

(No Model.)

T. HAWLEY.

MANUFACTURE OF CARRIAGE TOPS.

No. 301,886.

Patented July 15, 1884.

Fig. 1

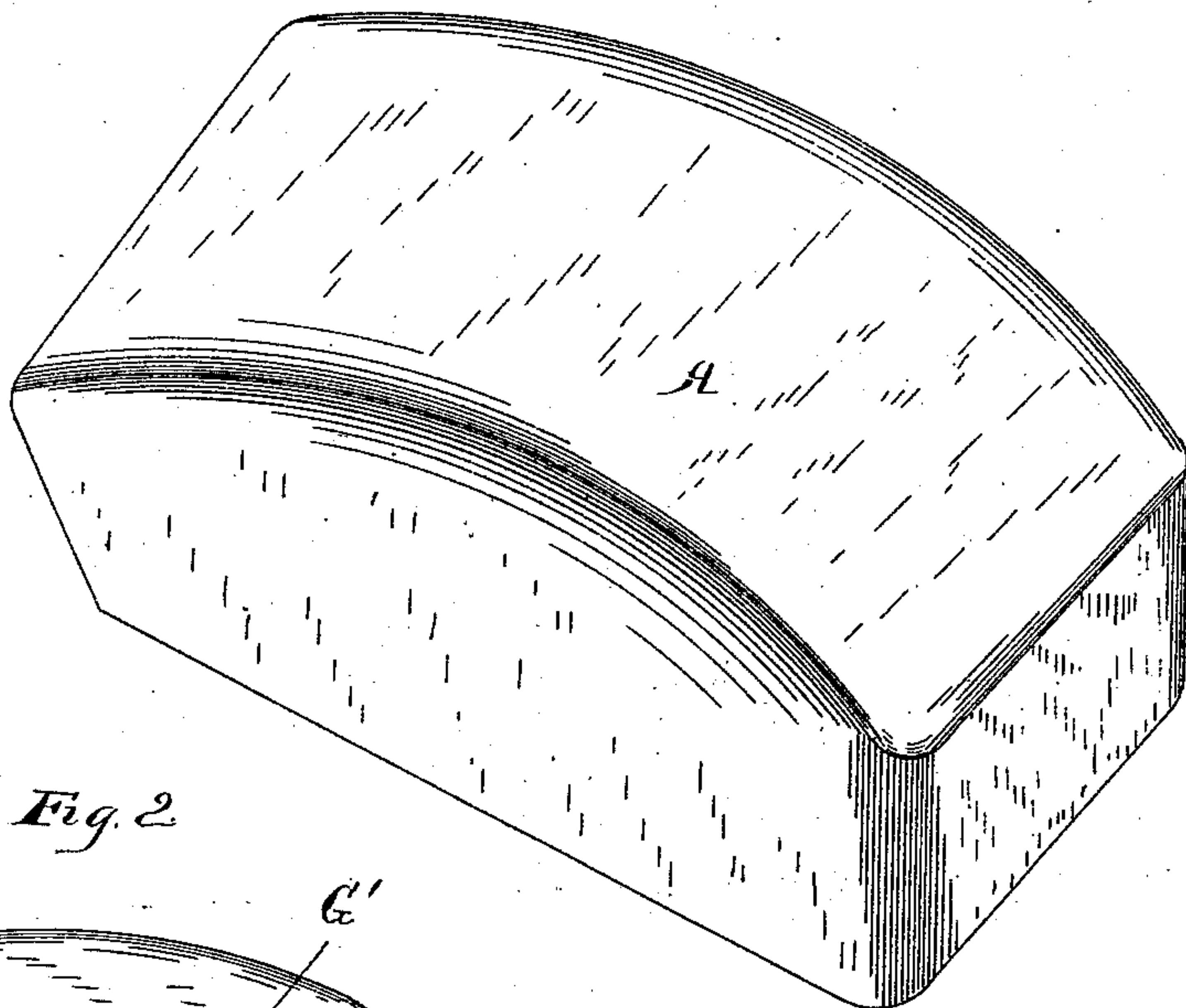


Fig. 2

