

(No Model.)

J. D. WESTCOTT.

CUTTER HEAD FOR HANDLE TURNING LATHES.

No. 293,829.

Patented Feb. 19, 1884.

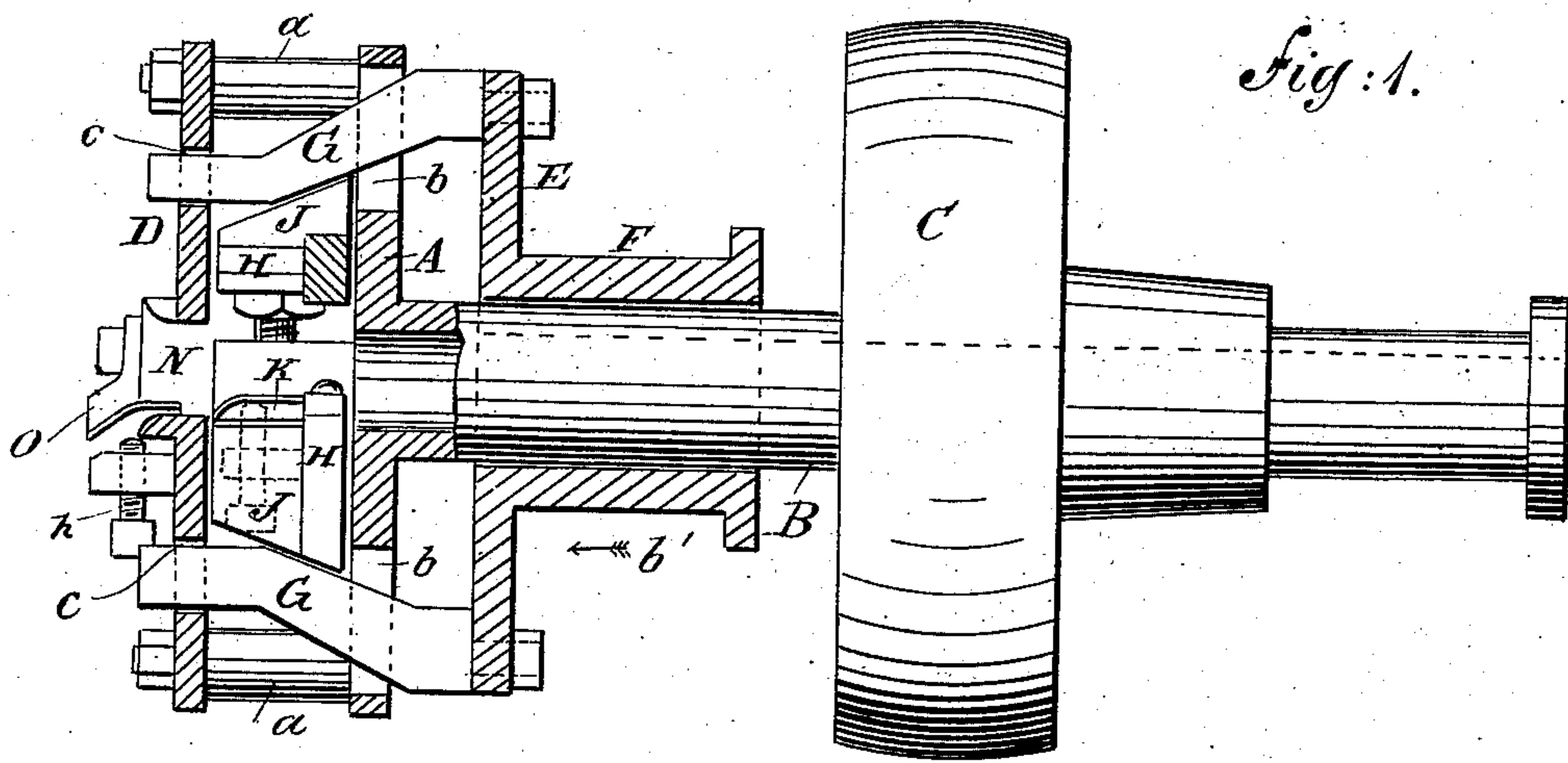


Fig: 1.

Fig: 2.

