

(Model.)

2 Sheets—Sheet 1.

G. S. SHIMER.

CUTTER HEAD.

No. 385,325.

Patented June 26, 1888.

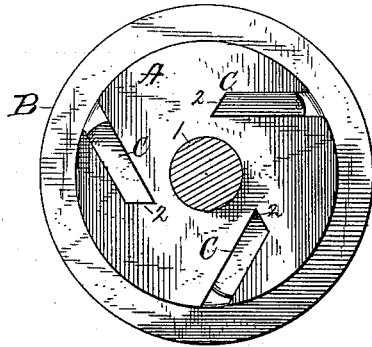


Fig. 1.

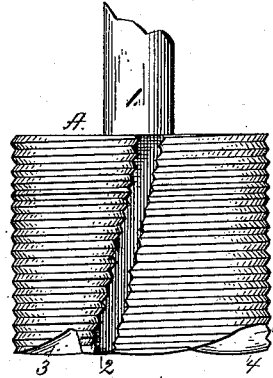


Fig. 2.

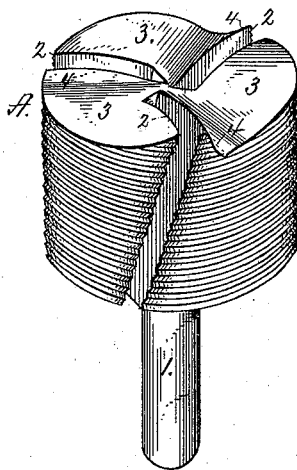


Fig. 3.

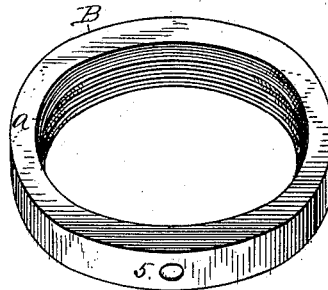


Fig. 4.

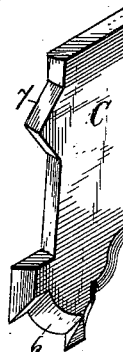


Fig. 5.

Witnesses  
*J. Thomson Cross,*  
*S. F. Marshall*

Inventor  
*George S. Shimer.*  
By his Attorney  
*A. V. Heylman.*

(Model.)

2 Sheets—Sheet 2.

G. S. SHIMER.

OUTTER HEAD.

No. 385,325.

Patented June 26, 1888.

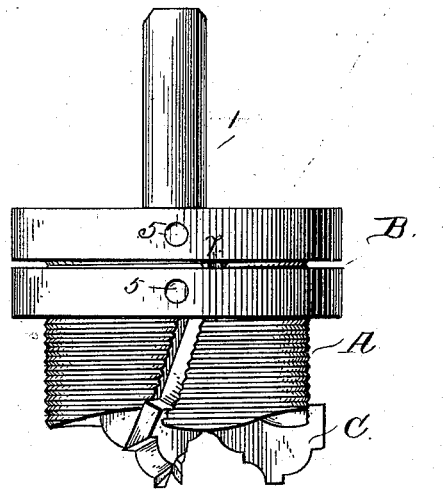


Fig. 6

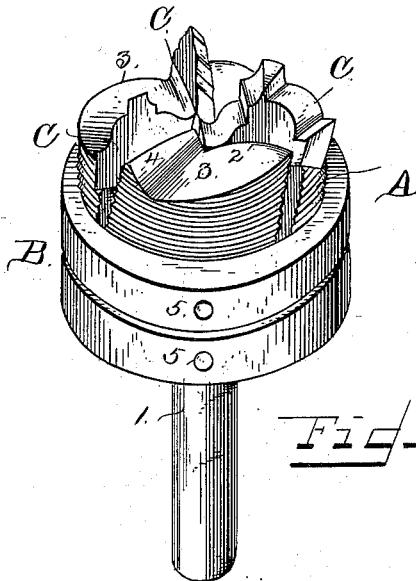


Fig. 7.

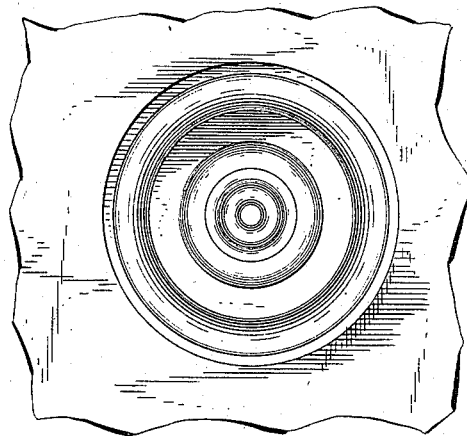


Fig. 8

Witnesses

*S. F. Marshall*  
*J. Thomson Cross*

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*Geo. S. Shimer*

By *his* Attorney

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# UNITED STATES PATENT OFFICE.

GEORGE S. SHIMER, OF MILTON, PENNSYLVANIA, ASSIGNOR TO SAMUEL J. SHIMER & SONS, OF SAME PLACE.

