

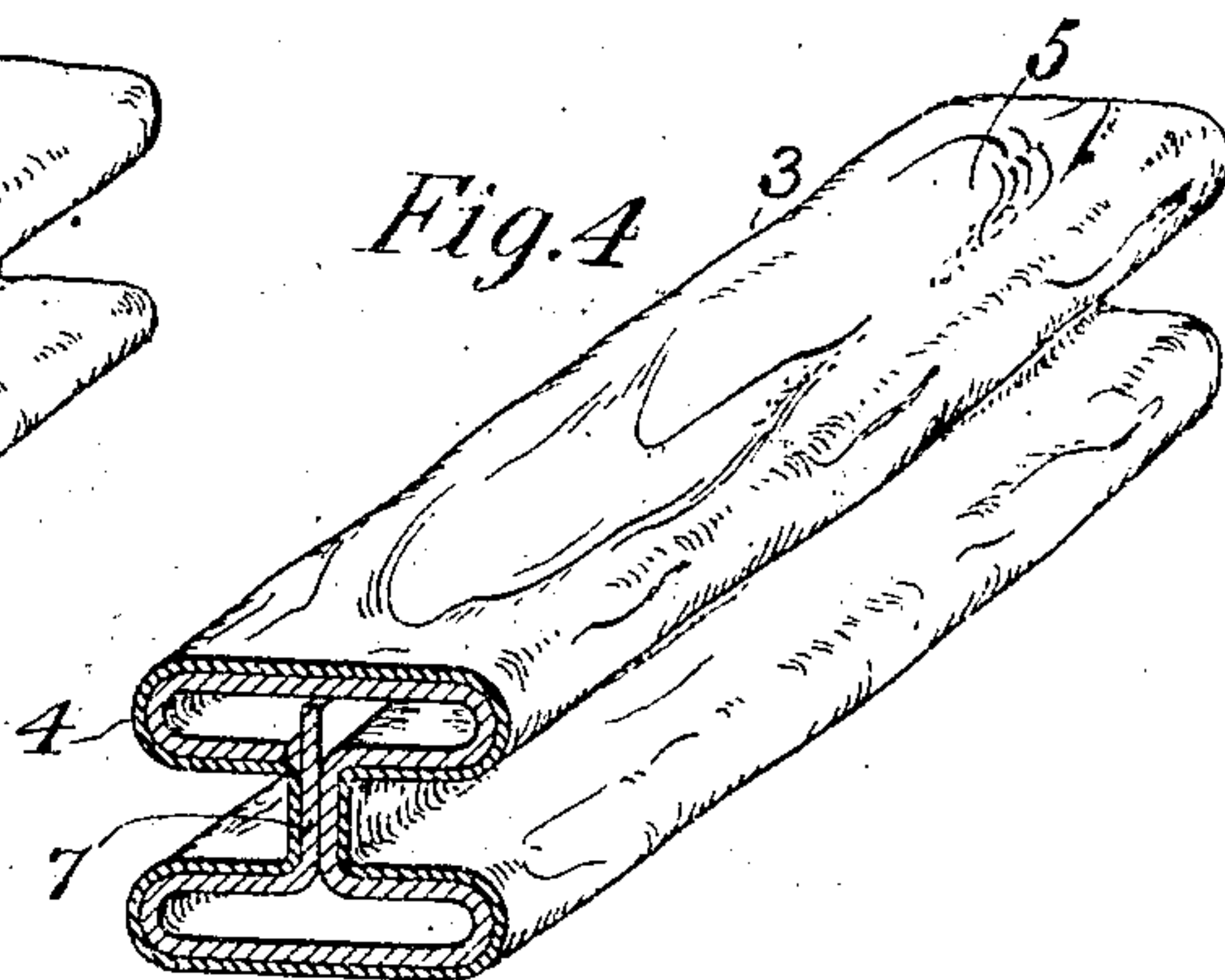