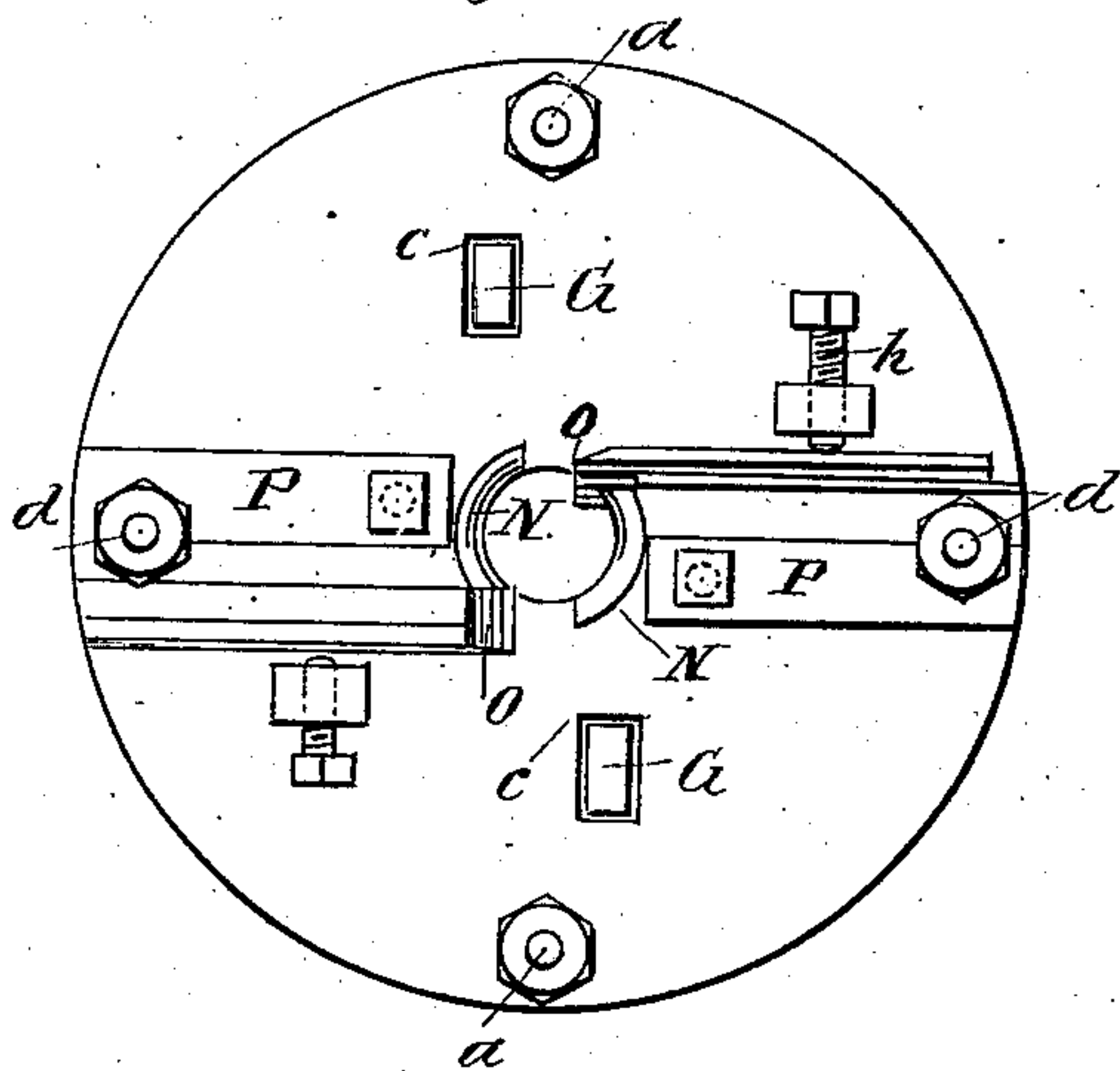


Fig: 3.

