

(No Model.)

C. W. FOWLER.

CUTTER HEAD FOR VARIETY MOLDING MACHINES.

No. 559,695.

Patented May 5, 1896.

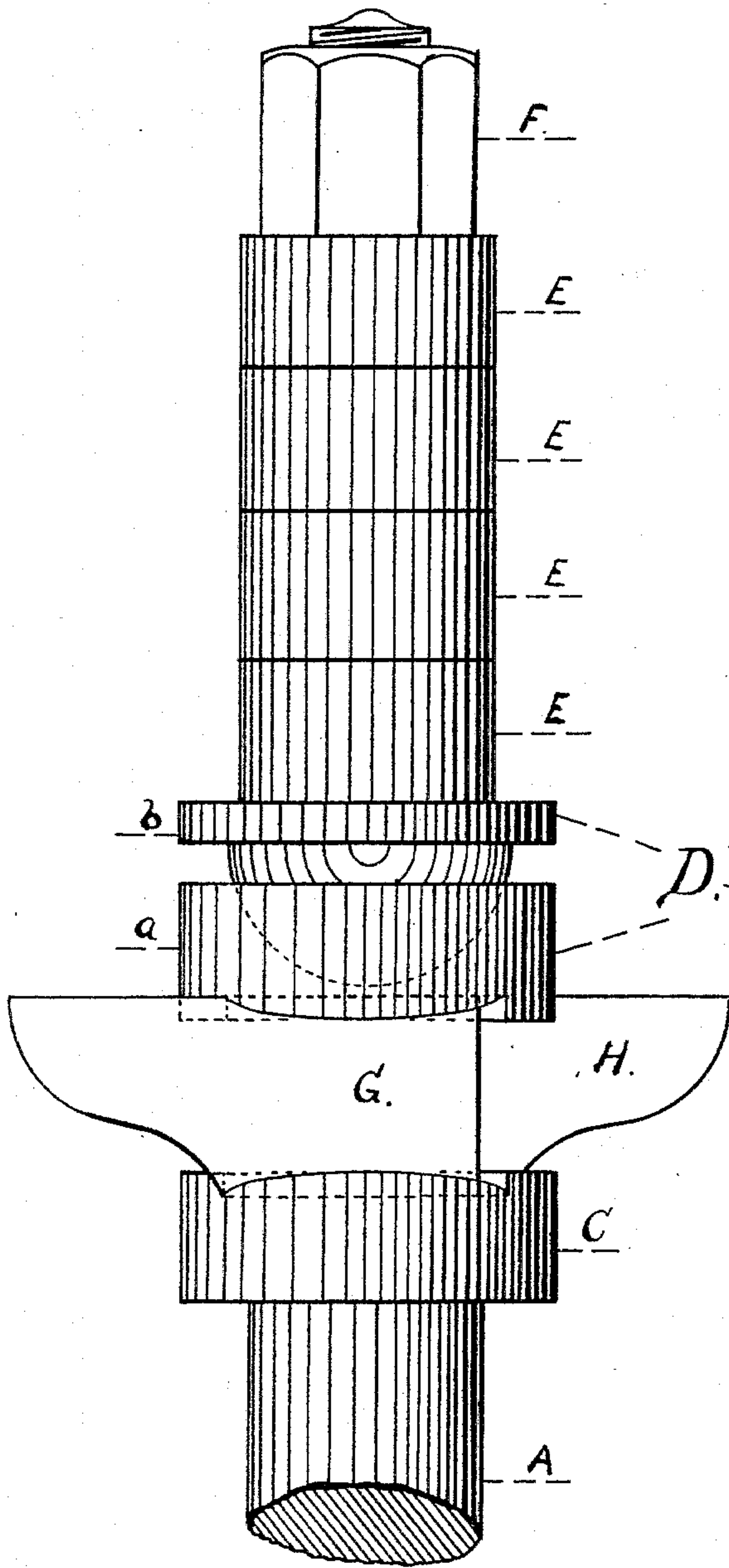


FIG. 1.

