

(No Model.)

2 Sheets—Sheet 1.

J. E. LEE.

MANUFACTURE OF SHEET METAL SPLINTS.

No. 376,666.

Patented Jan. 17, 1888.

FIG. 1.

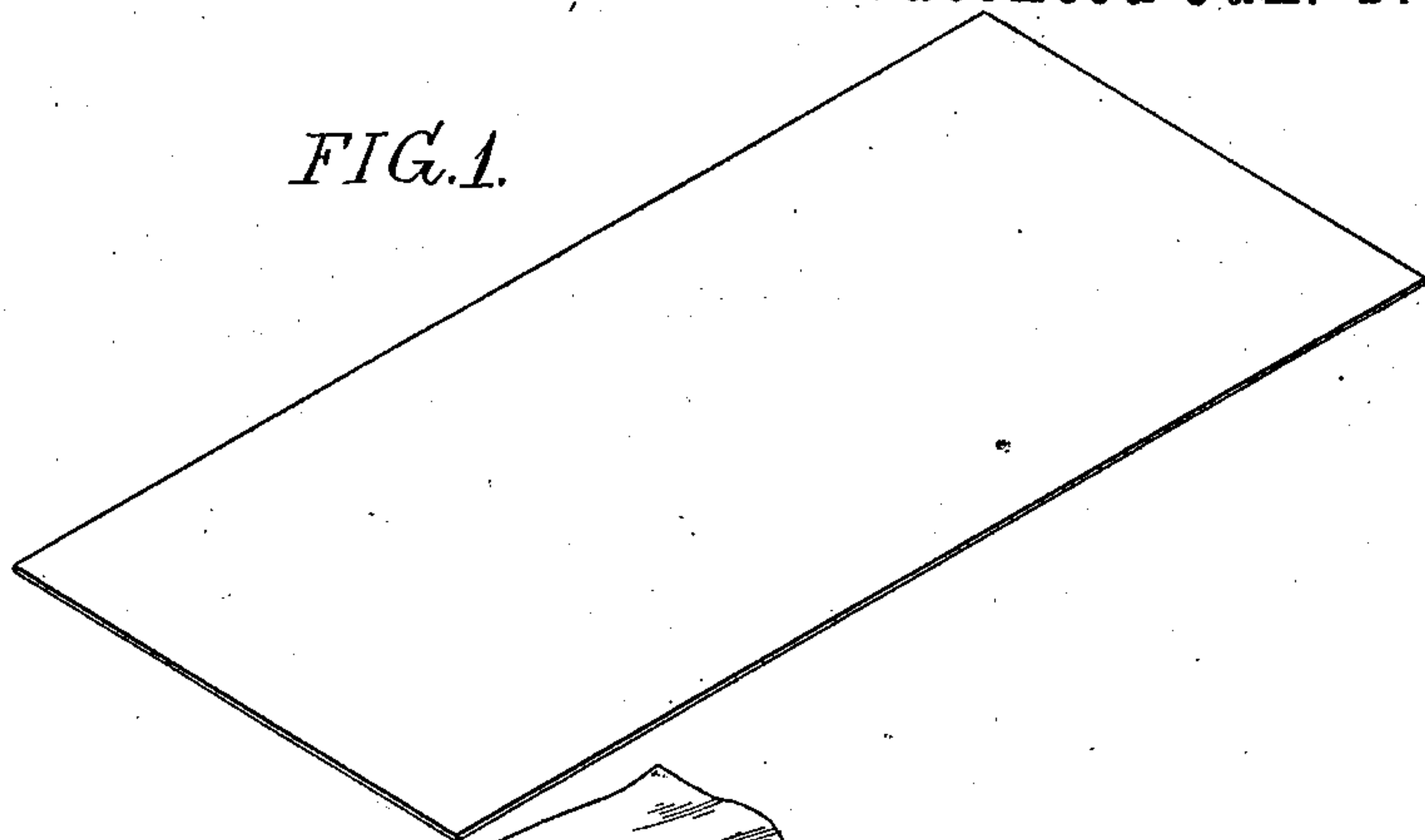


FIG. 2.

