

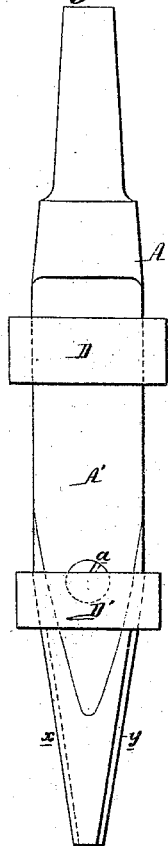
*T. Reaney,*

*Reaming Tool.*

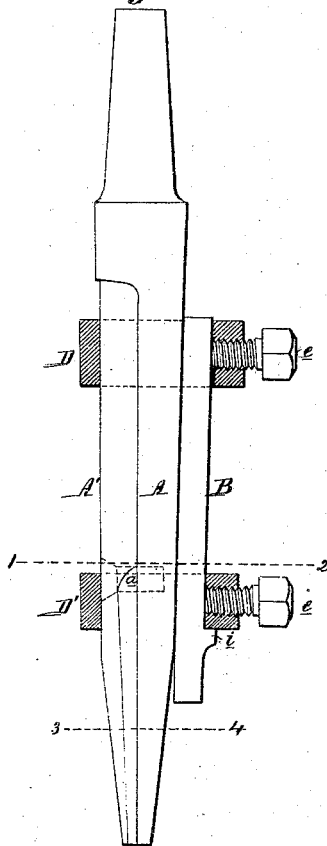
*No. 111,085.*

*Patented Jan. 17, 1871.*

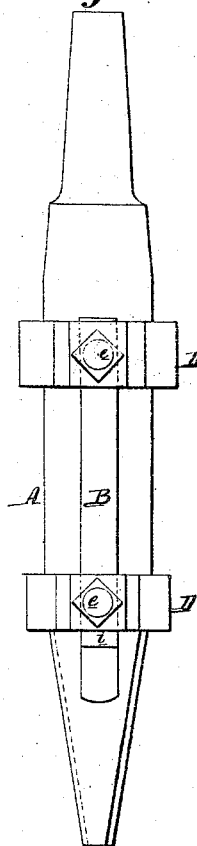
*Fig. 1.*



*Fig. 3.*



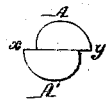
*Fig. 2.*



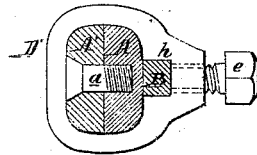
*Fig. 6.*



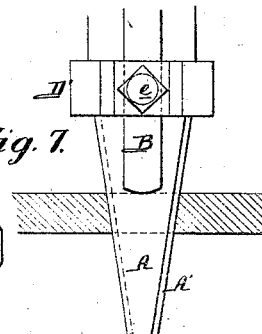
*Fig. 5.*



*Fig. 4.*



*Fig. 7.*



Witnesses { *Jas B Harding.*  
*John Parker*

*This Reaney*  
*by his attor*  
*Hudson and Son*

# UNITED STATES PATENT OFFICE.

THOMAS REANEY, OF CHESTER, PENNSYLVANIA.

## IMPROVEMENT IN REAMING AND COUNTERSINKING TOOLS.

Specification forming part of Letters Patent No. **111,085**, dated January 17, 1871.

*To all whom it may concern:*

Be it known that I, THOMAS REANEY, of Chester, county of Delaware, State of Pennsylvania, have invented an Improved Reaming and Countersinking Tool, of which the following is a specification.

My invention consists in the combination, with a reaming or countersinking tool, of an adjustable gage, as described hereinafter, for the purpose of regulating the operation of the tool and enabling any number of countersunk holes of a uniform size to be produced.

In the accompanying drawings, Figures 1 and 2 are exterior views of my improved reaming and countersinking tool; Fig. 3, an edge view, partly in section; Fig. 4, a transverse section on the line 1 2, Fig. 3; Fig. 5, a transverse section on the line 3 4, Fig. 3, showing the cutting-edges; Figs. 6 and 7, views illustrating the operation of the tool.

The tool illustrated in the drawings is intended for countersinking or tapering the rivet-holes in plates for iron vessels, steam-boilers, &c. It consists of two plates, A and A', tapered at their lower ends, as shown, and secured together by a screw or screws, *a*, in such a manner that the tapered ends shall slightly overlap each other, and thus form two cutting-edges, *x* and *y*, as best observed in Fig. 5. The upper end of the plate A, which forms the stock or body of the tool, is squared or otherwise adapted for ready attachment to the drill-press or other mechanism, by which the tool is operated.

In forming rivet-holes in metal plates—such, for instance, as those used in constructing the shell of an iron vessel—it has been customary to first punch straight holes in the plates, as shown in Fig. 6, and afterward to ream out or countersink these holes by means of a tool similar to that above described. In using this tapering tool, however, the greatest care has to be exercised in order to countersink all of the holes uniformly, as the tool is apt to be withdrawn before it has formed a hole of the proper diameter, or else it is permitted to cut away too much of the metal. So much difficulty has been experienced in using tools of

this class that in some cases they have been made with permanent gages, in order to regulate the depth of the cut and form uniform holes; but such tools can only be used for holes of one size, and have to be thrown aside as useless after becoming slightly worn. I have effectually overcome these objections, and adapted the tool to different sizes of work by the use of an adjustable gage, B, which is secured to one side of the tool in such a position that it will be brought into contact with the plate or other object operated upon by the tool, and thus prevent any further progress of the latter when a hole of the desired diameter has been cut. Two adjustable rings or collars, D and D', provided with set-screws, *e*, are fitted around the tool, and in each of the said rings is a recess, *h*, for the reception of the gage, which rests against the side of the tool.

In adjusting the gage it is set to the desired position, and is then firmly secured by means of the upper ring, D, and its set-screw, and in order to prevent any possibility of slipping, the lower ring, D', is then lowered until brought in contact with a projection or shoulder, *i*, on the gage, when its set-screw is also tightened. This method of connection, it is evident, will permit the gage to be readily and quickly adjusted, and firmly secured after adjustment. My invention can be applied to any reaming or countersinking tool, as well as to that described, and can be used in connection with a tool, which is to be worked horizontally or at an angle, as well as to those which are operated vertically.

I claim—

The combination of the adjustable gage B and its shoulder *i* with the rings or collars D and D', their set-screws, and the body of the tool.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOS. REANEY.

Witnesses:

W. B. REANEY,  
P. G. RAM, Jr.