

P. P. Simmons,

Bench Plane.

No. 55,919.

Fig. 1.

Patented June 20, 1896.

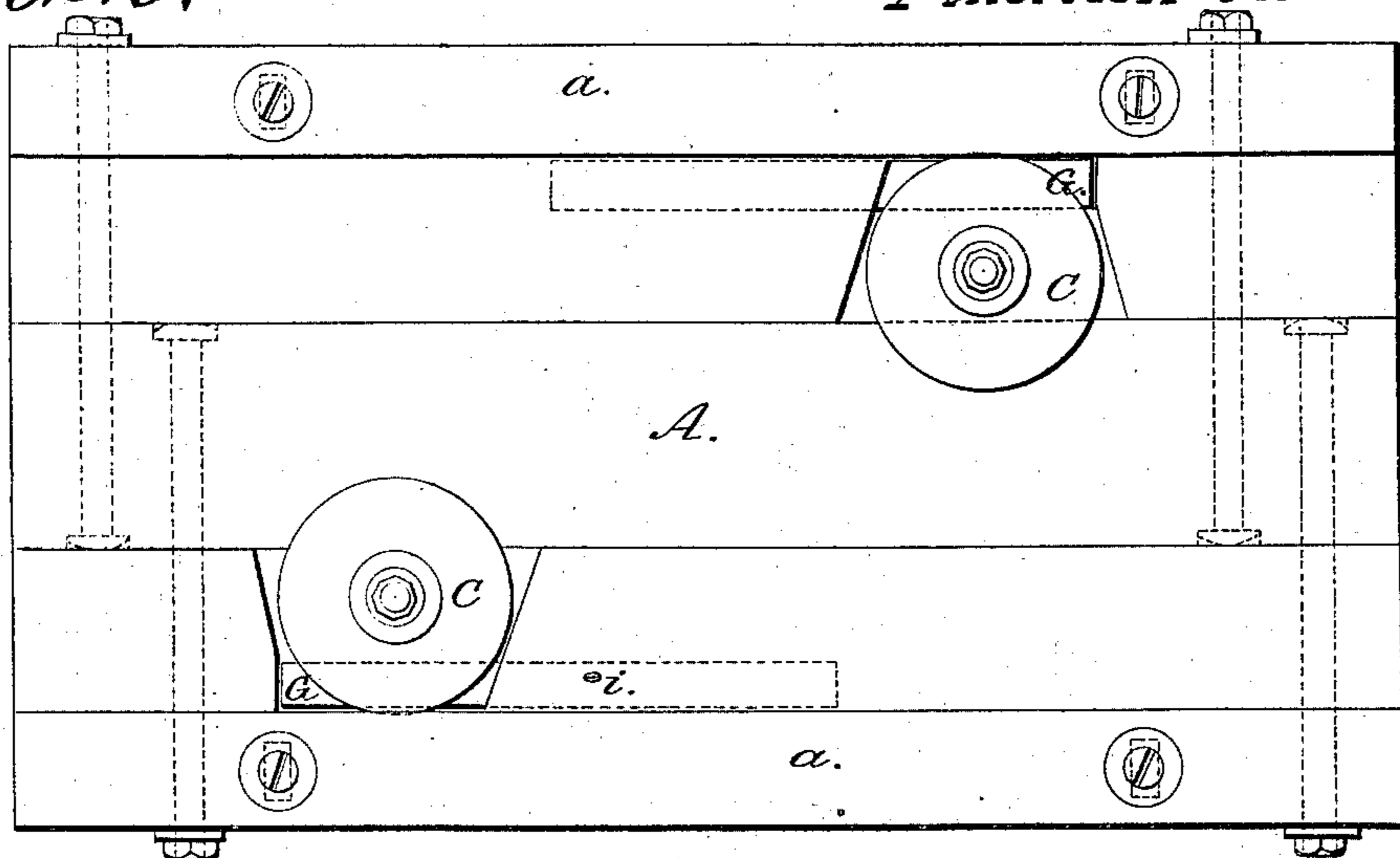


Fig. 2.

