,763.

To all whom it may concern.

Be it known that I, ABRAHAM B. LANDIS, a citizen of the United States, residing at Waynesboro, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in Cutter-Heads, of which the following is a specification.

My said invention consists in various improvements in the details of construction and arrangement of parts of cutter-heads for cutting threads on bolts, screws, etc., said invention relating principally to the means for securing the cutter in the cutter-holder, whereby said cutter may be secured in a rigid manner and easily and conveniently released and adjusted, all as will be hereinafter more fully described and claimed.

Referring to the accompanying drawings which are made a part hereof and on which similar reference characters indicate similar parts, Figure 1 is a front elevation of the cutter-head embodying my said improvement, Fig. 2 a longitudinal section through the same on the dotted line 2—2 in Fig. 1, except that part of the rim is shown in elevation, Fig. 3 a front elevation of the holder with a portion broken away to show the parts more clearly, Fig. 4 a side elevation with a portion in section to show the means for securing and adjusting the cutter, more clearly, Fig. 5 an underside plan of the structure as shown in Fig. 4, Fig. 6 a side elevation, Figs. 7, 8, 9 and 10 detail views illustrating the several parts separately, and Fig. 11 a view showing a modification.

In said drawings the portions marked A represent the body, or frame, of the cutter-head, B the cutter-holders and C the cutters.

The body or frame A is, or may be, of any approved construction preferably of the form more fully illustrated and described in my application No. 529,152, filed November 20, 1909. It is formed with the bearings for the cutter-holders located equi-distant around a central aperture and is adapted to be secured on the end of the spindle of the machine in any approved manner. It is provided with a part A' surrounding the body and adapted to have a limited longitudinal movement thereon between which and the outer ends of the cutter-holders are interposed suitable toggle pins *a*. The construction and operation of the adjusting mechanism for regulating the size of the

die and for opening and closing the die may be the same as shown and described in my above named application, or of any other construction found appropriate.

The cutter-holders B are each of the form best shown in Figs. 3, 4 and 5 and consist of a trunnion adapted to be mounted in one of the bearings provided therefor in the body A, said trunnion carrying on its forward end a part B' which projects to one side of its axis and is formed with a recessed face to receive the cutter. It is also formed with a bearing *b* for the inner end of the toggle pin *a*.

The cutters C are each a block of steel of appropriate dimensions having cutting grooves extending longitudinally in their faces and are formed to rest in the recess formed in the cutter-holder provided therefor. Each is formed with a longitudinal rib 10 on its back one side of said rib being square and adapted to rest against a square corner in a recess formed in the cutter-holder and the opposite edge being formed cut under, or of dove-tail shape, as shown most clearly in Fig. 4. In the back of said rib are formed threads and a screw 11 mounted in a perforation in the cutter-holder engages with said threads and holds said cutter against longitudinal movement and provides for its longitudinal adjustment. Said screw 11 is of the form best shown in Fig. 9 its outer end being smaller than the screw-threaded portion and provided with a knurled thumb nut 12 on its outer end for turning the same. A plunger 14 is mounted in a socket or perforation in the back of the cutter-holder being formed with an outwardly projecting stem 15 with a cap 16 rigidly secured to its outer end. A plate, or washer, 17 is mounted on a shoulder in the outer end of the socket or perforation in which plunger 14 is mounted and a spring 18 is interposed between said plate 17 and the cap 16 on the outer end of stem 15. The tension of said spring 18 is directed against said cap and tends to force said plunger outwardly. The inner end of said plunger is of the form best shown in Fig. 7 being formed recessed on one side and having the edge 20 of said recess formed tapered to correspond with and fit under the tapered edge of the rib 10 on the cutter C. The spring 18 pressing against the plate 16 will thus tend to force said plunger outwardly and the tapered bearing face 20 will tend to force

the cutter C over against the square shoulder in the holder against which the opposite edge of rib 10 bears and at the same time force said cutter back firmly against the main face of the cutter-holder, thus securing it firmly in position. A rocking cylinder 21 is mounted in a perforation in the cutter-holder adjacent to the outer face of said plunger and is formed with a radial tongue 22 adapted to engage with a notch 23 in said plunger. On the outer end of said cylinder it is formed with a transversely projecting lever 24 by which it may be turned to force the plunger downwardly against the action of the spring 18 and loosen the parts to permit the turning of the screw 11 to adjust the longitudinal position of the cutter.

The operation will be readily understood from the foregoing description. By this construction a securing means is provided which is automatic in its operation and will serve to exert a constant holding grip upon the cutter, while permitting said grip to be readily and conveniently released by pressing upon lever 24 with the thumb, when screw 11 may be turned to effect any adjustment desired, or the cutter may be removed and replaced.

In Fig. 11 I have shown the plunger with a tongue 40 with a beveled face engaging with a beveled face in a groove in the cutter, the inner edge of said cutter bearing against a shoulder at the inner edge of the cutter recess in the holder.

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

1. A cutter-head comprising a holder formed with a recess for the cutter, a cutter mounted in said recess and formed with a rib on its back with a tapered edge, and a spring pressed plunger with a tapered face engaging said edge for clamping said cutter in position, substantially as set forth.

2. A cutter-head comprising a cutter-holder formed with a recess to receive the cutter, a cutter mounted in said recess and formed with a rib on its back one edge of which rib is cut under or tapered, a spring pressed plunger mounted in a socket and formed with a tapered face adapted to engage the tapered edge of said rib, and means

for securing said cutter longitudinally, substantially as set forth.

3. A cutter-head comprising a cutter-holder formed with a cutter receiving recess, a cutter formed with a rib on its back with a tapered edge mounted in said recess, a spring clamping member with a tapered face engaging said tapered edge, means for releasing said clamping member, and means for holding the cutter longitudinally, substantially as set forth.

4. A cutter-head comprising a cutter-holder formed with a recess for the cutter, said recess being formed with a shoulder on one side for a part of the cutter to bear against, a cutter formed with a rib on its back and mounted in said recess, one edge of said rib being formed to bear against said shoulder and the other tapered or cut under, a spring mounted plunger mounted in a socket in said cutter-holder and formed with a tapered clamping face adapted to engage with said tapered edge, and means for securing said cutter longitudinally, substantially as set forth.

5. A cutter-head comprising a cutter-holder formed to carry the cutter, a cutter mounted thereon, said cutter being formed with a rib with one edge square to bear against a flange on the outer edge of the holder and its opposite edge tapered, a clamping member with a tapered face engaging said tapered edge, and means for operating said clamping member, substantially as set forth.

6. The combination in a cutter-head of a holder, a cutter mounted therein formed with a longitudinal rib with a tapered edge, a means for holding said cutter longitudinally, a spring mounted plunger with a tapered clamping face engaging said tapered edge, and a rocking cylinder with a radial tooth engaging a notch in said plunger for releasing its engagement, substantially as set forth.

In witness whereof, I, have hereunto set my hand and seal at Washington, District of Columbia, this 17th day of December, A. D. nineteen hundred and nine.

ABRAHAM B. LANDIS. [L. s.]

Witnesses:

E. W. BRADFORD,
L. A. PRICE.