No. 684,465. Patented Oct. 15, 1901.

J. P. SEIL.

CUTTER HOLDER FOR LATHES, PLANERS, &c.

(Application filed Mar. 23, 1901.)

(No Model.)

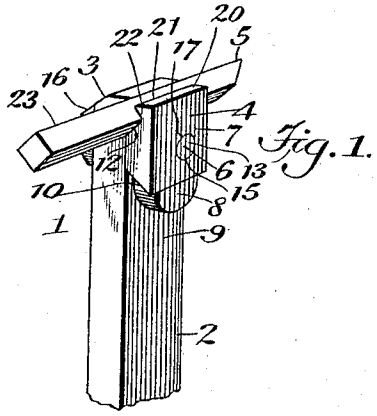


Fig. 1.

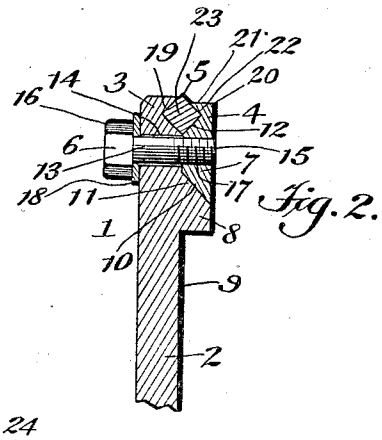


Fig. 2.

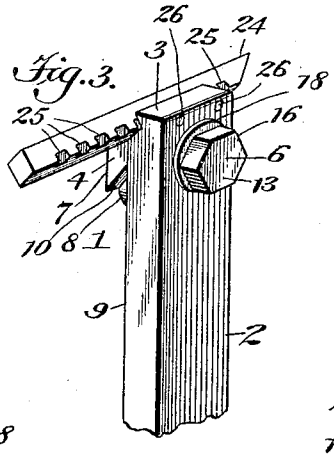


Fig. 3.

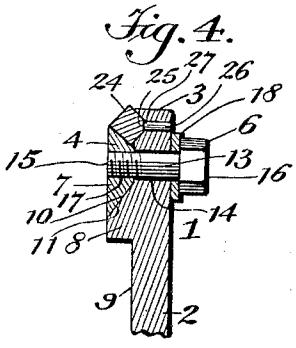


Fig. 4.

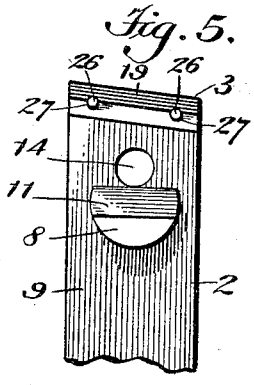


Fig. 5.

WITNESSES:

A. R. Applemann Jr.

L. Duane.

INVENTOR

Joseph P. Seil,

BY J. A. Littell

his ATTORNEY.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH P. SEIL, OF NEW YORK, N. Y.

CUTTER-HOLDER FOR LATHES, PLANERS, &c.

SPECIFICATION forming part of Letters Patent No. 684,465, dated October 15, 1901.

Application filed March 23, 1901. Serial No. 52,645. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH P. SEIL, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Cutter-Holders for Lathes, Planers, Shapers, and the Like, of which the following is a specification.

This invention relates to cutter-holders for lathes, planers, shapers, and the like; and it has for its object to provide an improved cutter-holder of this class which shall possess advantages in point of positiveness in the cutter-holding function, facility of adjustment, and simplicity of construction.

In the drawings, Figure 1 is a perspective view of a tool-post embodying the improved cutter-holder. Fig. 2 is a detail vertical sectional view of the same. Fig. 3 is a perspective view of a modified form of the construction illustrated in Fig. 1. Fig. 4 is a detail vertical sectional view of the same. Fig. 5 is a detail face view of a portion of the construction shown in Fig. 3.

Corresponding parts in all the figures are denoted by the same reference characters.

Referring to the drawings, 1 designates my improved cutter-holder, which, as illustrated in the drawings, may be applied to the customary tool-post 2 or any equivalent member of lathes, planers, shapers, and the like.

In carrying out my invention I provide two clamping-jaws 3 and 4, respectively, one of which, 3, is preferably embodied in the tool-post 2, and is consequently fixed and immovable, and the other of which, 4, is adjustably carried by the tool-post, whereby it may be moved with relation to the jaw 3 to clamp the cutter 5 in operative position.

6 designates means for adjusting the movable jaw 4.

