

(No Model.)

2 Sheets—Sheet 1.

P. J. LAVELLE.

METHOD OF AND DIE FOR MAKING RAIL CHAIRS.

No. 482,092.

Patented Sept. 6, 1892.

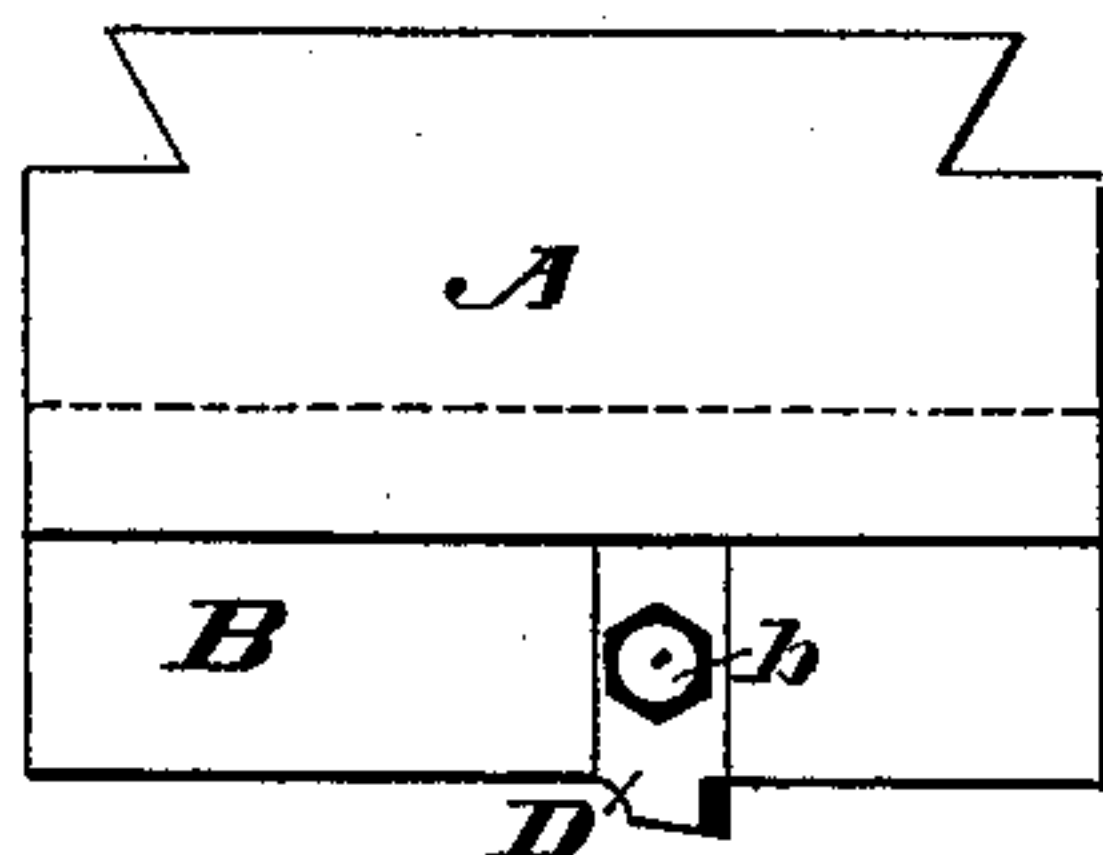


Fig. 1.