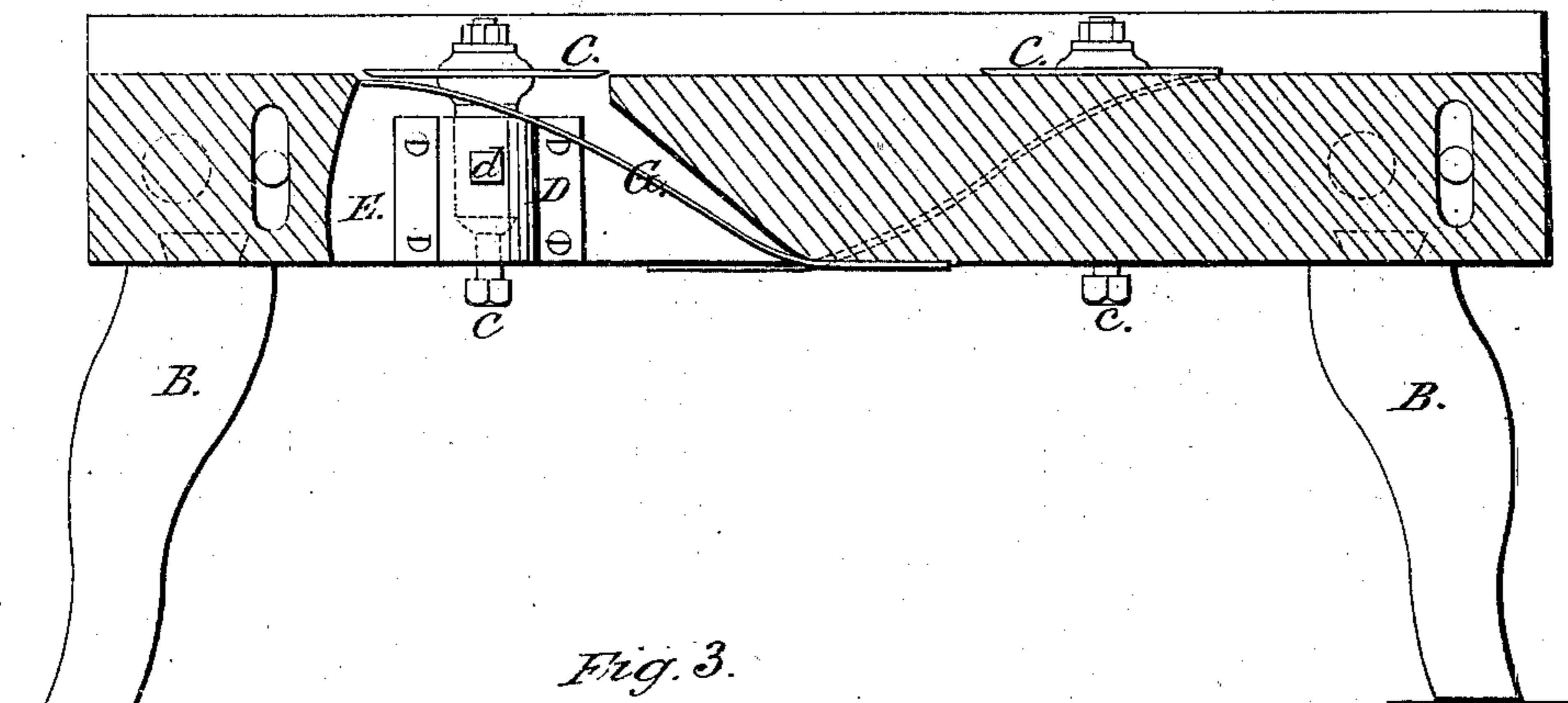
