

R.M. Erans,
Cutter Head,
No. 10,304, *Patented Dec. 6, 1853.*

Fig. 1.

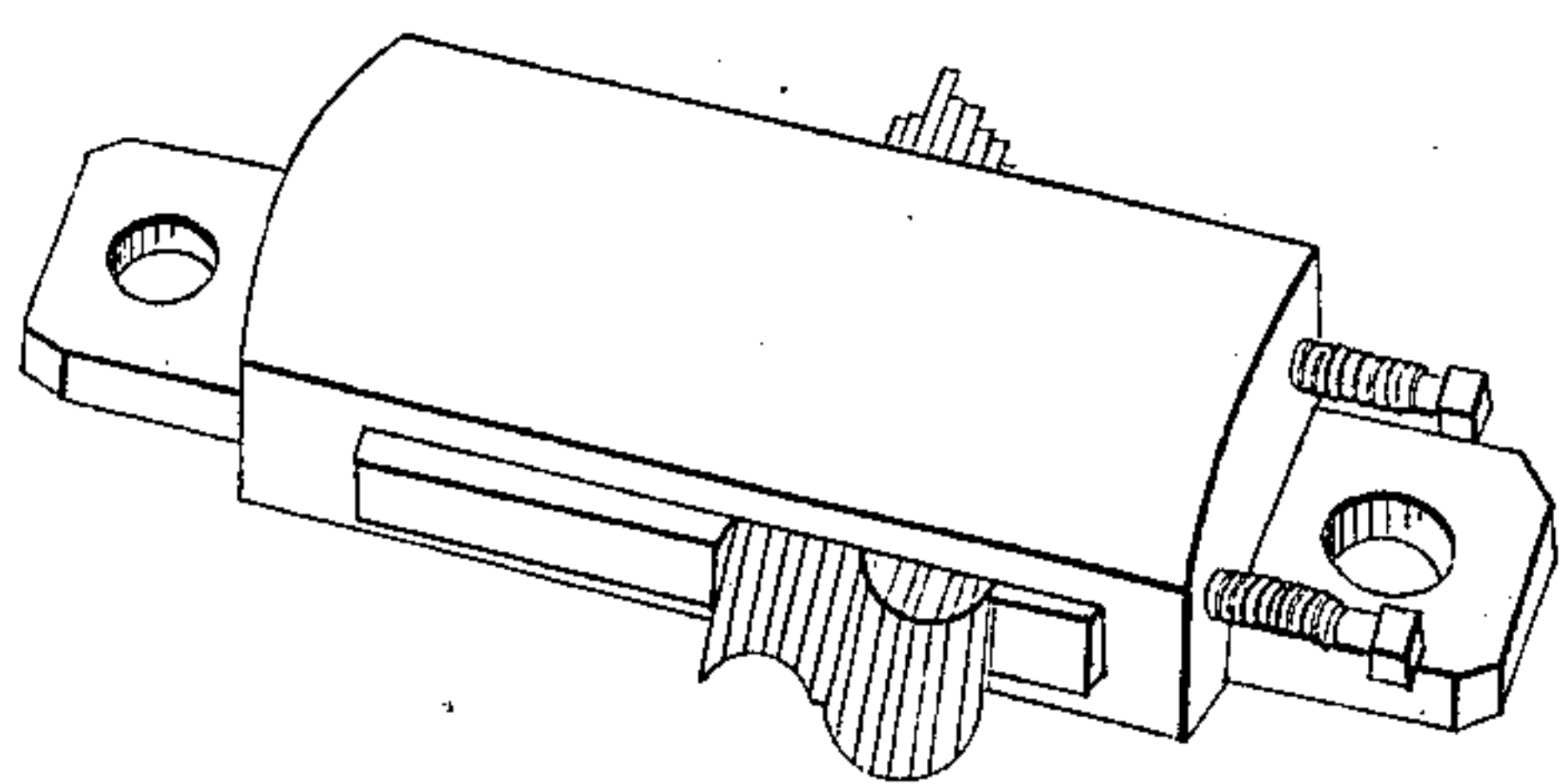


Fig. 2.