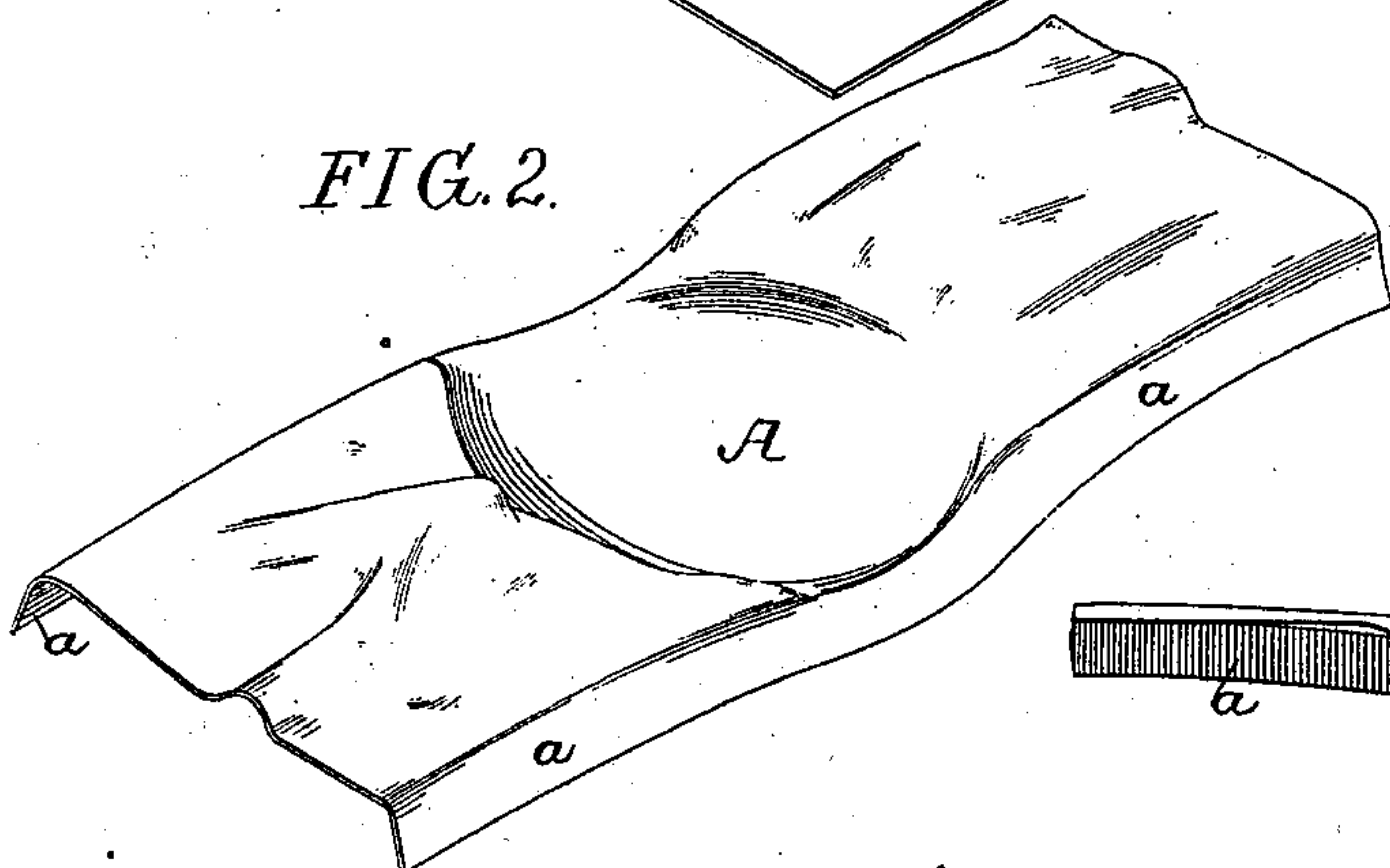


FIG. 3.



FIG. 4.

