

A. HARDISTY.

Machines for Forming Leather Covers for Carriage Tops.

No. 155,375.

Patented Sept. 29, 1874.

Fig. 1.

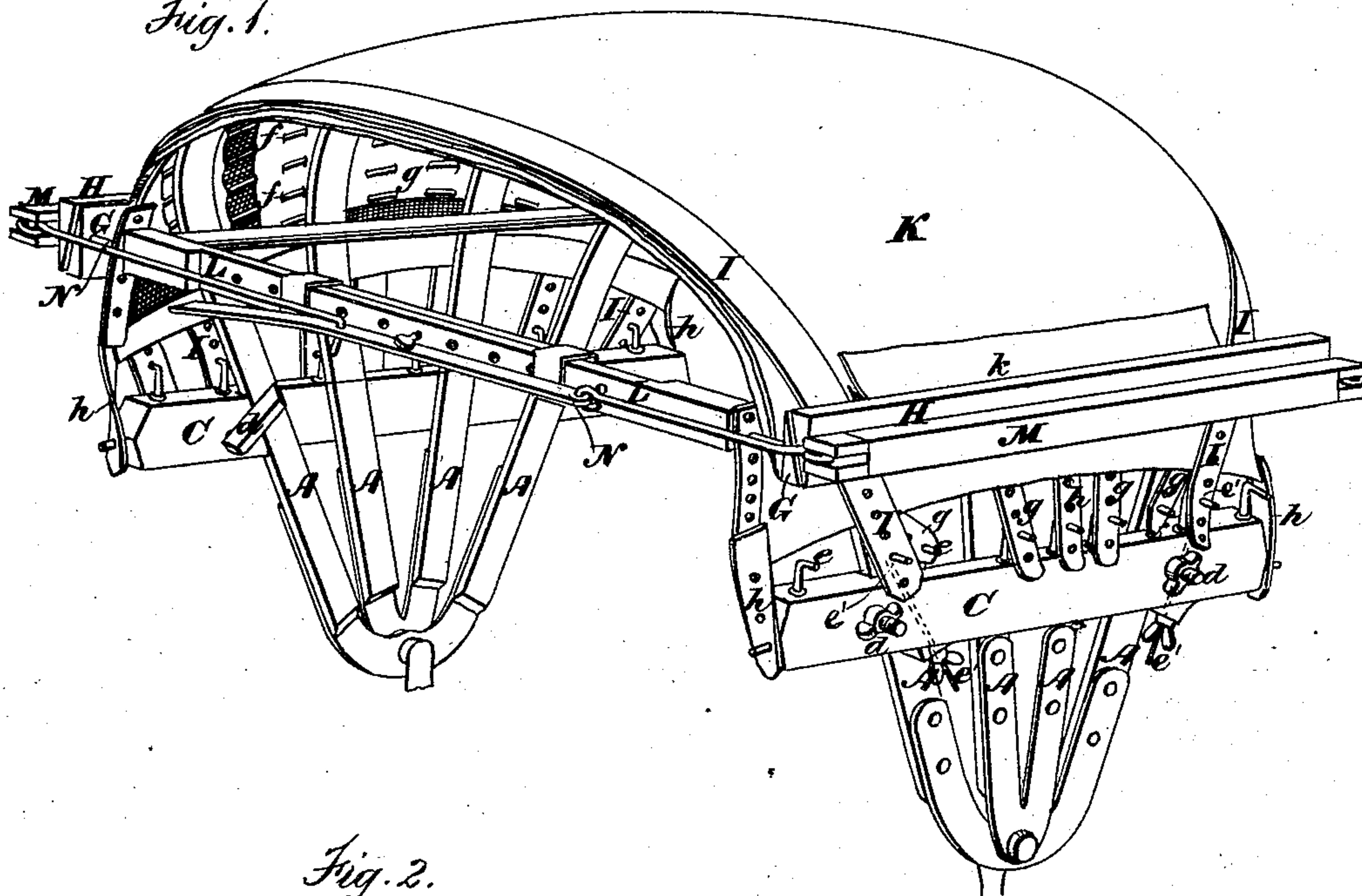


Fig. 2.