In the preferred form of construction the movable jaw 4 consists of a wedge-shaped block 7, which operates with respect to the cutter 5 and with respect to a beveled shoulder 8, which is secured to or formed integral with one face 9 of the tool-post 2. The wedge-shaped block 7 is provided with a beveled face 10, which fits and operates in connection with the beveled face 11 of the shoulder 8. The block 7 is also provided with an oppositely-beveled face 12, which fits and operates in connection with one face of the cutter 4. The adjusting means 6 may consist of a threaded bolt 13, which is passed transversely through a threaded bore 14 in the tool-post 2 and carries the block 7 upon its outer end 15. The inner end of the bolt 13 is headed, as at 16, to enable rotation by a wrench or similar tool. The block 7 is provided with a threaded bore 17, which receives the bolt 13. A washer 18 may be applied to the bolt 13 between the head 16 of the same and the tool-post to facilitate the tightening of the bolt in the bores 14 and 17 and a consequent positive binding of the block 7 upon the beveled shoulder 18 and the cutter 5. To provide a secure seat for the cutter 5, the jaw 3 is preferably provided with a transverse angular notch 19, in which one edge of the cutter may be seated, and the block 7 may be provided at its outer edge 20 with a transverse lip 21, which with the beveled face 12 of the block 7 forms a transverse angular notch 22, in which an opposite edge of the cutter may be seated. This formation and relative arrangement of parts is particularly adapted for the positive clamping of a cutter having the customary body portion or shank 23 of substantially rectangular formation, as it results in the firm clamping or binding of the cutter-shank on all sides or faces; but the several notches and beveled faces of the jaws 3 and 4 are so formed and proportioned that the entire operative edge portion of the tool projects beyond the jaws 3 and 4, so as to permit its engagement with the work. The provision of the transverse lip 21, which forms the notch 22, is, however, not essential to the perfect clamping operation of the jaws 3 and 4, as the beveled face 12 of the block 7 will effectively force the cutter into engagement with the notched portion 19 of the jaws 3 and positively maintain the cutter in position.

In Figs. 3, 4, and 5 I have shown a modified form of construction in which the several parts are of the same general construction as in the foregoing figures, but are adapted for holding a cutter 24, having longitudinal series of notches 25, said notches being formed in the edge portion of the cutter, which is seated in the notch 19. The jaw 3 is provided with one or more locking-pins 26, which extend transversely through the same

and project within the notch 19, as at 27, and the pins 26 are spaced apart at their projecting ends 27, so that they fit, respectively, within an equal number of the notches 25 in the cutter when the latter is forced home in the notch 19 by the clamping action of the jaws 3 and 4.

The operation and advantages of my improved cutter-holder will be readily understood by those skilled in the art to which it appertains. In adjusting the cutter to the tool-post one edge of the cutter is seated in the notch 19, and the threaded bolt is operated by the application of a suitable tool to the head 16, which operation brings the wedge-shaped block 7 to bear upon the shoulder 8 and upon the tool 5. As the manipulation of the bolt continues the beveled faces 10 and 12, which bear, respectively, upon the beveled face 11 of the shoulder 8 and upon one face of the cutter-shank 23, cause a firm seating of the cutter in the notch 19 and a tight clamping of the cutter between the jaws 3 and 4. The wedge-like action of the block 7 between the shoulders 8 and the cutter 5 causes an equalization of pressure upon the shoulder 8 and upon the cutter, and this equalization of strain permits the free and easy movement of the block 7 upon the bolt, as there is no lateral binding or friction of the block upon the bolt. Facility of operation and positiveness of the resulting clamping action are thus obtained. When the lip 21 is employed upon the block 7, forming the notch 22, the possibility of lateral movement of the cutter is entirely obviated; but this construction is not ordinarily necessary to accomplish the ends in view.

In the form of construction illustrated in Figs. 3, 4, and 5 the cutter is positively prevented from longitudinal displacement or shifting, and as the cutter wears away in use it may be adjusted in the notch 19 to compensate for its decrease in length, the pins 26 being fitted into the several notches or slots 25 as determined by the adjustment of the cutter.

The entire cutter-holder is simple in construction and positive in operation and effectively serves the purposes for which it is intended.

I do not desire to be understood as limiting myself to the details of construction and arrangement as herein described and illustrated, as it is manifest that variations and modifications may be made in the features of construction and arrangement in the adaptation of the device to various conditions of use without departing from the spirit and scope of my invention and improvements. I therefore reserve the right to all such variation and modification as properly falls within the scope of my invention and the terms of the following claim.

Having thus described my invention, I claim and desire to secure by Letters Patent—

The combination, with a cutter provided with a plurality of serially-arranged notches, of a cutter-holder, comprising a fixed jaw provided with a locking-pin secured in said fixed jaw and projecting through said cutter-seat in position for engagement with one of said notches, a movable jaw, and means for clamping the cutter in operative position between said jaws.

In testimony whereof I have signed my name in the presence of the subscribing witnesses.

JOSEPH P. SEIL.

Witnesses:
GEO. VAIL HUPPERTZ,
J. R. LITTELL.