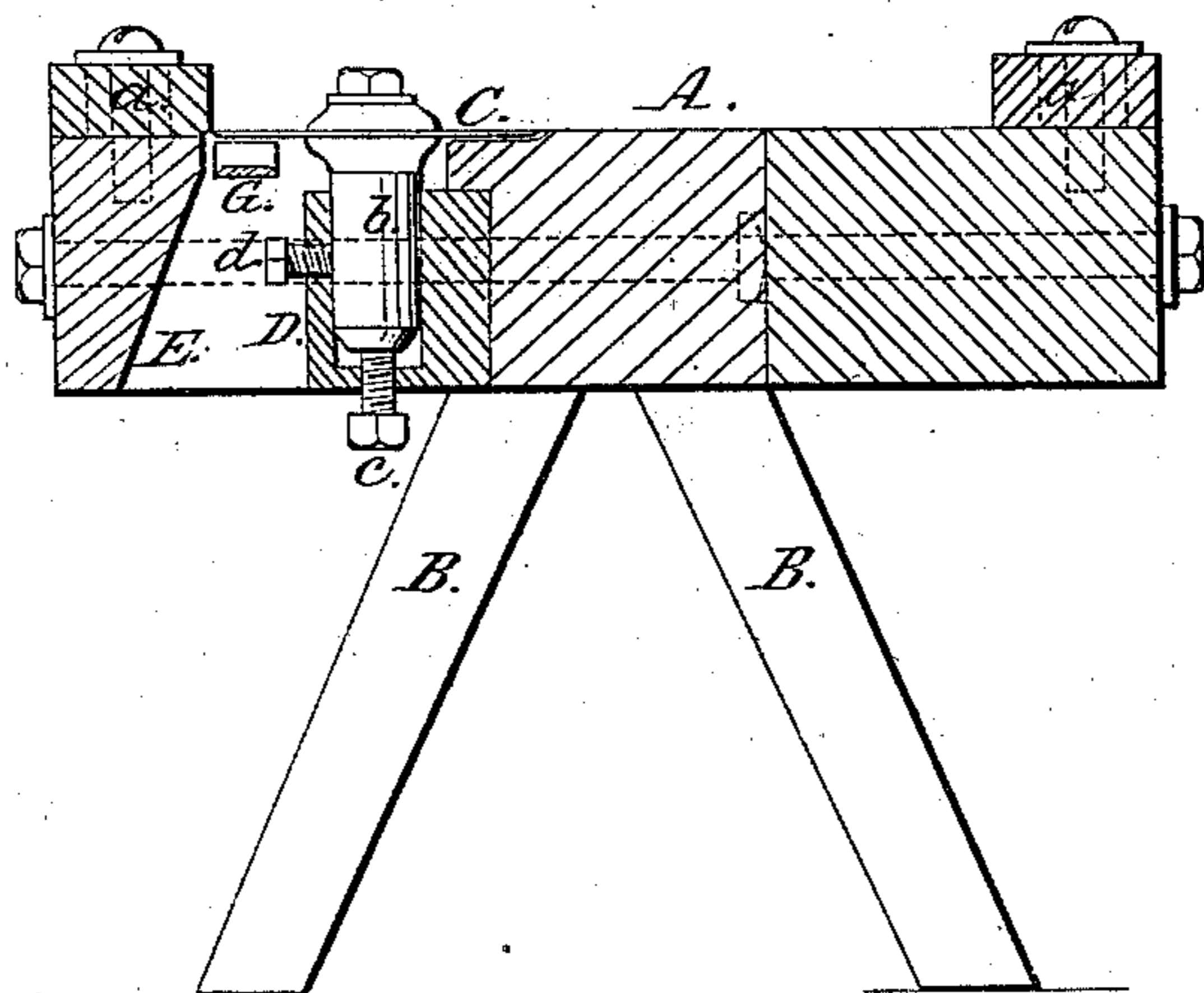