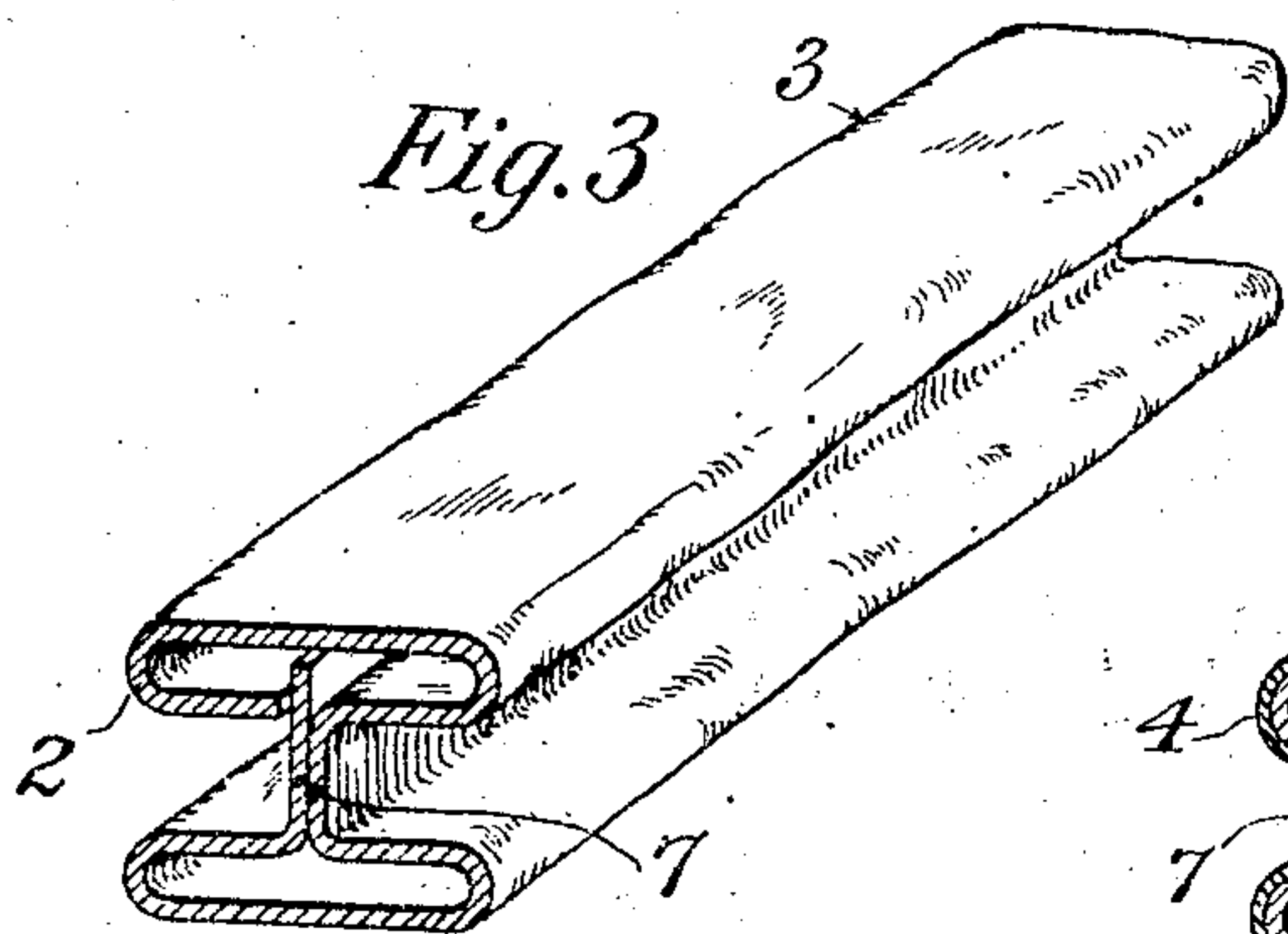
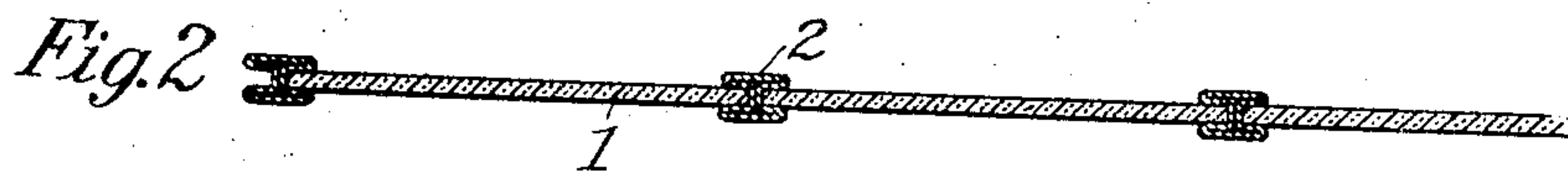
