(No Model.)

M. BRAY.

Manufacture of Reed Plates.

No. 242,811. **Patented June 14, 1881.**

Fig. 5.

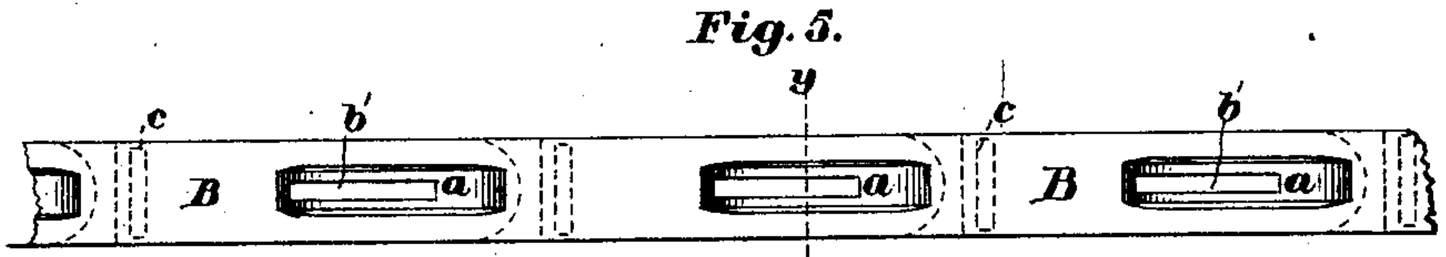

Fig. 3.

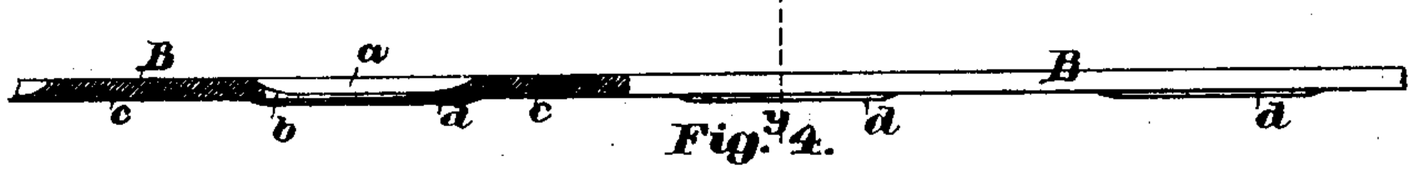

Fig. 4.

Fig. 2.

Fig. 1.

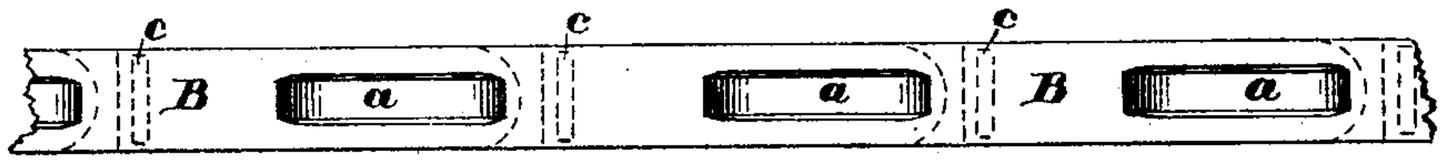

Fig. 6.

Fig. 7.

Witnesses:

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UNITED STATES PATENT OFFICE.

MELLEN BRAY, OF NEWTON, MASSACHUSETTS.

MANUFACTURE OF REED-PLATES.

SPECIFICATION forming part of Letters Patent No. 242,811, dated June 14, 1881.

Application filed April 16, 1881. (No model.)

To all whom it may concern:

Be it known that I, MELLEN BRAY, of Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in the Manufacture of Reed-Plates for Musical Instruments, of which the following, taken in connection with the accompanying drawings, is a specification.

Reed-plates for musical instruments have heretofore been formed by dieing the block or plate from sheet metal, milling in its upper and under surfaces the necessary recesses, and then punching the throat for the reed-tongue by means of male and female dies. This method of construction involved using soft brass or composition, which is not as desirable as a harder metal, and the punching of the throat for the reception of the reed produced a comparatively ragged edge, which was more or less detrimental to the sound produced by said reed.

To overcome these objections, and at the same time cheapen the cost of manufacture of said plates, is the object of my invention; and it consists of a reed-plate which has the metal immediately around the throat for the reed condensed and rendered hard by rolling.

It further consists in the method of forming reed-plates for musical instruments by rolling a bar or rod of metal to the desired width and thickness, and at the same time rolling in one face thereof a series of recesses at distances apart corresponding to the required length of the reed-plates to be formed therefrom, with a proper allowance for stock to be cut away in cutting said bar into the proper lengths, while upon the opposite side are formed a corresponding number of smaller recesses, extending across the width of the bar, and located at points between the main recesses on the other side, and also projections opposite the main recesses and covering their bottoms, milling off said projections, and then cutting said bar into the desired lengths and shape to complete the reed-plates.

Figure 1 of the drawings is a plan of a finished reed-plate. Fig. 2 is a transverse section on line *x x* on Fig. 1. Fig. 3 is a plan of a portion of my improved rolled bar from which the reed-plates are to be cut. Fig. 4 is a sectional elevation. Fig. 5 is a transverse section on line *y y* on Fig. 3; and Figs. 6 and 7 are, respectively, a plan and sectional elevation of a modified form of the bar.

A is the reed-plate, of the usual form, and provided with the recess *a*, slot or throat *b*, and nail groove or recess *c*, all of the usual form, but formed by rolling the stock between pressure-rolls, whereby the stock upon either side of the throat *b* is compressed, and thus rendered more dense and hard.

B is a bar of metal, having formed in one side thereof a series of recesses, *a*, arranged at stated and even distances apart, in the bottoms of which are formed other smaller recesses, *b'*, of the size and shape that it is desired to give to the throat *b* of the finished plate, and upon the other side the projections *d d* and nail-recesses *c c*, as shown in Fig. 4. When the bar B has been rolled to the form shown in Figs. 3 and 4 it is passed beneath a milling-tool to remove the projections *d d*, and then the bar is cut into pieces of the desired length and shape to complete the reed-plates, as indicated by dotted lines in Fig. 3. By this method of operation the reed-plates may be produced at a reduced cost, at the same time that the quality of the article is improved.

If desired, the bars B may be rolled without the recesses *b'* and projections *d d*, as shown in Figs. 6 and 7, and the throats *b* may be formed by punching, as heretofore, in which case the milling operation will be dispensed with or reduced to a simple smoothing of the surface.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A reed-plate having the metal immediately around its throat condensed and rendered hard by rolling, substantially as described.

2. A rolled metal-bar having formed therein two series of recesses, *a a* and *c c*, from which reed-plates may be formed by cutting to the desired lengths and punching the throats *b*, substantially as described.

3. A rolled bar of metal having formed in one side thereof a series of double recesses, *a* and *b'*, and upon its opposite side a series of recesses, *c c*, and a series of projections, *d d*, all arranged substantially as and for the purposes described.

4. The method of constructing reed-plates

for musical instruments by first rolling a bar of metal to the desired width and thickness of said plate, with a series of double recesses on one side, and a single series of recesses and a series of projections upon its opposite side, milling off said projections, and then cutting said bar into lengths, and shaping the ends of said lengths to complete the reed-plates, substantially as described.

Executed at Boston, Massachusetts, this 14th day of April, A. D. 1881.

MELLEN BRAY.

Witnesses:
E. A. HEMMENWAY,
WALTER E. LOMBARD.