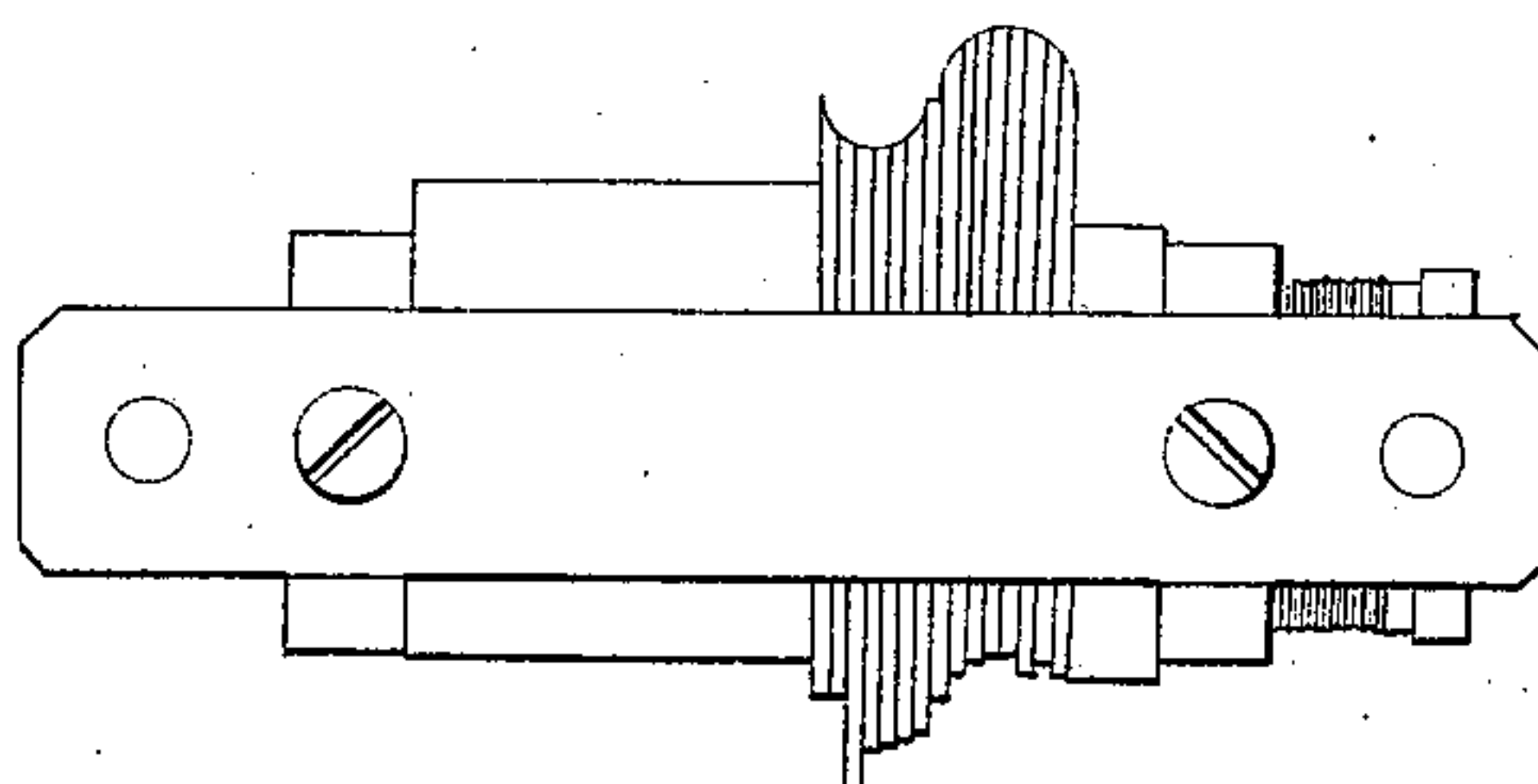


Fig. 3.



Fig. 4.

