

(No Model.)

G. SCOTT.

Manufacture of Printers' Metal Furniture.

No. 237,706.

Patented Feb. 15, 1881.

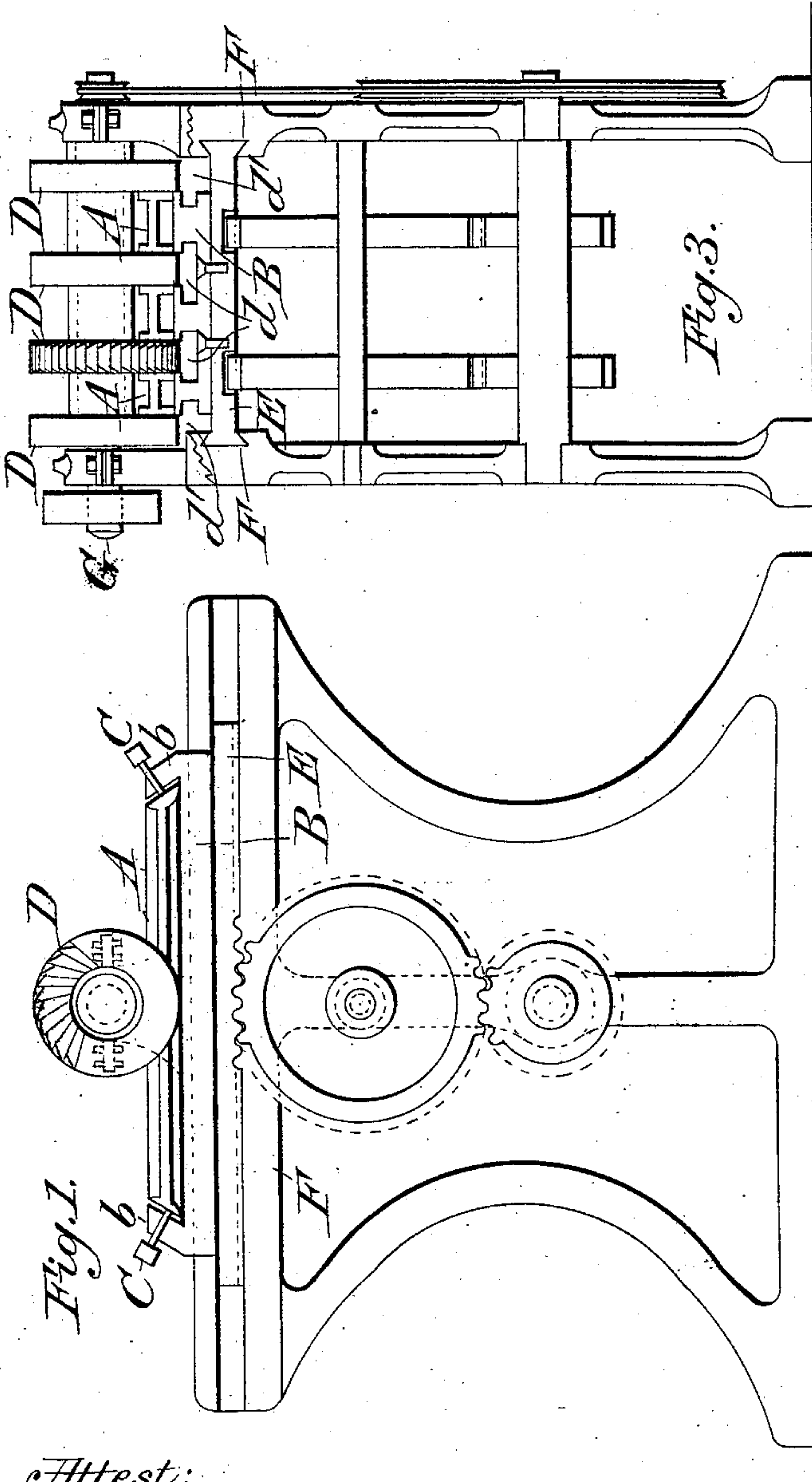


Fig. 1.

Fig. 3.

