2 Sheets—Sheet 1.

W. ESTY.

PLANER-CHUCKS.

No. 172,306. Patented Jan. 18, 1876.

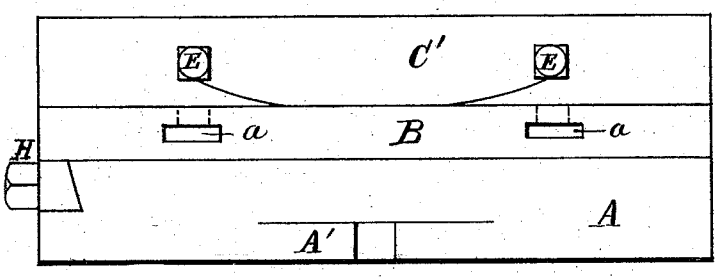


Fig. 2.

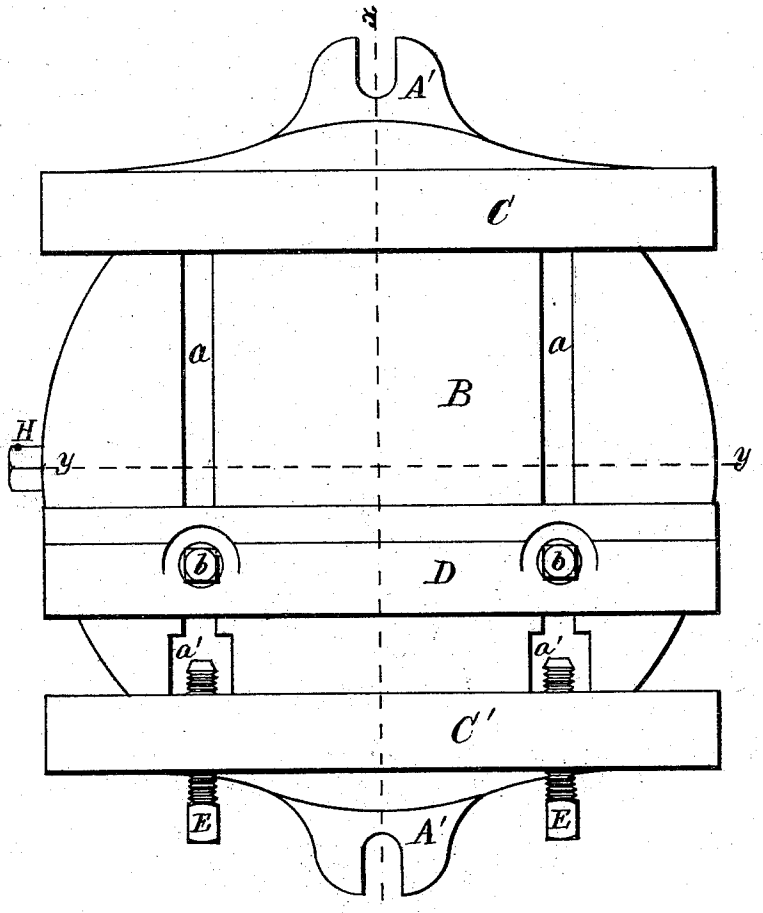


Fig. 1.

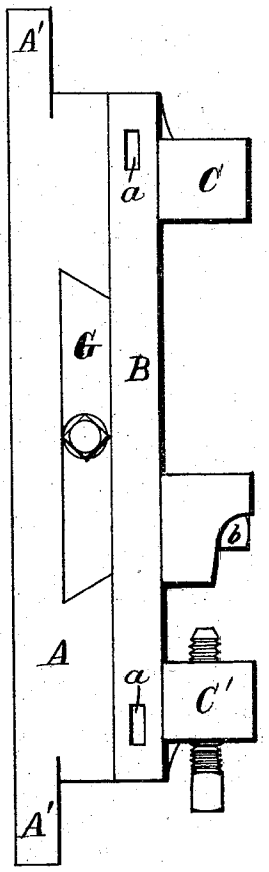


Fig. 3.