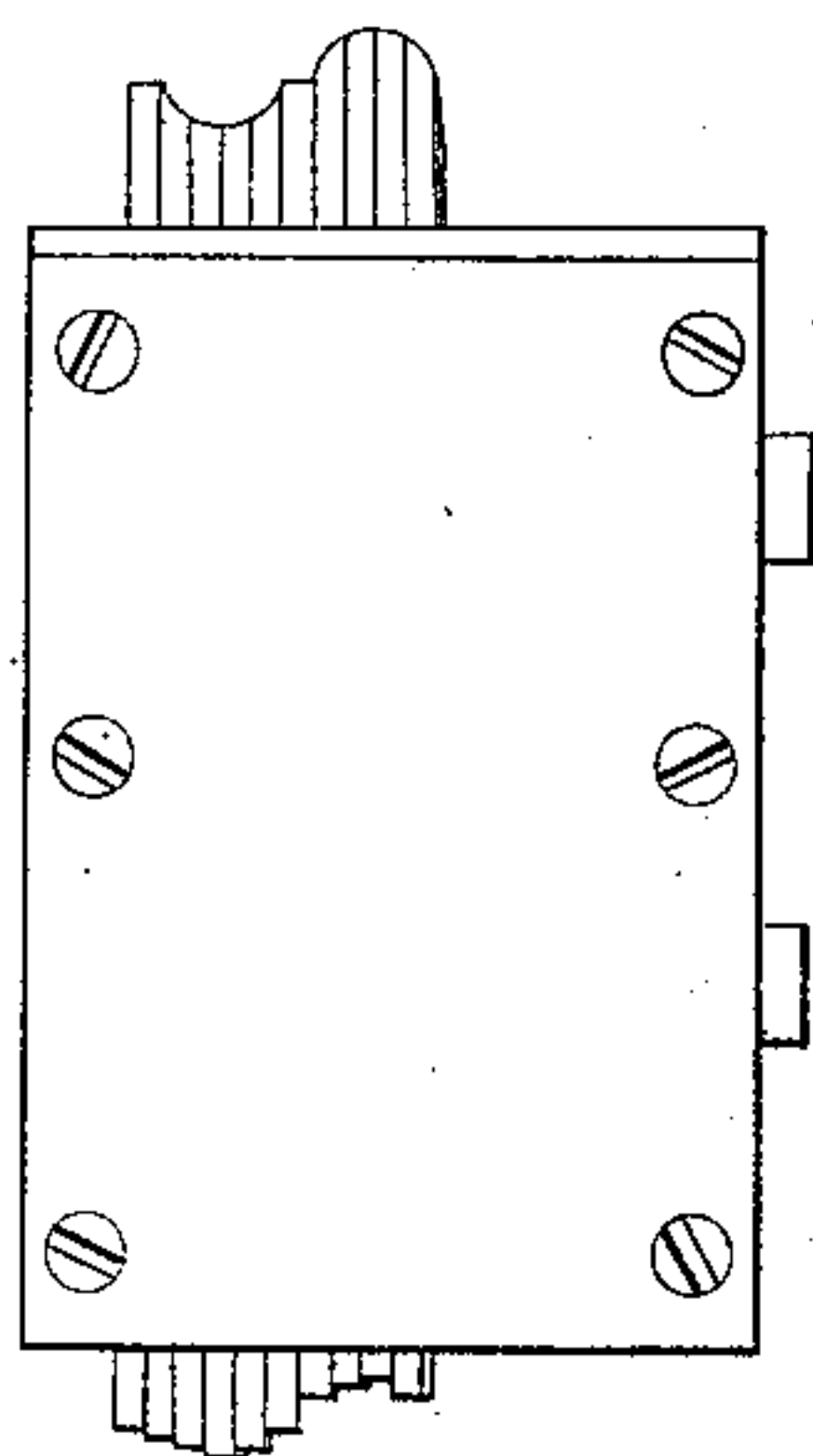


Fig. 5.



Fig. 6.