Fig. 3.



Witnesses.

H. T. Campbell.
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Inventor.

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by his Atty
Mason, Tenwick & Lawrence

UNITED STATES PATENT OFFICE.

P. P. SIMMONS, OF DAVENPORT, IOWA.

IMPROVEMENT IN MACHINES FOR CUTTING WINDOW-SHADE SLATS.

Specification forming part of Letters Patent No. 55,919, dated June 26, 1866.

To all whom it may concern:

Be it known that I, P. P. SIMMONS, of Davenport, Scott county, and State of Iowa, have invented a new and Improved Machine for Making Window-Shade Slats; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a top view of double machine for riving window-shade slats. Fig. 2 is a vertical longitudinal section, showing the spring-guide and its relation to the cutter. Fig. 3 is a vertical transverse section through the machine, showing the manner of sustaining and adjusting the knife.

Similar letters of reference indicate corresponding parts in the three figures.

This invention relates to certain improvements on machinery for making the narrow slats or strips that are woven together for the purpose of forming wooden window-shades.

The main object of my invention is to employ movable knives of a circular form, in conjunction with pressure-springs, for the purpose of riving thin slats or strips from "bolts," said springs being so applied that they will keep the strip, during the act of severing it from the bolt, in close contact with the bottom surface of the knife, so that this strip will be cut of an even thickness throughout its length, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents the table or bed of the machine, which has a plain horizontal surface, and which, in this case, is made of three longitudinal beams of a uniform length, suitably bolted by transverse bolts. (Shown in dotted lines.) The side strips, *a a*, are secured on top of said table by means of vertical screws, which pass through vertical transverse slots that are made through the strips. By loosening the screws the strips can be adjusted nearer to or farther from the center of the table. These strips *a a* are intended to serve as guides for the bolts during the operation of riving the slats. The two outer beams, composing the table A, may be made adjustable vertically by slotting the holes through which the tie-bolts pass, as

shown in Fig. 2. This table is mounted upon legs B B, which may be secured by means of dovetail tenons formed on the legs, fitting into corresponding mortises formed in the central beam of the table.

I have represented two circular cutters, C, applied to this table A in such positions with relation to the side guides, *a*, that two persons can work at the table, standing at opposite ends thereof, and passing the bolt back and forward, so as to cut off a slat at every movement. Each knife is arranged in a horizontal plane, or in a plane parallel to the surface of the table A, and each knife is secured to a vertical spindle, *b*, so that this spindle will turn with its knife.

The spindle *b* is fitted into a socket, D, and stepped upon an adjusting-screw, *c*, so that by adjusting this screw the knife C may be elevated or depressed for cutting thick or thin slats. The set-screw *a* may be used for preventing the knife C from turning, if it is desired to work with a stationary knife; if not, this screw *a* is loosened.

There is an open space, E, beneath the knife C, for the purpose of receiving a curved spring, G, that is secured at its lower end to the bottom of the table and curved upward, as shown in Fig. 2, so that its upper end will press against the bottom of the knife C nearly on a level with the plane of the top of the table. This spring G is intended for guiding the end of the slat upward and upon the table during the operation of cutting the slat from the bolt, which is moved up to said knife in the direction indicated by the arrows in Figs. 1 and 2. This spring G not only guides the end of the slat upon the table from beneath the knife C, but it also serves to keep the slat in close contact with the bottom of the knife during the entire passage of the slat and bolt across the table, thus effectually preventing the slats from being broken.

The knives which I employ are of a circular form, made very thin, and having their cutting-edges formed by beveling said edges, as shown in Figs. 2 and 3.

If desirable, vertical cutters *i*, or spuds, may be applied to the surface of the table at a proper distance from the guide-strips *a*, for dividing the slats during the operation of severing them from the bolt. If the bolts are

wide enough to cut a strip of sufficient width for two slats, the spuds will then divide or split such strip into two slats as the bolt passes toward the knife or knives.

In operating with my machine, a person can stand at each end of the table and pass the bolts or bolt back and forward, cutting off a slat at each passage. The knives are only adapted for cutting slats when the bolts are passed in one direction over them, and for this reason I employ two knives cutting in opposite directions, and have said knives arranged on opposite sides of the same table, one knife being near one end of the table and the other knife near the other end of the table.

By using nearly horizontal rotary cutters, the work of cutting off the splints is more easily performed than with stationary cutters, as much less friction between the cutters and the wood is experienced, and by having the cutters in pairs, as shown, on the same table, much time in passing the bolt back for a new cut is saved; or, in other words, no time is lost in this operation with my machine, for in the act of passing it back a splint may be taken from it by the cutter which is on the other side of the table to that where the cutter which first operated to take off a splint is situated. To effect this it is only necessary for the men who are at the two ends of the

table to catch the bolt and shift it first to the right and then to the left, as it is moved back and forward, these side movements being imparted to it at the end of each back or forward movement. The advantages of the spring below the circular rotating cutter, and also of the arrangement of the cutter, as shown, are fully described, and need not be repeated here.

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

1. The arrangement of the nearly horizontal rotary cutters *C C*, table *A*, and the guides *a a*, substantially in the manner and for the purpose described.

2. The arrangement of the socket-bearing *D*, cutter-arbor *b*, cutter *C*, adjustable devices *c* and *d*, and table *A*, substantially in the manner and for the purpose described.

3. The combination of the stiff stationary bed *A*, rotary cutter *C*, and yielding guide *G*, substantially as and for the purpose described.

Witness my hand in matter of my application for a patent for improved machine for making window-shade slats.

P. P. SIMMONS.

Witnesses:

C. H. ELDRIDGE,
MORTIER E. BIRD.