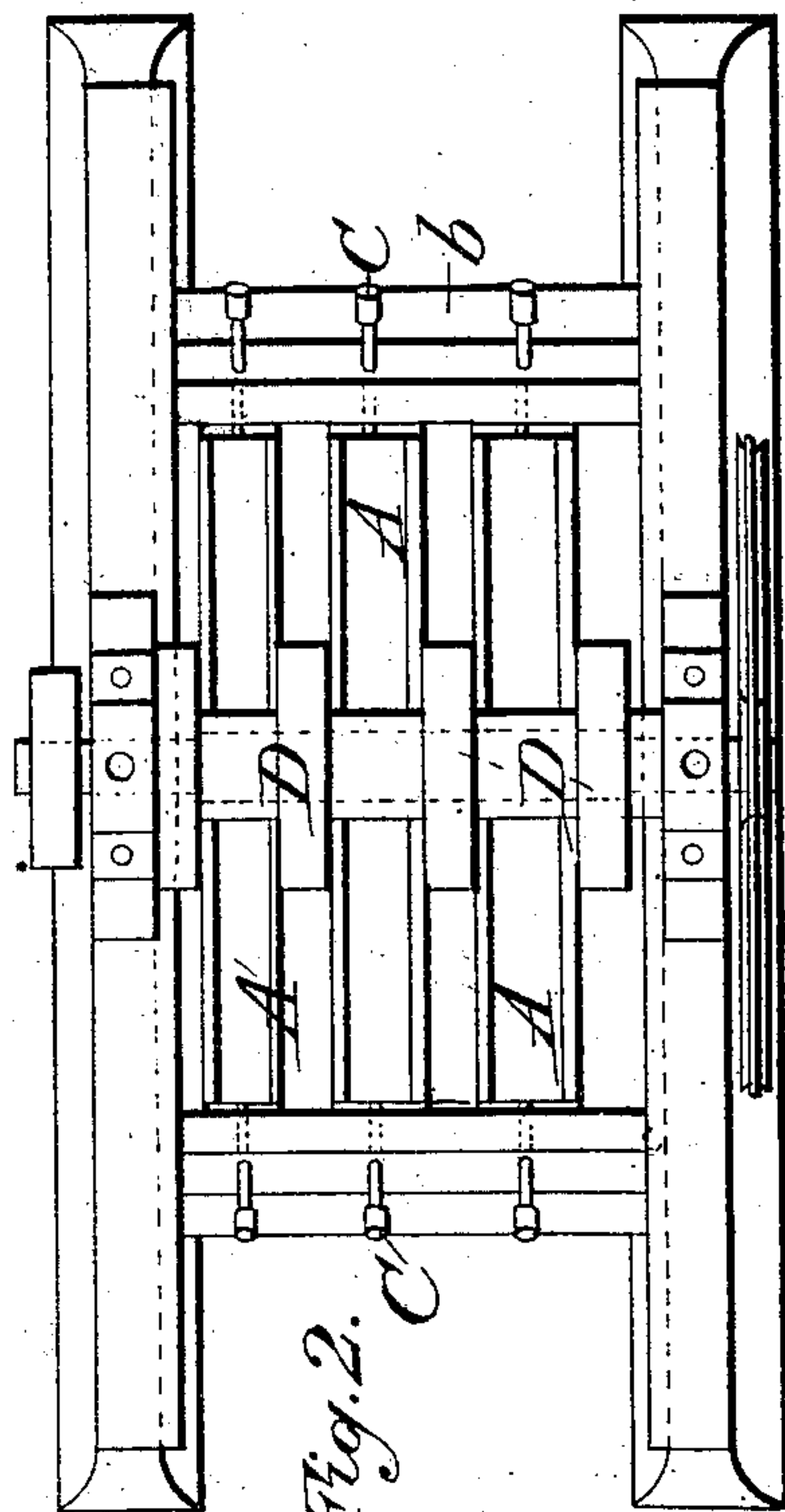


Fig. 2.

Attest:

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UNITED STATES PATENT OFFICE.

GEORGE SCOTT, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO J. L. CHAPIN
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MANUFACTURE OF PRINTERS' METAL FURNITURE.

SPECIFICATION forming part of Letters Patent No. 237,706, dated February 15, 1881.

Application filed October 14, 1880. (No model.)

To all whom it may concern:

Be it known that I, GEORGE SCOTT, of New York, New York county, and State of New York, have invented a new and useful Improvement in Manufacture of Printers' Metal Furniture, of which the following is a specification.