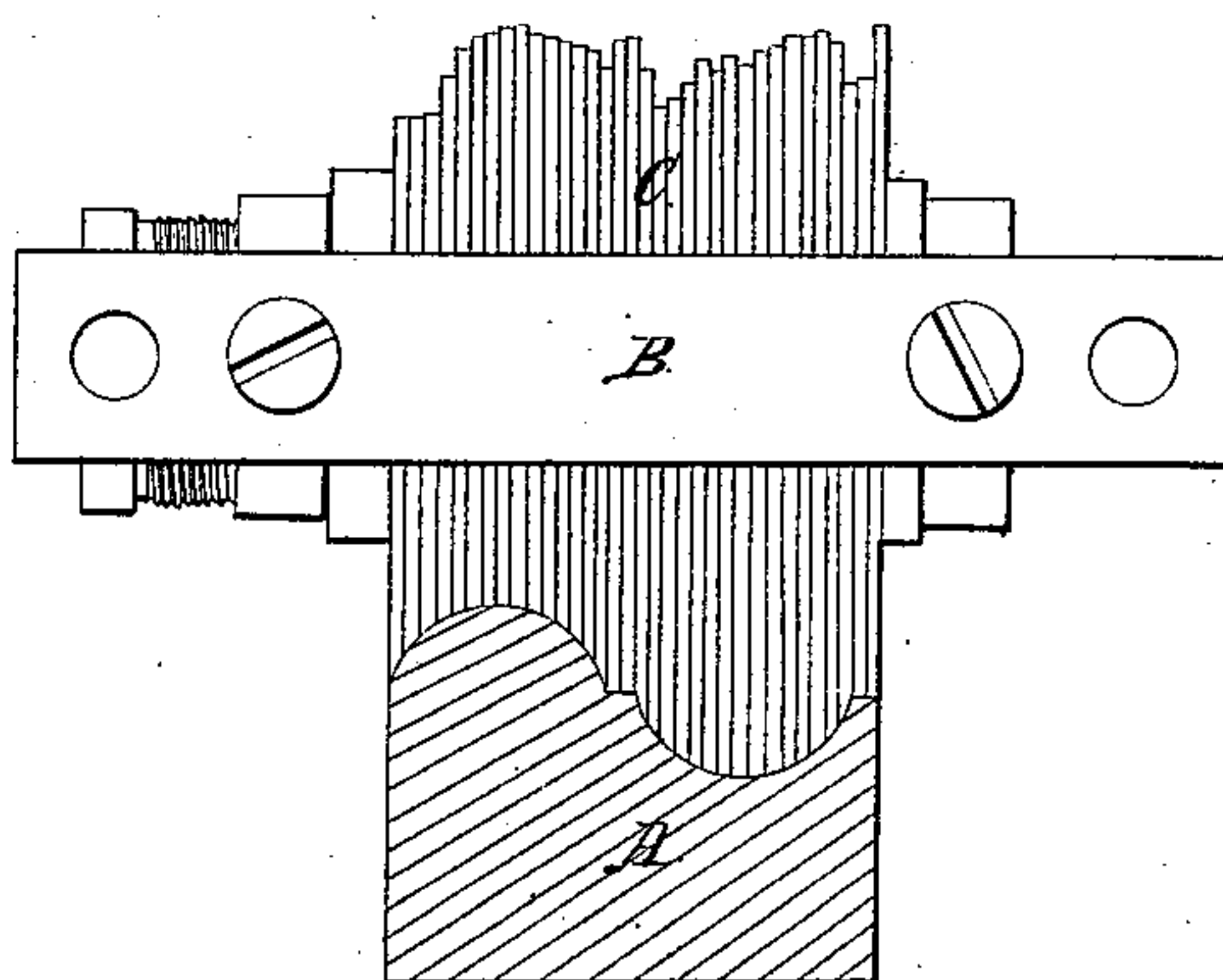
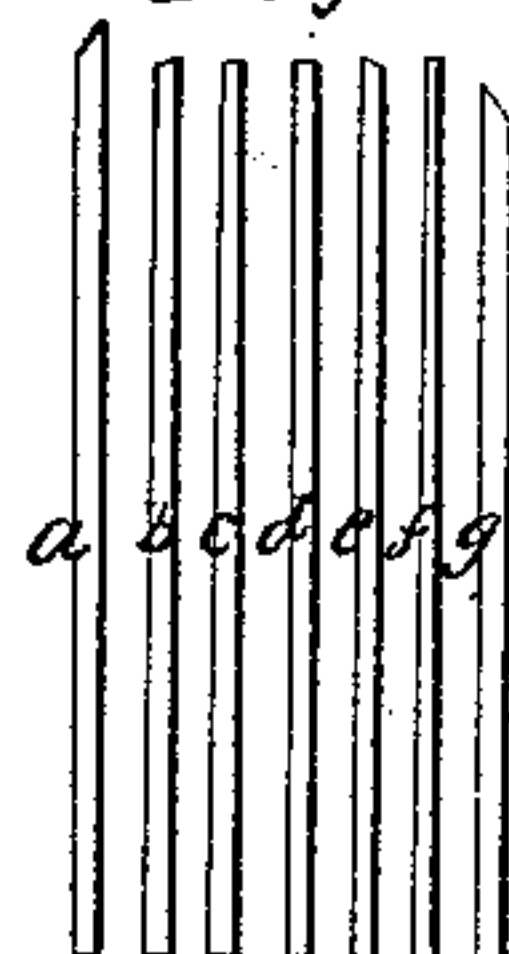


Fig. 7.



UNITED STATES PATENT OFFICE.

R. M. EVANS, OF GILFORD, NEW HAMPSHIRE, ASSIGNOR TO R. M. EVANS AND A. WEEKS.

CUTTER FOR PLANING MOLDINGS.

Specification of Letters Patent No. 10,304, dated December 6, 1853.

