(No Model.) 2 Sheets—Sheet 1.

E. SAMUEL.

PROCESS OF MAKING RAILROAD RAIL CHAIRS.

No. 410,993. Patented Sept. 10, 1889.

FIG. 1.

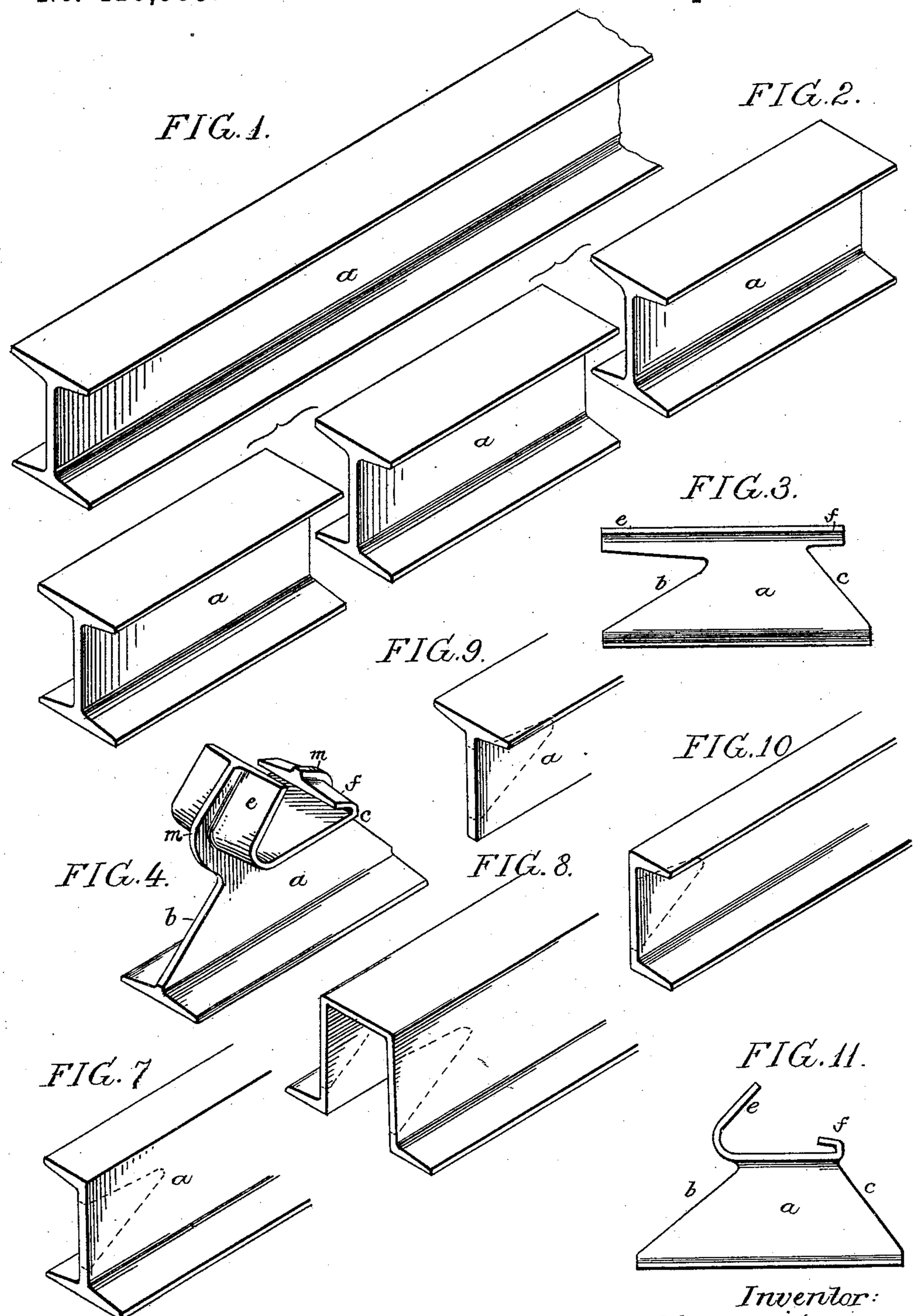

FIG. 2.

FIG. 3.

FIG. 9.

FIG. 10

FIG. 4.

FIG. 8.

FIG. 11.

FIG. 7

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(No Model.) 2 Sheets—Sheet 2.