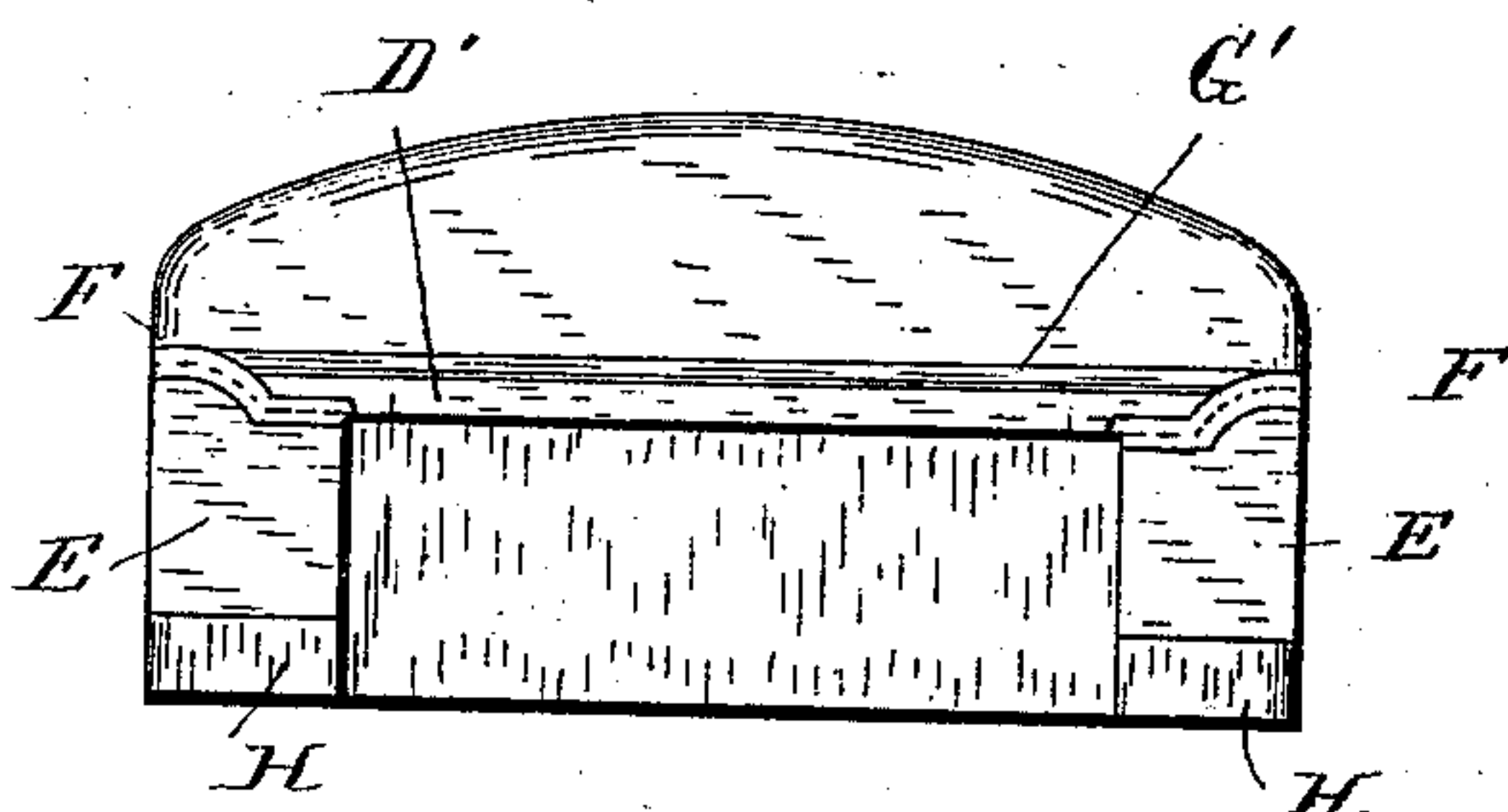


Fig. 3

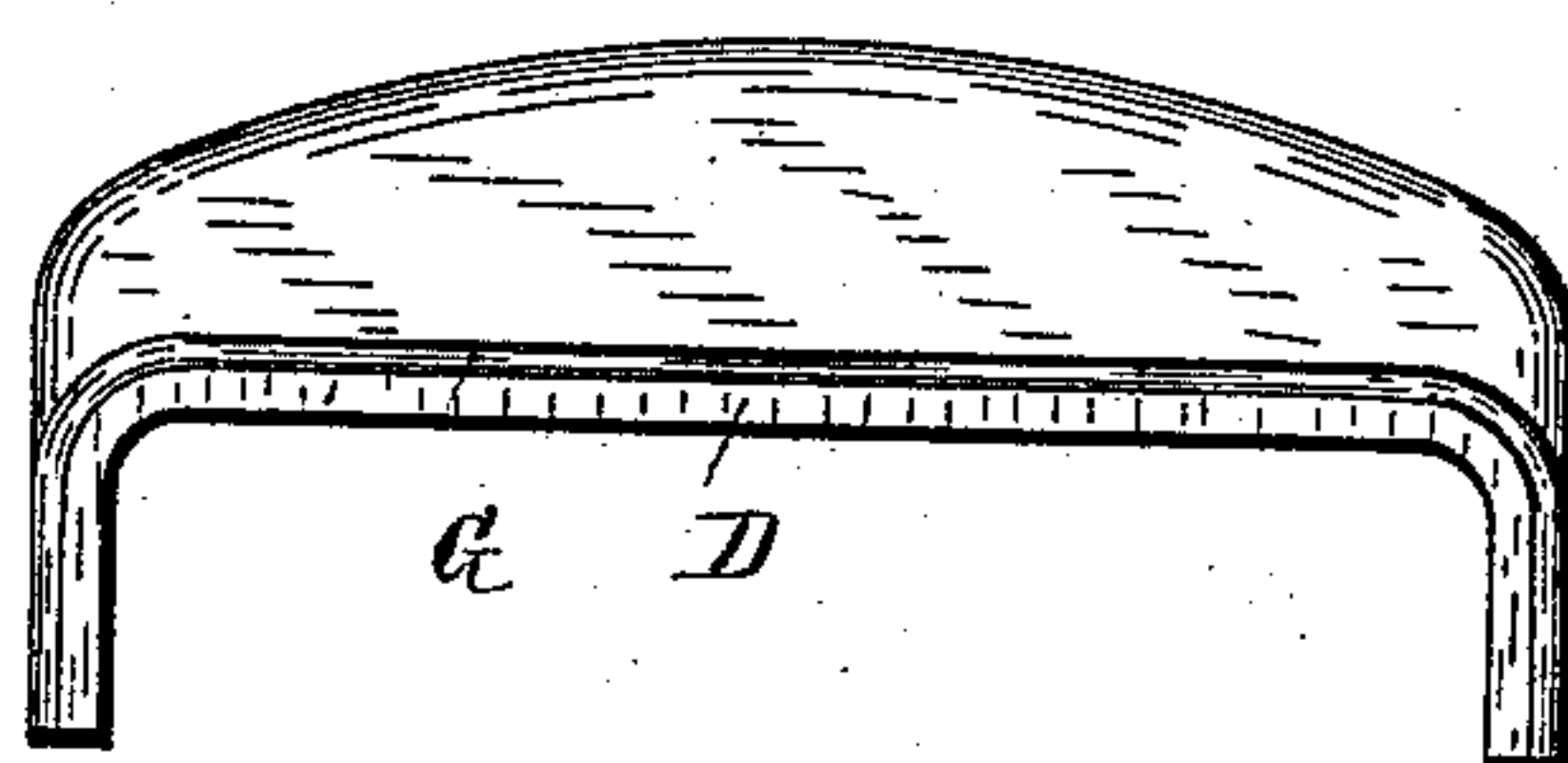


Fig. 4