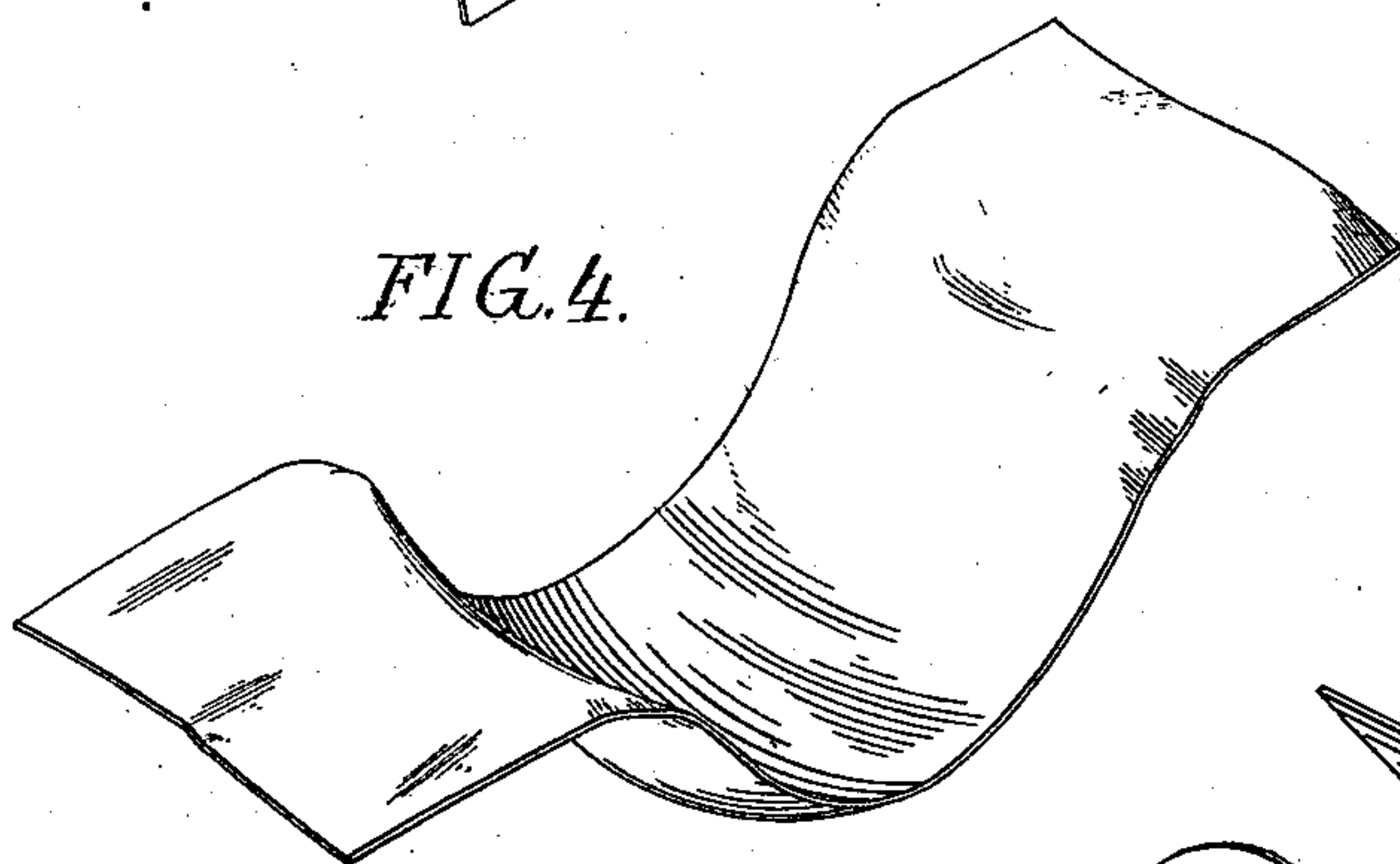


FIG. 5.

