

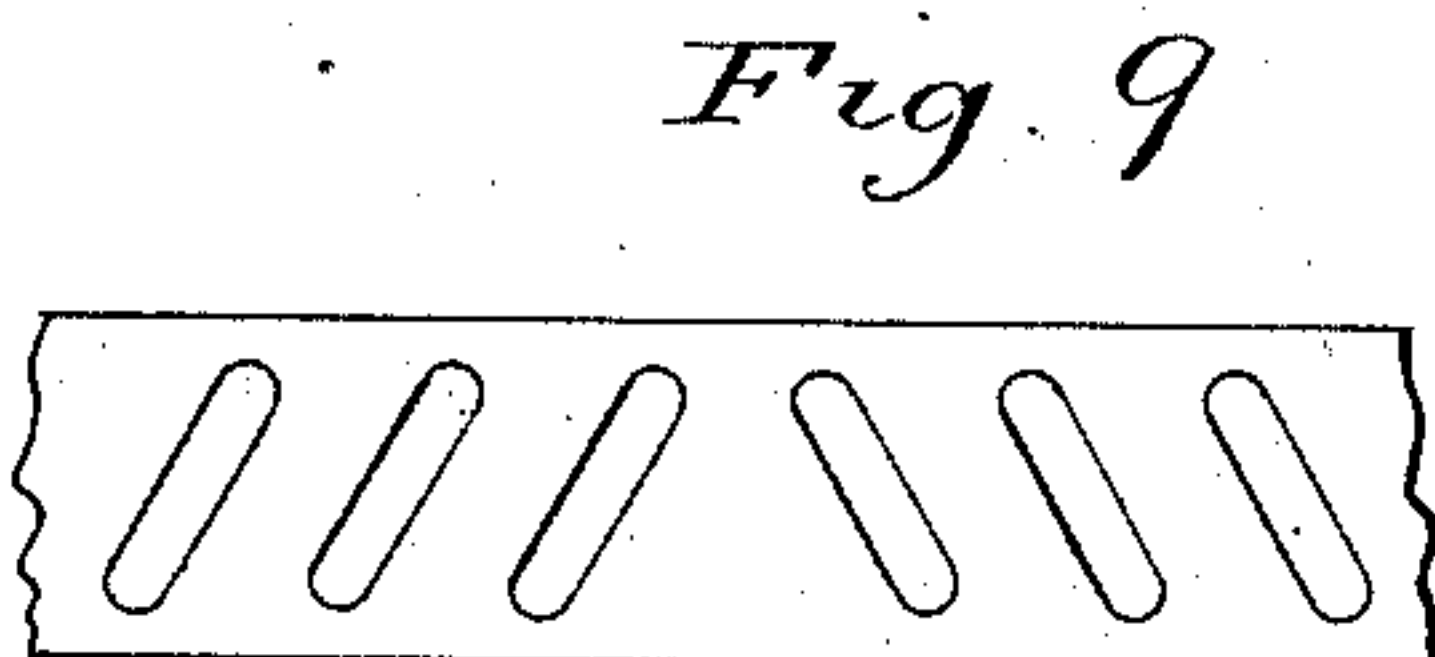
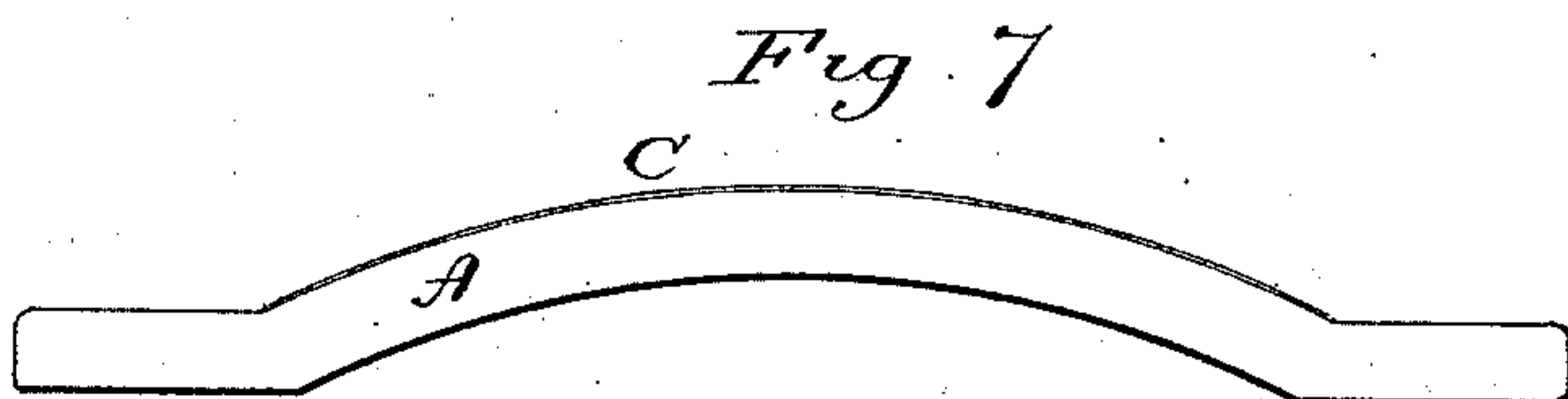