Witnesses.
Wm. P. Edwards
B. Andrews Jr.

Inventor.
William Esty
by his Attorney
N. C. Lombard.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

2 Sheets—Sheet 2.

W. ESTY.

PLANER-CHUCKS.

No. 172,306. Patented Jan. 18, 1876.

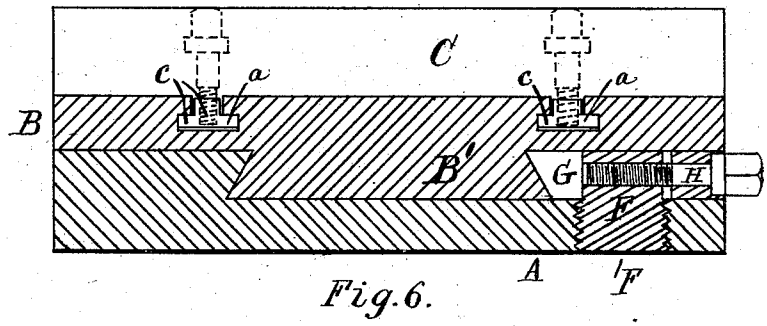


Fig. 6.

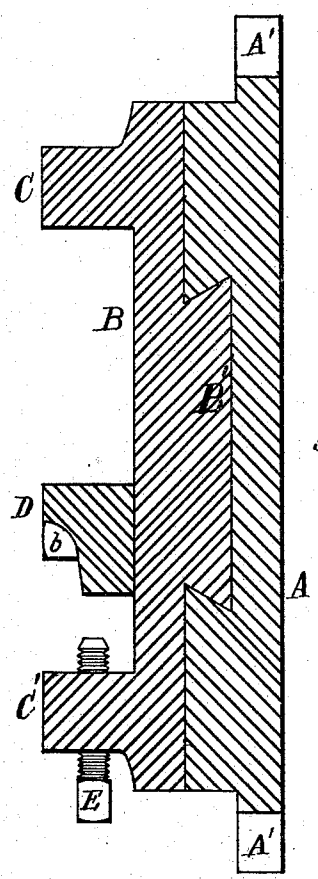


Fig. 5.