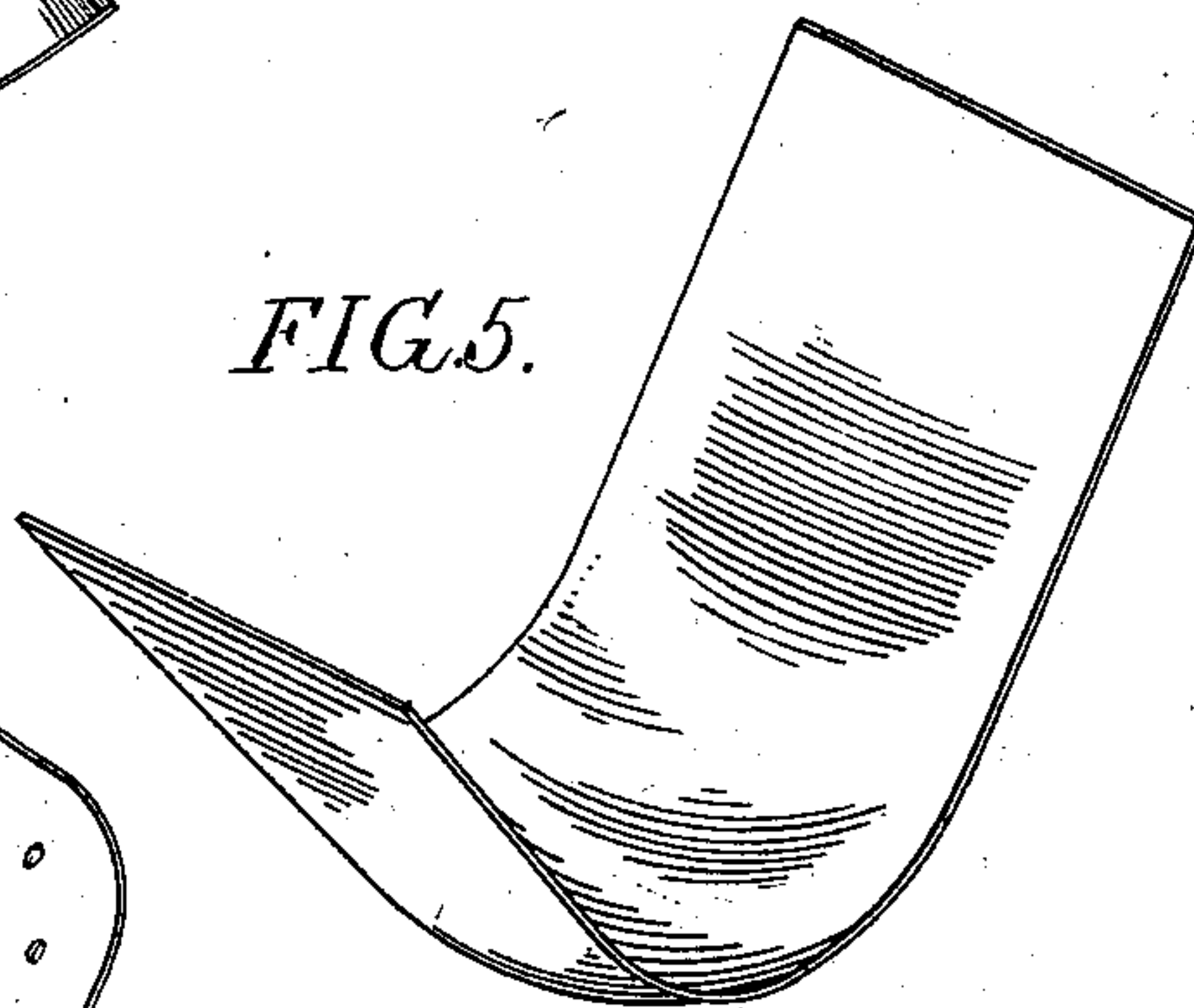
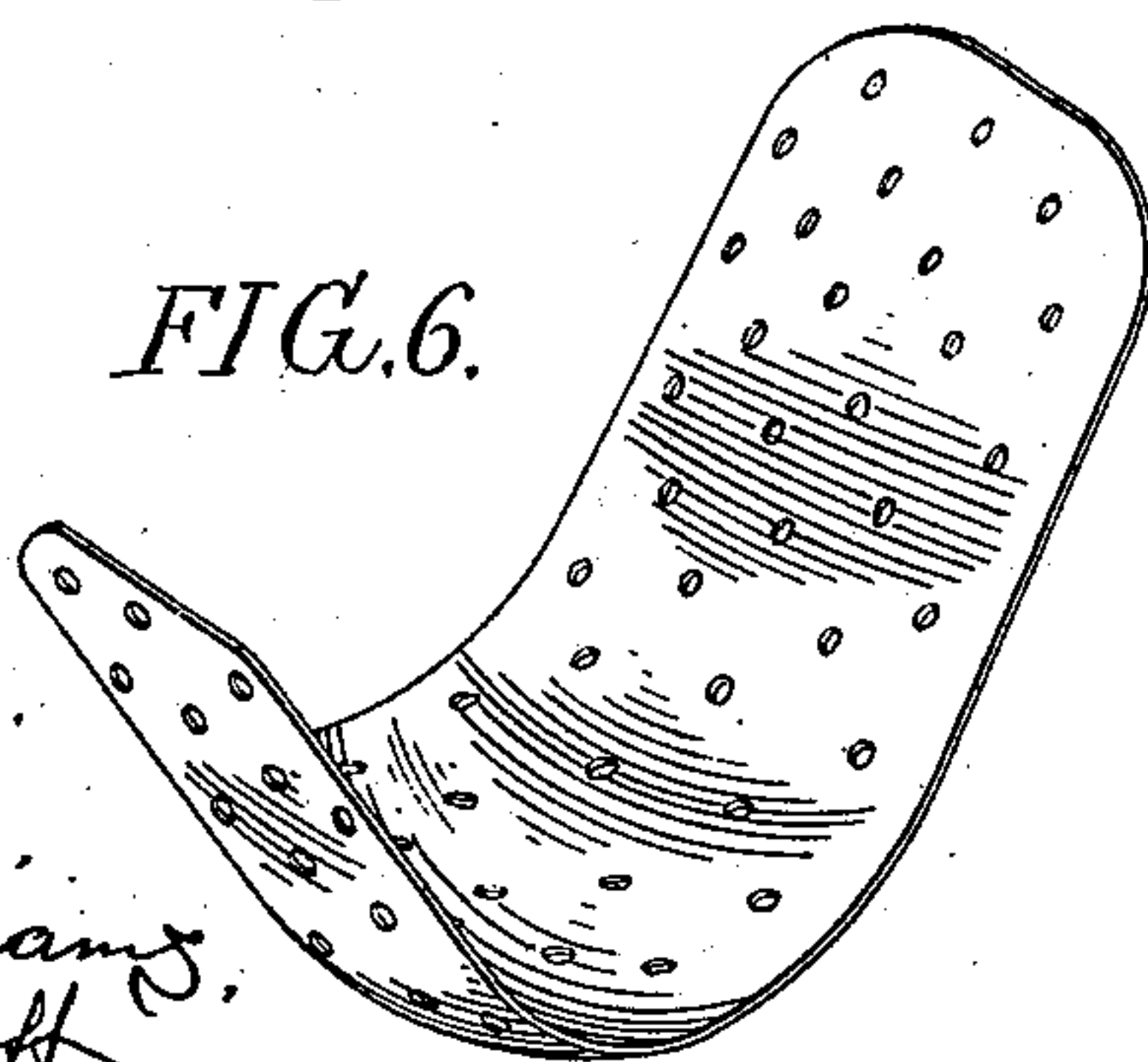