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FIG. 5.

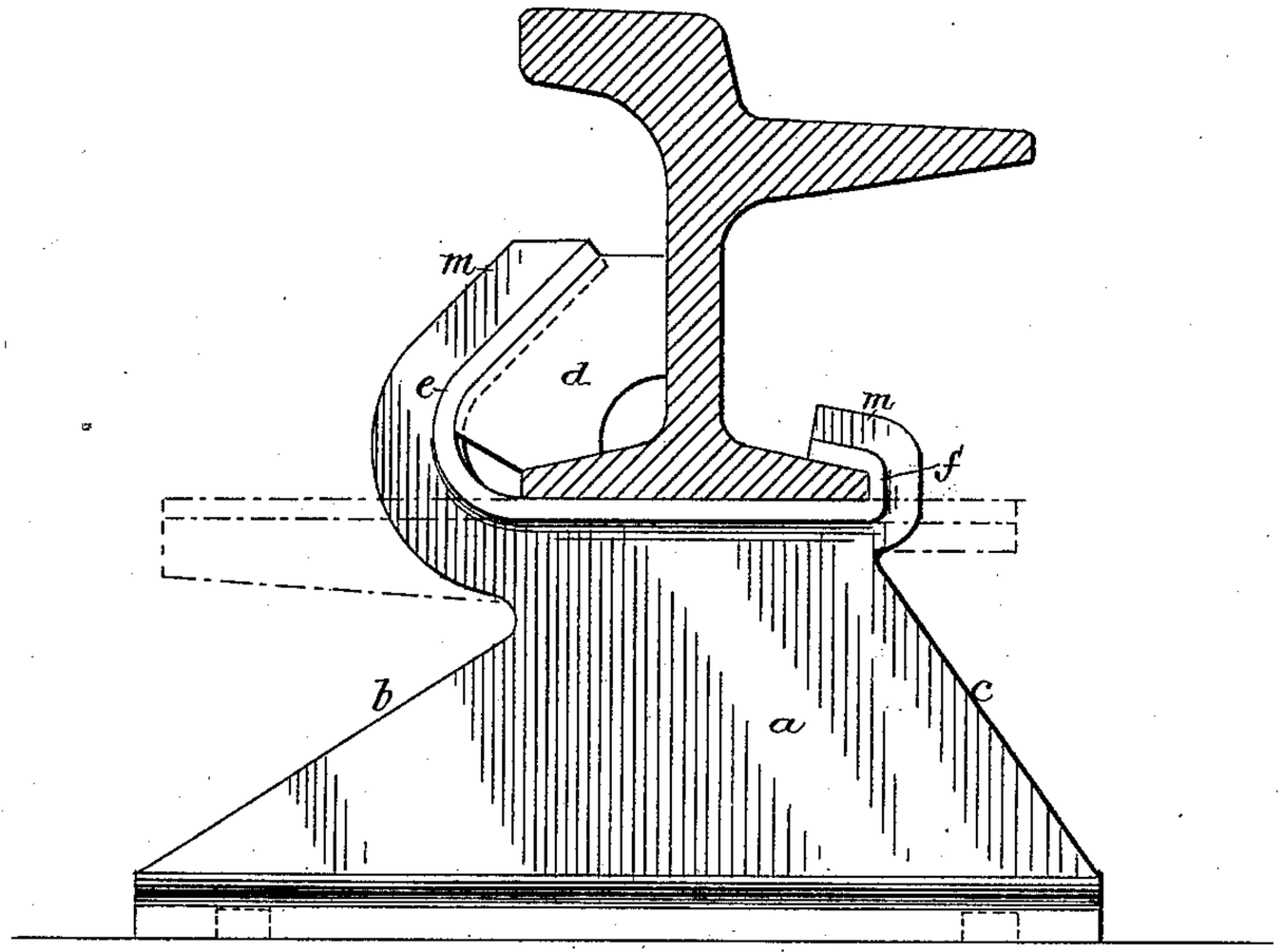
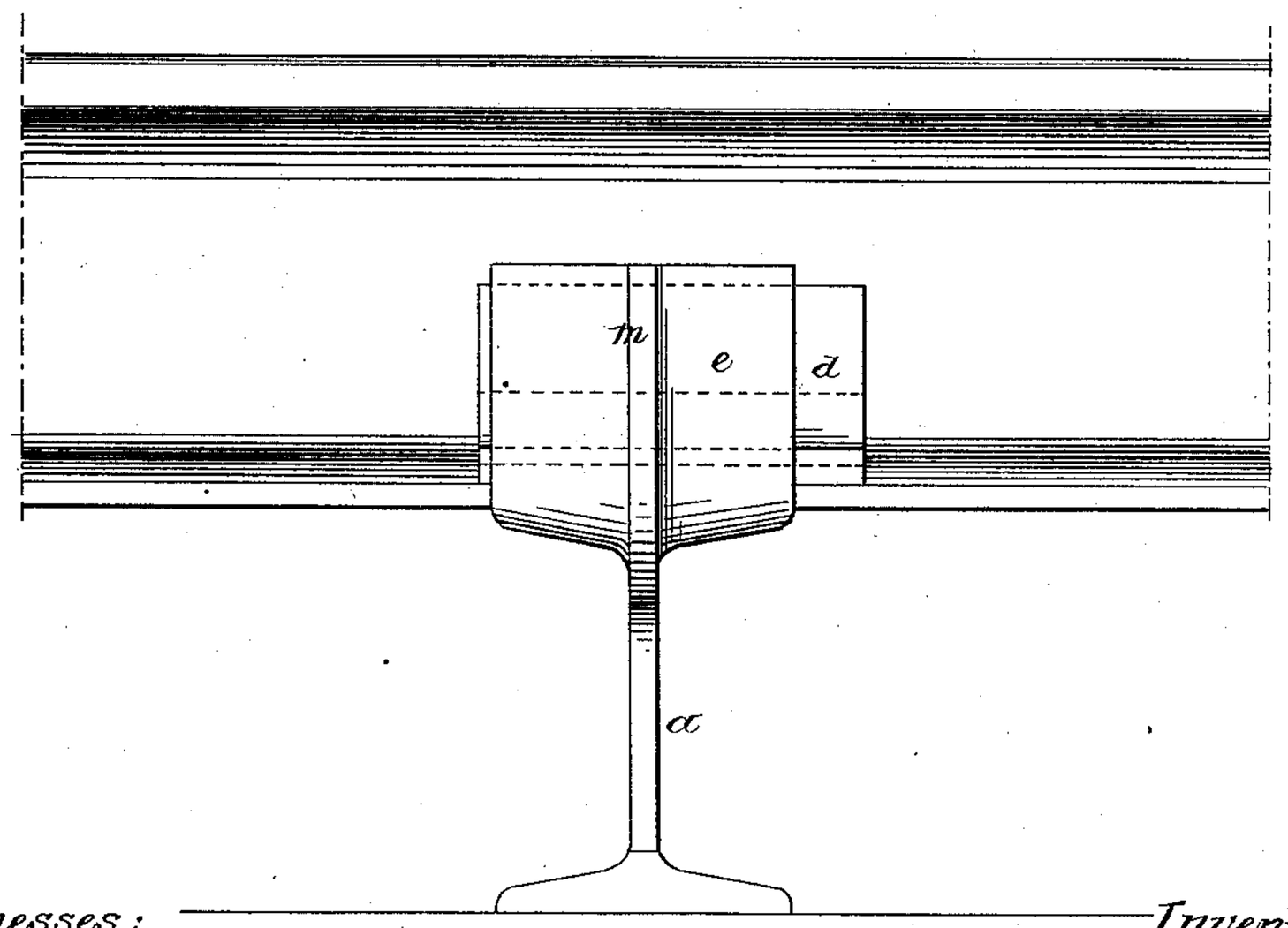