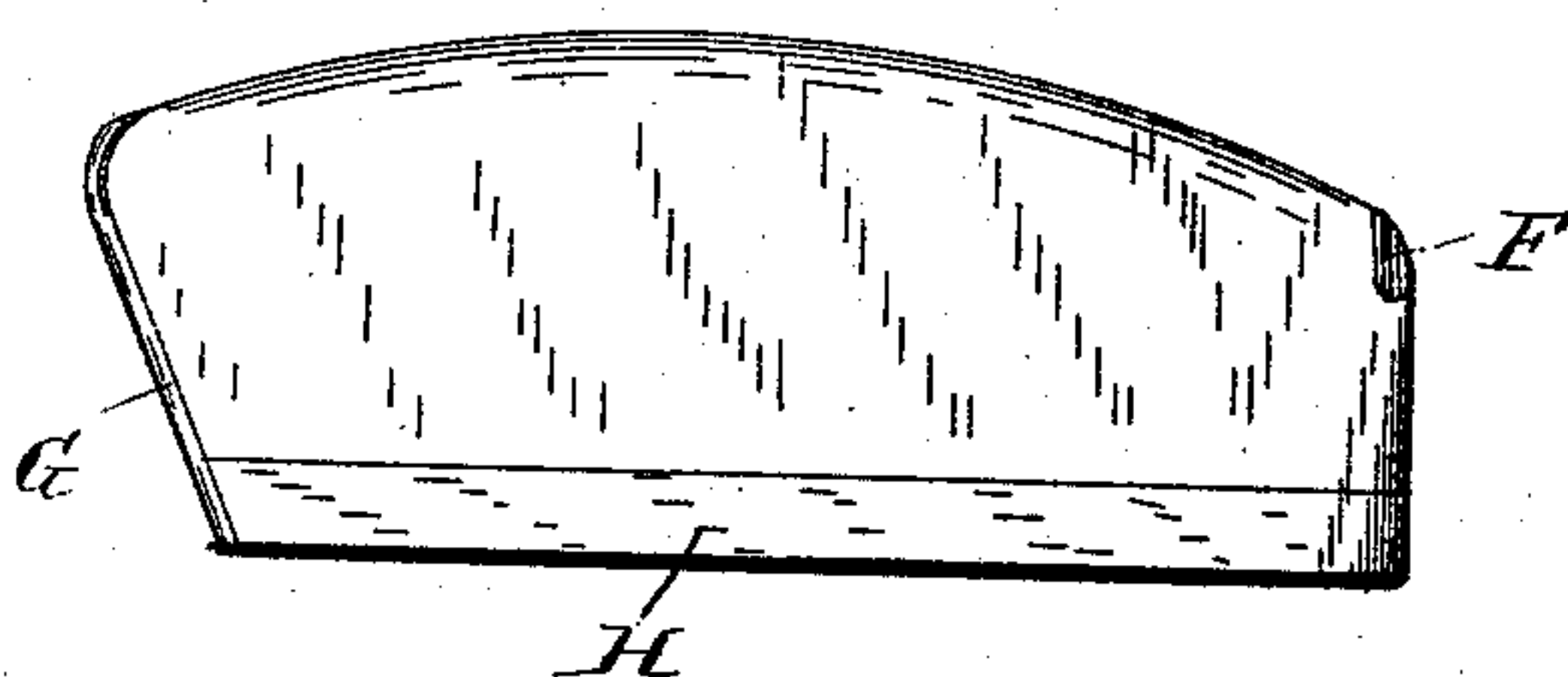
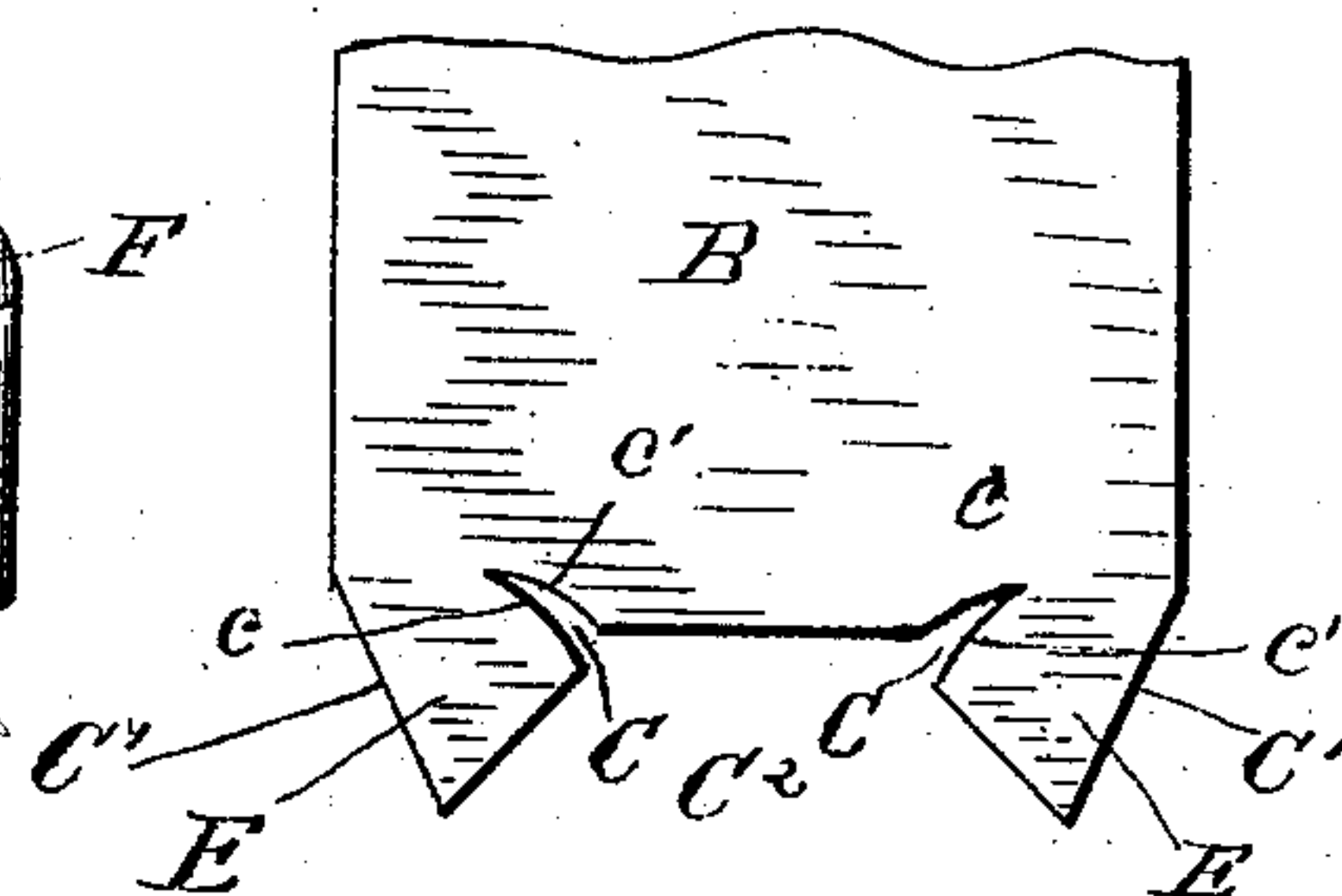


