

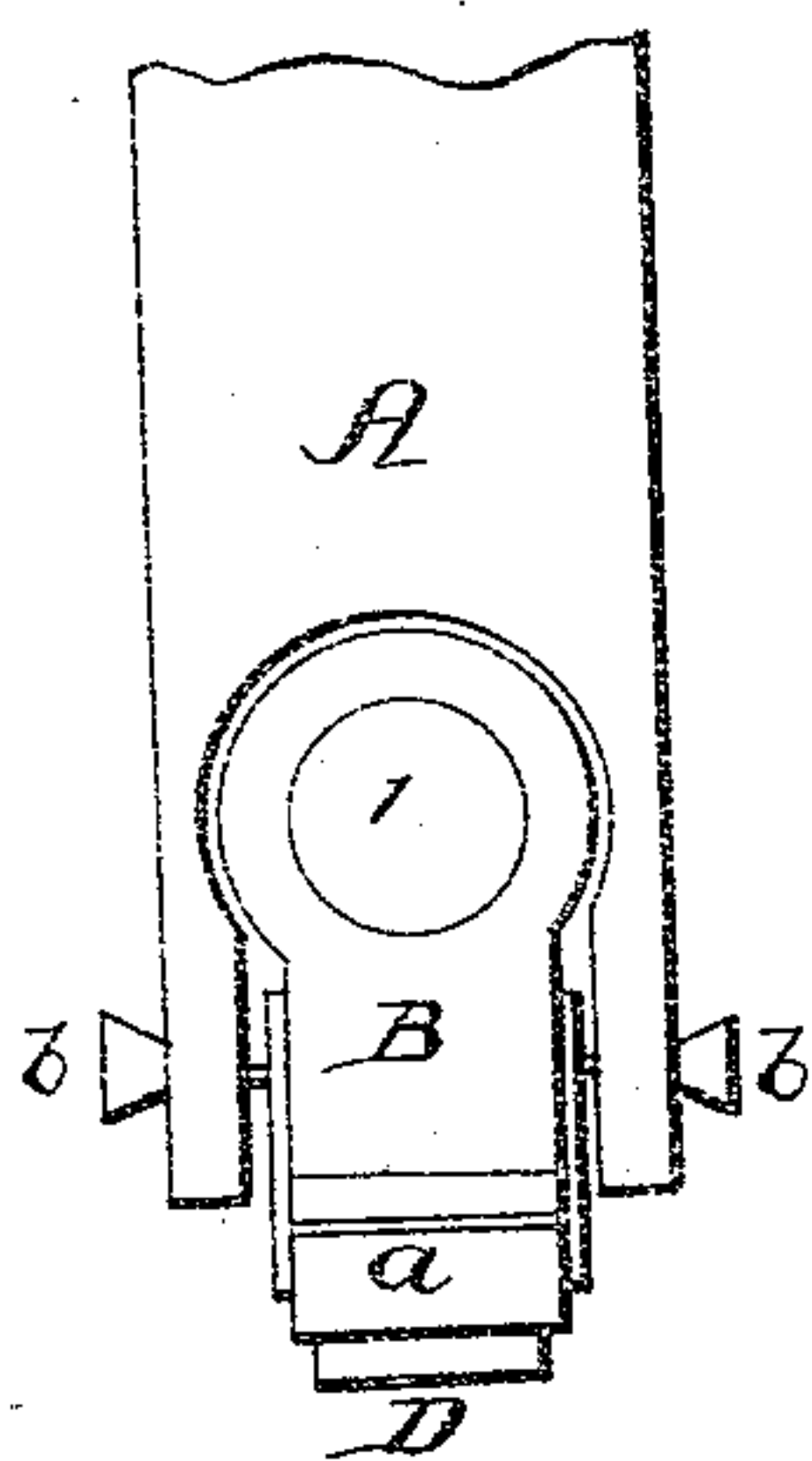
*J. Jervis.*

*File-Cutting Machine.*

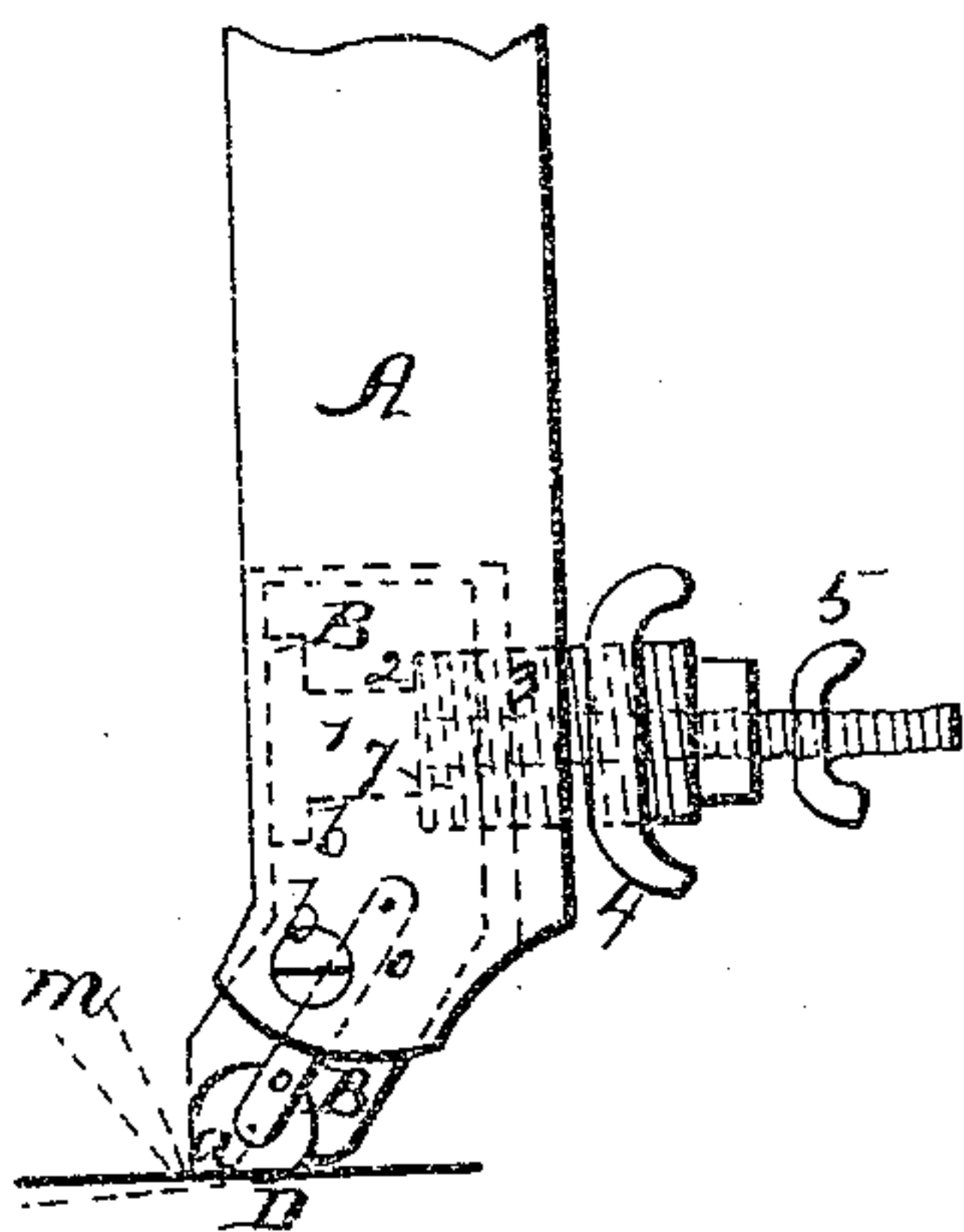
*N<sup>o</sup> 50,595.*

*Patented Oct. 24, 1865.*

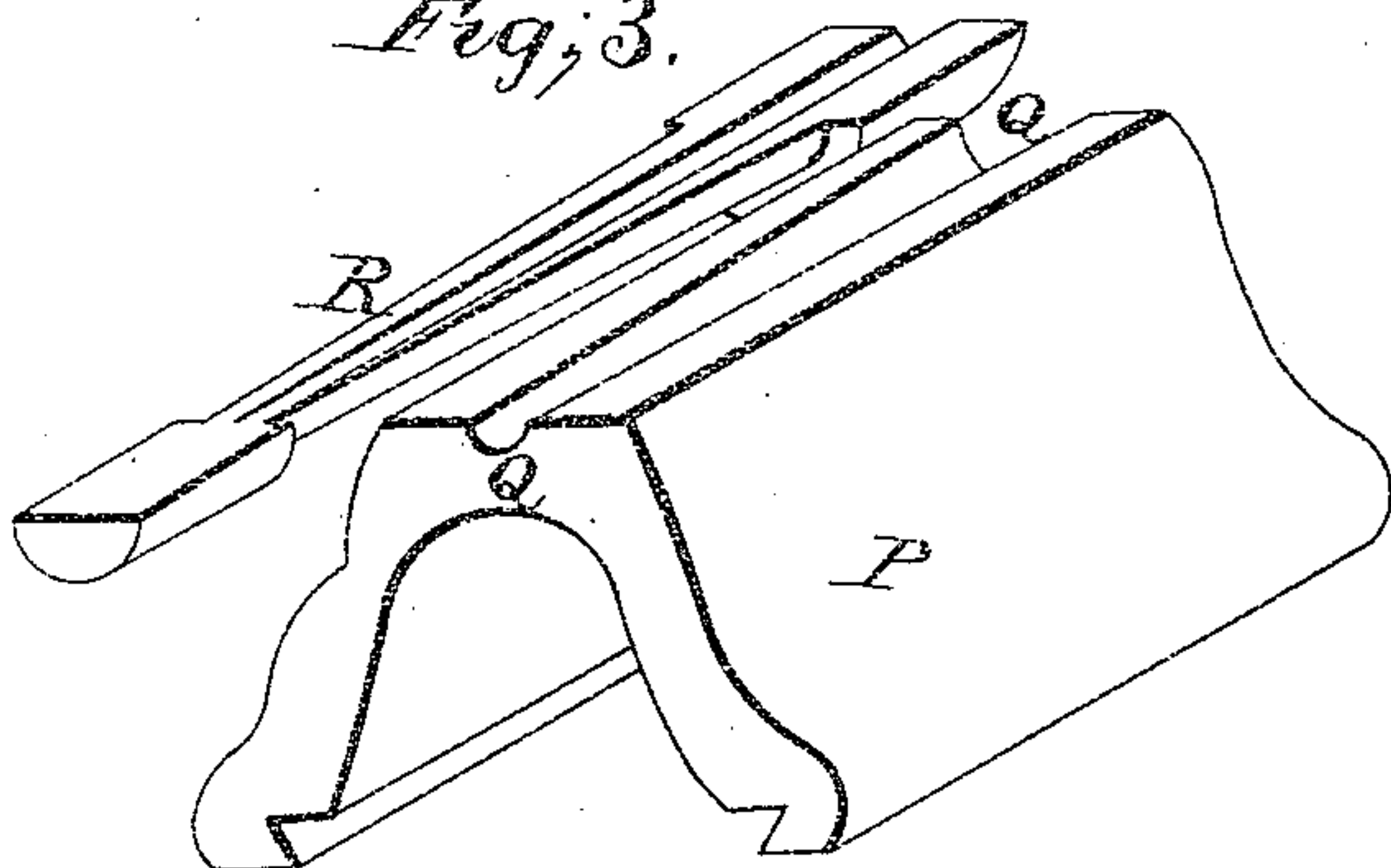
*Fig; 1.*



*Fig; 2.*



*Fig; 3.*



*Witnesses;*  
*Wm. H. Latrobe*  
*Chas. E. Martin*

*Inventor;*  
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# UNITED STATES PATENT OFFICE.

JAMES JERVIS, OF BALTIMORE, MARYLAND.

## IMPROVEMENT IN FILE-CUTTING MACHINES.

Specification forming part of Letters Patent No. 50,595, dated October 24, 1865.

*To all whom it may concern:*

Be it known that I, JAMES JERVIS, of the city of Baltimore, in the State of Maryland, have invented a new and useful Improvement in Machines for Cutting Files; and I hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings.

By referring to the specification attached to Letters Patent of the United States granted to me on the 11th October, 1864, for an improvement in machines for cutting files, it will be seen that I describe what I term a "regulator," whose office is to keep the shape steady or firm upon the bed-piece at the stroke of the chisel, while at the same time it performs other important functions.

My present improvement is in the form and construction of the regulator, and in the parts of the machine on which it operates.