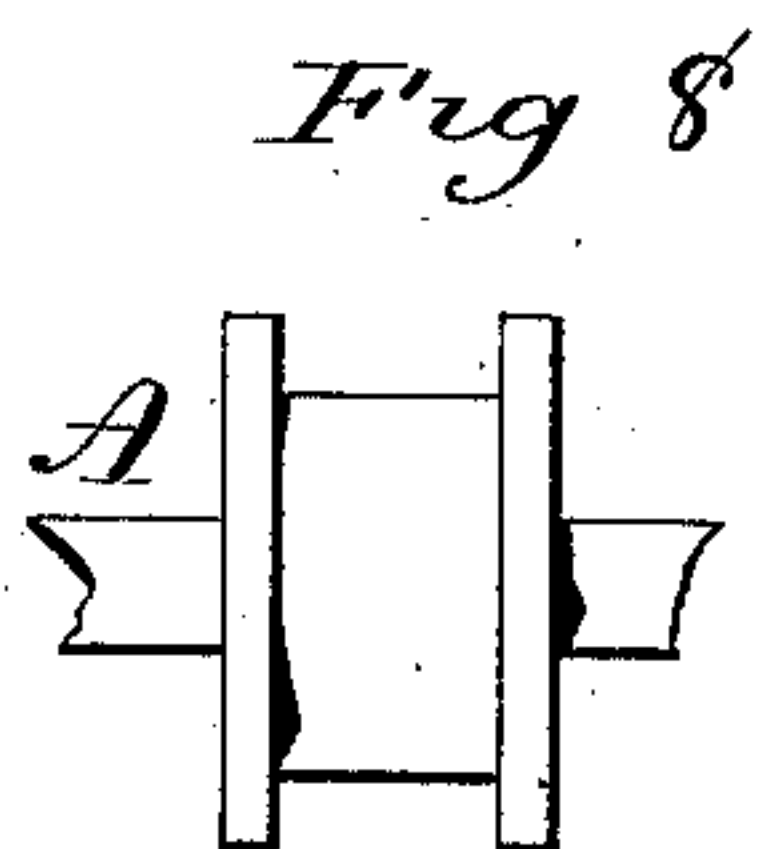
