(No. Model.)

T. H. THOMPSON.

REAMER.

No. 306,189. Patented Oct. 7, 1884.

Fig. 1.

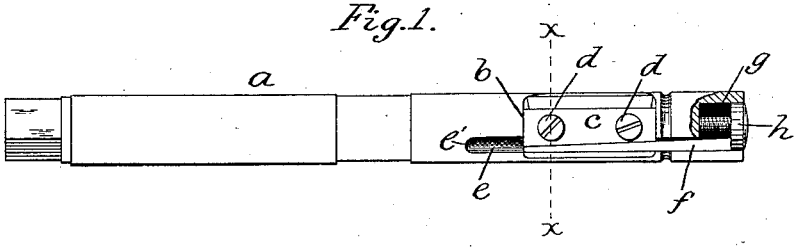

Fig. 2.

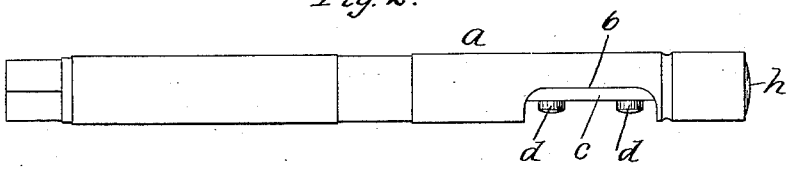

Fig. 3.

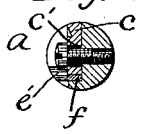

Fig. 4.

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UNITED STATES PATENT OFFICE.

THOMAS H. THOMPSON, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE SIGOURNEY TOOL COMPANY, OF SAME PLACE.

REAMER.

SPECIFICATION forming part of Letters Patent No. 306,189, dated October 7, 1884.

Application filed October 27, 1883. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. THOMPSON, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Reamers; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

Figure 1 is a side view of my improved reamer, with part of the end of the reamer-stock cut away to show details of construction. Fig. 2 is a top view of same, the stock being turned one-quarter around. Fig. 3 is a view of same in cross-section on plane denoted by line *x x* of Fig. 1. Fig. 4 is an end view of same, showing head of feed-screw.

My invention relates to the class of reamers bearing adjustable blades that are adapted to be moved up to a defined cutting plane as the edge is worn away, and so greatly extend the life of the reamer-stock, the cutting-blade, when worn out, being replaced by a new one.

My invention has for its object the production of an adjustable reamer that meets all the requirements of its class in a simple and efficient manner; and it consists, mainly, in the combination and arrangement of the removable cutter and the sliding wedge with the reamer-stock and attachment and feed devices, as more fully hereinafter described.

In the accompanying drawings, the letter *a* denotes the reamer-stock as a whole, made, preferably, of steel to any desired or standard size; *b*, a transverse mortise or socket in the stock, fitted in which is the removable cutter *c*, usually of tool-steel, and having the short slots *c'*, through which are passed the binding-screws *d d*, used in holding in its socket the cutter when adjusted for use. In the stock, crossing the bottom of the mortise *b*, is also a longitudinal mortise, *e*, that is closed at the inner end, *e'*, which extends beyond the end of the mortise *b*, and is open at its outer end, the point of the reamer-stock. In this socket a wedge, *f*, formed to a true taper, is adapted to slide, and the lower edge of the cutter *c*, sloped to this same taper or angle with the axis of the stock, is seated on the wedge, as seen in Fig. 1, the wedge being backed by a part of the stock, as seen in Fig. 3. By this construction of parts I provide a firm backing for the cutter against strains in any direction to which it is subjected in use. That part of the strain that tends to press the cutter in the direction of the radius of the stock is transmitted through the cutter and the wedge on which it is seated, and then through the shell of the stock back of the wedge to the side opposite the cutter in the hole being reamed, so that practically the cutting-edge takes its bearing on the inner walls of the hole, with no chance of slipping or springing from its work. The end of the reamer-stock has the chamber *g*, and the head of the feed-screw *h* moves readily in this chamber when the screw is turned in its threaded socket at the bottom of the chamber. As shown in Fig. 1, the under side of the head of screw *h* is in contact with the end of the wedge, and by turning the screw, as by using the slot in its head, the wedge is moved longitudinally and controls the radial position of the cutter in its socket in the stock.

To assemble the parts of this tool for use when they have been fitted, the cutter is held loosely in its socket by means of the binding-screws, the wedge is inserted in its socket, and the feed-screw turned to place in its chamber, the wedge forcing the cutter radially outward until its cutting-edge is in the proper plane for cutting, as determined by a gage or standard test-tube. The binding-screws are then turned firmly against the cutter.

The various parts are made to standard sizes which are interchangeable.

I claim as my invention—

1. In combination, the reamer-stock having the sockets, the removable cutter and its binding-screws, the sliding wedge, and the feed-screw, all substantially as described.

2. In combination, a reamer-stock, *a*, having a laterally-opening transverse mortise, *b*, a longitudinal mortise, *e*, a radially-moving cutter, *c*, a tapered wedge, *f*, movable in mortise *e*, binding-screw *d*, and feed-screw *h*, all substantially as described.

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Witnesses:
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