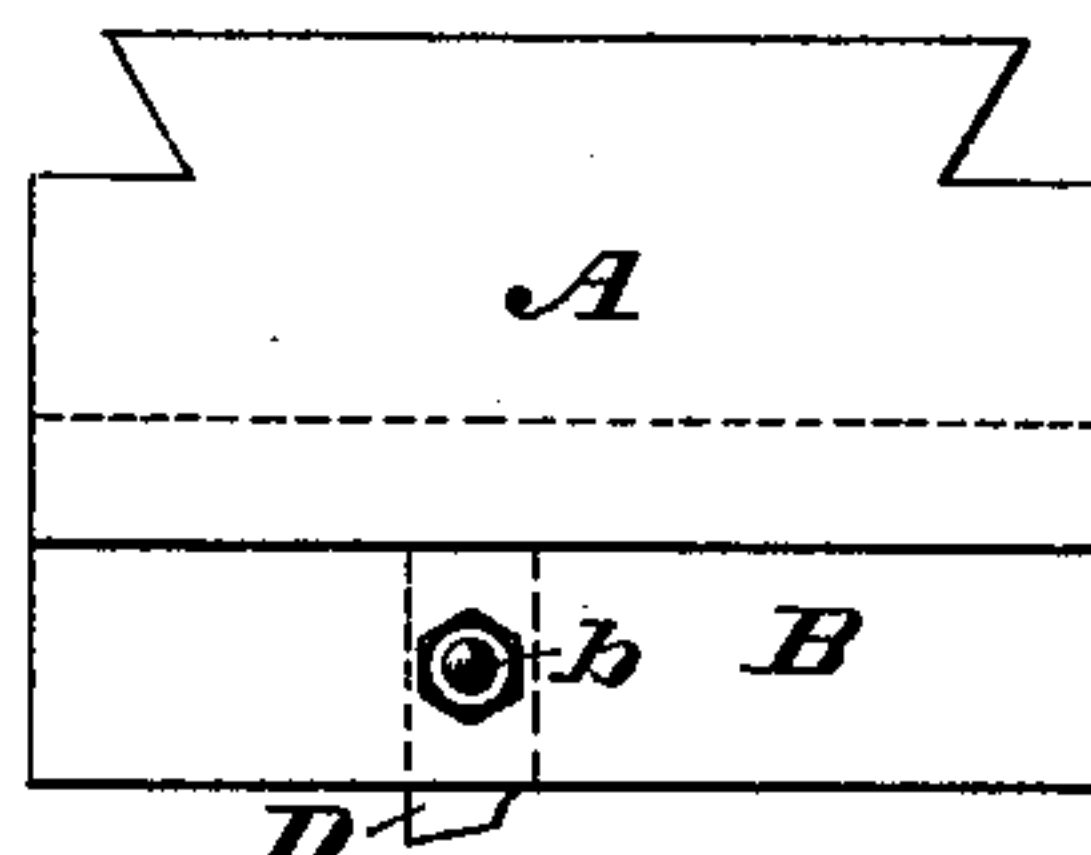


Fig. 2.

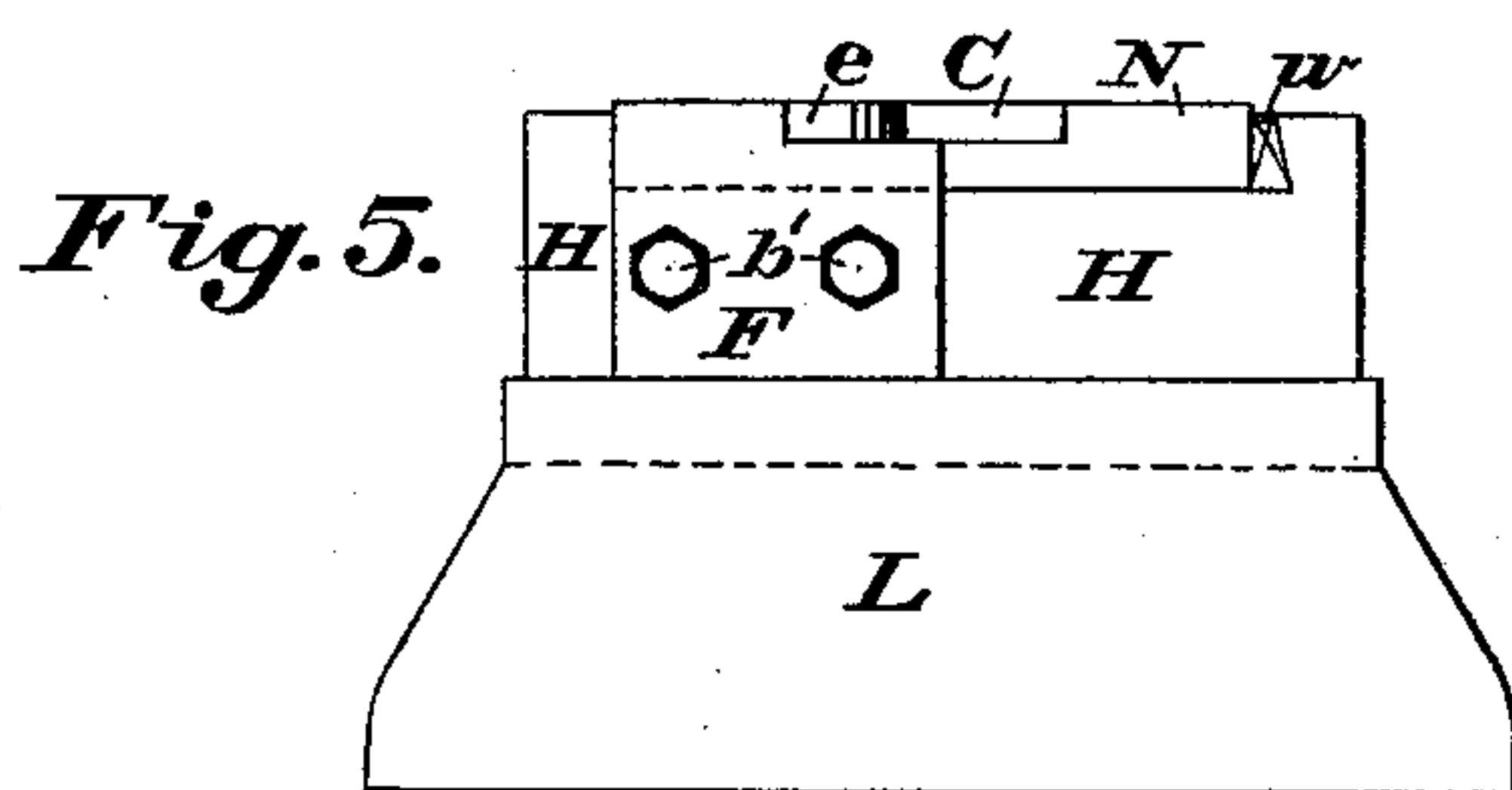


Fig. 5.