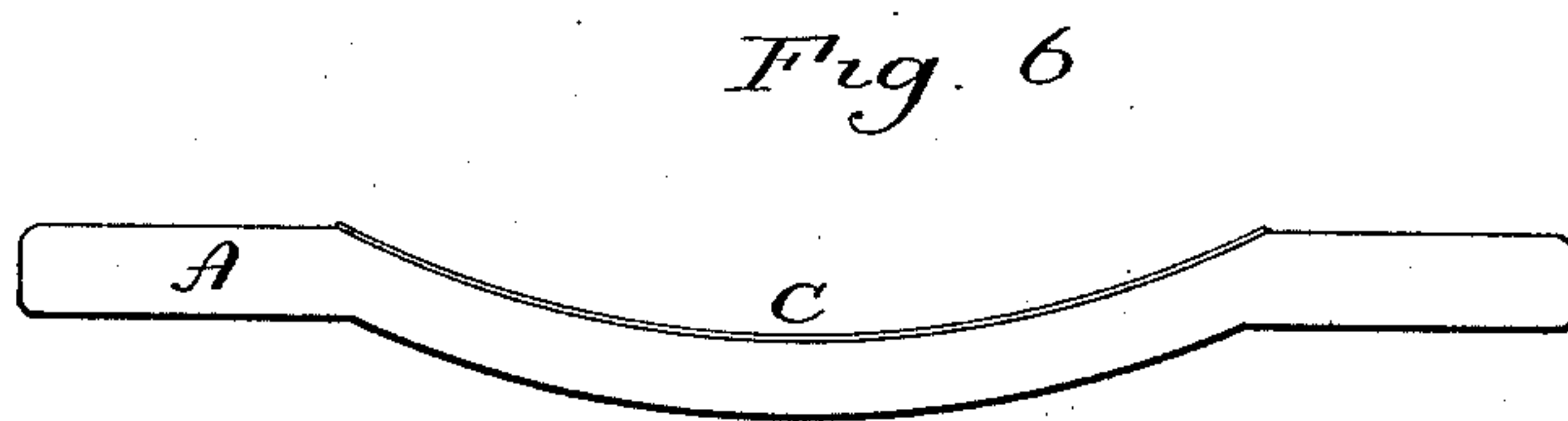
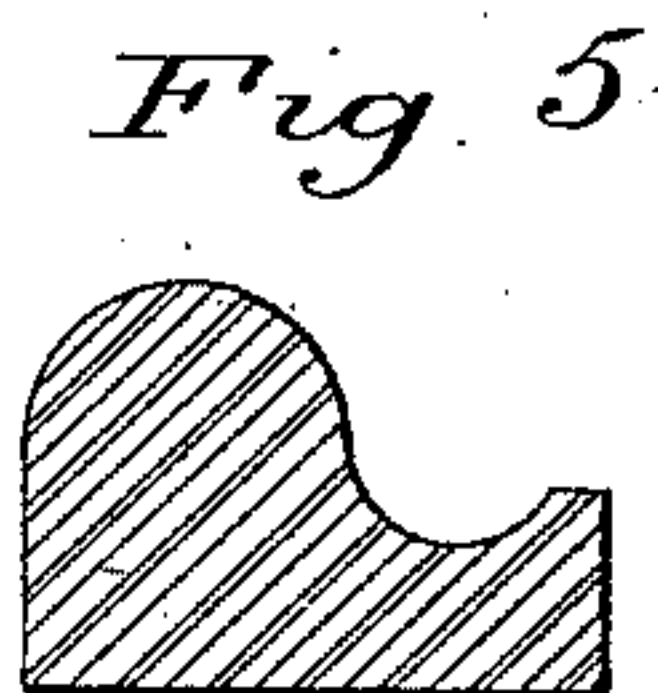
