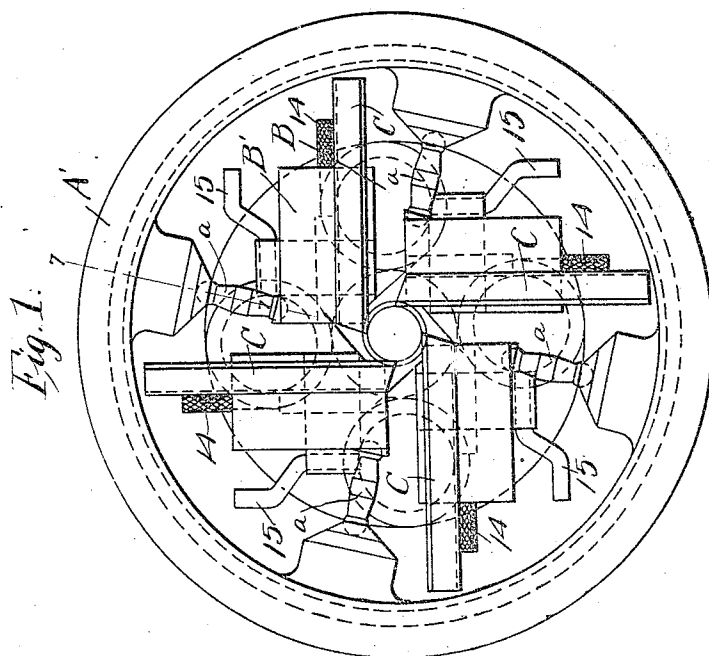
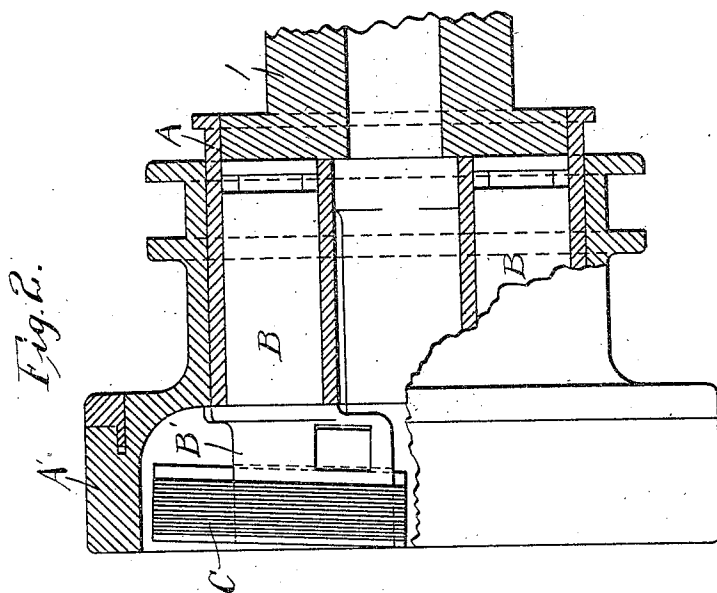


1,017,886

A. B. LANDIS.
CUTTER HEAD.
APPLICATION FILED FEB. 2, 1910.

Patented Feb. 20, 1912.
3 SHEETS—SHEET 1.



WITNESSES:

L. G. Price
C. K. Reichenbach.

INVENTOR.
Abraham B. Landis
BY
E. P. Bradford
ATTORNEY.

