

(No Model.)

M. VIEWEGER.
SKATING RINK.

No. 305,551.

Patented Sept. 23, 1884.

Fig. 1.

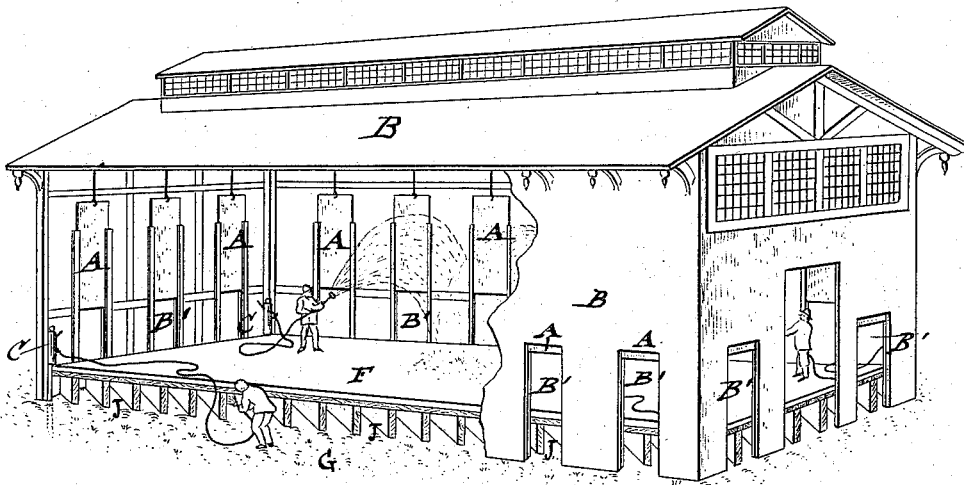


Fig. 2.

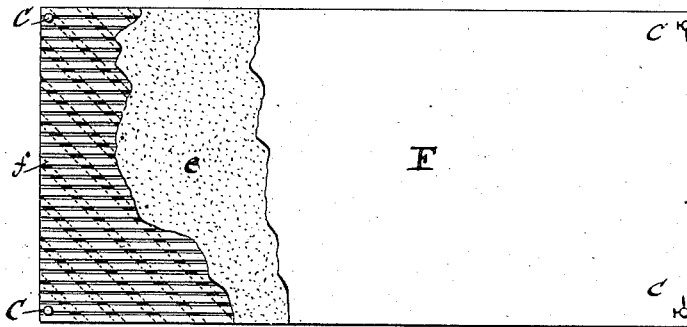
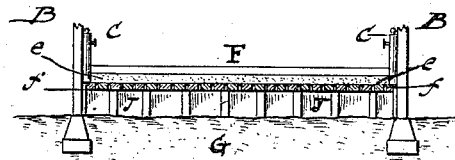


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

MAX VIEWEGER, OF ST. LOUIS, MISSOURI.

SKATING-RINK.

SPECIFICATION forming part of Letters Patent No. 305,551, dated September 23, 1884.

Application filed July 19, 1884. (No model.)

To all whom it may concern:

Be it known that I, MAX VIEWEGER, of St. Louis, in the county of St. Louis and State of Missouri, have invented certain new and useful Improvements in Skating-Rinks, of which the following is a specification.

This invention has reference to an improved skating-rink on which the skating-floor is composed of a sheet of ice which is frozen and retained, so as to furnish a good skating-surface; and the invention consists of a skating-rink consisting of a floor supported on parallel joists and boards, between which small interstices are formed. Upon the floor a layer of clay of uniform thickness is placed, on which water is frozen by spraying it thereon. When the upper floor is well sprayed, the lower floor is covered with water. This is continued until a sufficient thickness of ice is obtained. The skating-floor is inclosed by a building provided with sliding draft-doors that extend down to the lower floor, so as to give their access to both floors.

In the accompanying drawings, Figure 1 represents a perspective view with parts broken off of my improved skating-rink. Fig. 2 is a plan of the skating-floor with parts broken away, and Fig. 3 a vertical transverse section of the same.

Similar letters of reference indicate corresponding parts.

