

CELLULOID MANUF'G CO. AND ANOTHER V.  
 PRATT AND OTHERS.  
 SAME V. COMSTOOK AND OTHERS.

*Circuit Court, D. Connecticut.* July 31, 1884.

PATENT—HYATT'S PATENT CELLULOID PIANO  
 KEYS.

It is an infringement of the first claim of the Hyatt patent (No. 210,780) if a substantial portion of the upper surface of the key-board of a piano or organ is covered with a single sheet of celluloid, but it is not an infringement to cover single keys with separate strips of celluloid.

In Equity.

*J. E. Hindon Hyde* and *Frederic H. Betts*, for  
 plaintiffs.

*George B. Ashley* and *Francis C. Nye*, for  
 defendants.

SHIPMAN, J. These are two bills in equity, each charging the respective defendants with the infringement of letters patent No. 210,780, dated December 10, 1878, to the Celluloid Manufacturing Company, assignee of John W. Hyatt, for an improvement in the manufacture of piano keys.

At the date of the patented invention, piano keys and organ keys were always covered with ivory. The "head" of the key is that portion which is in front of the sharps, or black keys, and the "tail" is that portion which extends backward between the sharps. The "from" of the key is the portion which is below the head. After the blank wooden key-board was made, and the spaces which the keys were to occupy had been properly designated, the next step was to cover the fronts with strips of ivory. Before 1860, white holly wood was used for the fronts. When ivory was used, the fronts were made by gluing strips large enough to cover the fronts of two keys, or the front of one key, and sometimes, as in Steinway & Sons' factory, the

entire front of the board was covered with a single strip. Each head was then separately glued on, and each separate tail was thereafter joined to each head, and the board was then sawed into the separate keys. The top of the right-hand key was frequently covered with one strip. The public taste required that the fronts should match each other, and that heads and tails should also be of the same grain and color, and that the entire top surface of the white keys should also be matched.

While the method of construction which has been described was the one in general use, the whole of each key—head, front, and tail—had been made of a single piece of ivory, under the Needham patent. The entire upper surface of each of two key-boards was once covered, in the factory of Steinway & Sons, of New York, with a single sheet of ivory, but this was an exceptional feat, performed with an exceptionally beautiful and evenly grained piece of ivory. All the heads of the keys upon a key-board have also been covered with a single strip of ivory. Seventy-five key-boards were made in this way by Pratt, 314 Read & Co., of Meriden. This experiment was not repeated by that firm.

The objections to covering a large space with a single strip are that the ivory is apt to “check,” or have small cracks, and that, being non-plastic, it does not uniformly adhere to the wood, and also that the grain is not uniform, and that, therefore, heads and tails do not match each other. The covering of a large surface with ivory was not unknown; it had been done in exceptional instances; but it was not practicable to make keys in this way; and the only practical and commercial method of manufacture was by gluing separate strips to the upper surface of separate keys.

After the invention of the article to which the trade name of celluloid was given, Mr. Hyatt endeavored to make celluloid keys in the same manner in which

ivory keys had been made, but was unsuccessful. He then succeeded in covering the entire upper surface of a keyboard with a sheet of celluloid, fastened to the wood with the usual celluloid cement. This method of construction was economical of time, and has reduced the price of the cheaper grade of keys. The invention did not consist in the substitution of celluloid for ivory, whereby a reduction in the price of keys was caused, but it consisted in the fact that, by the use of celluloid, there was practically furnished a new and useful mode of constructing key-boards, viz., by cementing to the board a single sheet of the veneer, instead of by gluing a large number of separate pieces of ivory, which must each be matched and separately fastened to the wood. This new method of construction was impracticable with ivory, or with any material which was known before celluloid was manufactured, and it required invention to find out and demonstrate that key-boards could be manufactured, so as to be a commercial article, by covering their upper surfaces with a single sheet of a material which would make an attractive and permanent coating for the wooden keys, because, from the fact that celluloid existed, it by no means followed that a key-board could be efficiently and successfully covered with it. The defendants do not deny the patentability of the invention, but place their case upon non-infringement, as they construe the patent.

The patentee describes his invention, in the descriptive part of his patent, as follows:

“It consists in covering a suitable key-board blank, on its exposed upper surface and edge, with a sheet or scroll of some plastic composition, which is cemented or otherwise caused to adhere to the surfaces whereon it is desired. After being thus coated, the blank is sawed or otherwise severed into sections, each one of which constitutes a covered key. \* \* \* In the accompanying drawings, A represents a key-board blank, composed of wood or any other suitable

material, of the size and contour required to form the number of keys of the dimensions required. Over the upper surface and outer edge of this blank, and cemented or otherwise secured thereto in a suitable manner, is provided a thin sheet or scroll, B, of plastic composition. So far as known, the material termed 'celluloid' is the best adapted to the purpose of 315 covering the blank, though it is plain that other materials of a plastic nature may answer. The covering of the blank with the sheet of composition or material completes the first essential step towards the production of the invention. The next operation is to sever the blank into sections of the desired size to form the keys, D."

The claims of the patent are the following:

"(1) As a new article of manufacture, a blank keyboard covered with a continuous, strip or roll of plastic composition, substantially as specified. (2) The within-described process of forming piano or analogous keys, which consists in covering a key-board blank with a strip of plastic material, and then cutting out each key from the coated blank, substantially as specified."

The specification and the first claim, if it is construed literally, describe a broader invention than Hyatt made. His invention did not consist in covering a key-board with any plastic composition, because he knew nothing of the adaptability for the purpose of any other material than the one which has the general name of celluloid; neither did he know how any other material could be cemented or fastened to the wood. His invention was confined to the materials upon which he successfully experimented, and his patent is to be limited to plastic composition of the nature and character of celluloid, and cemented to the wood with the cement with which celluloid is usually caused to adhere to another surface.

Each defendant is a manufacturer of piano and organ keys, and covers the upper surfaces and edges of

some of its key-boards each with a sheet of chrolithion, or celluloid, and also covers the fronts of the same key-boards each with another strip of the same material. They insist that this is not an infringement of the plaintiffs' patent, which they construe to be for a covering of the upper surface and the front of a key-board with one sheet of celluloid. The patent speaks of covering the "upper surface and outer edge" of the blank, but it is manifest from the drawings that the outer edge does not mean the front, but the edge of the top of the key-board. The defendants do not always cover the whole of the top with a single sheet of celluloid, but sometimes use two sheets. It is an infringement if a substantial portion of the upper surface of the key-board is covered with a single sheet, but it is not an infringement to cover single keys with separate strips of celluloid.

The second claim of the patent seems to have been inserted for the mere purpose of having more than one claim. As a statement of the invention, which consisted in covering the upper surface of a key-board with a single sheet of celluloid, it is useless, and, as a statement of the process of making key-boards, it is incorrect. It is far preferable to cement an unpolished than a polished sheet to the keyboard, as the inventor well knew, and therefore the next operation, after cementing the sheet, is to level and polish it. The defendants do not use the process which is described in this claim.

Let there be a decree for an injunction against the infringement of the first claim, and for an accounting.

This volume of American Law was transcribed for use  
on the Internet

through a contribution from [Maura L. Rees](#). 