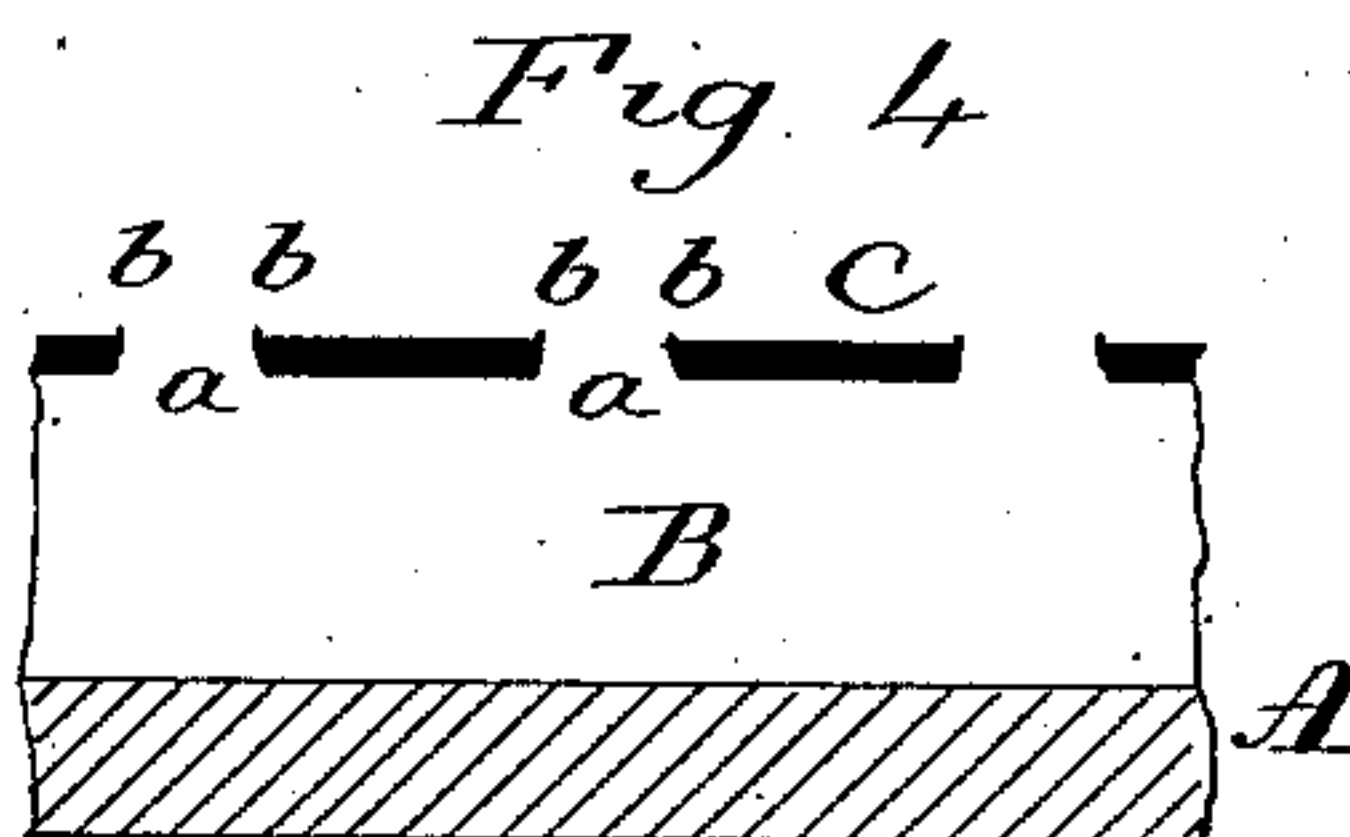