FIG. 6.



Witnesses  
David S. Williams,  
Alex. Barkoff

Inventor  
J. Ellwood, Lee.

By his Attorneys

Horizon and Lane

(No Model.)

2 Sheets—Sheet 2.

J. E. LEE.

MANUFACTURE OF SHEET METAL SPLINTS.

No. 376,666.

Patented Jan. 17, 1888.

FIG. 7.

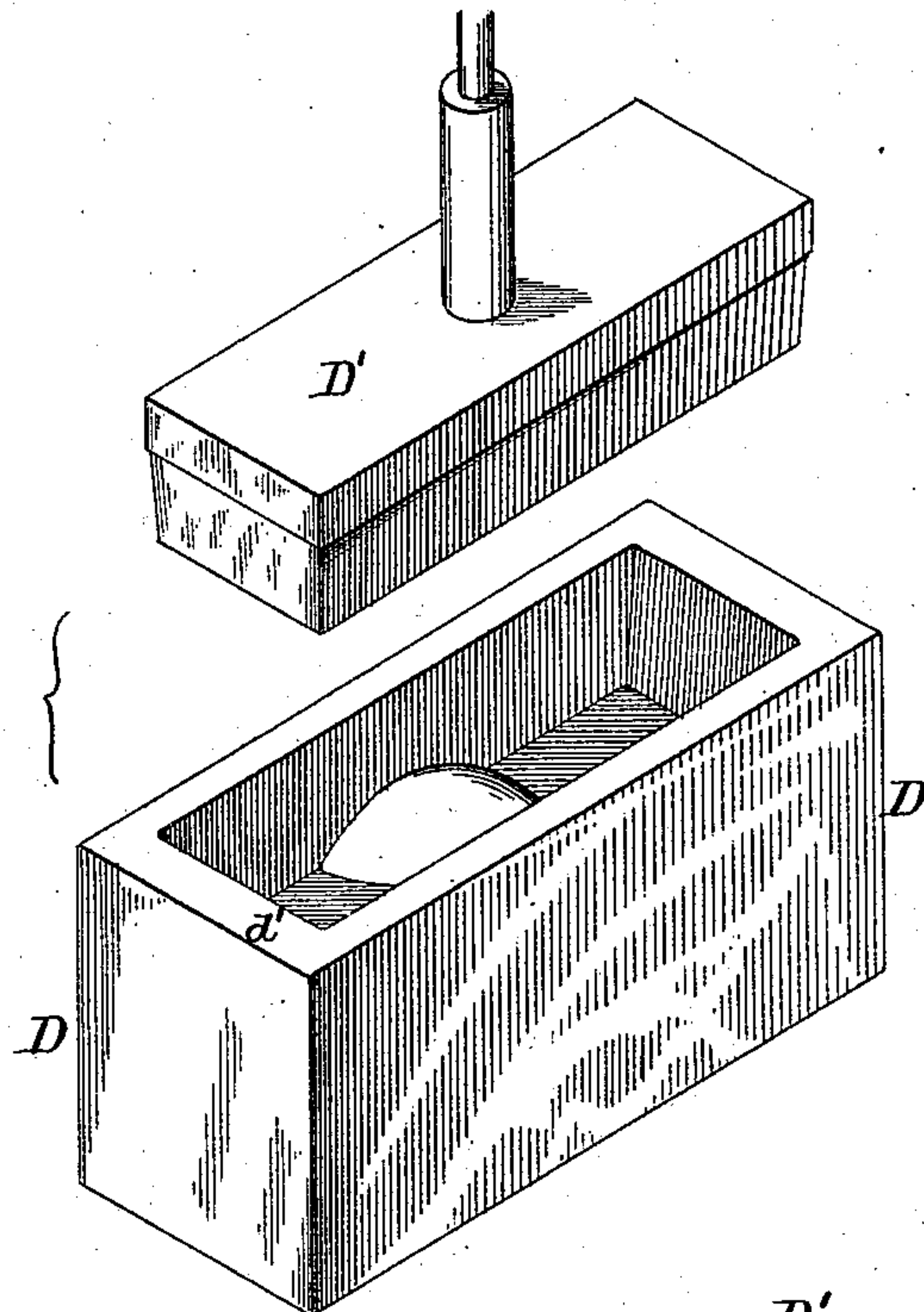


FIG. 8.

