

(No Model.)

M. TOLLE.
FACE PROTECTOR.

No. 557,625.

Patented Apr. 7, 1896.

Fig. 1.

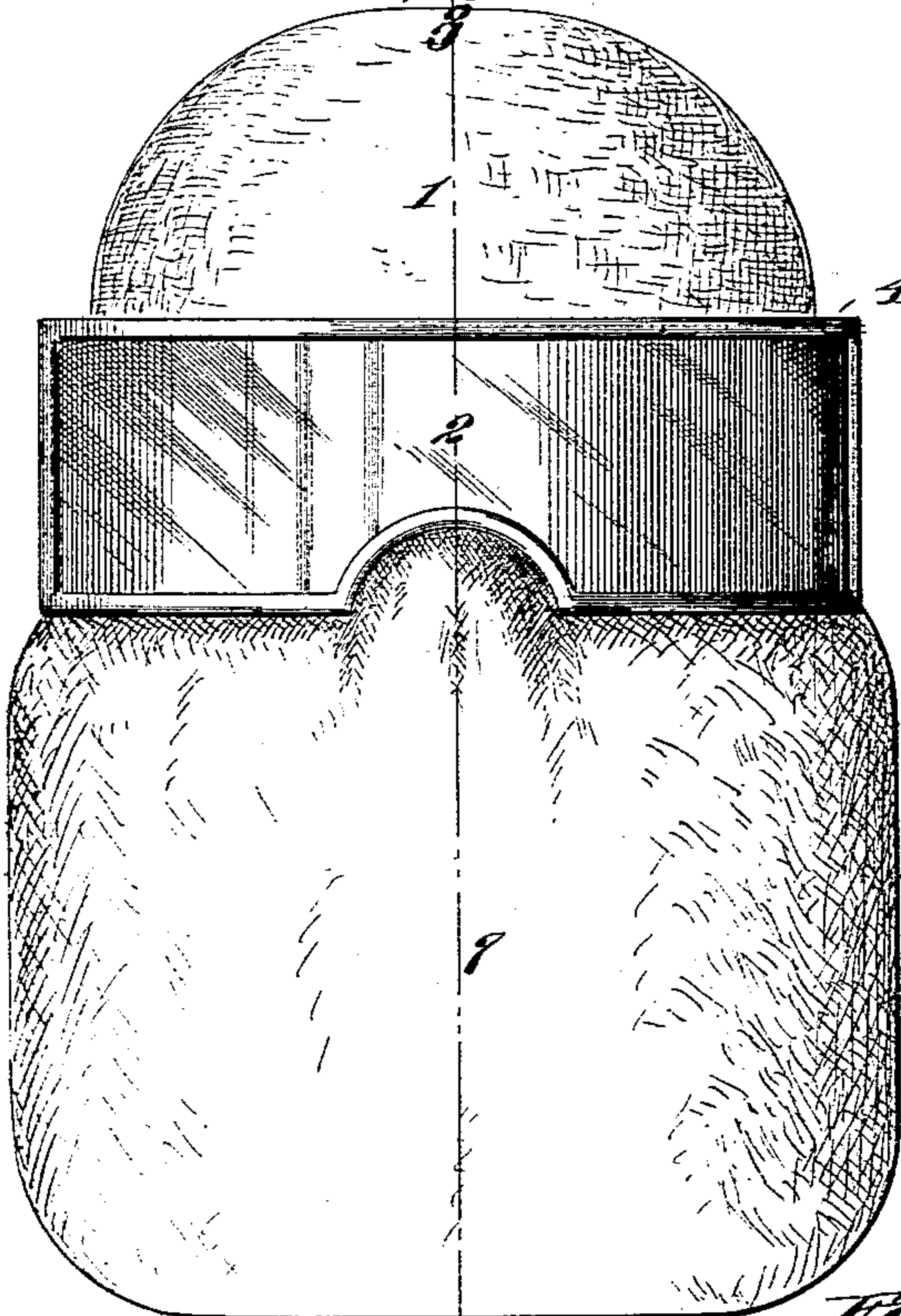


Fig. 2.

