

# UNITED STATES PATENT OFFICE.

JOHN W. HYATT, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE CELLULOID MANUFACTURING COMPANY, OF NEW YORK, N. Y.

METHOD OF AND MEANS FOR HOLDING CELLULOID AND DIVIDING IT INTO SHEETS.

SPECIFICATION forming part of Letters Patent No. 301,995, dated July 15, 1884.

Application filed June 10, 1884. (No specimens.)

*To all whom it may concern:*

Be it known that I, JOHN W. HYATT, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful improvements in methods of and means for holding a block of celluloid and analogous compounds of pyroxyline upon a base for the purpose of dividing it into sheets, of which the following is a specification.

The invention relates to an improved method of and means for holding a block of celluloid and analogous compounds of pyroxyline upon a base for the purpose of dividing it into sheets, according to the process described in Letters Patent No. 199,908, granted to The Celluloid Manufacturing Company, as assignee of myself, on the 5th day of February, 1878, for "improvement in processes and apparatus for manufacturing sheets of celluloid or other plastic material."

The material known as "celluloid," and other compounds of pyroxyline of an analogous nature, are unlike other plastic materials, chiefly because they contain volatile solvents. These volatile solvents are of such a character that they prevent the possibility of the material being held by the ordinary cements, such as are available for holding blocks of wood according to the method practiced in the formation of veneers, and otherwise. This is especially true where heat is employed, the effect of which is to render the solvents active.

It is plain that any cement or adhesive agent that will be affected by the solvents of pyroxyline—such, for instance, as those having a base of shellac—cannot with advantage be utilized in practicing the present invention, although it is possible that such cements or adhesive agents might be successfully employed for holding a block of wood.

I have discovered, and this discovery is made the subject of the present application, that by the use of a coating or cement which will not be affected by the solvents contained in the material it is practicable to successfully hold a block of celluloid or analogous compound the base of which is pyroxyline, upon a perfectly even surface of metal, so that it can be cut into sheets by means of a planing-machine. In practice, I take a metallic plate of convenient

size and shape, having a smooth surface, such as would result from planing, and brush or apply thereon a coating of silicate of soda, or any other cement which will not be affected by the solvents contained in the compound to be treated, after which the coating of silicate of soda or other cement is dried to a point which will cause it to become rigid when cold, and permit of its becoming adhesive under the degree of heat and pressure to which the block of material which is afterward placed or formed thereon is subjected.

The block of pyroxyline may be formed upon the metal plate carrying the coating of cement; or it may be previously formed and then placed on said coating, and there secured by the application of heat and pressure, the effect of which will be to cause the block to firmly adhere to the surface of the plate. After the block of material has been formed upon the metal plate, or secured thereto, it will be cooled, whereupon it may be successfully cut into sheets upon a planing-machine, such as that described in said Letters Patent No. 199,908.

I prefer to make use of the liquid silicate of soda or silicate of potassa, which are popularly known as "soluble glass;" but any other cement which will not be affected by the solvents contained in the material, and which will adhere to a metal service, may be used with good results.

It is not essential that the plate shall be of metal, although there are advantages in using a metal plate, which will be readily understood by those skilled in the art to which the invention relates. A plate or slab of wood, or any other material, may be successfully employed.

It is not to be understood that the desired result may be invariably accomplished by merely applying the proposed coating or film of cement and placing the block upon it and permitting it to remain until the coating has dried. It is essential that the coating or film of cement be first applied and permitted to harden, and the block then secured in place. When, however, the material known as "water-glass" is used as an ordinary cement, it will, in some instances, operate satisfactorily, although it cannot be relied upon unless it is applied in the manner hereinbefore stated. While, therefore, I do not limit my claim to the use of

water-glass in any particular way, I strongly  
recommend that it be employed in the man-  
ner I have stated—to wit, by first laying it on  
and drying it, and then applying the block, as  
5 described.

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

1. The method, hereinbefore described, of  
securing a block of pyroxyline material upon  
10 a base for the purpose of enabling its reduction  
to sheets, which consists in, first, applying upon  
a plate a coating of an adhesive agent which  
will not be softened by the solvents contained  
in the material; second, drying said coating;

and, third, forming the block or securing a 15  
previously-formed block upon the coating by  
heat and pressure, substantially as set forth.

2. The use of silicate of soda or silicate of  
potassa as a cement for holding a block of py-  
roxyline material upon a base, substantially 20  
as set forth.

Signed at New York, in the county of New  
York and State of New York, this 7th day of  
June, A D. 1884.

JOHN W. HYATT.

Witnesses:

CHAS. C. GILL,

HERMAN GUSTOW.