## CUTTER-HEAD.

SPECIFICATION forming part of Letters Patent No. 385,325, dated June 26, 1888.

Application filed February 16, 1888. Serial No. 264,223. (Model.)

*To all whom it may concern:*

Be it known that I, GEORGE S. SHIMER, a citizen of the United States of America, residing at Milton, in the county of Northumberland and State of Pennsylvania, have invented a new and useful Cutter-Head, of which the following is a specification.

My invention has relation to improvements in cutter-heads of that class used for cutting rosettes; and the objects are to make a simple, convenient, durable, and reliable cutter-head adapted to hold the shanks of knives having any shapes of blade or cutting-edge, and to make the knives or bits readily adjustable and to be held firm by the means of adjustment.

My invention therefore consists in the novel construction of parts and their combination, as will be hereinafter fully specified, and specially as I hereinafter particularly point out and distinctively claim the same.

I have fully illustrated my invention in the accompanying drawings, wherein—

Figure 1 is a view of the cutter-head with the cutters removed, the spindle being shown in section. Fig. 2 is a side view of the naked head in elevation. Fig. 3 is a bottom view in perspective. Fig. 4 is a view of one of the clamping-rings. Fig. 5 is a view of one of the cutters or bits. Fig. 6 is a view of the complete cutter-head. Fig. 7 is a bottom view in perspective, with the cutters or bits inserted. Fig. 8 is a view of a rosette as cut by the knives with cutting-edges, as shown.

In the drawings the same parts or elements shown in different figures are designated by the same notations, and reference being thereto had, A designates the head-stock formed with a central spindle, 1, adapted to be secured in the sleeve or socket of the driving-spindle. (Not shown.) This head stock consists of a cylinder, on the face of which are formed screw-threads, which engage with the interior threads of the clamping-rings, hereinafter described. In the head-stock are formed grooves or channels 2, which receive the shanks of the cutters or bits. These grooves 2 start in the upper face of the stock with their backs on diametrical lines of the stock, and extend from thence to the circumferential face of the cylinder, substantially as seen in Fig. 1 of the drawings.

From the top they incline forward to give the proper pitch to the bits, as seen in Fig. 2, and at the bottom are brought close together, so as to bring the inner cutting-edges of the blades close together to cut a clean point or other central form in the rosette, as seen in Figs. 3 and 7 of the drawings. The bottom face of the head-stock is formed with inclined sections 3, which recede from the back of the cutter outwardly, terminating in a shoulder, 4, at the face of the next bit. These inclines serve the purpose of chip-chucks in the progress of the head in its work.

B B' designate clamping-rings to clamp the cutters or bits in any set position. They consist of substantial metal rings or bands threaded on their inner face to engage the threads of the head-stock, and are chamfered on their inner faces, as at *a*, to engage with the inclines of the shanks of the bits, and thus press the bits firmly in their seats or slots. In the face of the clamping-rings are sockets 5, to take the lug of a wrench to tighten and loosen the clamping-rings.

C designates the cutters or bits. The blades 6 of these may have any desired contour. The shanks are straight on their inner edges to set square against the vertical walls of the slots in the head-stock, and on their outer edges are formed with a double-inclined lug, 7, which projects beyond the face of the head-stock and serves to engage with the chamfered portions of the clamping-rings, and the bits are thus held in the slots of the head-stock in any set position.

The parts may be assembled by passing the shanks of the bits through the lower ring, then arranging the bits in the slots, and then screwing the lower ring on the head-stock. The upper ring may then be screwed on the head-stock and the bits adjusted to the cut, when the rings are clamped and the bits are thus held tight.

What I claim is—

1. The combination of the cylindrical head-stock provided with screw-threads on its circumferential face and formed with bit-slots extending longitudinally for its length, bits disposed in said slots, having shanks formed with lugs projecting beyond the face of the head-stock, and threaded clamping-rings fitted to

the head-stock to engage the threads on the head-stock and clamp the projecting lugs of the bits in opposite directions, substantially as described, and for the purpose specified.

- 5 2. The combination of the cylindrical head-stock provided with screw-threads on a circumferential face and formed with bit-slots longitudinally arranged, bits having shanks formed with double-inclined projections extending beyond the face of the head-stock, and threaded clamping-rings having chamfered inner edges fitted to the head-stock to engage the threads on the head-stock and clamp the faces of the double incline of the bits, substantially as described, and for the purpose specified.

15 3. The combination of the cylindrical head-

stock provided with screw-threads on its circumferential face, and formed with bit-slots and having inclined sections on its under face, 20 bits having shanks formed with double-inclined projections, and threaded clamping-rings having chamfered inner edges fitted to the head-stock to engage the threads on the head-stock and clamp the faces of the double 25 incline of the bit shanks, substantially as described, and for the purpose specified.

In witness whereof I have hereunto set my hand in the presence of two attesting witnesses.

GEO. S. SHIMER.

Attest:

SAMUEL J. SHIMER,  
JOHN A. BECK.