My improved skating-rink consists of a skating-floor, F, proper, which is supported on parallel joists J, and inclosed by a building, B, of suitable height provided with vertically-sliding draft-doors A, and a skylight in the roof of the building for admitting air and light. The joists are laid upon the ground G, which is properly leveled, and which forms the lower floor of my skating-rink. The direction of the joists should be from northwest to southwest, so as to facilitate the passage of the cold winds prevailing in the winter season. Upon the joists is laid a flooring, f, the boards of which are at such distance from each other that small interstices of about a quarter of an inch are formed between them. On this floor a layer, c, of clay about two or three inches thick is placed and well leveled. In cold weather, when the thermometer is below the freezing-

point, water is sprinkled on the upper floor by means of spray-nozzles, which are connected by hose of suitable length to the hydrants C, arranged in the corners and at other suitable points of the building. As soon as the upper floor is well sprayed a hose with a common nozzle is put in successively between the joists, so as to cover the natural floor G with water. By thus sprinkling both the upper and lower floors they will in due time be covered with a thin layer of ice. This process is repeated until the ice reaches the necessary thickness for skating purposes. During the sprinkling operation the openings B' of the building B, which openings reach down to the natural floor G, are opened to their full extent by raising the draft-doors A, as shown in Fig. 1, so that the air passes over both the upper and lower floors. In warm weather the openings B' are closed by lowering the draft-doors A, while in cold weather they are opened. The ice produced on this skating-floor will not melt so easily, as the warm air is excluded from the building, and as the lower floor, which is also covered with ice, will keep the air between the floors in a cold condition, so as to prevent the melting of the ice on the upper floor even in case the weather should turn warm. Another reason why the ice produced in the manner above described will not melt is the fact that this ice is formed on solid clay and not on water, and that the clay is kept extremely cold by the ice on the lower floor. The ice on ponds or rivers will naturally melt quicker because the water underneath the ice-sheet is much warmer than the ice above. Besides, the ice so built up is much harder and more solid than natural out-door ice, as it will not contain any air-bubbles which are inclosed by the ice in ponds or rivers.

By means of the hydrants and sprinklers the entire floor may be quickly covered with an ice-sheet in a few minutes, which is an important point, because the less water is put down at one time the sooner it will freeze, and the oftener it is put on the thicker will be the ice. Experiments have shown that in one night, with the thermometer at 28° Fahrenheit, one full inch of ice can be obtained. If cold weather continues for a few days, the pro-

cess is repeated until a sheet of ice of considerable thickness is obtained, while at the same temperature common ponds would have only a thin sheet of ice, not sufficient to admit skating. When warm weather sets in the ice-floor is protected by excluding the warm air and the ice-sheet of the lower floor relied upon for cooling the air and floor above, so as to keep the ice of the upper floor in good condition for skating for a number of days.

Skating-rinks of this construction can be erected with advantage in all places in which the temperature frequently falls below the freezing-point and then rises above the same. It will give an increased stimulus to the skating sport, especially in the middle States of this country, in which, owing to the frequent changes of temperature, a good sheet of ice outdoors cannot be depended upon for any length of time, while a sheet of ice formed in the manner above set forth can be maintained in good order even in a mild winter from sixty to ninety days in succession.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, of an upper skating-floor and a lower natural floor, both covered with ice, with an inclosing building having sliding draft-doors extending down to the lower floor, substantially as set forth.

2. The combination, of a skating-floor formed of parallel supporting-joists, a floor-

ing of boards laid with narrow interstices between them, a layer of clay on said floor, and a layer of ice on said clay, with a lower floor covered with ice, and with a building inclosing said floors, and provided with sliding draft-doors, substantially as described.

3. In a skating-rink, a skating-floor composed of a lower natural floor covered with ice, parallel joists, a flooring of boards separated by interstices, a layer of clay on said floor, and a layer of ice on said layer of clay, substantially as set forth.

4. In a skating-rink, a skating-floor composed of flooring of boards, a layer of clay, and a layer of ice on said clay, substantially as described.

5. The combination of a skating-floor formed of a lower natural floor, parallel joists, and an upper floor, with an inclosing building having draft-openings, and sliding doors reaching down to the lower floor, and hydrants at the different parts of the building, and provided with hose and suitable nozzles for covering the upper and lower floors with a sheet of ice, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

MAX VIEWEGER.

Witnesses:

F. R. HOLEMAN;

ROBT. POSS.