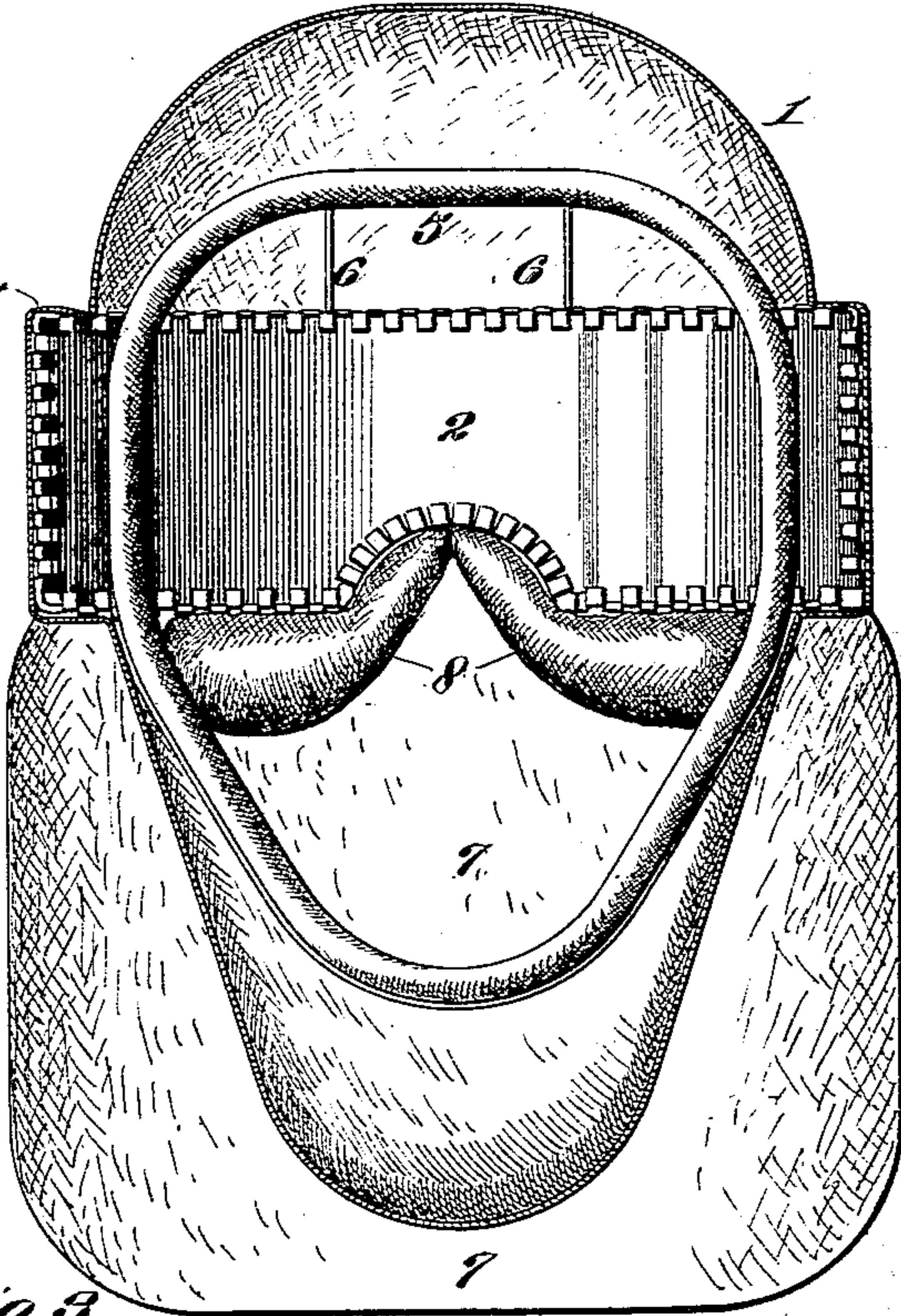
