

(No Model.)

T. ROBERTSON.  
Process of Manufacturing Lozenges.

No. 238,157.

Patented Feb. 22, 1881.

Fig. 1.

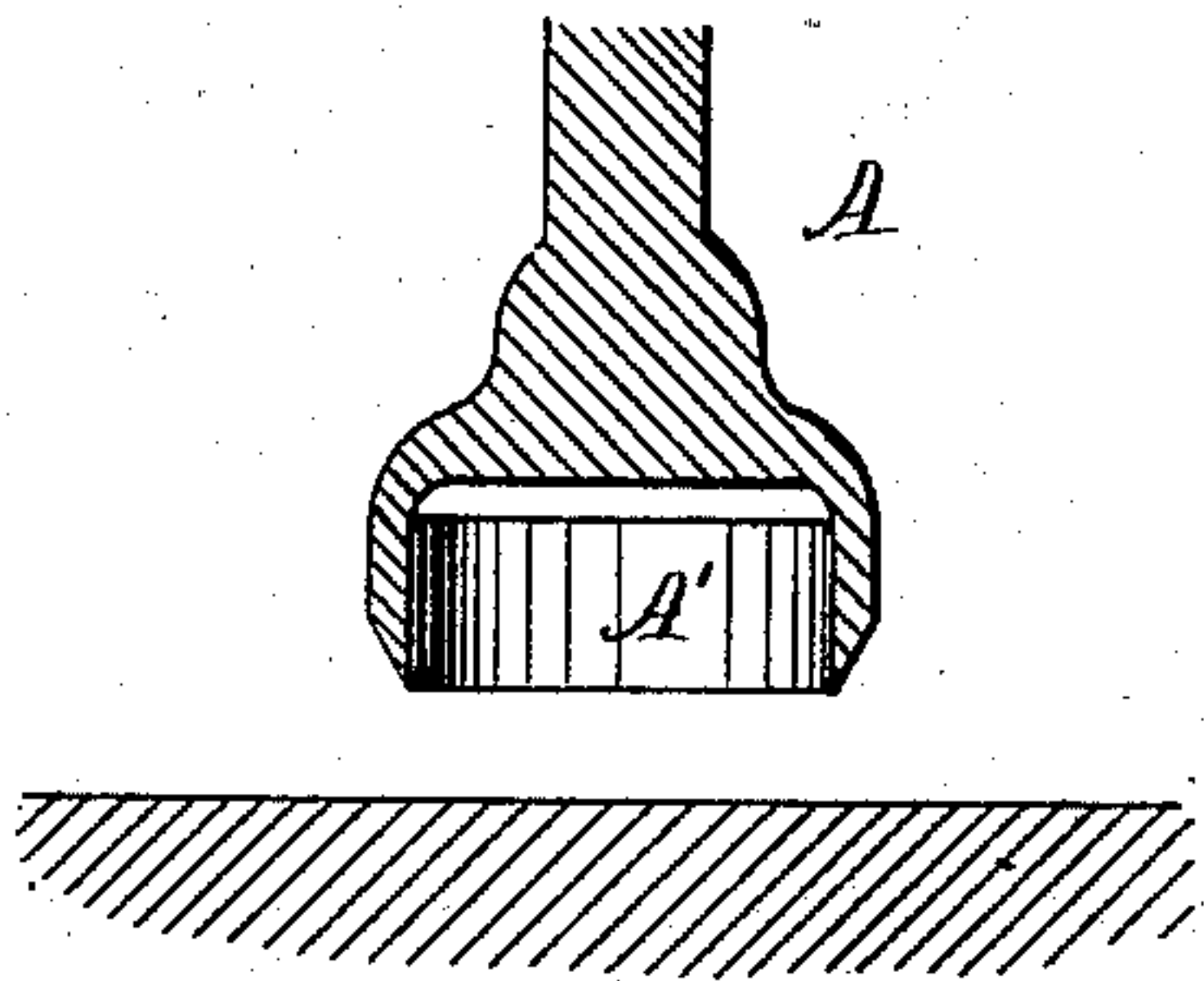


Fig. 2.

