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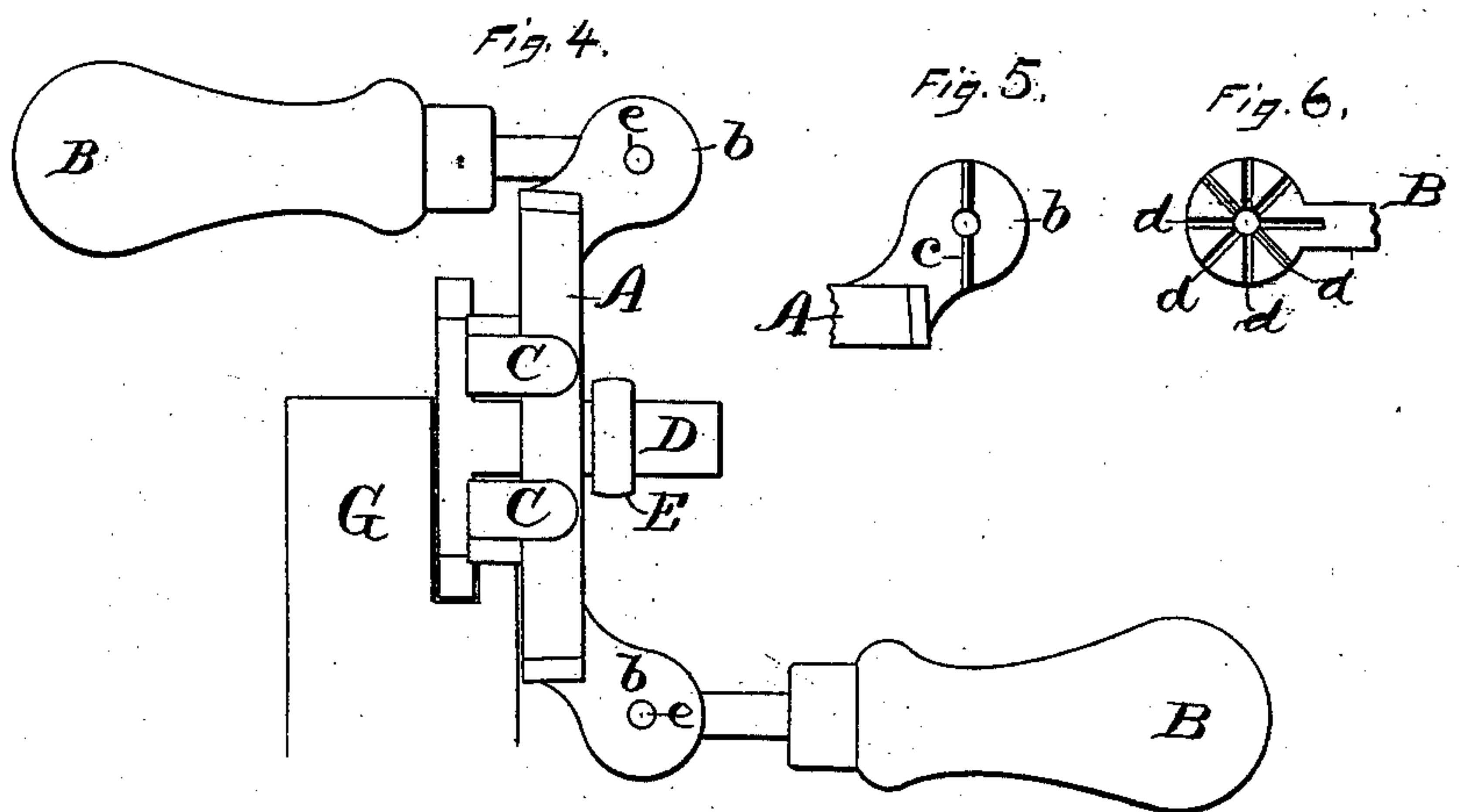