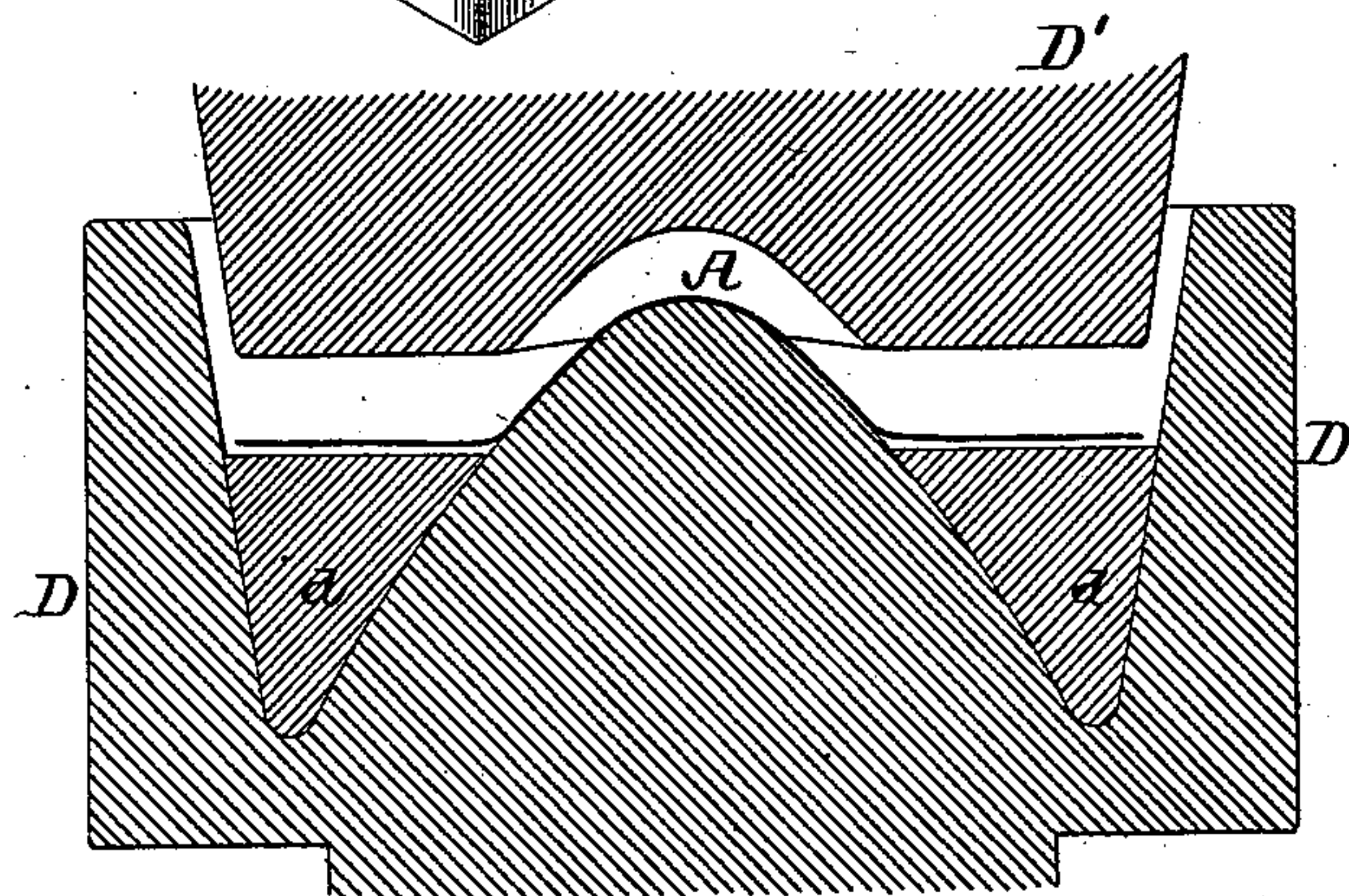