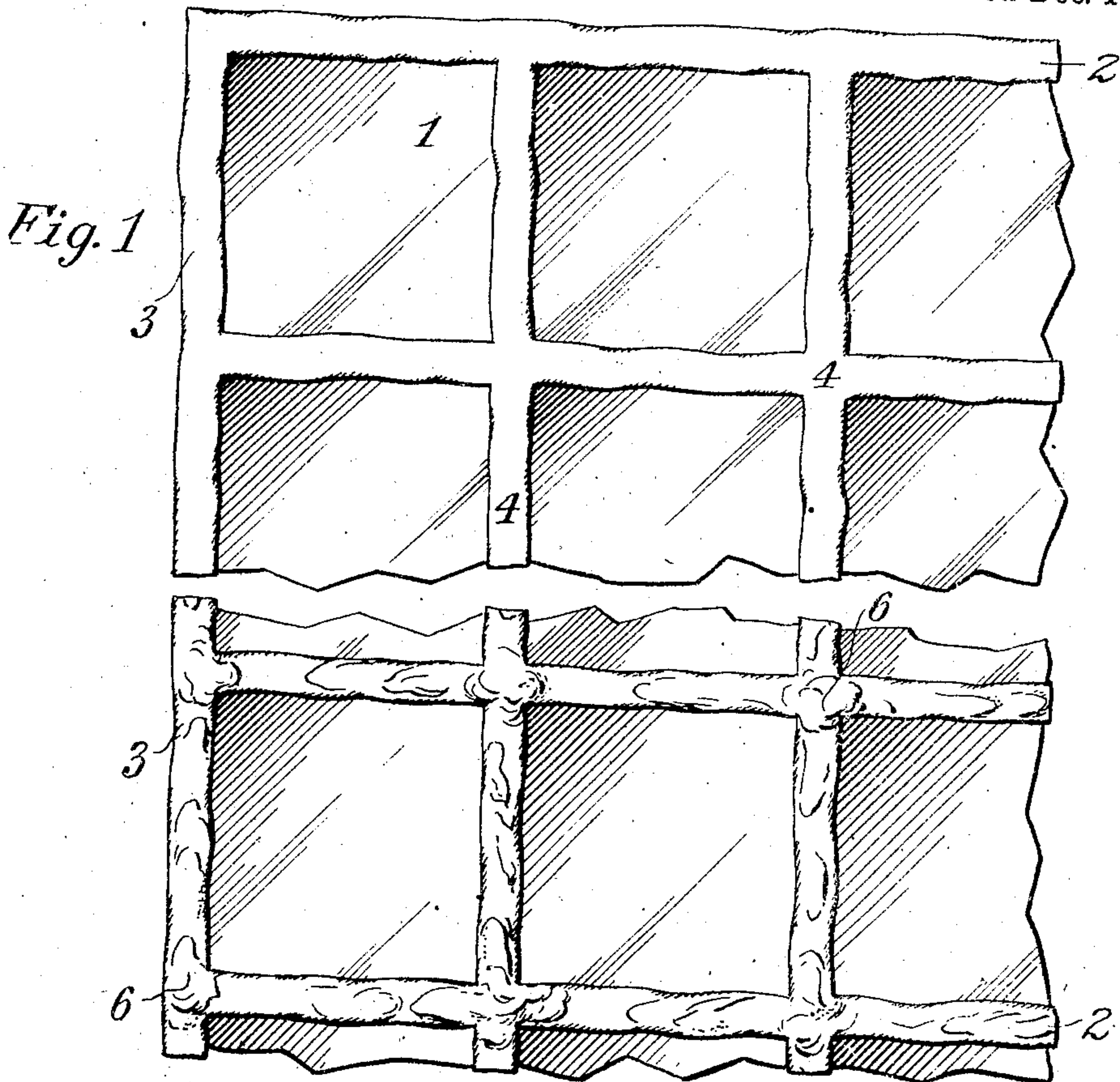
W. HENDERSON.