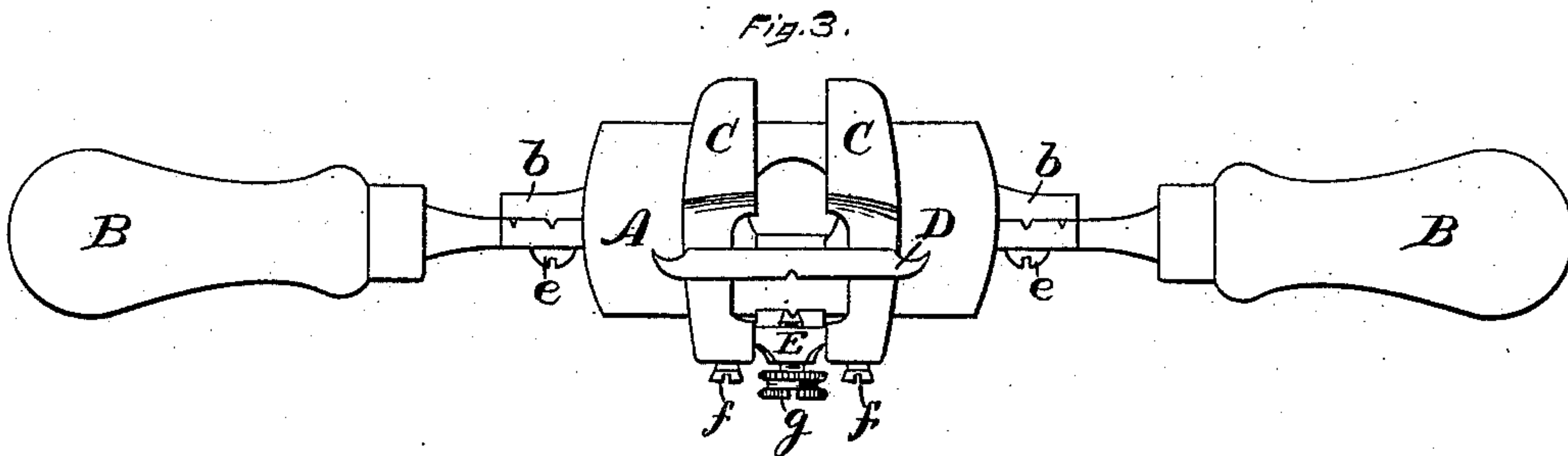
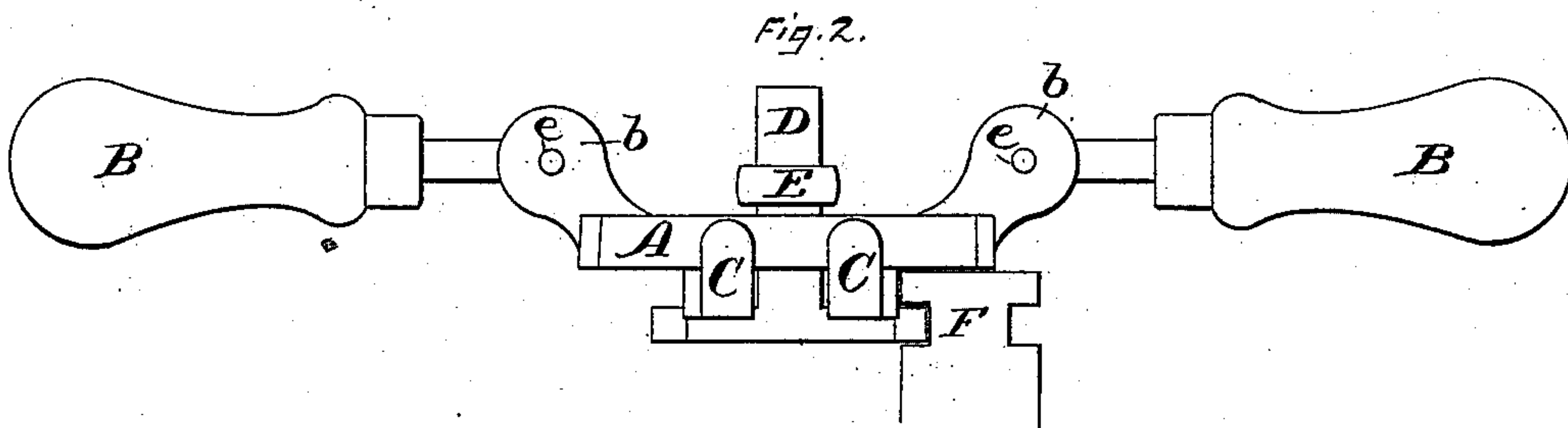