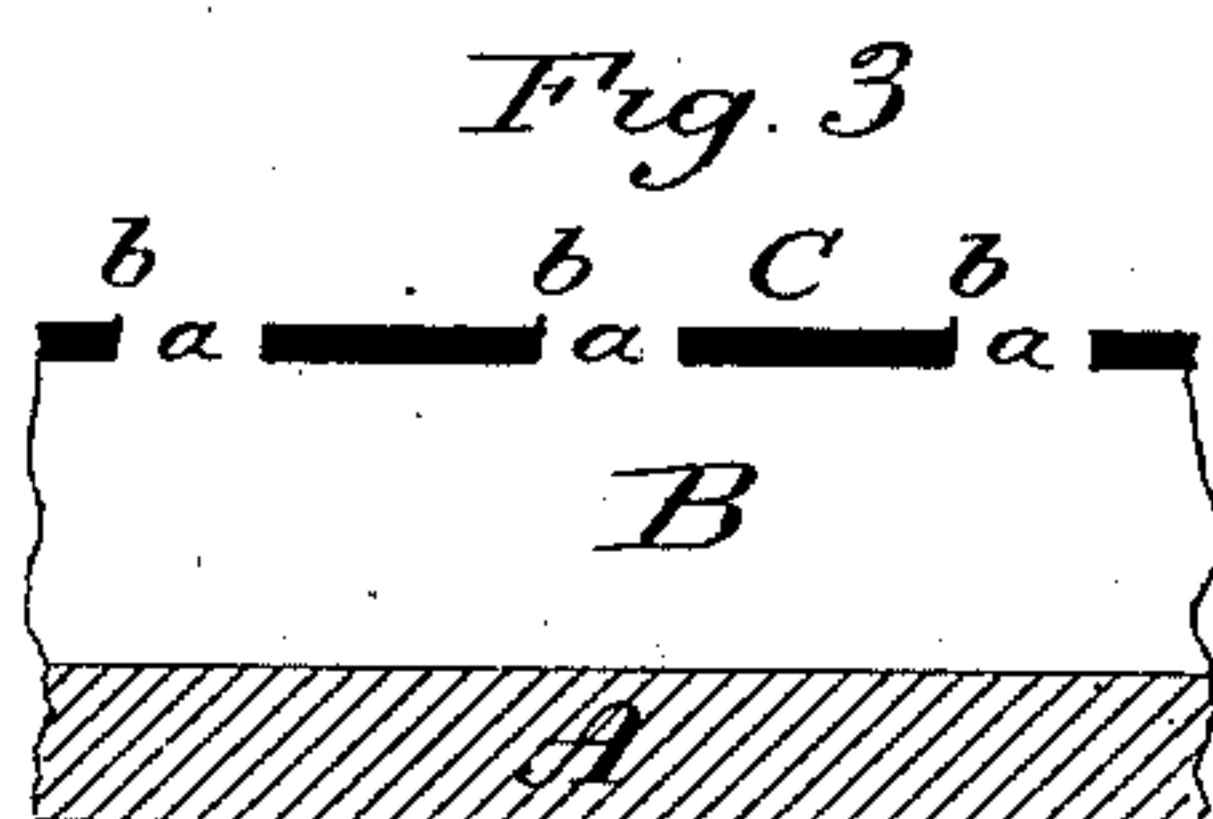
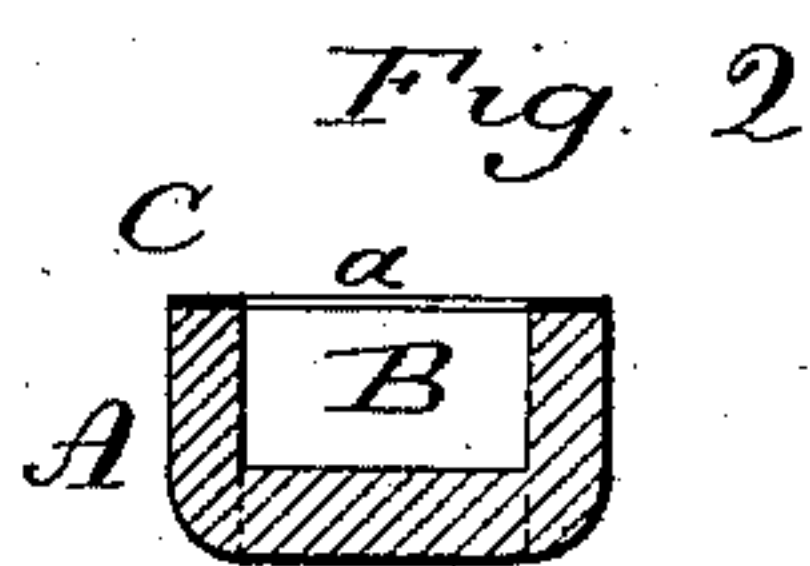