Fig. 5



Witnesses.

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UNITED STATES PATENT OFFICE.

THEODORE HAWLEY, OF FAIRFIELD, CONNECTICUT, ASSIGNOR OF ONE-HALF
TO EDWARD W. HARRAL, OF SAME PLACE.

MANUFACTURE OF CARRIAGE-TOPS.

SPECIFICATION forming part of Letters Patent No. 301,886, dated July 15, 1884.

Application filed April 22, 1884. (No model.)

To all whom it may concern:

Be it known that I, THEODORE HAWLEY, a citizen of the United States, residing at Fairfield, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in the Manufacture of Carriage-Tops; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has especial relation to that class of carriage-tops which are made of rubber cloth, and has for its object to produce a top which shall be made of a single piece of cloth, and shall be without seams except at the rear corners thereof, thus making the top pleasing to the eye and simple and inexpensive to manufacture. With these ends in view I have devised the novel top and process of manufacturing the same, which I will now proceed to describe, referring by letters to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective of the form upon which I stretch the cloth; Fig. 2, a rear view of the form with a completed top thereon as it appears after vulcanizing and trimming; Fig. 3, a front view, and Fig. 4 a side view, of the top alone; and Fig. 5 is a plan, on a reduced scale, of the end of the strip of cloth or blank which is toward the rear, showing gores which are cut from the cloth before it is placed on the form.