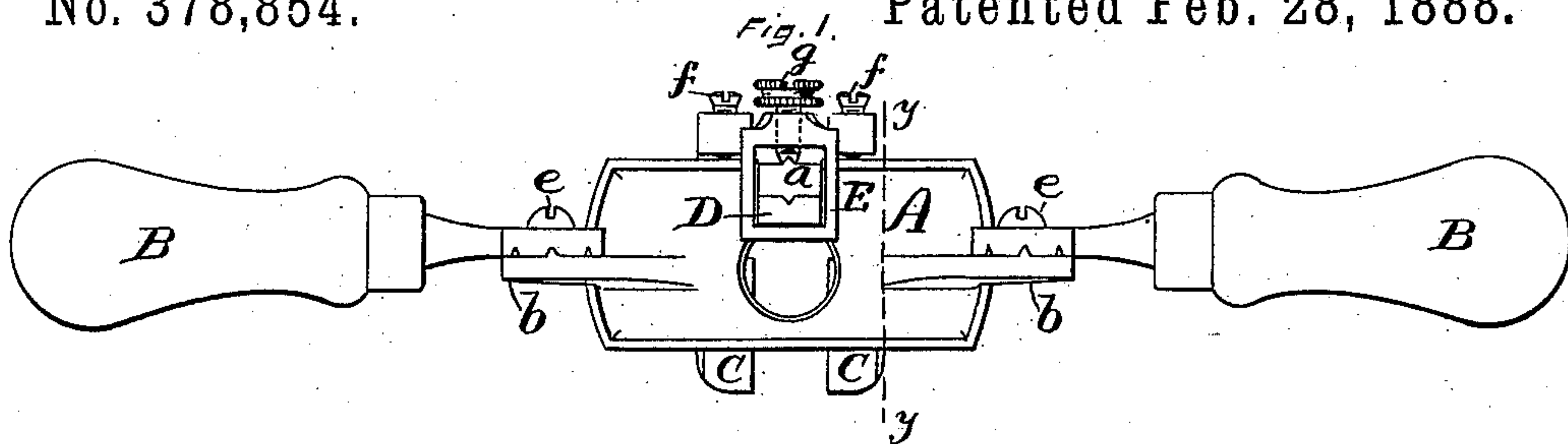
2 Sheets—Sheet 1.