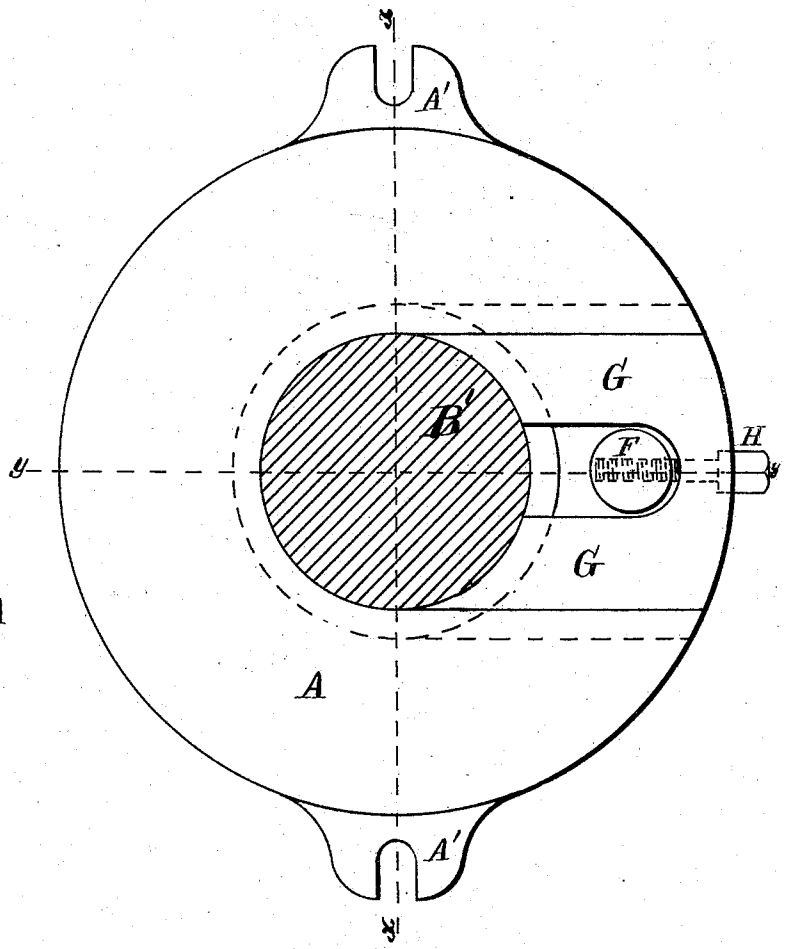


Fig. 4.

Witnesses.
Wm. F. Edwards
B. Andrews Jr.

Inventor.
William Esty
by his Attorney
N. C. Lombard.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM ESTY, OF FITCHBURG, MASSACHUSETTS, ASSIGNOR TO PUTNAM MACHINE COMPANY, OF SAME PLACE.

IMPROVEMENT IN PLANER-CHUCKS.

Specification forming part of Letters Patent No. **172,306**, dated January 18, 1876; application filed October 8, 1875.

To all whom it may concern:

Be it known that I, WILLIAM ESTY, of Fitchburg, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Planing-Machine Chucks, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to a chuck or clamping device, to be bolted to the bed of a planer, and provided with suitable devices for clamping the article to be planed, and adapted to be readily adjusted to any desired angle about a vertical axis, to adapt the article to be planed to the proper position relative to the planer-tool, without disturbing the fastenings by which said chuck is secured to the planer-bed; and it consists, first, in the use, in a planer-chuck made in two parts, one of which is or may be bolted firmly in any desired place upon the upper surface of a planer-bed, and the other fitted thereto and adapted to be adjusted thereon about a vertical axis, and provided with a fixed and a movable jaw for clamping the article to be planed, of a circular hub projecting from one of said parts in the form of the frustum of a cone, with its outer end the largest, said hub being fitted into a dovetailed slot or groove formed in the contiguous face of the other part of said chuck, said slot extending from the periphery or outer edge of said piece to its center, and its end terminating in a semicircle concentric with the center of the chuck, and a gib fitted to slide in said dovetailed slot, and having its inner end cut concave and beveled from a vertical plane, so as to nicely fit the convex and tapered side of the hub projecting from the first-named piece of said chuck, and a screw-bolt and nut adapted to force said gib against the hub and clamp it firmly in position, as will be further described.

My invention further consists in making said gib forked at its inner end, so as to form two curved and beveled wedges adapted to act upon the conical hub, in combination with a stationary nut located between the forks of said gib and a clamping-screw, which passes through a portion of the outer end of said gib, and fitted with suitable threads to work in said nut, for the purpose of adjusting and controlling said gib.

My invention further consists in extending the bottom portions of the T-shaped slots formed in the upper side of the upper part of the chuck, to receive the T-heads of the clamping-bolts, for holding the movable jaw through the side of said upper or movable portion of the chuck, to facilitate the removal of dirt or chips of iron or other metal from said slots, as will be further described.

Figure 1 of the drawings is a plan of my improved planer-chuck. Fig. 2 is an elevation. Fig. 3 is an elevation looking at right angles to Fig. 2. Fig. 4 is a plan of the lower portion of the chuck, with the pivotal hub of the upper portion cut in section, and showing the manner of applying the gib. Fig. 5 is a vertical section on line *x x* on Figs. 1 and 4, and Fig. 6 is a similar section on line *y y* on the same figures.