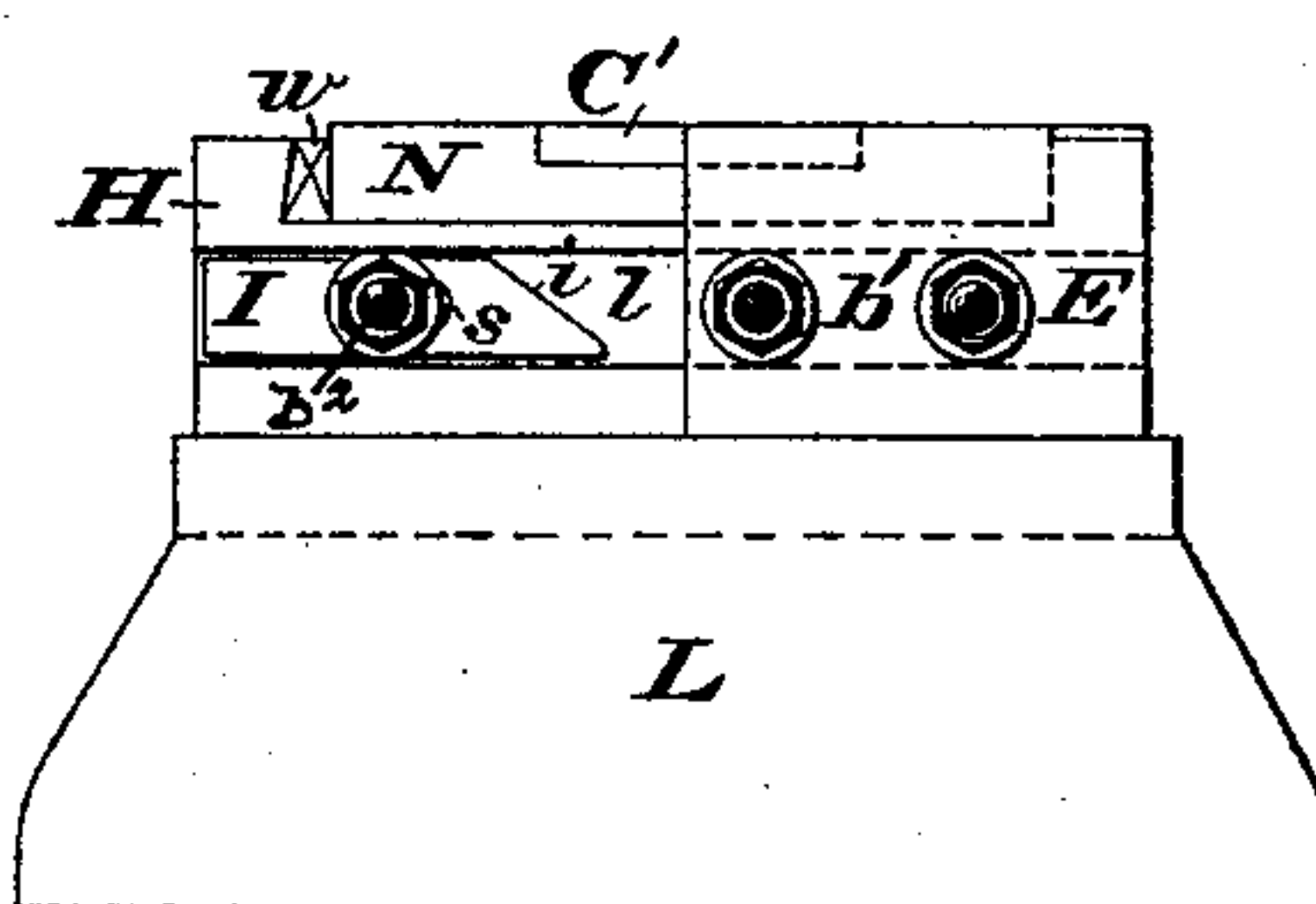


Fig. 6.