J. A. TRAUT.

GROOVING AND BOXING TOOL FOR CARRIAGE MAKERS.

No. 378,854.

Patented Feb. 28, 1888.



Witnesses.

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W. H. Whiting

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By James Shepard

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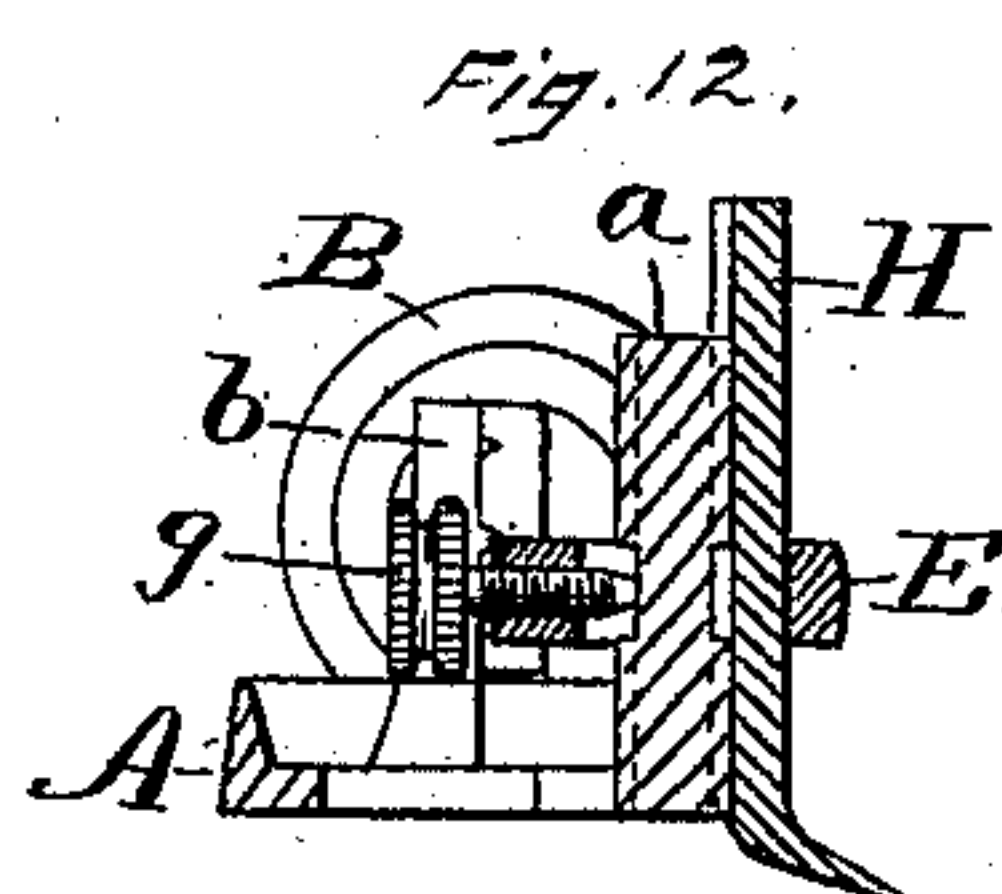
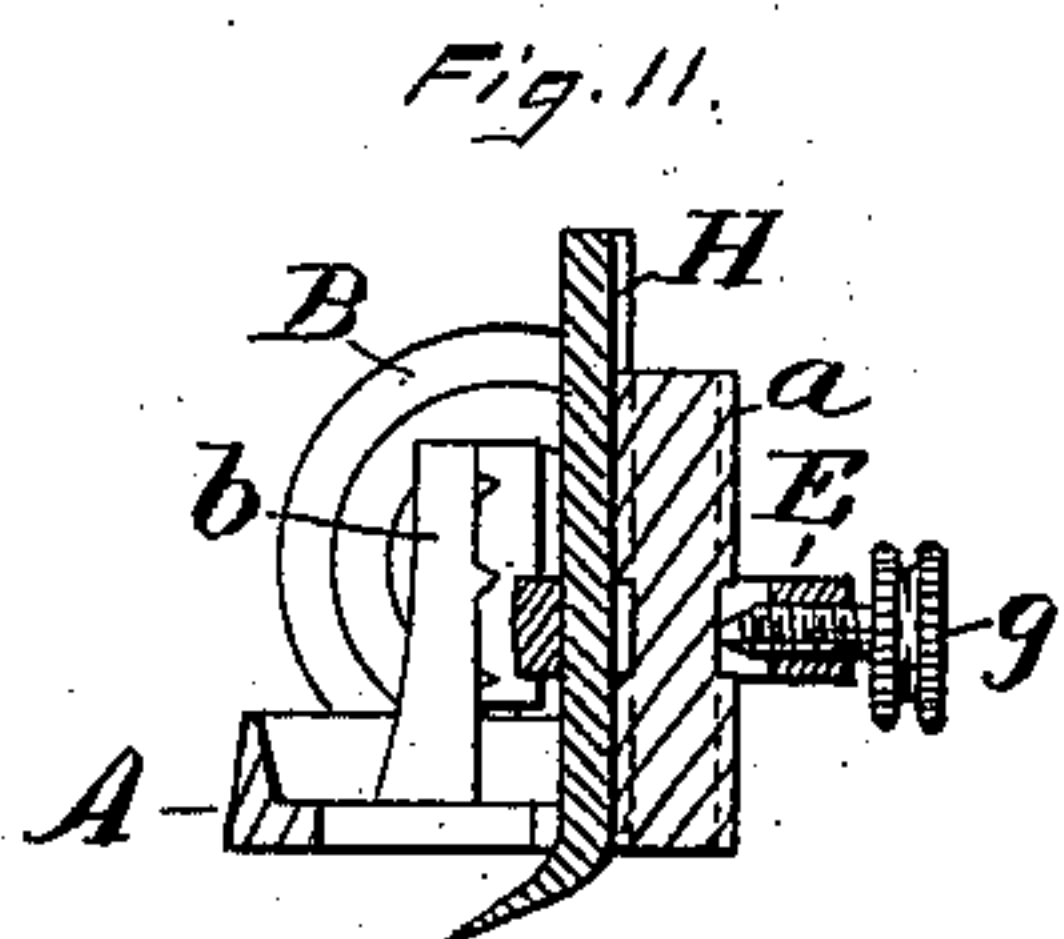