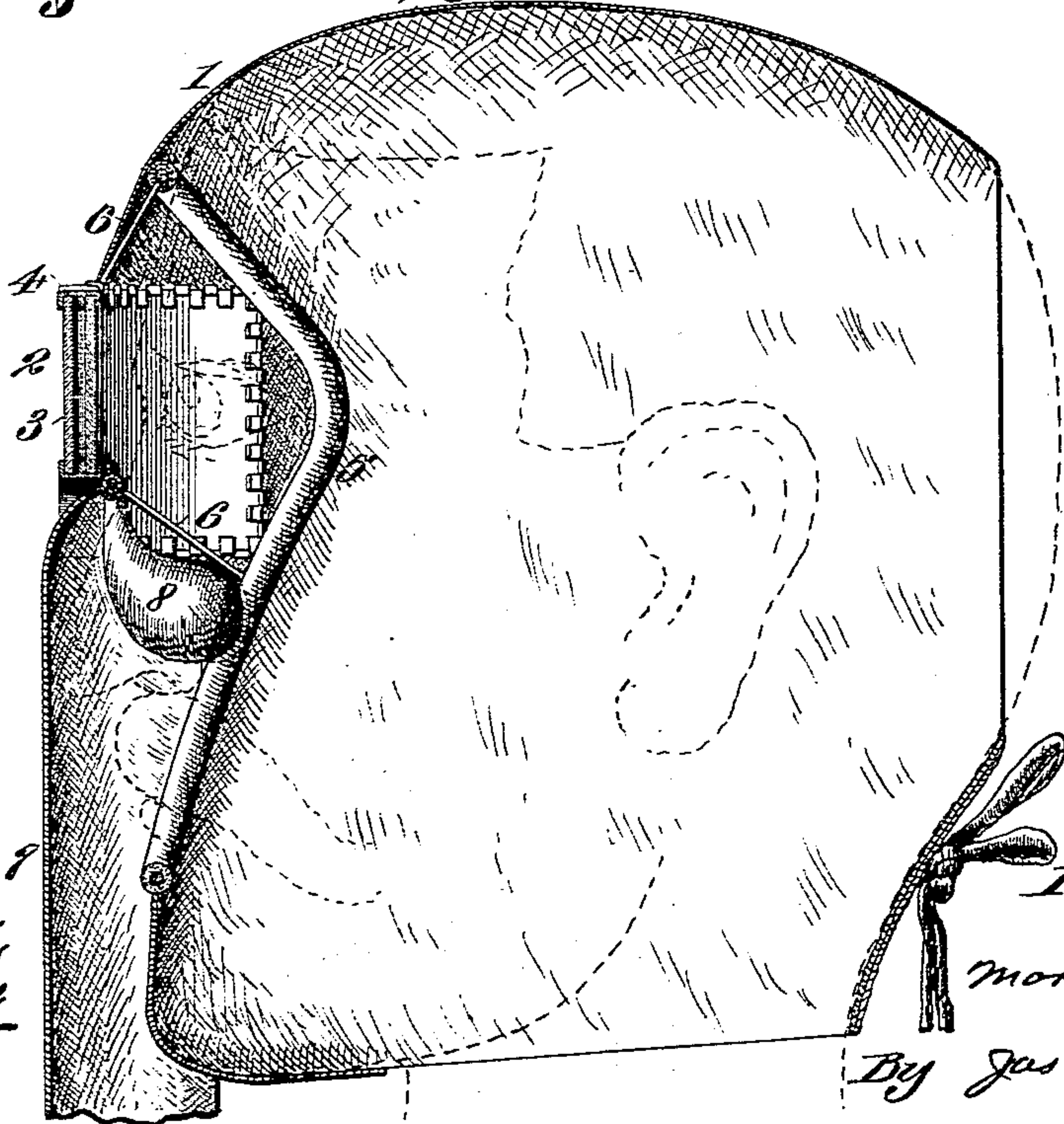


