

(No Model.)

W. H. DOANE.
CUTTER HEAD.

No. 337,487.

Patented Mar. 9, 1886.

Fig. 1.

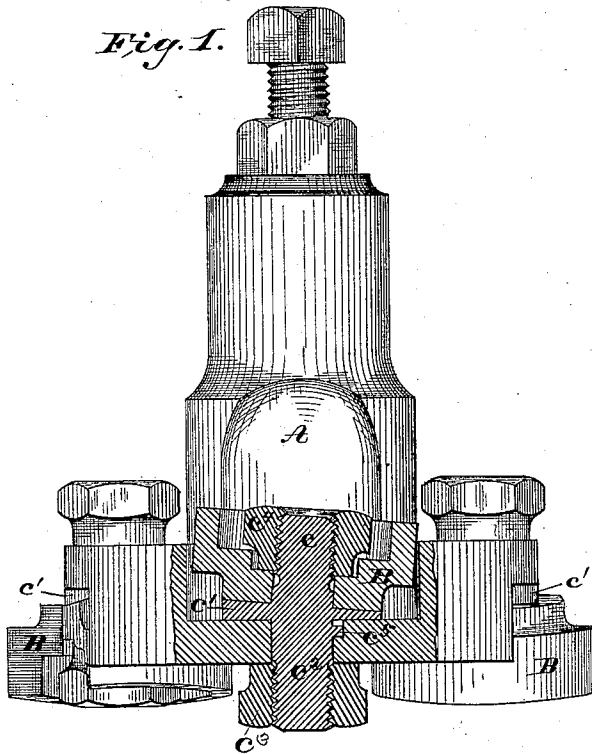
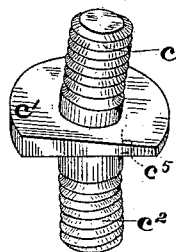


Fig. 2.



Witnesses:

E. J. Walker
Wm. E. Dyre.

Inventor:

William H. Doane
by his attorney
W. H. E. E.

UNITED STATES PATENT OFFICE.

WILLIAM H. DOANE, OF CINCINNATI, OHIO.

CUTTER-HEAD.

SPECIFICATION forming part of Letters Patent No. 337,487, dated March 9, 1886.

Application filed January 18, 1886. Serial No. 188,978. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. DOANE, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Cutter-Heads; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to that type of cutter-heads which are provided with two or more eccentrically-disposed bits having the form of notched circular disks, and being secured to the head by bolts which pass through their centers, on which bolts they may be turned for adjustment as they wear away.

The object of my invention is to give an oblique set to such bits, for the purpose of clearance, by the fastening-bolts. To this end I construct the bolt with a double-faced collar, making that face which clamps against the head oblique to the other face from which the shank for the bit projects at right angles, the bit-socket bottom of the head clamped by the oblique face of the collar being dressed so as to form a plane at right angles to the axis of the head, as usual.

In order that my invention may be clearly understood, I have illustrated in the annexed drawings, and will proceed to describe, a cutter-head designed for cutting tongues on the edges of boards, and embodying my invention.

Figure 1 represents a side elevation of such cutter-head partly sectionized in the axial plane of one of the bits. Fig. 2 represents a perspective of a bit-fastening bolt.

The same letters of reference indicate identical parts in all the figures.

The head A is of ordinary construction, having the usual alternating flat-bottomed bit-sockets. By "flat-bottomed" I mean that the planes of the bottoms of these sockets are at right angles to the axis of the head. Each bit B is centrally mounted on the shank *c* and seated against one face of the collar *c'* of a double-shanked bolt, the shank *c''* of which passes through a hole in the socket-bottom and

is screw-threaded to receive a nut, *c''*, between which and the collar *c'* the web of the head is firmly clamped. The shank *c* projects at right angles from the adjoining face of collar *c'*, and is also screw-threaded to receive a nut, *c''*, by which the bolt is firmly clamped against the collar.

In order to throw the bit into a slightly-oblique position with reference to the axis of the head, so as to provide for clearance, the face of the collar from which the bolt-shank *c''* projects, and which clamps against the flat bottom of the bit-socket, is made oblique to the other face. The effect of this obliquity of the head-clamping face of the collar is to incline the bolt-shank *c* when the bolt is applied to the head. The bolt-shank *c''* is shown as projecting at right angles from the adjoining or oblique face of collar *c'*; but that is not material. In order that the bit-fastening bolt may not turn on the head, (its turning would alter the set of the bit,) shank *c''* has a projection, *c'''*, which engages a notch in the bottom of the bit-socket, as clearly shown in Fig. 1.

Adjustability of the set of the bit may be provided for by a series of such notches in the bit-socket bottom.

I do not limit myself to any particular form of head. Whether it has bit-sockets or not will depend upon the use for which it is designed.

The gist of my invention consists in mounting the bit upon a collared bolt the head-clamping face of whose collar is oblique to the face against which the bit is clamped.

I claim as my invention—

The combination, substantially as before set forth, of the head, the circular bit, and the bolt having a double-faced collar the head-clamping face of which is oblique to its other face, from which the shank for the bit projects at right angles.

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

WILLIAM H. DOANE.

Witnesses:

A. M. NEWKIRK,
A. N. SPENCER.