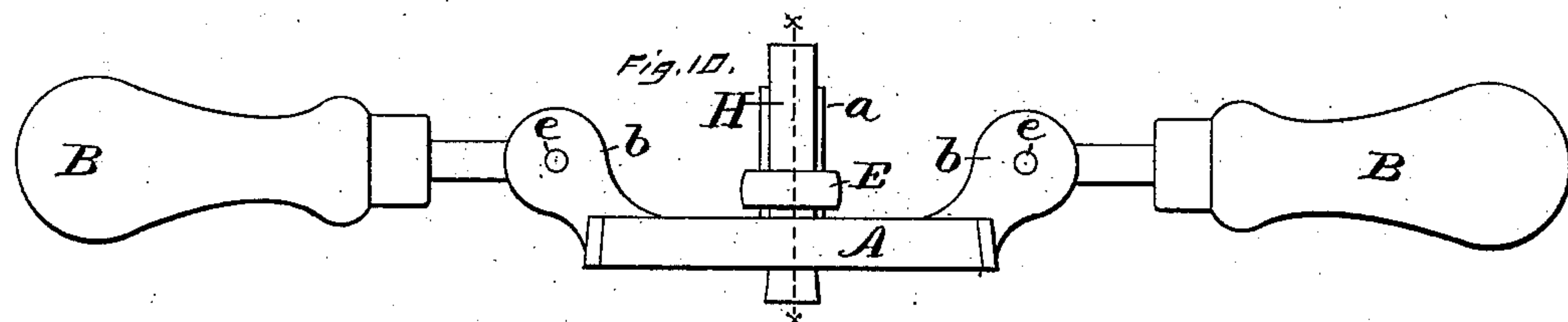
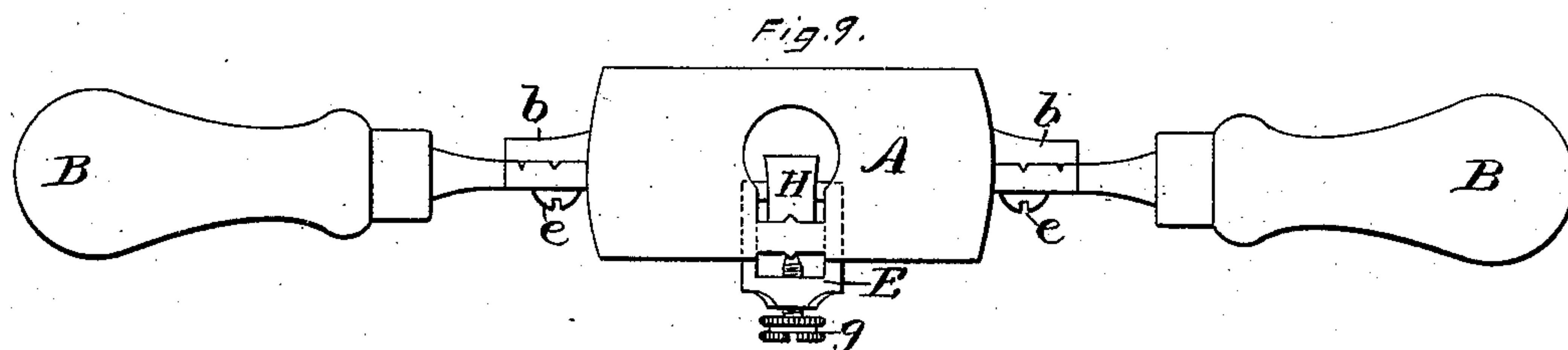
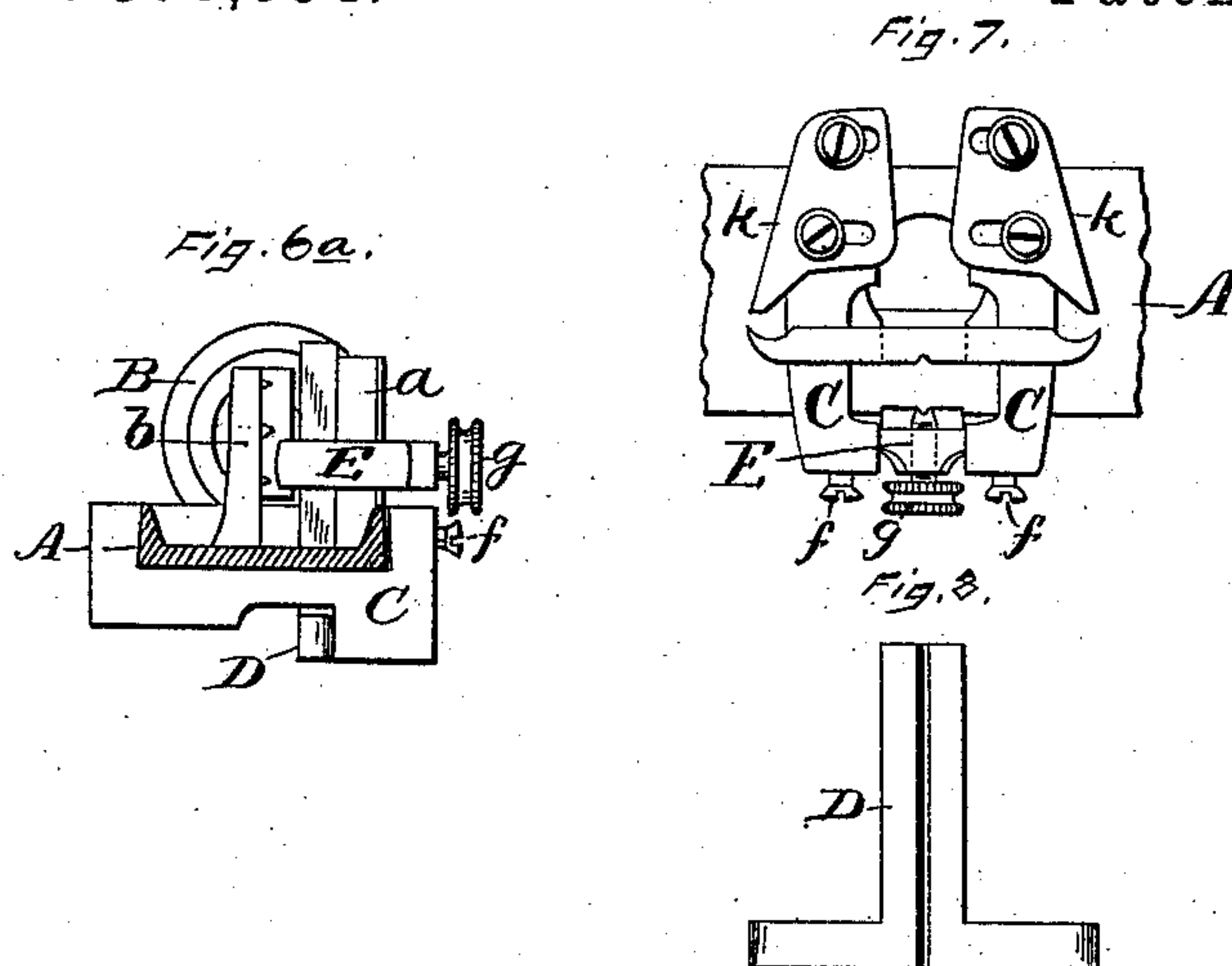
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Att'y.