Fig. 3.



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MORRIS TOLLE, OF ST. LOUIS, MISSOURI.

FACE-PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 557,625, dated April 7, 1896.

Application filed April 3, 1895. Serial No. 544,244. (No model.)

To all whom it may concern:

Be it known that I, MORRIS TOLLE, residing in the city of St. Louis, State of Missouri, have invented a new and useful Face-Protector, of which the following is a specification.

My invention relates to devices for protecting the face of the wearer from the weather.

The principal object is to insure unobstructed vision; and it consists in a hood or mask, hereinafter claimed, adapted to be worn over the face and having a transparent window, the several parts of said face-protector being so arranged as to prevent the condensation of moisture on the window.

In the accompanying drawings, which form part of this specification, Figure 1 is a face view of my hood or face-protector. Fig. 2 is a cross-section thereof, looking toward the front; and Fig. 3 is a vertical section on the broken line of Fig. 1.

The body portion 1 of my device may be made of any suitable fabric or material either in the form of a mask or of a hood. I prefer to use a textile fabric made to cover or inclose the head of the wearer, as shown in Fig. 3.

In the face of the mask or hood 1 is a window 2, composed of two parallel plates of glass or other transparent substance 3 a slight distance apart. Any suitable device may be used for holding these plates in position—as, for instance, a marginal sheet-metal frame 4, having teeth doubled back of the glass, as shown in Figs. 2 and 3, said frame being secured to the body fabric in the same or any othersuitable way. There is preferably only a single window for the two eyes, and the plates of glass are curved; but, obviously, there may be a separate window for each eye, and the glass may be plane.

In order to have the windows stand out from the face in proper position, a pressure-frame 5 is used. This frame 5 is of wire or similar material, preferably covered with a soft fabric, bent into a shape to bear against the forehead, chin, and cheeks of the wearer. The window frame or frames 4 are fastened to this pressure-frame 5 by means of short struts 6, which extend outwardly to said window frame or frames.

A large opening is made in the face of the hood or mask to allow free breathing through the mouth and nose, and for this purpose it

communicates directly with the atmosphere. In order to prevent the warm moist breath coming in contact with the cold outer glass and there having its moisture condensed, a flap 7, of sufficiently close texture to cut off the passage of the breath, is fastened between said mouth and nose opening and the window-glass. This flap extends down below the mouth.

The passage of warm breath upwardly inside of said hood or mask is intercepted by soft cushions 8, adapted to conform to the contour of the face. These cushions are preferably fastened to the lower edge of the window-frame, which is arched to bridge the nose, as shown in the drawings. Obviously, the flap 7 should be fastened at the same point as the cushion or above.

The operation of my device is as follows: When it is put on, its weight is mainly supported by the top of the head; but there is enough downward and lateral pressure to cause the cushions to fit closely against the face, and thus intercept the breath. The exhaled air must therefore pass below the lower edge of the loose flap, and very little of it comes in contact with the outer glass, and by the time such portion does come in contact it has so nearly reached the same temperature as the glass itself that no appreciable moisture is deposited therefrom. The struts on the pressure-frame hold the windows at the proper distance away from the eyes. The space intervening between the two plates of glass is a dead-air space. As air is a very poor conductor of heat, the outer glass may be very cold, while the inner glass remains comparatively warm. Thus if any breath should come in contact with the inner glass there would be very little, if any, condensation of moisture.

What I claim as new, and desire to secure by Letters Patent, is—

1. A face-protector comprising a body portion adapted to cover the wearer's head and a window therein composed of two parallel plates of a suitable transparent substance with an air-space intervening, said body portion having an opening for the mouth and nose which opening communicates directly with the atmosphere, and a flap over said opening, substantially as and for the purpose set forth.

2. A face-protector comprising a body portion adapted to inclose the wearer's head and a window therein composed of two parallel plates of a suitable transparent substance
5 with an air-space intervening, said body portion having an opening for the mouth and nose, which opening communicates directly with the atmosphere, a flap over said opening, and
10 cushions under said flap above said opening to keep the exhaled breath from contact with the inner plate, all substantially as and for the purpose set forth.

3. A face-protector comprising a hood adapted to cover the head, a window-frame
15 fastened thereto and containing two parallel

plates of a suitable transparent substance with an air-space intervening, and a pressure-frame having outwardly-extending struts to support said frame, said hood having an opening for the mouth and nose communicating
20 directly with the outer atmosphere, cushions above said opening and a flap fastened at or above said cushions and hanging down over said opening, substantially as and for the purpose set forth.

MORRIS TOLLE.

Witnesses:

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WM. A. KINNERK.