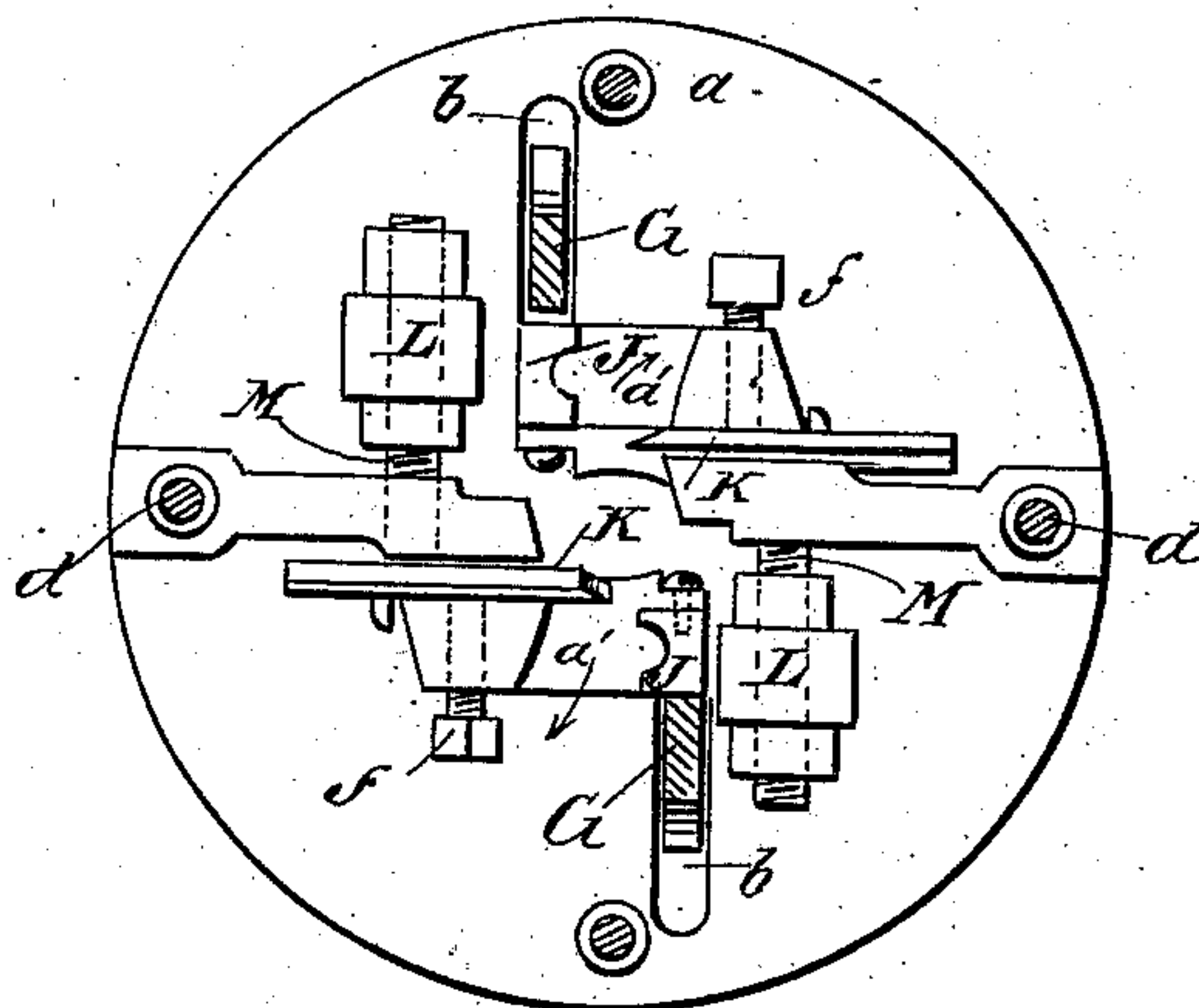