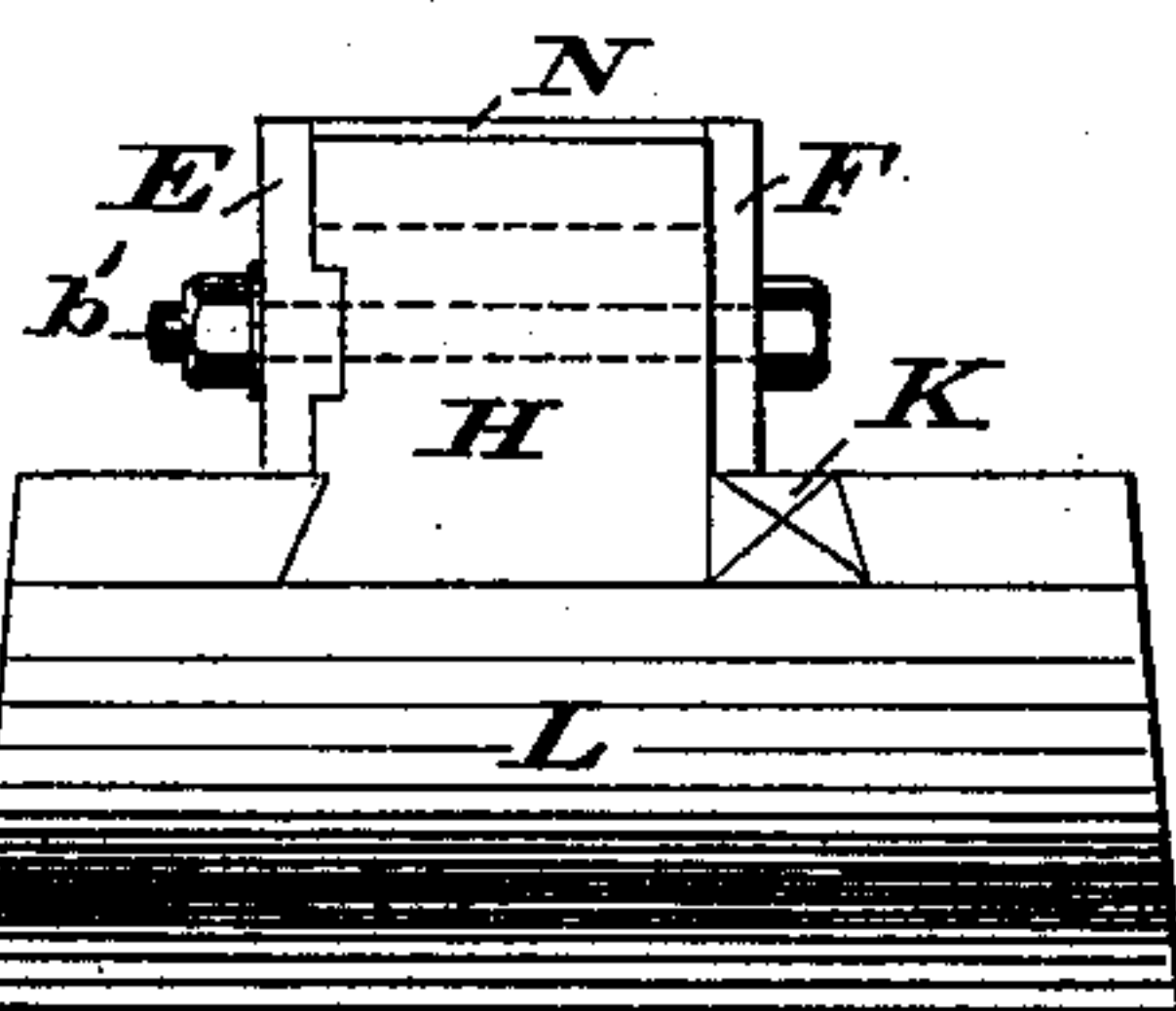


Fig. 7.

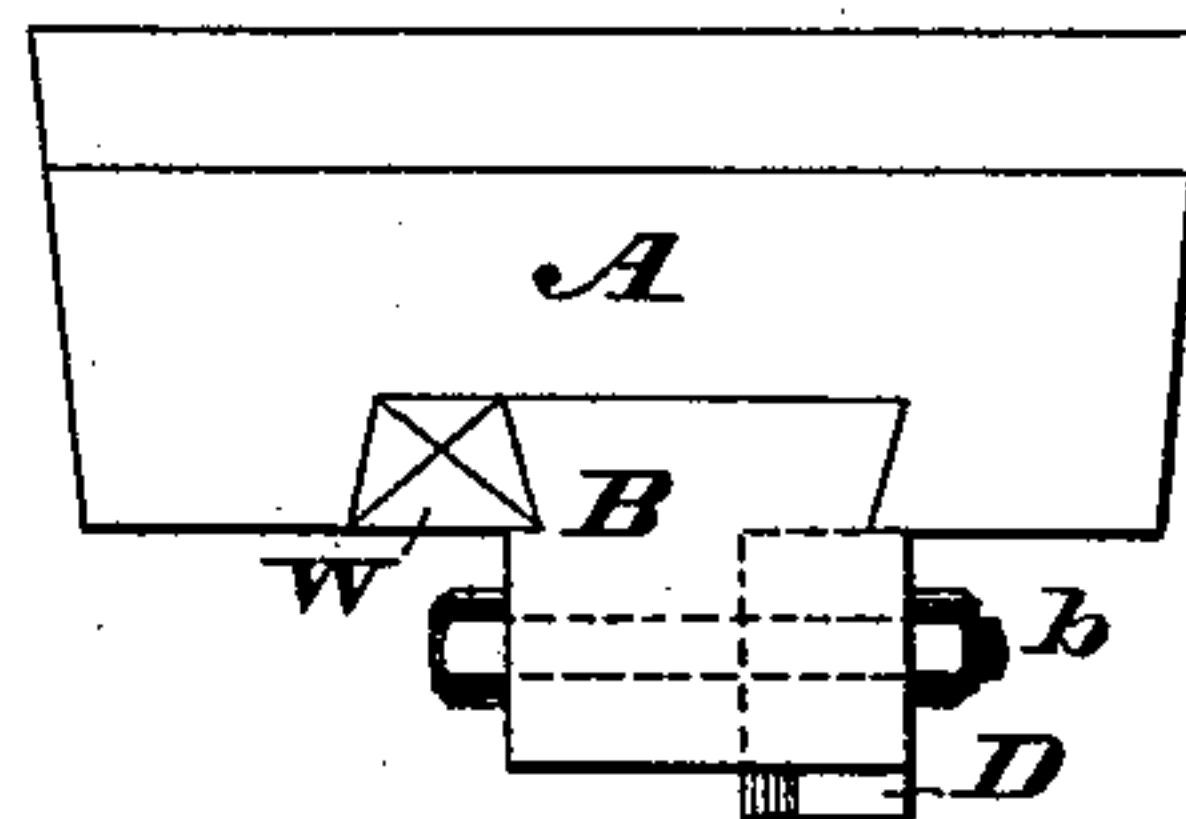


Fig. 3.