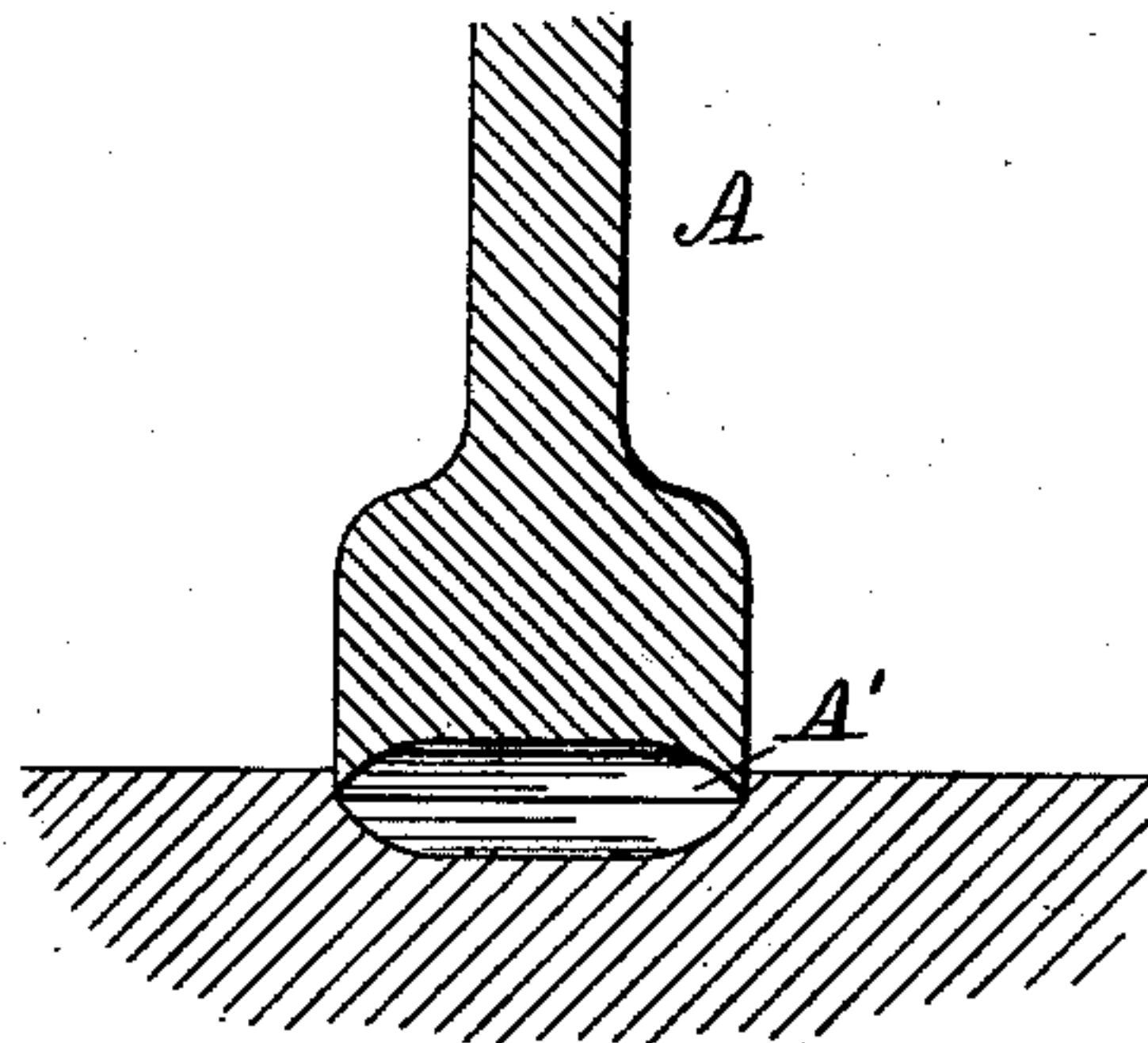


Fig. 3.