# UNITED STATES PATENT OFFICE.

JUSTUS A. TRAUT, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE  
STANLEY RULE AND LEVEL COMPANY, OF SAME PLACE.

## GROOVING AND BOXING TOOL FOR CARRIAGE-MAKERS.

SPECIFICATION forming part of Letters Patent No. 378,854, dated February 28, 1888.

Application filed July 6, 1886. Serial No. 207,212. (No model.)

*To all whom it may concern:*

Be it known that I, JUSTUS A. TRAUT, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Grooving and Boxing Tools for Carriage-Makers, of which the following is a specification.

My invention relates to improvements in carriage-makers' tools of the class usually termed "rooters;" and one object of my invention is to increase the utility and efficiency of the tool, so that it may do the work of several separate tools as heretofore constructed.

In the accompanying drawings, Figure 1 is a plan view of my tool in the form adapted to do the work of one style of roter. Fig. 2 is a front elevation of the same, together with a piece of work. Fig. 3 is a reverse plan view of said tool. Fig. 4 is a front elevation of the same tool differently adjusted, so as to perform the work of another style of roter, said figure also showing a piece of work. Fig. 5 is a side elevation of one side of one of the ears to which the handles are attached. Fig. 6 is a like view of that face of the handle which confronts the face of the handle-ears, Fig. 5. Fig. 6<sup>a</sup> is a transverse section on line *y y*, Fig. 1, of the stock of my tool, showing the other parts in side elevation. Fig. 7 is a reverse plan view of the middle portion of my tool, corresponding to Fig. 3, but with shoes or guides added thereto. Fig. 8 is a view showing the back side of the cutter for the roter. Fig. 9 is a reverse plan view of my tool arranged for use as a boxer or paneling-tool. Fig. 10 is a front elevation of the same. Fig. 11 is a transverse section of the same on line *x x* of Fig. 10, and Fig. 12 is a like section of the same with the cutting-tool reversed.