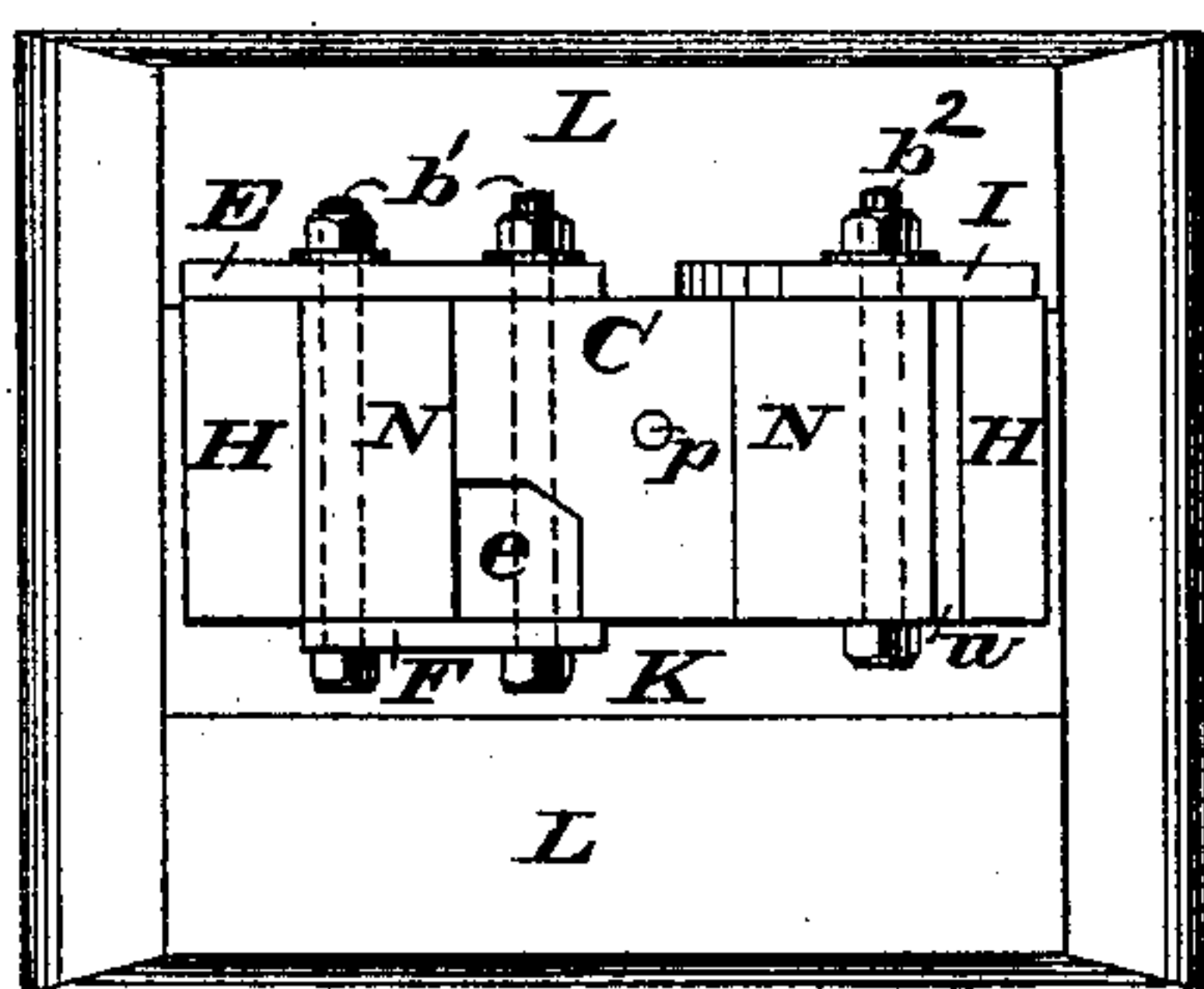


Fig. 8.

