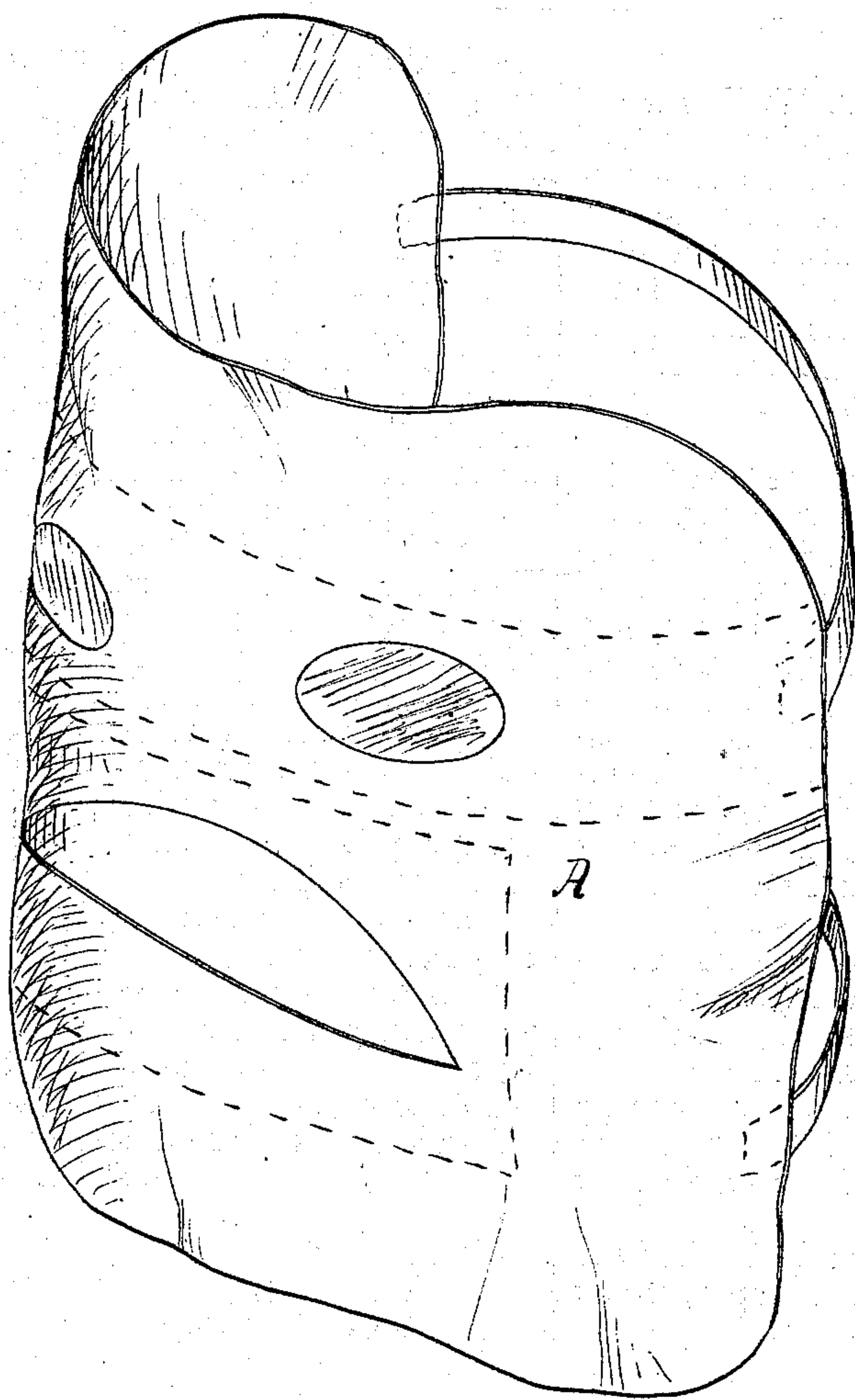


D. W. FLORA.

Improvement in Safety-Masks.

No. 127,331.

Patented May 28, 1872.



ATTEST:

Myron H Church  
H. F. Everts

INVENTOR

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# UNITED STATES PATENT OFFICE.

DAVID W. FLORA, OF NEWAYGO, MICHIGAN.

## IMPROVEMENT IN SAFETY-MASKS.

Specification forming part of Letters Patent No. 127,331, dated May 28, 1872; antedated May 25, 1872.

*To whom it may concern:*

Be it known that I, DAVID W. FLORA, of Newaygo, in the county of Newaygo and State of Michigan, have invented a new and useful Improvement in Safety-Masks; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which my invention is shown in perspective.

The nature of this invention relates to the construction of a mask for the protection, first, of the face and eyes from heat and the corroding effects of certain gases and vapors; and, secondly, and by far the most important, is the protection of the lungs from noxious vapors and gases, and also from the effluvia arising from infectious and contagious diseases, such as typhus and typhoid fevers, small-pox, &c.; and, further, in mechanically arresting the fine particles of coal in mining, and the fine particles of metal thrown off in the process of dry-grinding in the manufacture of edge-tools, grindstones, &c. The invention consists in manufacturing a mask, composed of successive layers of cotton, saturated by disinfectants, such as carbolic acid, bromo-chloralum, permanganate of potash, &c., aided by the addition of other films or layers of finely-powdered charcoal and glycerine, as more fully hereinafter described.

In the accompanying drawing, the body A of the mask is made of oiled silk, paper, or any other suitable material. The opening B for

respiration, corresponding to the mouth and nose of the wearer, is covered on the outside with fine gauze or bolting-cloth, and the whole mask is secured upon the face by suitable elastic bands, which pass over the head and allow the mask to be readily and quickly adjusted. The first film or layer immediately in rear of the gauze is formed of cotton saturated with carbolic acid and glycerine, one dram of the former to one ounce of the latter. The second film or layer is made of fine cotton, made double, like a flat sack, and filled with finely-powdered charcoal, that made from willow being preferable. The third layer is also formed of cotton saturated with a solution of bromo-chloralum, one dram to one ounce of water. The fourth and inner film or layer, composed also of cotton, is saturated with a solution of permanganate of potash, in the proportion of one dram to an ounce of water.

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

1. The combination of the above disinfectant substances, when applied as such to the respiratory organs.

2. A safety-mask composed of the body A, the gauze or its equivalent B, and successive layers or films of cotton, when the said layers are filled and saturated with the disinfectants, substantially as herein described.

DAVID W. FLORA.

Witnesses:

S. BROWN,

A. H. GIDDINGS.