FIG. 6.



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UNITED STATES PATENT OFFICE.

EDWARD SAMUEL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO WILLIAM WHARTON, JR., AND COMPANY, INCORPORATED, OF SAME PLACE.

PROCESS OF MAKING RAILROAD-RAIL CHAIRS.

SPECIFICATION forming part of Letters Patent No. 410,993, dated September 10, 1889.

Application filed June 12, 1889. Serial No. 314,004. (No model.)

To all whom it may concern:

Be it known that I, EDWARD SAMUEL, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented an Improved Process of Manufacturing Rail-Chairs, of which the following is a specification.

The object of my invention is to manufacture railway-rail chairs from a bar or blank rolled in the shape of a beam, which is cut to proper shape and lengths and then bent into proper form, as fully described hereinafter.

In the accompanying drawings, Figure 1 is a perspective view of a beam prior to being cut. Fig. 2 is a perspective view of the beam cut into sections of suitable lengths to form chairs. Fig. 3 is a side view of one of the pieces with portions cut out prior to bending. Fig. 4 is a perspective view of the bent chair complete. Fig. 5 is a side view of the chair, showing it applied to a rail. Fig. 6 is an end view of Fig. 5. Figs. 7, 8, 9, and 10 are perspective views of some other forms of beams that may be cut and bent into chairs; and Fig. 11 is a side view of a chair without ribs on the bent-up portions.

In carrying out my process a beam of any suitable form is rolled—as, for instance, a beam such as shown in Fig. 1—the beam being of such strength and proportions as to withstand the strains to be applied to it when formed into the chair, and of sufficient height for the purpose intended. This beam is cut into sections, as shown in Fig. 2, and the web *a* of each section is then severed or partially cut out at *b* and *c*, Fig. 3, to enable the rail-securing lips *e* and *f* to be formed.

The dotted lines in Fig. 5 show the portions of the upper plate with a part of the vertical web attached to each portion, as they appear after this partial cutting away of the web *a* has been done. These portions of the upper plate are then bent up, as shown in Figs. 4 and 5, and the lip *f* is bent sufficiently to overlap the base-flange of the rail, while the lip *e* is bent to such position as to allow for the insertion between it and the rail of a wedge-block *d*, Fig. 5. It will thus be seen that in severing the web *a* or in cutting out the portions *b* and *c* the metal removed is that which would be of no use in the finished chair; but a portion of the vertical web *a* is left to form a strengthening-rib *m* on the lips or lugs *e* and *f*, thus making them much stiffer and stronger to withstand lateral strains in service. The ribs *m m* are not, however, in all cases necessary, for if a very light-weight chair should be wanted the chair could be made with plain lips or lugs devoid of ribs, as shown in Fig. 11.

It will be understood that various other rolled shapes or beams, known as "T's," "angles," or "channels," may be used—as, for instance, that shown in Fig. 7, with only a side flange at the top, or that shown in Fig. 8, which is a flange-channel, or that shown in Fig. 9, which is a T, or that shown in Fig. 10, which is a channel. A chair made from a shape such as shown in Fig. 9 can be secured to the cross-tie through the medium of a supporting-base attached to it.

Instead of first cutting the rolled beam into suitable lengths to form the chairs, it may be found more desirable to sever or partially cut away the vertical web *a* at the proper places as the first operation, and then as the second operation to cut the beam thus prepared into the proper lengths to make into chairs.

I claim as my invention—

1. The mode herein described of forming a railway-rail chair, said mode consisting in, first, producing a bar or blank in the form of a beam or shape having a top plate and web; second, cutting the web the desired distance to permit the top portion to be turned up, and, finally, bending the portion of the top plate freed by the severing of the web, thus forming a rail-retaining lip, substantially as set forth.

2. The mode herein described of forming a railway-rail chair, said mode consisting in, first, rolling a shape or beam having a top plate and web; second, cutting this beam or shape into suitable lengths; third, cutting the web the desired distance to permit the top portion to be turned up, and, finally, bending the portion of the top plate freed by the severing of the web to form a rail-retaining lip, substantially as described.

3. The mode herein described of forming a railway-rail chair, said mode consisting in,

first, producing a beam or shape having a top plate and web; second, cutting out portions of the web at the proper places; third, dividing the beam or shape into suitable lengths to make the chairs, and, finally, bending the portion of the top plate freed by the severing of the web to form a rail-retaining lip, substantially as set forth.

4. The process herein described of forming a railway-rail chair, said process consisting in, first, forming a shape or beam having a top plate or web; second, dividing said beam into sections; third, cutting the web at a point some distance below the top plate, and, finally, bending said freed portion of the top plate with its adhering web to form a ribbed rail-retaining lip, substantially as set forth.

5. The process herein described of forming a railway-rail chair, said process consisting in, first, forming a beam or shape having a top plate and web; second, cutting the outer portions of the web the desired distance to permit the top portion to be turned up, and, finally, bending the two ends of the top plate thereby freed from the web and thus forming opposite rail-retaining lips, substantially as and in the manner set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWD. SAMUEL.

Witnesses:

LOUIS KOPPENHOEFER,

HARRY SMITH.