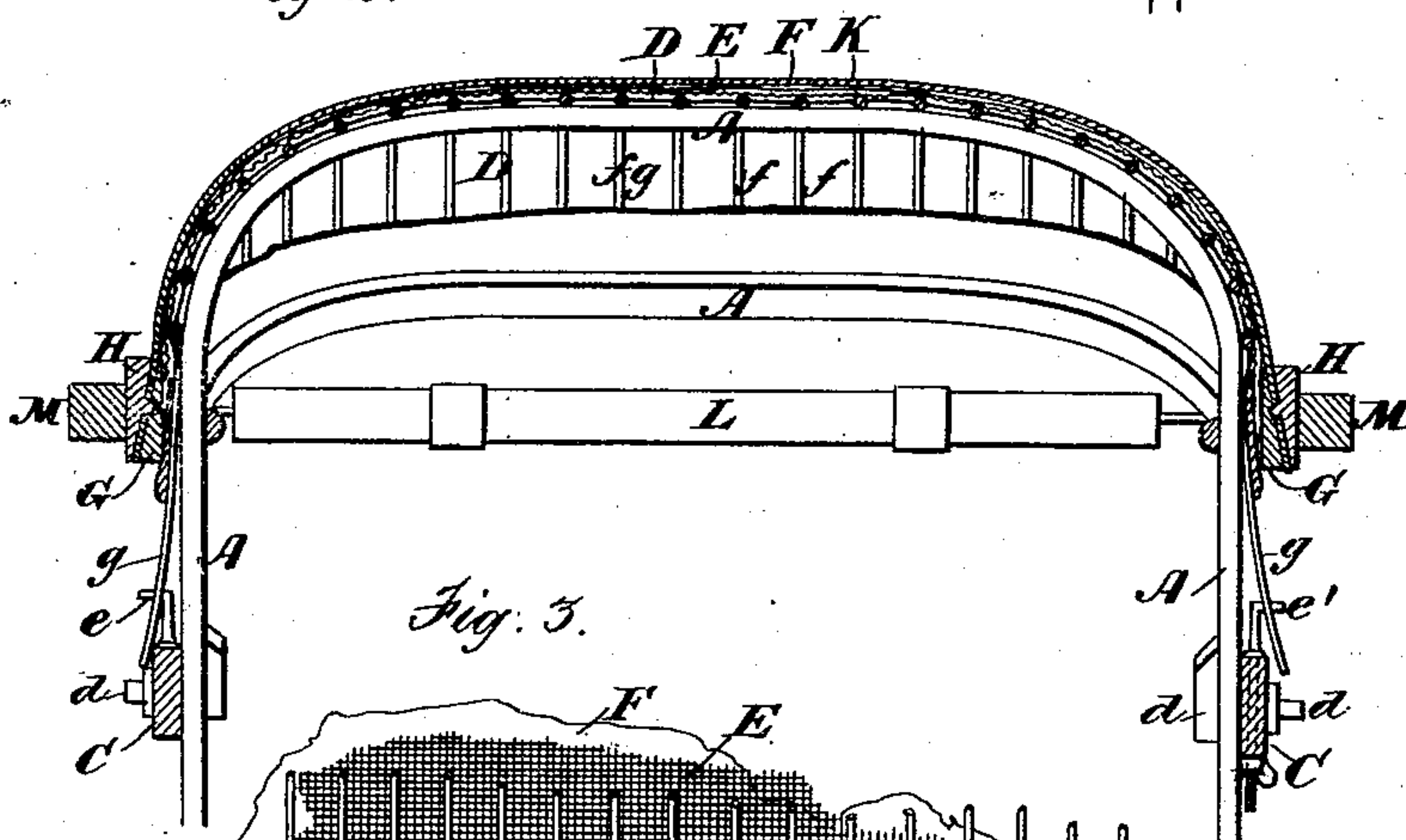