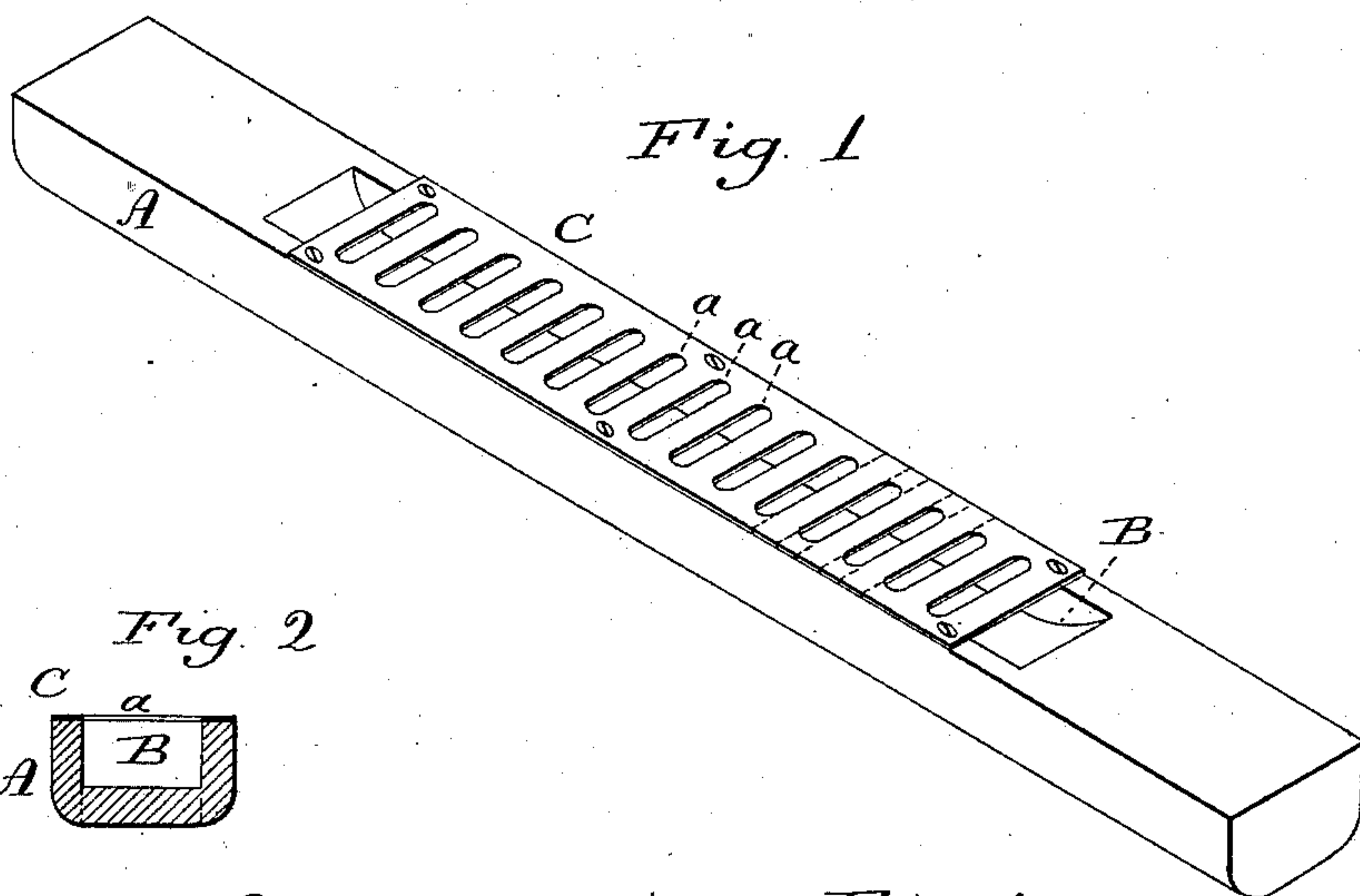
(No Model.)