Fig. 4.



Witnesses:

N. H. Low.  
J. S. Barker.

Inventor:

Thomas Robertson  
by W. H. Doubleday atty

# UNITED STATES PATENT OFFICE.

THOMAS ROBERTSON, OF TORONTO, ONTARIO, CANADA.

## PROCESS OF MANUFACTURING LOZENGES.

SPECIFICATION forming part of Letters Patent No. 238,157, dated February 22, 1881.

Application filed April 6, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS ROBERTSON, of Toronto, in the county of York, and Province of Ontario, Canada, have invented certain new and useful Improvements in Methods of Manufacturing Lozenges; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of my invention is to facilitate the manufacture of lozenges from a thin sheet of material, and at the same time to produce, as a new article of manufacture, a lozenge which possesses certain advantages over those heretofore made, as will be hereinafter fully explained.

In the drawings, Figure 1 is a vertical section of a die which I propose to use in cutting the lozenge from a continuous strip or sheet of material of the proper thickness. Fig. 2 is a vertical section of dies which I propose to use in completing the lozenge according to my improved method. Figs. 3 and 4 represent lozenges in section.

This invention is an improvement upon that shown in Patent No. 153,018, granted me July 14, 1874, and in carrying out my invention I propose to use the machine therein shown and described, except that I dispense with the revolving cutters C' and the mechanism for rotating said cutters and substitute therefor the dies shown at Fig. 2 on these drawings.

In preparing the material from which to make my lozenges I use any well-known formulas—as, for instance, I may take one hundred pounds of sugar, twelve ounces of gum-tragacanth, eighteen pounds glucose, and sufficient water to reduce the mass to a pulp of the desired consistency, adding such flavoring-extracts or coloring-matter, or both, as I may find desirable. The ingredients are thoroughly incorporated and reduced to the form of a thin sheet by any of the usual or approved modes of manipulation. I then, by means of a cutting-die, as represented in Fig.

1, cut from the thin sheet blanks for lozenges in the usual form—that is to say, circular—and of uniform thickness.

As seen in Fig. 2 my compressing or shaping dies consist of a shank, A, and a concave working-face, A', two dies being employed, one to engage with each face of the lozenge.

The lozenges, after being cut into the form indicated at Fig. 3, are placed in proper position between the opposing ends of the dies A A', which dies are then advanced toward each other, and as they engage with the outer edges of the lozenge, it (the lozenge) is molded into the shape shown in Fig. 4. It will readily be understood that by this operation I have materially increased the density and firmness of the lozenge at its outer periphery, and that in consequence thereof it can be transferred to the pan and finished with a thin coating of sirup much sooner than could be done had it not been subjected to the compression of the dies A A', because its increased firmness permits its being handled in the pan without liability of having its edges broken or injured.

Another advantage which is due to this method of manufacture is this: The lozenge has a smoother exterior than it would otherwise have, and is, by reason of this additional compression at its edges, less liable to fracture during such handling as it is necessarily subjected to in packing for market and during transportation.

While I have described but one method of carrying out my invention, I do not wish to be limited to the employment of the specific devices or the precise mode of manufacture which I have indicated, as other means might be employed for compressing the edge of the lozenge and imparting thereto the desired firmness; as, for instance, the dies A A' might be employed to stamp the lozenge from a sheet of material of uniform thickness at one operation, or one die or a series of dies might be employed in connection with a bed-plate or matrix having suitable-shaped cavities in its face in such relation to the die or dies as to accomplish the same result, without departing from the spirit of that part of my invention



which relates to the production of a lozenge having portions contiguous to its edge of greater density than the central portion.

What I claim is—

- 5 The herein-described method of manufacturing lozenges—that is to say, first forming the material into a sheet of substantially uniform thickness, next forming from the sheet blanks which are circular in plan view and of sub-

stantially uniform thickness throughout, next to compressing edges of the blanks, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand.

THOMAS ROBERTSON.

Witnesses:

GEO. A. MILNE,

JNO. H. UNDERHILL.