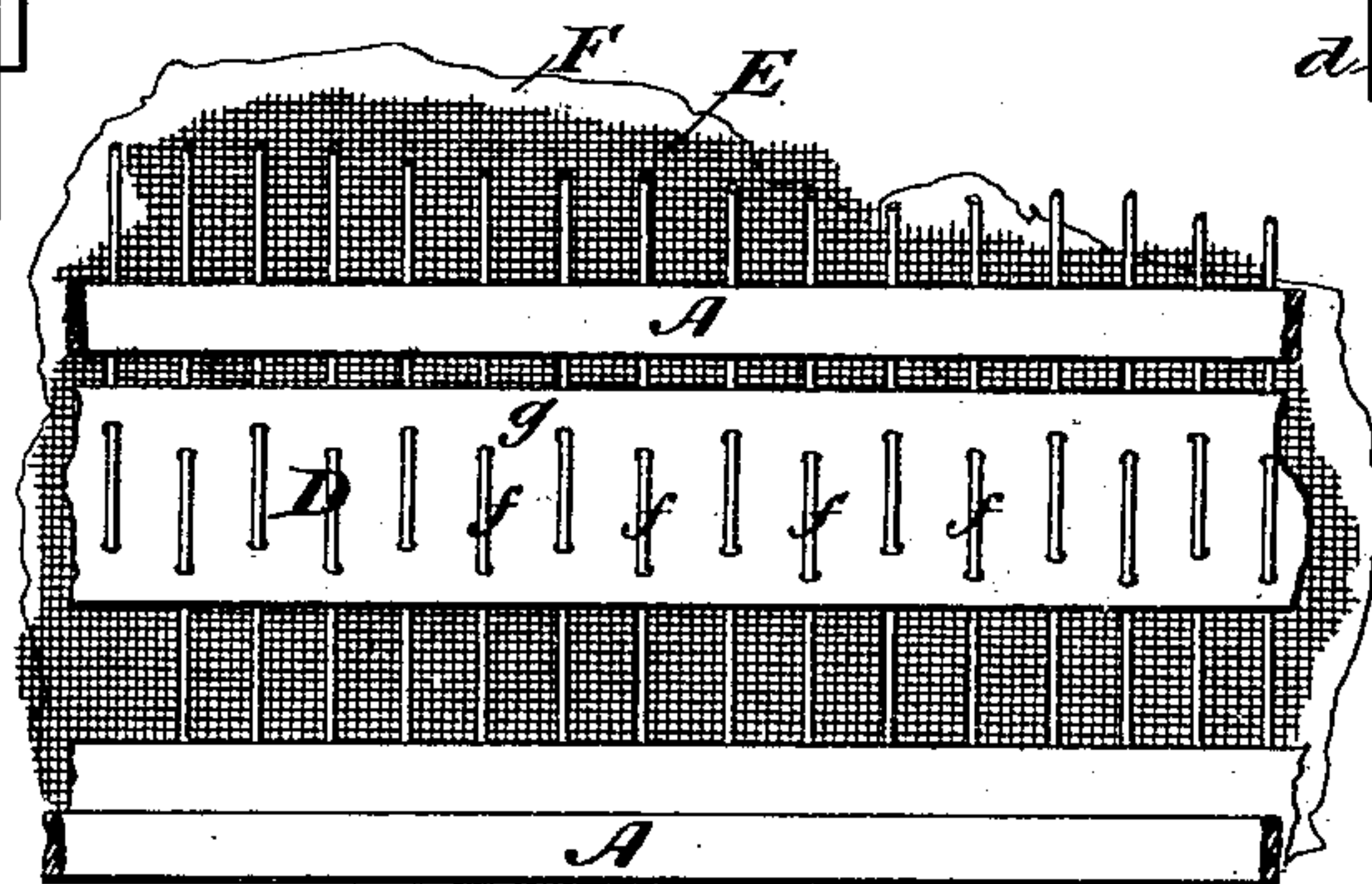