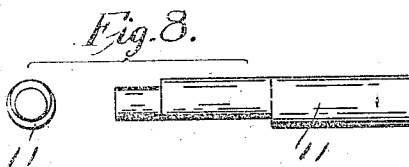
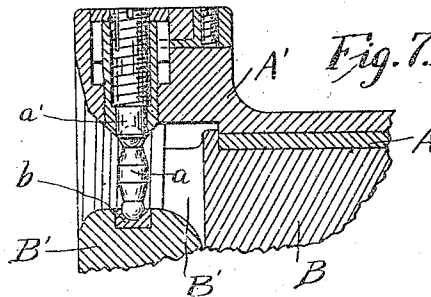
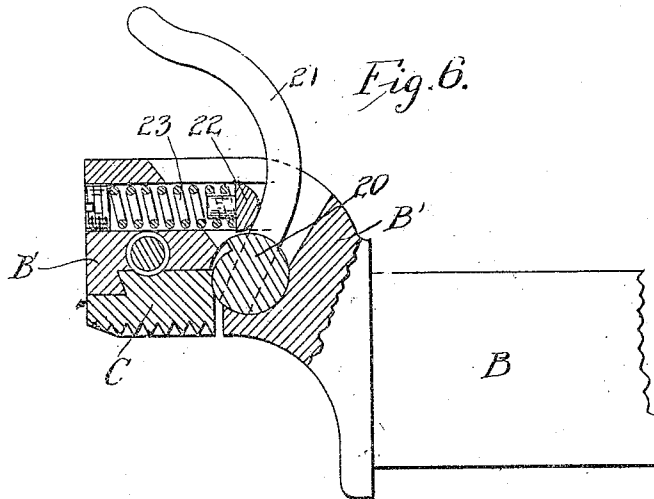
A. B. LANDIS.
CUTTER HEAD.

APPLICATION FILED FEB. 2, 1910.

Patented Feb. 20, 1912.

3 SHEETS—SHEET 3.

1,017,886.



WITNESSES:

L. A. Price
C. H. Rickenbach

INVENTOR.

Abraham B. Landis
BY
W. H. Bradford
ATTORNEY.

UNITED STATES PATENT OFFICE.

ABRAHAM B. LANDIS, OF WAYNESBORO, PENNSYLVANIA.

CUTTER-HEAD.

1,017,886.

Specification of Letters Patent.

Patented Feb. 20, 1912.

Application filed February 2, 1910. Serial No. 541,565.

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 herein-after 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, 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 view similar to Fig. 4 showing a modified construction, Fig. 7 a detail view on the dotted line 7—7 in Fig. 1, and Fig. 8 a view showing an end and side elevation of the pin on which the clamping member is mounted.

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

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 equidistant around a central aperture and is adapted to be secured on the end of the spindle 1 of the machine in any approved manner. It is provided with a part A', which surrounds the body and is adapted to have a limited longitudinal movement thereon. Bearings a' are carried in the outer end of said part between which and

the outer end of the cutter-holders are interposed toggle pins a.

The construction and arrangement of the adjusting mechanism for regulating the size of the die are shown in detail in Fig. 7, the operation of which being fully described in my above named application need not be repeated herein. It will be understood, however, that any other form or arrangement of adjusting mechanism found appropriate may be used.

The cutter-holders B are each of the form best shown in Figs. 3, 4, 5 and 6 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 the axis of said trunnion and is formed with a right-angle recess in its face to receive the cutter. It is also provided with a bearing b for the inner end of the toggle pin a. The face of the right-angle recess which is in line with the axis of the trunnion is formed with a longitudinal dove-tail shaped groove, which forms an overhanging outer holding flange or edge that is solid, or in piece, with the holder, and a longitudinal groove adapted to receive the inner edge of the cutter is formed in the face which extends at right angles with said axis. The rigid holding flange on the outer edge of the holder furnishes an unyielding support for the cutter as against the strain incident to its engagement with the work in drawing the same into the die.

Each of the cutters C is a block of steel of appropriate dimensions having cutting grooves extending longitudinally of its face and formed with a rib on its back the outer edge of which is tapered to correspond to the tapered outer edge of the dove-tail shaped recess in the part B'. The inner edge of the cutter projects into the longitudinal slot or groove in the other face of said recess. A cam lever 10, mounted on a pin 11, is adapted to bear with its cam face against the inner edge of the cutter. Said lever projects outwardly through a recess in the part B' and a coiled spring 12 mounted with one end in a recess in said part B' and its other end in a recess in the adjacent side of lever 10 and near its outer end tends to force said outer end over on its pivot so that its cam will bear against the inner edge of the cutter C and force the tapered edge of

the rib *c* under the overhanging tapered side of the solid flange formed by the groove in the part *B'*, and thus affords said cutter a very rigid and efficient support against the strain of the work. A screw 14 engages with screw-threads in the back of the rib *c*, being mounted to turn in a seat in the part *B'*, and serves as the means for holding and adjusting said cutter longitudinally. A handle 15 is connected with the outer end of lever 10 by which it may be readily operated against the pressure of spring 12 to release the engagement of its cam with the inner edge of cutter *C*. When said cam is thrown over out of engagement with said edge the cutter may be slid transversely in the slots with which it engages sufficiently to permit the dove-tail connection to be disengaged, when said cutter may be readily removed. The same operation takes place in placing said cutter in position, the cam being thrown over sufficiently to permit the cutter to be inserted in the grooves, when the lever is released and spring 12 operates to secure the rigid engagement of the parts. It will be noticed that the top inner edge of the cutter is slightly beveled which permits the same to be tilted slightly when being inserted and removed from the groove and thus enables the adjustment to be made more readily.