A designates the stock of my implement, which stock is substantially a flat block with smooth under side and edges, having an upwardly-projecting tool-post, *a*, and handle-ears *b b*. For convenience of holding the handles B B in the desired positions, a rib, *c*, Fig. 5, is formed on the face of the handle-ears *b b*, and as many grooves, *d*, Fig. 6, are formed on the face of the handle-shank as may be desired, into either of which grooves the rib may enter to hold the handles in the desired posi-

tion. The screw *e* serves as a pivot on which the handles turn after the screw has been loosened sufficiently to let the rib *c* disengage the grooves. The screw alone might be depended upon to hold the handles in place; but by the use of the rib *c* and grooves there is less liability of displacement from any given adjustment. These screws *e* are substantially parallel with a transverse line across the under face of the stock, to enable the handles to be set for use in the relation to the under face of the stock shown in Figs. 1, 2, and 3, or as in Fig. 4. For most uses the handles will be set parallel with the stock A, as in Figs. 1, 2, 3, 9, and 10.

Side guides or gages, C C, are secured upon the stock A, the same being fitted to slide thereon and to be fastened in place, when adjusted, by means of the set-screws *f*. The stock A has an opening by the side of the tool-post *a*, through which the shank of the T-shaped tool D passes, said tool being held in position by the yoke E and its clamp-screw *g*. The two ends of the cross member of the T-shaped tool D are made hooked, as shown most clearly in Figs. 3 and 7, to form, respectively, right and left hand cutters, either of which may be used. The shank of the tool is grooved longitudinally and fits a vertical rib on the side of the tool-post *a*. The gages C C can be set to have the ends of the cutters project a distance equal to the desired depth of cut.

F, Fig. 2, designates a piece of work such as the roter is designed to groove, the implement being shown in said figure in position for forming said groove, the under face of the stock gaging the distance of the groove from the top of the work, while the gage C will gage the depth of cut. In starting a groove with the roter, the cutter may be prevented from taking too rank a cut by canting the position of the tool with reference to the work, letting one handle fall backward and the other forward, so that the forward corner of one of the gages C may come against the work. As the groove deepens, the operator will give the tool a less canting position to feed the cutter in as fast as may be desired, until finally that part of the gage near the cutter bears on the work and the tool can cut no deeper without changing the gage.



If desired, shoes or guards *k k* may be secured to the under side of the gages *C C* just in front of the cutter, as shown in Fig. 7, so as to prevent the cutter from working too rank; 5 but when the tool is used as above described these shoes are not essential.

In Fig. 4, *G* designates a piece of work of a different form, and in order to adapt the tool for this work the handles are adjusted into a 10 position at right angles to the stock, so that the implement may be applied to the work as illustrated and then conveniently operated by the handles.

In Figs. 9, 10, 11, and 12 the implement is 15 arranged for use as a boxer or paneling-tool. The T-shaped tool *D* and depth-gages *C C* are removed and the tool *H* substituted for the tool *D*. Like tools of varying widths are furnished, either of which may be used. This 20 tool thus arranged may be used for sinking a box or panel or for smoothing the surface thereof. It will ordinarily be used as arranged in Figs. 9, 10, and 11; but sometimes for working in cramped places it may be desirable to 25 secure the tool upon the other side of the tool-post *a* and reverse the position of the yoke *E*, as shown in Fig. 12.

I claim as my invention—

1. The combination of the stock *A*, having 30 handles *B B*, the T-shaped cutter *D*, having a cutting-edge at each end of its cross member,

whereby right or left hand cuts may be made without special adjustment, mechanism for holding said cutter, and the gages *C C*, substantially as described, and for the purpose specified. 35

2. The combination of the stock, right and left gages and cutters adapted for use in cutting lateral grooves either on the right or left side of vertical faces, and the handles *B B*, 40 pivoted on axes which are substantially parallel with a transverse line across the under face of the stock and adapted to be adjusted and secured at different angles to the stock, substantially as described, and for the purpose 45 specified.

3. The herein-described convertible rooter and boxer, consisting of the stock *A*, having a flat under face, the rooting and boxing cutters fitted for separate application to the stock, 50 clamping mechanism for holding either of said cutters with their cutting end projecting below the bottom face of the stock, and attachable and detachable transverse gages for attachment to the bottom face of the stock, substantially as described, and for the purpose 55 specified.

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Witnesses:

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