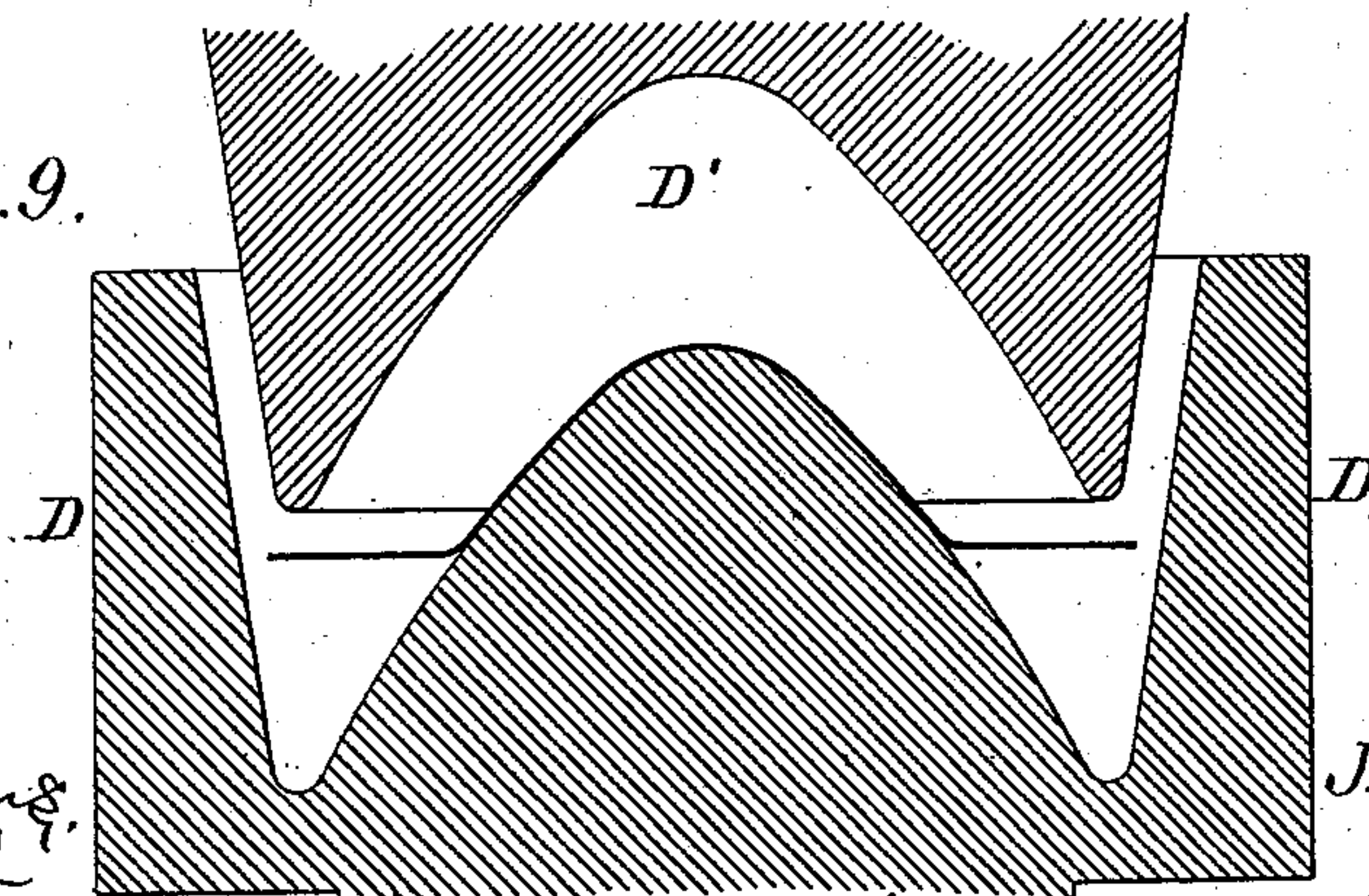


FIG. 9.