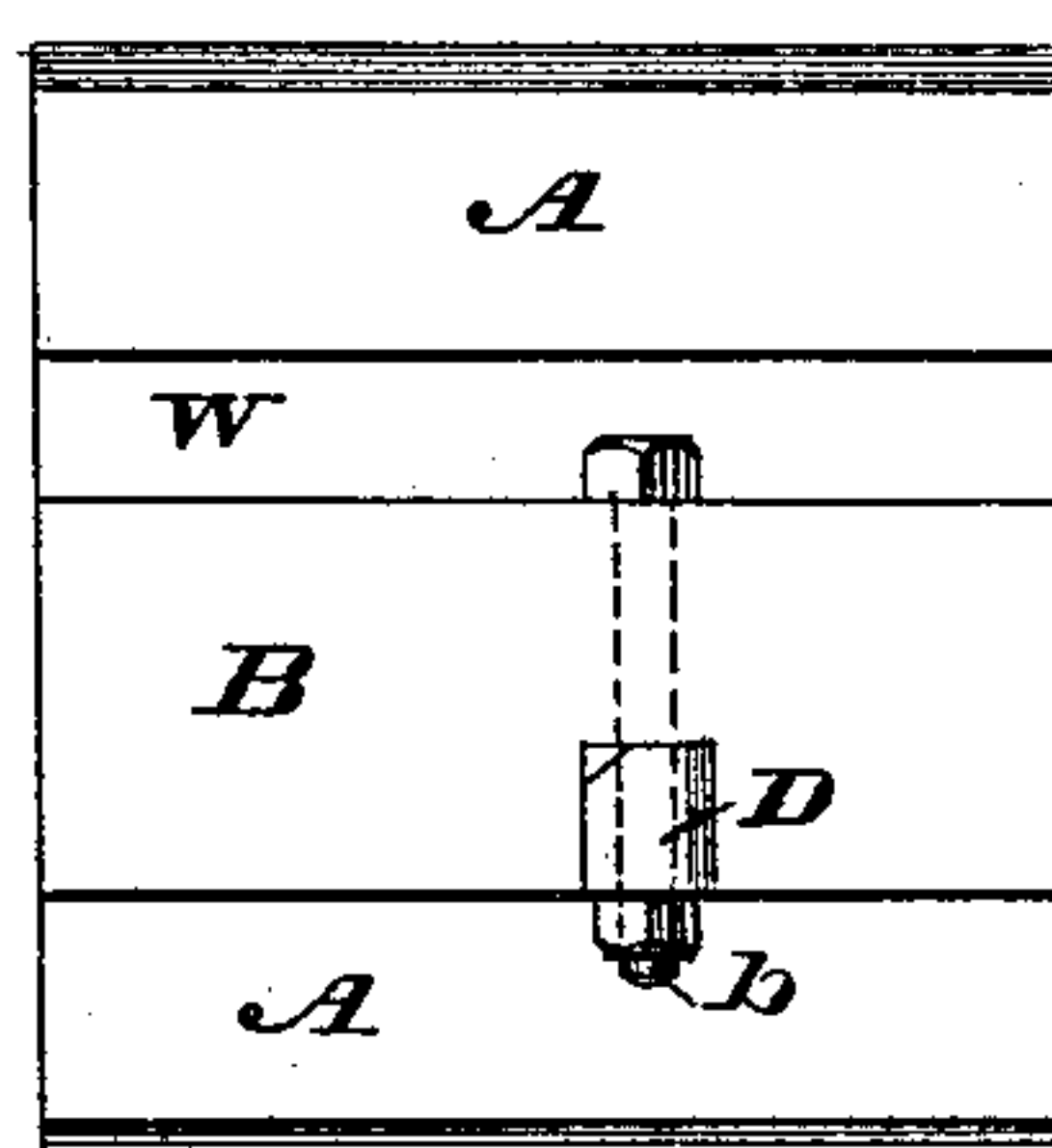


Fig. 4.

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(No Model.)

2 Sheets—Sheet 2.

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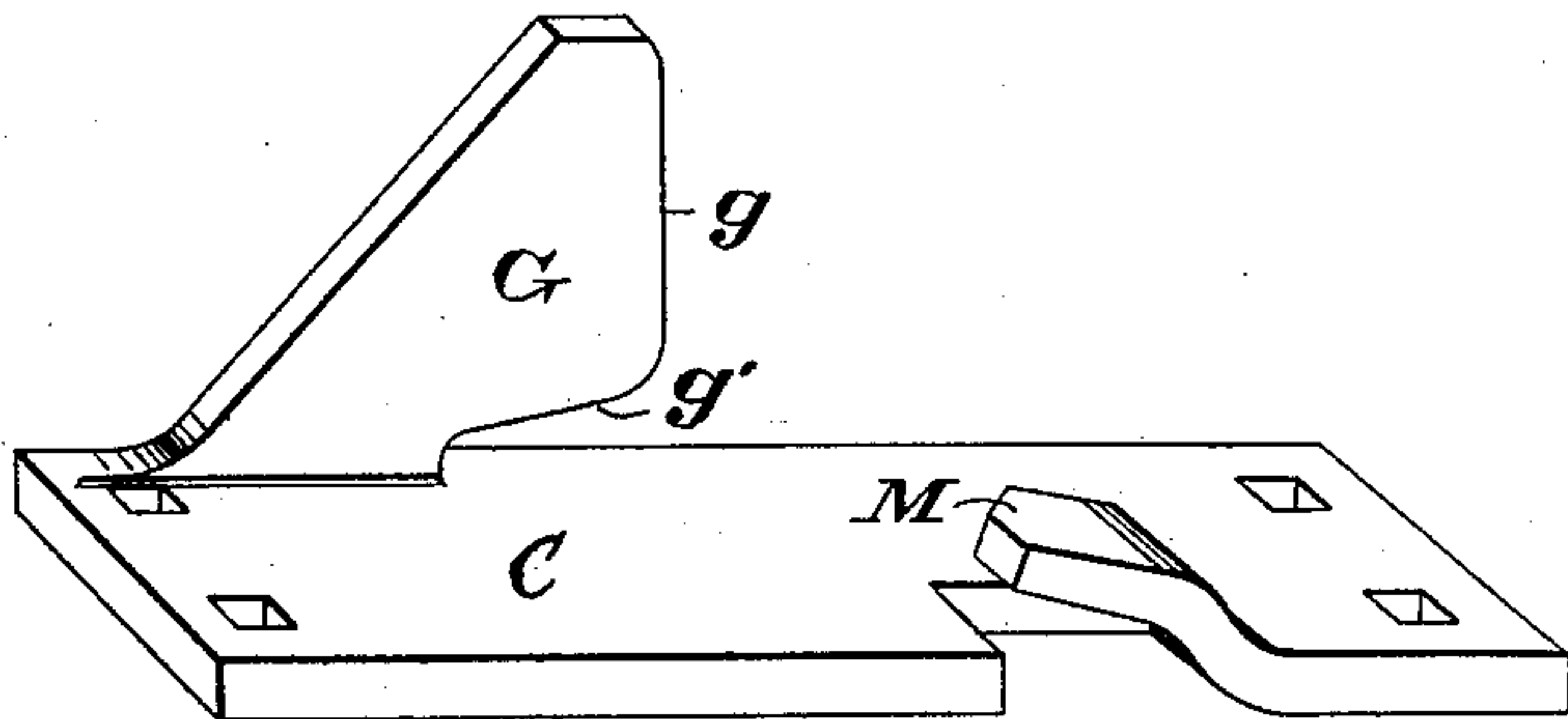


Fig. 11.