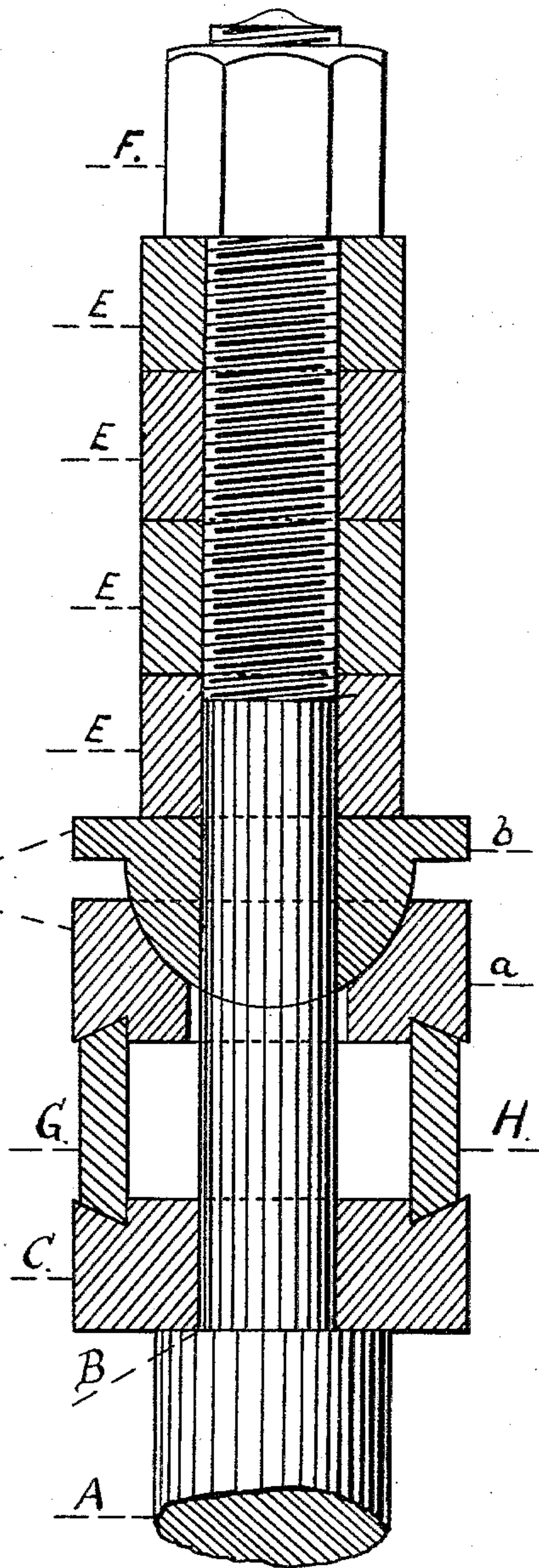


FIG. 2.

WITNESSES:

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CHARLES WENTZ FOWLER, OF BALTIMORE, MARYLAND, ASSIGNOR OF
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CUTTER-HEAD FOR VARIETY MOLDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 559,695, dated May 5, 1896.

Application filed January 9, 1896. Serial No. 574,809. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WENTZ FOWLER, a citizen of the United States, residing at Baltimore city, in the State of Maryland, have
5 invented certain new and useful Improvements in Cutter-Heads for Variety Molding-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others
10 skilled in the art to which it appertains to make and use the same.

My invention relates to that class of machines known as "variety" molding-machines, and more especially to that part of the
15 same known as the "cutting mechanism" or "spindle," and in substance consists of an automatic adjustable collar for the same, and has for its object the adjustment and securing of cutters that may vary slightly in size,
20 and also to compensate for the slight inequalities sometimes found upon setting up the nut of the spindle, causing the same to become sprung, and consequently to run with a wobble or out of true; and to this end my invention
25 consists in the novel construction, arrangement, and combination of parts hereinafter fully described, and afterward definitely pointed out in the claims, due reference being had to the accompanying drawings, forming a part of this specification, wherein—
30

Figure 1 shows an elevation or side view of the cutting mechanism of a variety molding-machine and which shows my invention as applied to the same. Fig. 2 shows a sectional
35 view taken in elevation at right angles to that shown in Fig. 1.

Referring to the drawings, A is the power shaft or spindle of a variety molding-machine, usually in a vertical position, extending some-
40 what above a horizontal table capable of adjustment up and down. Said power-shaft has a rotary motion on its axis. B is a shoulder on said shaft for the purpose of limiting the longitudinal movement of collars placed
45 thereon.

C is a close-fitting collar on shaft A.

a is one part of the adjustable collar D, and b is the other part of the said collar. It is this collar D concerning which my invention
50 more particularly relates.

E E are filling-collars, which may be either placed above or below the tool-collars C and D, their size and number depending upon the width of tools used.

F is the securing-nut on the end of shaft A, 55 upon which it is threaded. By means of this nut a compression is exerted upon all of the collars and tools between this nut F and shoulder B.

G is a cutting-tool. H is either a counter 60 cutting-tool or a plain blank-filling between collars C and D. G and H are approximately the same size and shape in cross-section. It is the inequalities which often occur between G and H that is one of the objects of my in- 65 vention to compensate for. In the practice of the present day without a compensating collar, if there is a slight difference between G and H in cross-section height, upon setting up of nut F, one or the other of G or H 70 whichever is the highest becomes secure on the one side before the other. Continuing the setting up of nut F until the other becomes secure, the inequality of the two has been overcome at the expense of springing the shaft 75 or spindle, which will be found to be out of true when started.

Referring particularly to the compensating collar D, a is one part of the said collar. b is its counterpart or second part. a and b fit 80 together by means of a spherical bearing. b fits the shaft A closely. a is so shaped that it may change its angle with shaft A if necessity requires. a and b form a solid or immovable union when nut F is set up. 85

c and d are grooves in collar a for the purpose of more securely holding the cutting-tool when used adjacent thereto.

e and f are grooves in collar C for more securely holding the cutters in the same. It is 90 found in practice that at times a slight variation is found in the thickness of the washers on their diametrically opposite sides caused either by dirt or corrosion or the like, in which case, without an adjustable collar, upon set- 95 ting up the nut F the spindle will be found to be sprung. It is also sometimes the case when an extender is used. In either case the use of my improved collar will overcome the difficulty. 100

Having described my invention, what I claim, and wish to secure by Letters Patent, is—

1. In a rotating cutter, the combination of
5 a cutting-tool held in place between two col-
lars, a power-shaft, a shoulder on said shaft
to limit the longitudinal movement of col-
lars placed thereon, a longitudinally-sliding
equalizing device, a collar operated by said
10 equalizing device, and a nut threaded on said
power-shaft all substantially as described.

2. In a variety molding-machine, a cutting
mechanism consisting of, a collar C on a power-
shaft with a groove in said collar for holding
15 a cutting-tool, a collar *a* with a hole through
it of sufficient size and shape to allow it to

vary its angle with the power-shaft passing
through the same with a groove in its face ad-
jacent to the collar C for holding a cutting-
tool, a cutting-tool G held by said grooves, a
20 spherical wedge-shaped collar *b* for centering
collar *a*, a nut F and collar or shoulder B in-
tegral with said power-shaft for clamping or
securing the said mechanism substantially as
described. 25

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

CHARLES WENTZ FOWLER.

Witnesses:

GEO. McCAFFRAY,
WM. W. VARNEY.