In Fig. 8 I have shown a preferred form of the pin 11, which shows the bearing on which the lever 10 is mounted as somewhat eccentric to the axis, for the purpose of permitting adjustment by turning it to compensate for any slight variation due to wear, or for other reasons, so that the clamping lever 10 will always hold at about the same position.

In Fig. 6 is shown substantially the same arrangement except that in lieu of a clamping lever mounted on a pin or pivot I have shown an eccentric clamping pin or cylinder 20 mounted in bearings in the part *B'* and adapted to bear directly against the inner edge of the cutter or chaser. A lever 21 extends up from said pin and a bearing head 22 is held against said lever by spring 23, which serves to force said eccentric into clamping relationship with the cutter, or chaser, the parts being otherwise the same as shown in the principal views.

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 cutter-holder, a cutter mounted in a recess in said cutter-holder, said holder and cutter being formed with interengaging parts and a spring pressed cam engaging with one edge of said cutter for holding said inter-engaging parts into engagement and securing the cutter in place, substantially as set forth.

2. A cutter-head comprising cutter-hold-

ers and cutters mounted therein each of said cutter-holders being formed with a recess to receive the cutter and each of said cutters being formed with a projection adapted to engage with said recess, and a cam adapted to engage with one edge of said cutter for holding it in position, substantially as set forth.

3. In a cutter-head, the combination of the frame or body, the cutter-holders mounted therein, the cutters mounted in said cutter-holders each of said cutter-holders being formed with a dove-tail shaped groove and each of said cutters being formed with a tapered projection adapted to engage with said groove and a spring pressed cam for holding said cutter in place, substantially as set forth.

4. A cutter-head comprising cutter-holders, cutters mounted in said holders, each of said holders being formed with a groove having an overhanging edge and each of said cutters being formed with a rib or projection having an edge adapted to engage with the overhanging edge of said groove, said cutters being mounted to slide transversely into and out of said engagement, a cam adapted to engage with each cutter for holding it into engagement, and means for operating said cam, substantially as set forth.

5. A cutter-head comprising cutter-holders each formed with a recess and a groove formed in the back face of said recess having an overhanging or tapered edge and another groove or slot formed in the edge face of said recess which extends at right-angles to said first mentioned face, cutters mounted in said recesses each being formed with a rib on its back having a tapered edge adapted to engage with the tapered edge of groove in the back face of said recess and the inner edge of said cutter being adapted to engage with the slot or groove in the edge face of said recess, a pivoted cam engaging with the inner edge of said cutter and a spring for forcing said cam into contact with said inner edge and holding it in place, substantially as set forth.

6. A cutter-head comprising cutter-holders each formed with a right angular recess to receive the cutters, a tapered groove being formed in one face of said recess and a groove or slot being formed in the other face, cutters each formed with a longitudinal rib on its back having one edge formed tapered to engage with the tapered edge of said groove and the inner edge of said cutters being adapted to be inserted in the groove in the other face of said recess, a pivoted lever with a cam on one end adapted to engage with the inner edge of said cutter, a spring bearing against said lever for forcing said cam against the inner edge of said cutter, and a handle for operating said

lever against the action of said spring, substantially as set forth.

7. A cutter-head comprising cutter-holders each formed with a cutter receiving recess in its face with an overhanging engaging flange, a cutter mounted in each recess formed with a part one edge of which closely engages under said flange, pivoted cams for holding said cutters in place, eccentric bearings for said cams mounted to be turned for adjustment, and means for

operating said cams, substantially as set forth.

In witness whereof, I, have hereunto set my hand and seal at Washington, District of Columbia this 2nd day of February, A. D. nineteen hundred and ten.

ABRAHAM B. LANDIS. [L. s.]

Witnesses:

E. W. BRADFORD,

J. D. YOAKLEY.