Similar letters indicate like parts in all the figures.

Heretofore in the manufacture of this class of goods they have been produced in two ways—first, by cutting out the top, the two sides, and the back from patterns, and then stitching or cementing the separate parts together; secondly, by molding a blank between male and female dies. By the first process large numbers of tops have been made and sold; but the seams are unsightly and otherwise objectionable, and, moreover, owing to the amount of work required in making it, owing to the number of pieces, the top is very expensive. When made by the second process, the tops are rough and wrinkled, and cannot be used upon the

better class of carriages. By my improved process I am able to produce a perfectly smooth and unwrinkled top and without seams except at the two rear corners, the ordinary side seams being wholly done away with.

A is the ordinary wooden form, and B a strip of rubber cloth. I preferably use for this purpose a heavy cloth made by applying rubber to one side of burlap, felt, or similar coarse heavy material. It should be understood, however, that the material used forms no part of my present invention. In forming the top the strip of cloth is laid over the form lengthwise thereof, gores C having been previously cut in the end which is to form the back of the top, as indicated at C C in Fig. 5. I also preferably cut away the sides of the strip, as at C', and cut out the center of the end, as at C'', thus forming the open place at the back of the top, which only requires to be trimmed after it has been vulcanized. The strip is then stretched crosswise and tacked or otherwise securely fastened all along the sides of the form at bottom, and to the front edge thereof, to form the front piece, D, of the top. The portions or flaps E of the strip of cloth are then brought around and fastened by tacks or otherwise to the rear of the form at the bottom. The edges *c c* of the gores are then slipped under the edges *c' c'* of the back piece, D', and they are cemented together, after which a gum strip is laid over at the point of union and cemented to both pieces, making an absolutely watertight and almost indestructible seam, which is indicated in the drawings at F. This seam only extends from the corner a short distance inward to the open space at the back. In attaching the cloth to the form it is drawn tightly in all directions, but, owing to the nature of the goods, the stretching is mainly across the form from side to side—i. e., crosswise of the goods. The cloth is applied to the form in what is technically known as its "green" condition—i. e., before it has undergone the process of vulcanization. As the cloth is quite elastic crosswise while in this condition, it is readily caused to shape itself by stretching to the curves at the various portions of the top, the only seams necessary being the short ones at the rear corners.

G is a facing-strip, which is cemented over for ornament only where the front piece joins the roof of the top. G' is a similar strip at the back. H is a facing-strip cemented to the
5 outer side of the top around its lower edge.

As stated above, the whole top is made in a single piece; the front piece, the back piece, and the various curves of the roof, sides, and back are all made by the stretching of the cloth
10 over the form while in its green condition. After the top has been vulcanized, any surplus cloth at the front, sides, or back is trimmed off. The top is then complete.

Having thus described my invention, I
15 claim—

1. The improvement in the art of manufacturing carriage-tops from a single piece, which consists in cutting gores from the portion of the cloth which is to form the back, then stretch-
20 ing and securing the cloth over a form, then overlapping the edges of the gores and cementing them, and finally vulcanizing the top while stretched upon the form.

2. The improvement in the art of manufacturing carriage-tops from a single piece, which
25 consists in cutting gores from the portion of the cloth which is to form the back, then stretching the cloth over a form and tacking it thereto, then bringing the loose pieces at the side around to the back and cementing the edges
30 under the upper edges of the gores, then vulcanizing the top while on the form.

3. A blank for forming carriage-tops of a single piece, one end of which is cut away at the sides, as at C', and has gores C C and cut-
35 out portion C² at the end thereof, as described, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

THEODORE HAWLEY.

Witnesses:

EDWARD W. HARRAL,
A. M. WOOSTER.