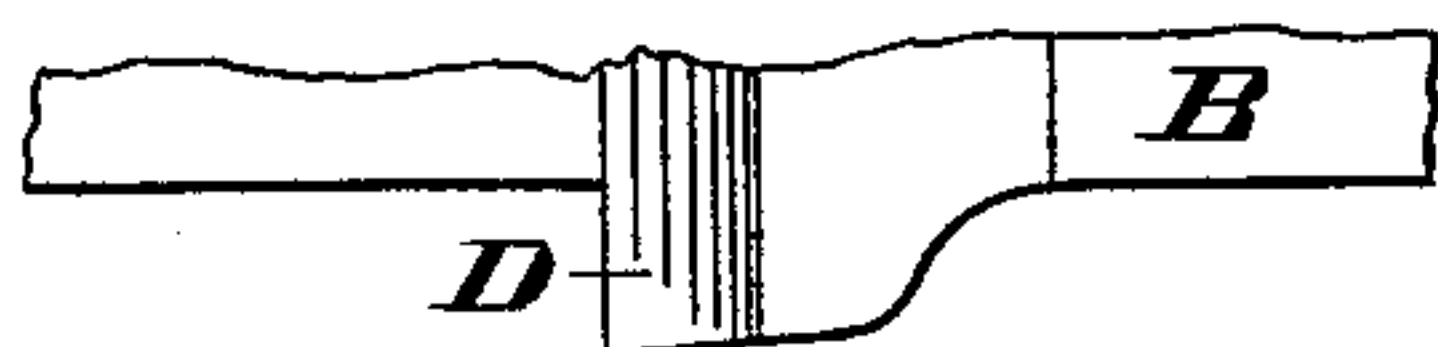


Fig. 10.