A is the base or lower disk of the chuck, provided with ears A′ A′, by means of which and suitable bolts it may be secured in any desired position on the upper surface of the bed of a planer, or to a bracket bolted to said bed, if desired. The base-plate A has formed in its upper surface a groove or channel, extending from its outer edge to its center, with its inner end semicircular and concentric with its center, the sides of said groove being undercut or made dovetailing, as shown. B is the upper or movable disk of the chuck, having formed upon its under side the projecting frusto-conical hub B′, of a size and exterior form (as seen in section) to fit the dovetailed groove formed in the lower disk A, and also having cast upon or otherwise secured to its upper side two fixed jaws or raised ribs, C and C′, and provided with two or more T-shaped grooves, *a*, formed in its upper surface between said ribs C and C′, the bottom or widest portions of which extend under said ribs to the outer edge of the disk, thus forming a free passage for any dirt or chips of metal which may fall into the grooves *a*. D is an adjustable jaw, secured in any desired position upon the disk B, between the ribs or jaws C and C′, by means of bolts *b b* and T-shaped nuts *c c*, fitted to slide in the grooves

a a. The lips upon the sides of the grooves *a a* are cut away at *a' a'*, near the jaw or rib C', to facilitate the insertion of the nuts *c c* into the grooves *a a*.

Heretofore these T-shaped grooves have extended only from the jaw C to the jaw or rib C', and as they were constantly being filled up with dirt and chips of metal, which, as a matter of course, interfered with the adjustment of the movable jaw D, they were a great source of trouble, owing to the difficulty of clearing the dirt and chips therefrom. This difficulty is entirely overcome by my improvement of extending the bottom or wider portions of the slots *a a* through to the edge of the disk, through which extensions any dirt accumulating in said slots *a a* will be discharged by the act of adjusting the jaw D.

E E are two set-screws working in the rib C', the points of which bear against the movable jaw D, or filling-pieces, which may be placed between said jaw and said screws, according as to whether a large or small piece of metal is to be held in the chuck, all in a well-known manner. F is a nut set in the lower disk A, and projecting upward in the center of the dovetailed groove formed in the upper side of said disk. G is a gib, fitted to slide in the dovetailed groove formed in the upper side of the disk A, and having its inner end forked, so as to embrace or straddle the nut F, and the ends of the two forks shaped to accurately fit the periphery of the hub B'. H is an adjusting-screw passing freely through the gib G, and working in the nut F, to force the gib G hard against the pivotal hub B', to hold it in any desired position, the two forks of said gib acting as two wedges forced between the hub and the sides of the groove in the disk A, and forcing the hub B' hard against the semicircular end of said groove, the conical form of the hub B and corresponding shape of the end of the gib G tending at the same time to draw the upper disk B downward into closer contact with the disk A.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In combination with the two parts of a planer-chuck adapted to be revolved one upon the other, the frusto-conical pivot or hub B', formed upon one of said parts, and fitted to a dovetailed groove having a semicircular end formed in the other part, and a gib, G, fitted to slide in said dovetailed groove, and having its inner end shaped to fit the periphery of the hub B', screw H passing through the center of the gib, and nut F located in the same horizontal plane as the gib G, all arranged and adapted to operate as and for the purposes described.

2. The gib G, having its inner end bifurcated, and its two parts shaped to fit the frusto-conical hub B', in combination with the clamping-screw H, having its bearing in the outer portion of the body of said gib, and the nut F located in the same plane as the gib G and between its forks, substantially as described.

3. The combination, in a planer-chuck, of the plate B, provided with the fixed or stationary ribs C and C', and two or more grooves, *a*, formed in its upper surface, the bottom or widest portion of each of which extends under the ribs C and C' to the outer edges of the plate B, movable jaw D, and holding-bolts *b b*, the heads or nuts of which fit and slide in the grooves *a a*, as and for the purposes described.

Executed at Fitchburg, Massachusetts, this 30th day of September, 1875.

WILLIAM ESTY.

Witnesses:
JOHN BURNEY,
H. J. HARRINGTON.