Instead of making the regulator of a single piece set at an angle, the lower edge bearing upon the "shape," I make it of several pieces and set it nearly perpendicular, as shown in the accompanying drawings, where—

Figure 1 represents a front and Fig. 2 a side view of the regulator, A being the "body," so called by me, of the regulator, recessed or mortised at its lower end to receive the adjustable section B, to which is hinged the presser *a*, the body, adjustable section, and presser forming together the regulator. D is the shape, with the presser in contact with it, and the dotted lines show the chisel *m*.

The form of the several parts of the regulator is shown in the drawings, where it will be seen that the adjustable section, to which the presser is hinged or attached, may be moved forward or drawn back at pleasure. This becomes important, because in cutting a small file a smaller chisel is used than where a large and coarse file is to be cut, and it is important in both cases to place the regulator close to the chisel, which is done by advancing or withdrawing the regulator, as the case may be. The arrangement I use for this purpose is shown in Fig. 2, which represents the adjustable section B at the lower end of the regulator-body A. 1 is a bolt or spindle, with shoulders turned on it at 6 and 7. 3 is a hollow bolt screwed into the body of the regulator, through which

the spindle passes. On the outside of this hollow bolt is an adjusting-nut, 4, and at the end of the spindle is another adjusting-nut, 5. It will now be seen that by screwing up the hollow bolt 3 it is made to press on the shoulder 2 of the adjustable section, which is advanced thereby, and retained in its position by the nut 4. To draw the adjustable section back, the hollow bolt 3 is unscrewed sufficiently and the nut 5 screwed up, which draws back the adjustable section by the pressure of the head of the bolt or spindle 1 on the shoulder 6.

The position of the adjustable section is regulated laterally by the set-screws *b b*, so as to enable the operator to keep the lower surface of the presser at all times parallel with the edge of the chisel.

It will be seen, on inspection of the drawings, that the presser is connected with the adjustable section at the hinge-joint by the links *o o*, and that it (the presser) is thus kept with its flat surface in contact with the shape, as well at the place where the sides of the shape are parallel as where there is a taper, as shown by dotted line, Fig. 2.

It will readily be seen that by omitting the adjustable section I might attach the presser to the body of the regulator; but, although a useful effect would be obtained thereby, it would be less than where the adjustable section is employed.

It will be observed that the regulator here described may be applied to all file-machines as well as to that for which I hold Letters Patent, as aforesaid. By referring to my said Letters Patent it will be seen that I describe a bed-piece, U, on which the shape is placed, and which has a rotation at right angles with its length to compensate for inequalities of the surface of the shape as well as to enable the chisel to make a uniform cut across the shape when the edge of the chisel is not perfectly horizontal, owing to its grinding or other cause; and it will be observed that this rotation is governed by the pressure of the regulator on the surface of the shape.

It becomes important to secure, as far as practicable, a uniform result of rotation, as the shape passes under the chisel and regulator, and if the shape were always of the same width this uniformity would exist; but the shapes are



generally tapering, and in three cornered or taper saw-files the taper is very great, and in the last case, while the power of the regulator to cause the bed-piece to revolve or rotate is great, being in proportion to the width at the widest part of the file, yet at the point of the file where the surface of the shape is very narrow it is proportionally small, and may not be sufficient to produce any rotation whatever, whereby it might happen that the cut across the face of the shape would be deeper on one side than on the other. To obviate this and enable the regulator to exercise the same power, whether the surface to be cut is wide or narrow, I make the bed-piece tapering as the taper of the most taper file to be cut by the machine. In this way I reduce the surface, the friction of which is to be overcome by the action of the regulator, making the friction proportionate to the taper of the shape.

In the accompanying drawings, Fig. 3 represents the anvil, with the tapering groove in which the bed-piece rests at Q Q; and R the

bed-piece, with the groove for the shape to rest in.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the body of the regulator with the adjustable section B connected therewith, substantially as described, whether the latter presses directly upon the shape or through the intervention of the presser *a*.

2. The combination of the body of the regulator, the adjustable section, and the presser *a*, hinged to the latter, substantially as described.

3. Giving to the rotating bed a taper whereby the ability of the regulator to cause the rotation of the bed is made comparatively uniform throughout, and this whether the same bed is used for all shapes or a separate bed is provided for each shape or description of file.

JAMES JERVIS.

Witnesses:

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