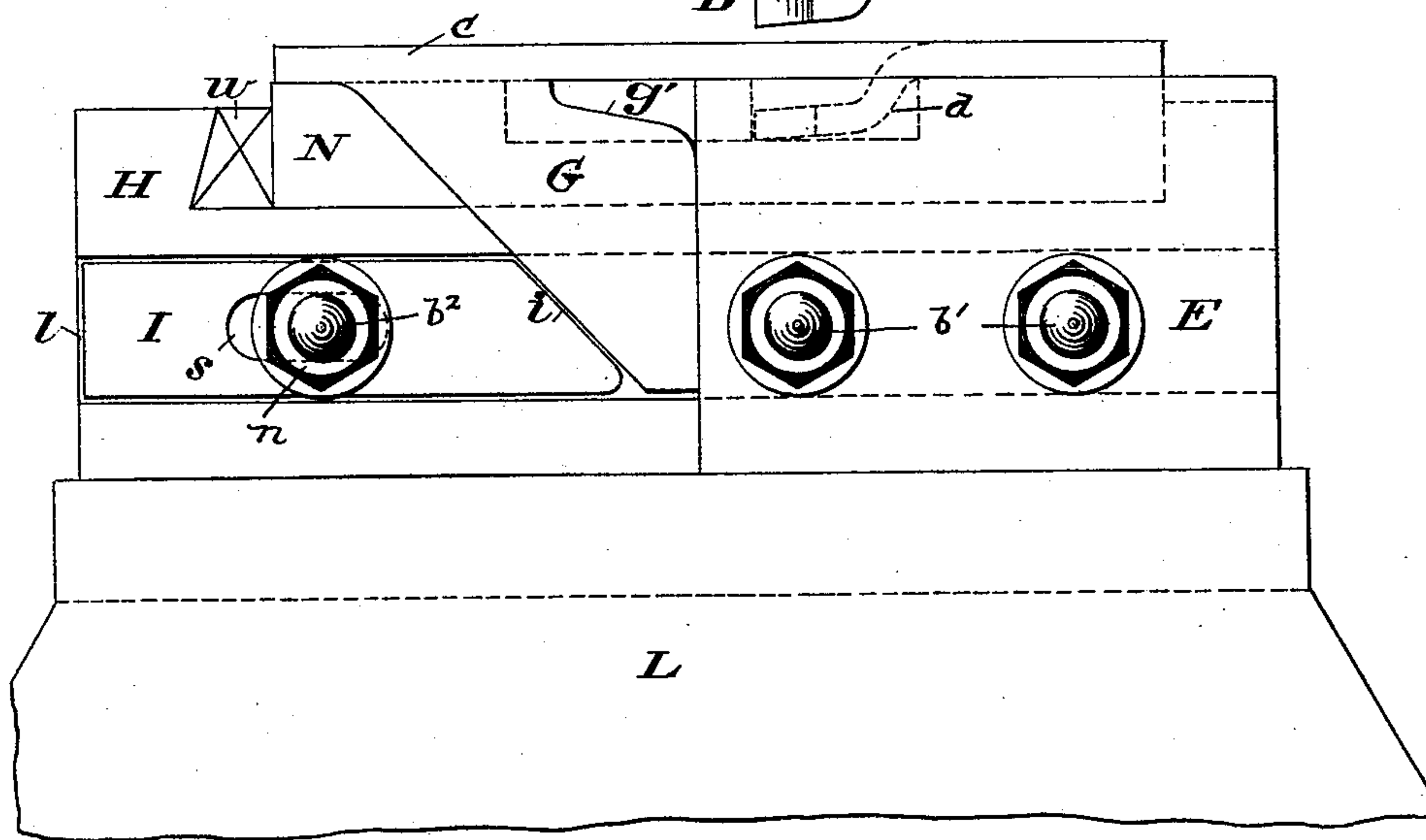


Fig. 9.

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# UNITED STATES PATENT OFFICE.

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## METHOD OF AND DIE FOR MAKING RAIL-CHAIRS.

SPECIFICATION forming part of Letters Patent No. 482,092, dated September 6, 1892.

Application filed February 2, 1892. Serial No. 420,083. (No model.)

*To all whom it may concern:*

Be it known that I, PATRICK J. LAVELLE, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Method of Making Rail-Chairs and Dies for the Same, which invention is fully set forth and illustrated in the following specification and accompanying drawings.

The object of this invention is sufficiently indicated by the title above given to it.

The invention will first be described in detail and then particularly set forth in the claims.

In the accompanying drawings, Figures 1 and 2 are elevations showing opposite sides of an upper die provided with a stamping-punch secured in its face. Fig. 3 shows said die in end elevation. Fig. 4 shows said die in bottom plan. Figs. 5 and 6 show opposite sides of a bottom die in elevation. Fig. 7 shows said die in end elevation. Fig. 8 shows said die in plan. Fig. 9 is a view of the bottom die, similar to that shown in Fig. 6, on an enlarged scale, showing a chair inserted in said die. Fig. 10 shows in side elevation the stamping-punch of the upper die in position above the lower die. Fig. 11 shows the finished chair or tie-plate in perspective.

In said figures the several parts of the dies are indicated by reference-letters, and the method of making the chairs is as follows: A blank is first cut from a piece of angle-iron so as to leave the side lug or brace G, Fig. 11, in comparatively rough outline. This cutting may be done in any suitable manner, as by punching or otherwise. In this operation the brace G may be bent or set out of desired line or truth. Hence it will be necessary to true up the chair by a succeeding operation, which operation is performed as below described, advantage being taken at the same time to effect the stamping up of the clip M on one side of the base of the chair. For this operation two dies are provided, an upper die A and a lower die H. This lower die is secured to the block or anvil L of a drop-press or steam-hammer by a key or wedge K, and the top die A is secured in the drop or hammer head by a dovetail or other or additional

fastening. In said die A is inserted a face-plate or tool-holder B, secured thereto by a key or wedge W, and in said face-plate is inserted and held by the bolt *b* a punch and stamp D, as clearly shown in Figs. 1, 2, 3, and 4. In the lower die H is inserted a face-plate N, secured thereto by a key or wedge *n*, and in said face-plate is formed a recess C, in which is also formed a depression or pocket *e*, Fig. 5. The edges of this pocket *e* are shaped to give a punching-edge for the stamping-punch D to cut a corner from the clip M. (Clearly shown cut off at the point M, Fig. 11.) The rest of the clip M is stamped into the recess C by the stamp D, as shown in dotted lines *d*, Fig. 9. In said Fig. 9, the chair-blank *c* is shown inserted, bottom up, having its brace part G on one side of the lower die, so that the inclined side of the brace rests on the inclined side *i* of the guide or plate I, bolted to one side of the die H by the bolt *b*<sup>2</sup>, and its straight edge rests against the side edge of the plate E, bolted to one side of the die H by the bolts *b*'. The plate I is supported in the slot *l* and is made adjustable by being itself provided with a slot *s*, through which the bolt *b*<sup>2</sup> passes, having on its end a nut *n* for clamping said plate, as clearly seen in Fig. 9. The plate F is secured to the side of the lower die H by the same bolts *b*' which secure the plate E. It can now be readily understood that upon bringing the upper die down upon the blank *c* in the lower die the blank will be "trued up" between the dies, the brace G being forced between the plates I and E, and by the same stroke the clip M is formed and cut to shape by the punching-stamp D, the heel of which stamp is rounded or cut away, so that the clip M is not cut off, but remains at one end intact and connected to the chair. This operation converts the blank of wrought metal into a complete chair all at one heating and by the use of but one hammer or drop-press. While the dies are shown operating upon the rail-chair with the brace downward, it is evident that the dies can be reversed and the chair operated upon with the brace upward without depasting from this invention.

Having thus fully described my said invention, I claim—

1. The method of fabricating a rail-chair of the form substantially as hereinbefore described, which consists in first cutting out a side lug or brace from a piece of angle-iron to form a blank for the chair and then truing up said lug and stamping up a clip in dies to complete the chair.

2. A pair of dies for forming rail-chairs,

consisting of a die provided with a punch, as D, and a mating die provided with a depression suited to the shape of said punch in performing its office and with a guide for truing up a side lug or brace on the chair.

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Witnesses:

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