WINDOW CAME.

APPLICATION FILED JULY 23, 1909. RENEWED NOV. 12, 1910.

978,745.

Patented Dec. 13, 1910.



Witnesses:  
J. Hart Robertson  
O. M. Burbank

Wm. Henderson, Inventor  
By: Attorney  
C. C. Stevens.



# UNITED STATES PATENT OFFICE.

WILLIAM HENDERSON, OF NEW YORK, N. Y.

## WINDOW-CAME.

978,745.

Specification of Letters Patent. Patented Dec. 13, 1910.

Application filed July 23, 1909, Serial No. 509,179. Renewed November 12, 1910. Serial No. 592,077.

*To all whom it may concern:*

Be it known that I, WILLIAM HENDERSON, a subject of the King of Great Britain, residing at New York, county and State of New York, have invented certain new and useful Improvements in Window-Cames, of which the following is a specification.

My invention relates to improvements in metallic glazing bars, or comes employed in leaded glass work for ornamental or stained glass windows.

It relates particularly to leaded window comes designed to imitate the antique handiwork, one of whose beauties is the artistic irregularity of the outline.

The object of my invention is to produce an ornamental and artistic window came, which, while preserving all the beautiful effects of the antique leaded glass, shall be sufficiently strong to permit of use with the large panes in some modern windows, and yet so fine-lined as not to be out of proportion with the small glass panes often employed in such windows.

Another and chief object of my invention is to furnish a window came, easily, quickly and economically produced, having the distinguishing wavy outlines, thereby placing the same within the reach of all lovers of antique leaded glass windows.

To carry out my invention, I may take a strip of sheet-metal and by means of a die impart an H-shape thereto. Passing it then through a second, or finishing die, I give it the desired wavy irregularity of outline, by moving at right angles to the direction of its motion the part of the came about to pass through the die. As an alternate method, I may impart the wavy or irregular outline by means of one or more pairs of properly fashioned rolls. In either method, the amount of irregularity is entirely under the control of the one operating the rolls or dies.

In the accompanying drawings:—Figure 1 shows two samples of leaded glass windows formed of panes inclosed by comes with irregular outlines, the lower section showing an artificially roughened surface; Fig. 2 is a cross-section through pane and came, showing manner of setting; Fig. 3 is a perspective view, with end section, of a one-piece came having wavy irregular outlines, and Fig. 4 shows a composite came with wavy irregular outlines, and built up of an internal sheet-metal foundation covered with a lead or lead imitating coating.

In the drawings:—1 is the glass pane inclosed by the came 2, bounded by irregular outlines 3.

4 is a coating, preferably of lead or lead imitating metal; 5, a roughening of the surface artificially impressed upon the came to heighten the artistic effect and more closely imitate the antique handiwork.

6 are drops of solder, or the like, applied to the junctions of the comes for the same purpose.

The ancient glaziers were accustomed to cast lead comes, and then reduce the weight and size by hand tools. This manipulation left the irregular artistic outlines. The ancient comes thus formed, were lacking in the strength requisite for modern work, and were besides too weighty and bulky. To meet modern requirements, the lead mill and the hydraulic press were introduced, but at the expense of the effect so desirable and at the sacrifice of durability and strength. By my invention the old leaded glass effect is restored, strength and durability are added, the cost materially reduced, and the weight and size adapted to modern requirements.

To enable those skilled in the art to practice my invention, I will now describe my preferred method of making the came forming the subject of this invention.

I take a strip of sheet-metal and passing it through a die, impress thereupon the H-shape, such as is shown in my U. S. Patent No. 494,543, of May 16, 1893. Passing the came through a second, or finishing die, I move it at right angles to the direction of motion through the die, and thus impress upon the finished came any desired irregularities of outline. Of course, rolls may be used to give the desired wavy outline; and that whether the came is a single metal, as in Fig. 3, or composite, as in Fig. 4. In giving the irregular or wavy outline to the came, should the rib 7 become unduly bent, it may easily be pressed back into shape straight, without disturbing the irregular edges 3. My came with its comparatively straight rib and its irregular outlines, enables the glazier to secure the irregular outline effect, without the necessity of having to cut his glass irregular to follow an irregularly curved came rib. This is a great saving of time and skill required.

The preferred construction of my improved came is an H-shaped sheet-metal, either simple, as in Fig. 3, or a came com-



posed of an inner metal foundation covered by a layer of lead or lead imitating material.

The external lead or lead simulating surface may be applied by heat, brazing, dipping, or by any of the well known methods of coating one metal with another, and the surface may be rendered uneven by a soldering iron, for example, or by means of metal applied to the came junctions, as at 6.

Having thus fully described and illustrated my invention, what I claim, is:—

1. A window came having an H-shaped sheet-metal foundation covered by an external coating of lead or lead imitating metal, the outlines of said came being wavy or irregular, as and for the purpose set forth.

2. A sheet-metal H-shaped window came having an irregular or wavy outline.

3. A composite window came having ir-

regular outlines and an exposed surface coated with lead or lead imitating material.

4. A composite window came having irregular outlines and a surface artificially roughened, as and for the purpose set forth.

5. A window came having irregular edges and a substantially straight rib.

6. A composite window came having irregular outlines; a substantially straight rib, and a metal surface roughened and increased by added metal at the junctions of the comes, substantially as set forth.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses, this 22d day of July 1909.

WILLIAM HENDERSON.

Witnesses:

A. STETSON,

ALFRED R. HENDERSON.