J. Y. SIMONS.

TOOL FOR FINISHING SURFACES OF WOOD AND OTHER MATERIALS.

No. 305,344.

Patented Sept. 16, 1884.



Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES Y. SIMONS, OF AMSTERDAM, NEW YORK.

TOOL FOR FINISHING SURFACES OF WOOD AND OTHER MATERIALS.

SPECIFICATION forming part of Letters Patent No. 305,344, dated September 16, 1884.

Application filed June 30, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES Y. SIMONS, of Amsterdam, in the county of Montgomery and State of New York, have invented a new Improvement in Tools for Finishing the Surfaces of Wood and other Materials; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a perspective view showing the cutting-face of the tool; Fig. 2, a transverse section of the same; Fig. 3, a longitudinal section of the plate enlarged, showing one edge only of the slots set; Fig. 4, the same as Fig. 3, showing both edges of the slot set; Fig. 5, a transverse section of a molding, to illustrate a modified form of plate; Figs. 6, 7, 8, and 10 modified forms of the stock; Fig. 9, a modified arrangement of slots in the plate.

This invention relates to a tool or instrument designed to be used for finishing wood surfaces, and as a substitute for file or scraper now commonly used for such finishing; but while adapted specially to the finishing of wood surfaces, it may be applied to like work upon other material, and whether such finishing be done by hand or by power; and the invention consists in a tool the working-face of which consists of a thin steel plate having a series of (preferably) parallel slots through it, one or both edges of each slot "set" so as to project the metal slightly beyond the working-surface, and as more fully hereinafter described.

In the first illustration I show my invention as applied to a hand-tool, in which A represents the stock, which may be made of wood, its face substantially straight and flat, and also constructed with a recess, B, in its face. Upon the face of the stock A a steel plate, C, is applied and secured. This plate is constructed with a series of slots, *a*, preferably parallel, and which open directly into the chamber or recess B. These slots are narrow. After the slots are formed and the metal hardened (I preferably use what is known as a "saw-plate" to form the plate C) one or both edges of the slots are set by turning the metal outward, employing a smooth, hard, burnisher-like instru-

ment for the purpose, and as seen at *b*, Fig. 3, one edge only being represented in that figure as turned outward. This edge forms a cutter like the edge of what is commonly called a "scraper," and the operation for thus turning the edge is commonly called "setting." The plate being firmly secured to the stock, the workman uses the tool substantially as he would a file. The set or cutting edges *b* operate upon the surface of the material as would a scraper, the flat surface of the plate serving as a guard upon which the tool will work, and so as to insure an even and perfect cutting or finishing of the surface. Both edges of the slots may be thus set, as seen in Fig. 4. In that case the tool will operate in both directions, one set edge cutting in one direction and the other on the return.

I represent the tool as presenting a straight flat surface; but if an irregular surface is to be dressed—say as a molding—as seen in Fig. 5 the plate would be made of corresponding shape in transverse section, so as to follow the curves or lines of the molding.

Instead of being made straight, if curved surfaces are to be dressed, the stock may be made so as to present a concave working-surface, as seen in Fig. 6, or to present a convex surface, as seen in Fig. 7.

To adapt the tool to power uses a head corresponding to the stock A is formed, as seen in Fig. 8, it having an annular groove in its periphery corresponding to the cavity in the stock as first described. Then around the periphery a solid metal plate is fixed, the edges of the slots set as before described. The material to be finished is then presented to the revolving head for the action of the set edges of the slots. The shape in transverse section of the plate thus applied may be adapted to the various shapes, as hereinbefore described for the straight tool.

The number of the slots may be increased or reduced, according to the size of the tool, and the slots, instead of being transversely across the plate, as shown, may be diagonal, as seen in Fig. 9, inclining in either direction.

The chamber or recess in the stock is formed for the reception and escape of chips. It may be opened entirely through the stock at points, as indicated in broken lines, Fig. 2, or at each

end, as seen in Fig. 1. The plate, however, may be applied directly to a flat surface, as seen in Fig. 10; but so good a clearance cannot be produced as when a recess or chamber 5 is formed in rear of the plate.

By the use of this instrument more even and perfect work can be done than can be done by the common scraper, and as a substitute for a file it avoids the scratches upon the surface 10 which the file must leave.

Instead of making the plate in one continuous piece, it will be readily understood that it may be made in several pieces or divisions—as, for instance, each slot may be formed by 15 two adjacent bars across, as indicated in broken lines, Fig. 1; but when all together they form a continuous plane and substantially one plate.

I claim—

1. The herein-described tool for finishing the surface of wood and other material, consisting 20 of the stock A, combined with a steel plate fixed thereto, the said plate constructed with a series of slots, the said slots having one or both edges set outward to form a projecting cutting-edge, *b*, substantially as described. 25

2. The stock A, constructed with a recess, B, combined with the thin steel plate C, fixed to the stock over said recess, and constructed with a series of slots, *a*, one or both edges of said slots set to form an outwardly-projecting 30 cutting-edge, *b*, substantially as described.

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Witnesses:

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