Fig. 3.



WITNESSES

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IMPROVEMENT IN MACHINES FOR FORMING LEATHER COVERS FOR CARRIAGE-TOPS.

Specification forming part of Letters Patent No. **155,375**, dated September 29, 1874; application filed February 14, 1874.

To all whom it may concern:

Be it known that I, ALFRED HARDISTY, of the city and county of Allegheny, and State of Pennsylvania, have invented a new and Improved Device for Forming Leather Covers for Carriage-Tops; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings forming part of this specification, in which—

Figure 1 is a perspective view, showing my apparatus and the method of working it. Fig. 2 is a sectional front elevation of the same; and Fig. 3 is a sectional plan, showing the several parts of the mold.

Similar letters of reference in the accompanying drawings denote the same parts.

The object of this invention is to form the leather for a carriage-top in one piece, instead of in three pieces, as has heretofore been customary. It is particularly applicable to enameled or patent leather; and it consists of certain adjustable straining and shaping devices, to be fitted to the particular top-frame whereon the leather is designed to be placed, so that, irrespective of the style or form of said top, the covering-leather may be fitted thereto.

That others may fully understand my invention, I will particularly describe it.

For convenience I show my apparatus attached to the bows of an ordinary buggy-top, though it will appear evident that the kind of top, or its particular shape, is immaterial.

In the drawings, A A are the bows of a buggy-top, four in number. Across the bows, on each side, I place a straining-bar, C C, and secure it to said bows by screw-clamps *d d*. Each of the straining-bars C is provided with a number of hooks, *e e*, for the attachment of the straining-straps, as hereinafter described. I next place over the bows A a frame made of wires *f f*, laced through straps *g g* of leather, canvas, or other suitable fabric. This convenience I designate foundation D. Its flexibility is such that by drawing down the straps *g* it may be caused to conform to the curvature of the top, both laterally and longitudinally. Outside of the foundation D I place a foundation, E, composed of wire-gauze, which is similarly strained and fastened to the

clamp-bars C by straps *h*, and over this latter is a covering of canvas, muslin, or other proper fibrous material, F, also strained and secured to bars C C by straps *i i*, to prevent the leather from receiving an impression of the wire of foundation E. These various coverings, made to conform to the particular shape of the top frame A, as set forth, produce a smooth, soft, yet rigid, surface of the exact form required, over which the leather may be shaped. The leather K for the top-cover is next laid over this shape, face down, and is secured over the front and back hoops A by straps I I of leather or other suitable material, which bind the front and back edges of the leather firmly, screws *e'* being employed on one or both sides, if required. When first put in place, said leather may be moistened with a composition made by boiling together neat's-foot oil, two parts, castile-soap, one part, and water, four parts, and it is then generally worked into shape by the process of fulling, well known in the art of leather-working, and straps I I and compressor M are gradually tightened until the desired shape is produced without stretching the varnished or enameled surface, whereby the same would be cracked and injured. When the leather has been worked into shape, the side edges are turned over and pasted down, as at *k*, and may be pressed between die-strips G H, the one formed with depressions and the other with corresponding protuberances, to form an ornamental-embossed pattern, called lacing, across the said ends. These die-strips G H are kept in proper relative position by the adjustable rods L, the ends of which pass through loops in the edge of foundation E, and through holes in said die-strips, and are conveniently forced together by means of the compressors M, which are drawn together at their ends, so as to force the dies G H together, by means of clamp-wires N or other convenient devices.

After being worked into shape, the leather is permitted to remain clamped in place until it "sets," which will be in the space of about two hours. Before removing the leather from its form, strips of muslin are to be pasted on it, one over the front bow, and one over the back bow, to prevent any stretching during the act of removal and turning. The leather

linings for the side edges are also to be pasted down; the leather edges are then to be turned over and pasted down. When dry and set the leather may be removed, and the edges stitched, lined, and otherwise prepared to be reversed and secured in position on the bows.

Having thus fully described my invention, what I claim as new is—

1. A surface formed of the foundation D E F, substantially as described, for application to the frames of carriage-tops, irrespective of their particular curves, for the purpose of constituting an adjustable mold, over which a leather top may be shaped in a single piece, substantially as set forth.

2. In combination with the adjustable foun-

dations D E F, the straining-bars C C, to be clamped to the bows A A, and the clamping-straps I I, substantially as set forth.

3. In combination, the embossing-dies G H and the adjustable rods L, projecting through loops in the edge of foundation E, to keep said dies in position, as set forth.

4. In combination with the clamping-straps I and the dies G H, the compressors M, operated by clamp-wires N, substantially as set forth.

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Witnesses:

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