To all whom it may concern:

Be it known that I, R. M. EVANS, of Gilford, in the county of Belknap and State of New Hampshire, have invented certain new and useful Improvements in the Construction of Irons for Planing Moldings; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a perspective view of a clamp having my improved plane iron secured in it ready to be attached to the cutter head of a rotating planing machine. Fig. 2 is an elevation of the same. Fig. 3 is a view of one of the sections or types of which the cutter is formed. Fig. 4 is a view of my cutter as arranged for a hand plane. Fig. 5 is a section of a modified form of type which I propose sometimes to adopt. Fig. 6 illustrates the process of setting up the cutter. Fig. 7 shows the method of classifying the cutter sections and will be hereinafter referred to.

The great variety of moldings now made use of in architectural and other decorations has made it exceedingly desirable that some method should be devised by which the plane irons or cutters might be produced at a cost that would enable carpenters themselves to plane their own moldings instead of being dependent, as they now are, on large manufacturers of these articles. Many of the moldings now in use require irons costing from twelve to fifteen dollars, and these if broken, as is often the case, are entirely destroyed or if the fashion change or the particular figure ordered at one time should not come again into requisition, are of course wholly useless.

The object of my invention is to obviate these inconveniences and to enable the manufacturer without extra expense to furnish any molding of which a pattern may be shown him, and also to put into the hands of carpenters the means of making their own moldings without limit as to the variety of pattern. And my invention consists in constructing the plane irons or cutters of thin sections or types of steel, which are set to any pattern required, and afterward brought to an exact edge by filing or grinding.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

I take thin pieces of steel which are in the form represented in Figs. 3 and 7 and arrange them in a suitable clamp so that the outline formed by their cutting edges shall correspond as nearly as may be to the contour of the molding required. This may readily be accomplished by means of patterns or by the eye. The edges of the sections may then by the use of files or oil stones be brought to a perfect edge, and the iron is complete.

Should the particular pattern not be required again or whenever it be desired to take the iron to pieces, the sections or types may be again set up to form new cutters and the same may be used over and over again until they be entirely worn away.

For hand planes the cutters may be set in thin flat clamps of the form represented in Fig. 4, and under some circumstances it may be found desirable to form a tongue upon one face of the cutter sections and a corresponding groove on the other as seen in Fig. 5; they will then be held firmly together without the possibility of slipping one upon the other.

Thus far my invention has been described as applicable only to the cutters of molding planes, but it is obvious that it may be applied also to the construction of tools for turning. In such case the cutter when once set up should be secured in an appropriate clamp which may be made to advance to its work by screws or otherwise, and thus furniture legs, bed posts and like articles of any given pattern may be completed at a single operation.

Operation: A pattern is first to be obtained of the molding to be planed or the article to be turned; the clamp which is to hold the cutter is then placed over the pattern as in Fig. 6, in which A, is the pattern, B the clamp. The cutter sections C are then dropped through the clamp upon the surface of the pattern and the plane iron is thus made to conform very nearly to the pattern. This compound cutter is then firmly secured in the clamp and is brought to a perfect edge by filing or by the use of oil stones or otherwise, very little alteration being at any time required after the cutter is set up.

It is proposed to divide the cutter sections generally into several classes according to the inclination of the cutting edge with the side of the section as seen in Fig. 7, at *a*, *b*,

c, d, e, f, g. These different forms are kept distinct from each other like the different letters in a font of printing types, and when a cutter of a particular form is to be set up, 5 each section will be selected to correspond as nearly as possible with that portion of the cutting line to which it is to be adapted. This is not absolutely necessary but it will be found to greatly reduce the amount of 10 grinding or filing necessary to bring the cutting line to the exact form required.

Among the many advantages presented by my improved plan of making plane irons, may be enumerated the following: Moldings 15 may be planed to any given pattern without incurring the great expense of plane irons as they are now constructed. Whenever these moldings become obsolete they may be taken to pieces and again made use 20 of repeatedly. A much greater variety of molding may thus be produced at a far less cost. Carpenters and wood workers who are now dependent upon large manufac-

turers for these articles or who are under the necessity of furnishing themselves with 25 expensive sets of molding planes, can, by the possession of a single clamp and a small number of the cutter sections produce any molding which they may require.

I do not claim making the cutters of shapes 30 suited to the different parts of the article to be turned either straight or curved, and securing them to a cutter wheel, but

What I do claim as my invention and desire to secure by Letters Patent is— 35

Making the cutting irons of molding planes or turning tools of thin sections in the manner described, which after being set to a pattern and confined in a clamp, may be brought to an exact edge by filing or 40 grinding in the manner and for the purpose substantially as set forth.

R. M. EVANS.

Witnesses:

LYMAN B. WARNER,
H. MAHOON.