Witnesses  
David S. Williams,  
Ally Barkoff

Inventor  
J. E. Lee

By his Attorney

Horsman and Sons



# UNITED STATES PATENT OFFICE.

J. ELLWOOD LEE, OF CONSHOHOCKEN, PENNSYLVANIA.

## MANUFACTURE OF SHEET-METAL SPLINTS.

SPECIFICATION forming part of Letters Patent No. 376,666, dated January 17, 1888.

Application filed September 27, 1887. Serial No. 250,832. (No model.)

*To all whom it may concern:*

Be it known that I, J. ELLWOOD LEE, a citizen of the United States, and a resident of Conshohocken, Montgomery county, Pennsylvania, have invented an Improved Method of Making Sheet-Metal Splints, of which the following is a specification.

My invention consists of an improved method of pressing or stamping up chin splints and other splints of sheet metal, designed with the view of producing such articles with perfectly smooth surfaces free from creases and other similar defects.

In the accompanying drawings I have illustrated the successive steps in the production of a sheet-metal chin splint in accordance with my invention, and of some of the dies therefor.

Figure 1 is a view of the strip of sheet metal from which the chin-splint is to be formed. Figs. 2, 3, 4, and 5 are views showing the shapes imparted to the metal by the successive dies. Fig. 6 is a perspective view of the finished chin-splint. Fig. 7 is a perspective view of the dies for the first operation, and Figs. 8 and 9 are sectional views of the dies for subsequent operations.

In carrying out my invention for the production of sheet-metal splints for the chin, for instance, I first take a blank of thin sheet-copper or other sheet metal, as shown in Fig. 1, slightly wider than the chin-splint to be formed, and then subject this blank to a series of successive pressing or stamping operations in dies. The blank is first subjected to the action of a pair of dies, D D', such as illustrated in Fig. 7, which press or stamp up in the blank a central depression, A, as shown in Fig. 2, for the point of the chin. In order to avoid the formation of radial creases in the central depression, the dies are so formed as to turn up the edges of the blank into flanges a. I have found that these flanges practically prevent the formation of creases in the pressing or stamping operation, owing to the hold they give the dies upon the edges of the blank. The blank, with this central depression and flanges, is then subjected to the action of a second set of dies, which have the effect of increasing the depth of the central depression and giving it the desired formation to fit the

point of the chin. The correct shape of the central depression having thus been obtained, the flanges a may now be cut off by any suitable means. Shape is next given to parts of the sides of the splints by the dies illustrated in Fig. 8, which bring the blank to the form shown in Fig. 4. Another pair of dies, such as shown in Fig. 9, then finishes the formation of the sides and ends of the blank, bringing it to the shape illustrated in Fig. 5. The corners of the blank thus shaped may be cut off to bring it to the outline of the finished splint illustrated in Fig. 6. I then prefer to form perforations in the splint and to have it nickel-plated; but these details are not absolutely essential.

Although I have described my invention more particularly in connection with the manufacture of sheet-metal chin-splints, it should be understood that it might be used for the manufacture of other sheet-metal splints, as will be readily understood.

As a matter of economy and convenience, the same lower die, D, may be used for all the operations, different sized filling-pieces, however, being used for the successive operations. The upper die, D', is changed for each successive shape.

I claim as my invention—

1. The mode herein described of producing splints, said mode consisting in forming in the blank the desired depression, and at the same time forming flanges at the edges of the blank to avoid the formation of creases, then cutting off the flanges and finishing the blank, all substantially as set forth.

2. The mode herein described of forming chin-splints, said mode consisting, first, in forming the central depression in the blank for the point of the chin and forming flanges for the edge of the depression, then removing said flanges and bending up the ends of the splint to the desired curve, all substantially as described.

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

J. ELLWOOD LEE.

Witnesses:

CHARLES FORST,  
JAS. H. ATKINSON.