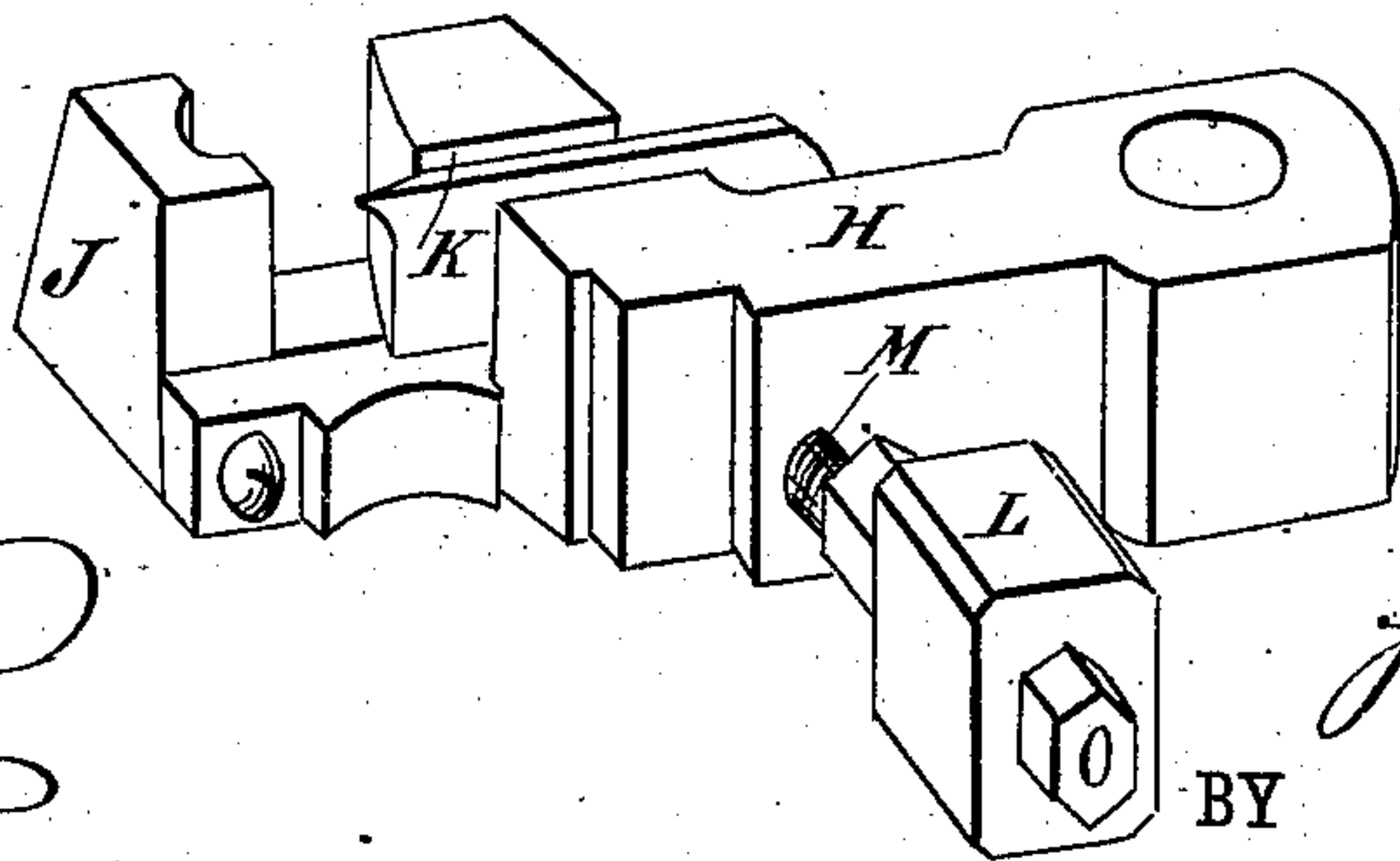