This improvement relates to that class of printers' material designated "printers' metal furniture," which furniture, or portions of it, are used for the purpose of confining a body or mass of type in position, and being placed when so used in direct contact with the type, it should be as perfect in construction as the type itself. Many devices have been used for the production of metal furniture, but none have given entire satisfaction. That which is most generally adopted is the use of iron molds, in which is cast a composition of soft metal, which, although perfect before using, yet, in consequence of the great pressure it must necessarily sustain, soon becomes warped and otherwise injured and has frequently to be renewed.

Attempts have been made to produce iron furniture by means of planing, filing, &c.; but these methods have been found to be too expensive and imperfect to be brought into general use. To obviate these difficulties I have invented a device or machine by the operation of which metal of a sufficiently rigid character may be cut with such perfect precision and rapidity as will insure to the printing fraternity a perfectly reliable and inexpensive article.

I use a heavy and strong milling machine or lathe having a horizontal rotary mandrel and a cross-feeding plate or table, to the latter of which I attach a shoe arranged to receive as many of the pieces of the furniture as the machine is capable of cutting at one time, and on the mandrel, either under or over the work, I arrange a series of face and side cutting milling-cutters corresponding with slots in the face of the shoe, and so nicely adjusted as to dress the sides of the pieces of furniture as they feed along between the cutters exactly to the sizes required, the said pieces being

securely fastened upon the shoe at such distances apart that the cutters will dress off only enough of the sides to perfect them. The cutters and shoe being once adjusted serve to dress great numbers before requiring readjusting or sharpening of the cutters, and the attention required is slight, being only to remove the finished pieces, put in others, and reset the table.

Figure 1, in the accompanying drawings, is an elevation, partly in section, of a machine in which my improvements of means for the economical manufacture of printers' furniture are represented. Fig. 2 is a plan view. Fig. 3 is another elevation, partly in section.

A represents the pieces of furniture to be dressed or finished with smooth, true, and parallel faces. They are fastened upon the shoe B, between bevel-flanges *b*, by set-screws *c*, or by any other approved means, at suitable distances apart to be dressed by the rotary milling tools or cutters D, between which they are passed while the cutters are revolved by any suitable means. In this instance the shoe B is represented as attached to the feed-table E, which is arranged to slide in suitable ways on the stands F, and geared with the mandrel G, so as to be slowly moved along. I may use an ordinary turning-lathe by placing the cutters on the mandrel and attaching the shoe to the cross-slide. The shoe, it will be noticed, is grooved at *d*, under each of the cutters, except the outer ones, and there it is arranged, at *d'*, for the cutters to work, below the face or bed whereon the pieces lie, whereby the bits or edges of the sides of the cutters may work past the lower edges of the faces to be dressed.

The cutters are firmly secured the exact distances apart on the mandrel corresponding to the number of ems the pieces are to be in breadth, some being for one size, and some for another.

In practice the number of cutters employed in one gang or series may be much greater than represented in the drawings, the limit being determined mainly by the power of the machine. When the sides of the pieces are

dressed the ends which are here represented as beveled, to facilitate fastening them in the shoe, are squared off by similar cutters.

It will be noticed that the face edges or bits 5 of the cutters dress off the hard, rough skin of the metal, which is the most wearing to them, while the side edges have little to do, except facing, smoothing, and gaging them, and they only act on the softer metal after the hard 10 skin is removed, whereby the wear caused by the harder portion does not prevent the cutters from gaging the work truly, thus rendering the cutters very durable.

Having thus described my invention, what 15 I claim, and desire to secure by Letters Patent, is—

The combination, in a machine having a reciprocating table, E, and a rotary mandrel,

G, of a series of milling-cutters, D, with face and side cutting bits or edges, and a work- 20 holding shoe attached to the table, the cutters being adjusted the distance apart along the mandrel corresponding to the breadth of a standard em pica of printers' furniture, or any multiple thereof, and the shoe having elevated 25 bed-rests rising up above the faces and into the spaces between the cutters for supporting the pieces to be dressed, so that the sides of said pieces will be gaged and finished by the side bits of the cutters, substantially as de- 30 scribed.

GEORGE SCOTT.

Witnesses:

A. P. THAYER,

W. J. MORGAN.