

UNITED STATES PATENT OFFICE.

GUSTAV OTTO, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO THE CELLULOID MANUFACTURING COMPANY, OF NEW YORK, N. Y.

MANUFACTURE OF SURGICAL SPECULUMS FROM CELLULOID AND OTHER COMPOUNDS OF PYROXYLINE.

SPECIFICATION forming part of Letters Patent No. 236,615, dated January 11, 1881.

Application filed November 22, 1880. (No specimens.)

To all whom it may concern:

Be it known that I, GUSTAV OTTO, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in the Manufacture of Surgical Speculums from Celluloid or other Compound of Pyroxyline, of which the following is a specification.

The invention has relation to improvements in speculums; and it consists in providing a speculum which has all the advantages of the most approved kinds now in use and which is superior to any heretofore made in several important particulars. This class of instruments has heretofore been constructed chiefly of hard rubber, metal, or glass, either cylindrical, conical, bivalve, trivalve, or otherwise, those made of other materials having been superseded for a considerable period.

The speculum made of rubber is chiefly objectionable by reason of the fact that, being black, it absorbs the light, which materially interferes with the functions of the instrument, as it prejudicially affects the observation of the parts intended to be exposed. For this reason the glass speculum is now generally regarded as the most desirable, and is used to a greater extent than any other. It is not, however, free from objections, the principal one being that in order to obviate the danger of its edges being broken it is necessary to make the instrument heavy, which requires that it be constructed with a greater exterior diameter than is desirable, besides involving the necessity of immersing it in heated liquid to remove the natural chill. This latter inconvenience does not occur in all cases, but very often happens, and is not of inconsiderable consequence.

To obviate these and other inconveniences is the object of my invention, which is effected by forming the speculum of celluloid or other compound of pyroxyline. By this means I am enabled to produce an instrument which is light and strong, which can be made very thin, and which is almost free from the danger of

becoming unduly cold under ordinary conditions. There is scarcely a possibility of its being broken or bent out of shape, and the character of the material is such that the interior diameter of the instrument can be made nearly as great as its exterior diameter, whereby the greatest exposure of the parts sought to be examined is accomplished without undue expansion. The interior surface is of such a character that it does not absorb the light, but, on the contrary, tends to refract it, whereby an instrument of the most desirable character is provided.

The instrument will be manufactured in any convenient way, according to the known method practiced in the fabrication of articles made of the material out of which it is formed. It will, by preference, be composed of white or transparent celluloid or other compound of pyroxyline, and its exterior surface will be highly polished to facilitate its insertion and withdrawal.

The mode of manufacture and details of construction are matters of judgment which need not be specifically explained, as they will be fully understood by persons who have a knowledge of the art to which the invention relates.

I do not limit myself to any particular mode of manufacture; but

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

1. A speculum composed of celluloid or other compound of pyroxyline.

2. A speculum composed of celluloid or other compound of pyroxyline of a color which will not absorb light.

In testimony that I claim the foregoing improvement in manufactures of celluloid or other compound of pyroxyline, as above described, I have hereunto set my hand this 12th day of November, 1880.

GUSTAV OTTO.

Witnesses:

CHAS. C. GILL,
PARIS CHAHNERS.