Fig: 4.



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CUTTER-HEAD FOR HANDLE-TURNING LATHES.

SPECIFICATION forming part of Letters Patent No. 293,829, dated February 19, 1884.

Application filed August 9, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. WESTCOTT, of Union City, in the county of Erie and State of Pennsylvania, have invented a new and Improved Cutter-Head for Handle-Turning Lathes, of which the following is a full, clear, and exact description.

This invention relates to certain new and useful improvements in cutter-heads for lathes for turning handle-sticks for brooms, hoes, rakes, and like implements; and to this end the invention consists in the peculiar construction and arrangement of parts as hereinafter fully described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal sectional elevation of my improved cutter-head for handle-turning lathes. Fig. 2 is a front elevation of the same. Fig. 3 is a front elevation of the same with the front plate removed. Fig. 4 is a detail perspective view of one of the pivoted knife-holding arms.

A circular centrally-apertured plate, A, is attached to the end of a tubular shaft, B, provided with a belt-pulley, C, and a like centrally-apertured circular plate, D, is held in front of and a short distance from the plate A by a series of screw-bolts, *a*. A circular plate, E, is attached to the front end of a sleeve, F, loosely mounted on the tubular shaft B, between the disk or plate A and the pulley C, which sleeve F is adapted to slide longitudinally on the tubular shaft B. Two arms, G, fixed to and projecting from the front of the plate E, are beveled or inclined toward the shaft B, and project through slots *b* in the plate A and *c* in the plate D, thus causing the plate E and sleeve F to rotate with the plates A and D and the shaft B. Two arms, H, are pivoted diametrically opposite each other, between the plates A and D, at the edges of these plates, by pintles *d*, fixed in the plates, so as to be adapted to swing between the plates A and D. These arms H are provided at the free ends with beveled projections or lugs J, facing the beveled inner edges of the arms G G. These arms H are provided with

knives or cutters K, adjustably held by screws *f*, the cutting-edges of these knives projecting from the swinging ends of the arms. so as to cut the surface of a stick passed through the central aperture of the plates A and D and through the tubular shaft B. The arms H are provided with weight-blocks L, which are held on screw-pintles M, projecting from the arms H. Two flared segmental cutters N project outward from the edges of the central aperture of the plate D. Two cutters or knives, O, are held adjustably and inclined to the surface of the plate D by screws *h* on opposite radial ridges P on the outer surface of the plate D in such a manner that the cutting-edges of these knives O will project slightly into the central aperture of the plate D, between the ends of the segmental cutters N.

The operation is as follows: The cutter-head is rotated very rapidly, and the centrifugal force throws the swinging ends of the arms H outward—that is, from the center of the plates A and D in the direction of the arrows *a'*—until the beveled lugs J rest against the inner edges of the beveled arms G of the plate E. A stick that is inserted through the central apertures of the plates A and D into the tubular shaft B will be cut cylindrical by the cutting-edges of the knives K, the diameter of the turned stick being equal to the distance the knives K are separated. If the knives are gradually brought together or separated, the diameter of the turned stick will decrease or increase. If the plate E is moved toward the plate A, in the direction of the arrow *b'*, the beveled edges of the arms G between the plates A and D will be separated a greater distance, the ends of the arms H can swing from each other a greater distance, and the diameter of the turned stick or handle will be increased; and, vice-versa, if the plate E is moved in the inverse direction of the arrow *b'*, the beveled edges of the arms G between the plates A and D will be brought closer together, and the ends of the arms H are separated less, and the diameter of the stick or handle will be decreased. The movement of the plate E is governed by a suitable cam, (not shown,) which moves a fork surrounding the sleeve F. To make a tapering

broom-handle, the plate E is gradually moved toward the plate A by the cam, whereby the swinging ends of the arms H, carrying the knives K, will gradually be permitted to separate, whereby a tapering handle is produced. Any bevel, either in one direction or the other, can be given to the stick by using a different cam.

The special feature of this cutter-head is, that the edges of the knives K are separated by the centrifugal force and are brought together by the action of the beveled arms G on the beveled blocks or lugs J of the arms H. The turned stick passes through the tubular shaft B. The knives N and O round off the corners of the stick in advance of the action of the knives K, which finish the stick to the form desired. As the knives O and K are adjustable, they can be set to give the stick any desired maximum diameter, and the variations in the diameter of the stick are governed by the greater or less movement of the plate E.

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

1. In a cutter-head for handle-turning lathes, the combination, with the tubular shaft B, provided with the apertured plate A and the apertured plate D, held in front of and some distance from the plate A, of the knife-carrying arms H, pivoted between the said plates, the sliding plate E, and the arms G, secured to said plate E, and passing through the apertures of the plates A D, substantially as herein shown and described.

2. In a cutter-head for handle-turning lathes, the combination, with the plates A D, attached to a tubular shaft, B, of the knife-carrying arms H, pivoted to the plates A D, the weight-blocks L, attached to the arms H, and of devices for adjusting the distance the arms H are to be separated by the centrifugal force, substantially as herein shown and described, and for the purpose set forth.

3. In a cutter-head for handle-turning lathes, the combination, with the plates A D, attached to a tubular shaft, B, of the knife-carrying arms H, pivoted to the plates A D, the beveled projections J on the ends of the arms H, and the adjustable beveled arms G, passing through the plates A D, substantially as herein shown and described, and for the purpose set forth.

4. In a cutter-head for handle-turning lathes, the combination, with the plates A D, attached to a tubular shaft, B, of the knife-carrying arms H, pivoted to the plates A D, the beveled arms G, passing through the plates A D, and the knives N and O, attached to the outer surface of the outer plate, D, substantially as herein shown and described, and for the purpose set forth.

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Witnesses:

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