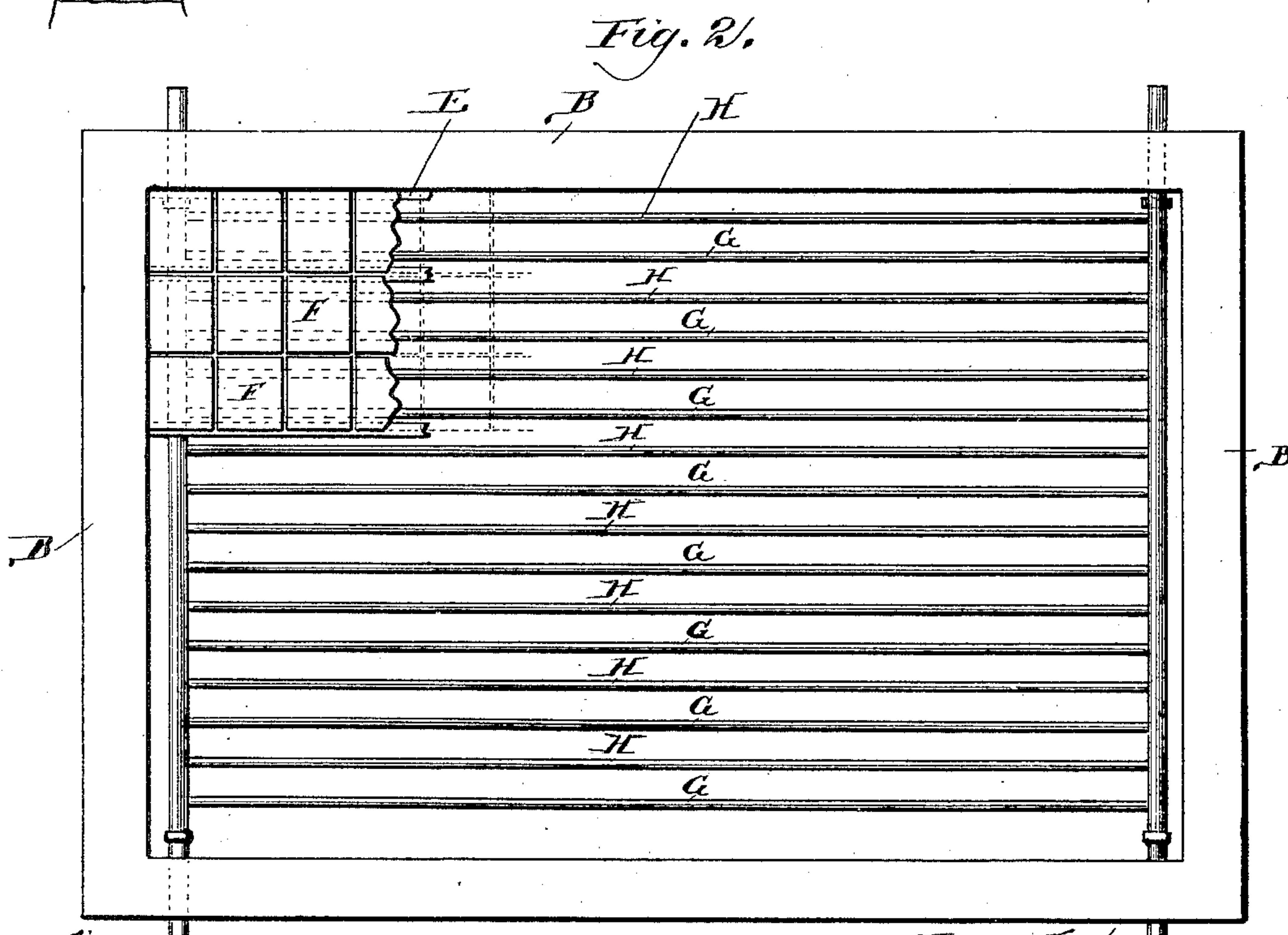
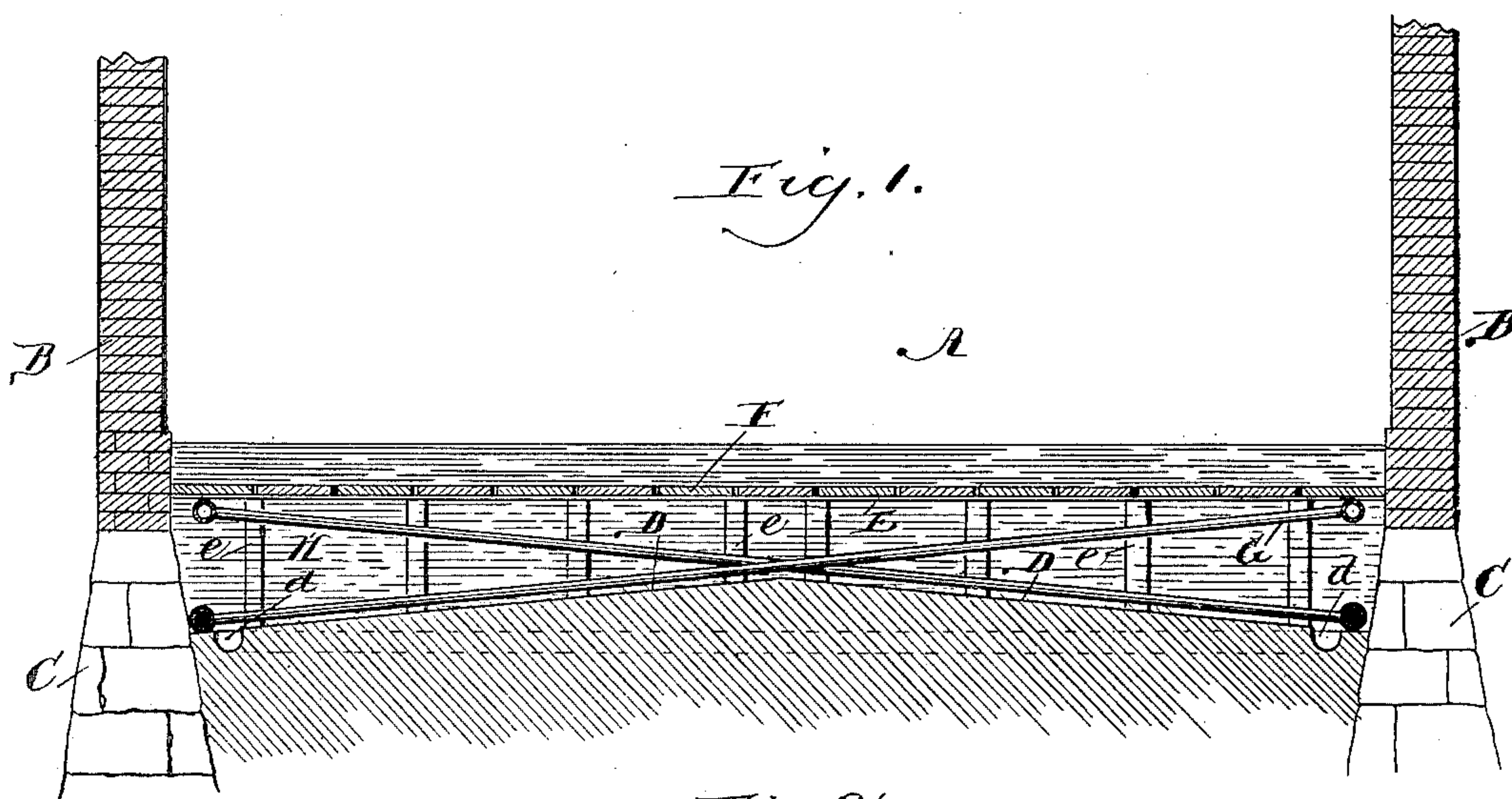


(No Model.)

I. H. & W. M. JEWELL.  
ARTIFICIAL ICE SKATING RINK.

No. 462,316.

Patented Nov. 3, 1891.



Witnesses  
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# UNITED STATES PATENT OFFICE.

IRA H. JEWELL AND WILLIAM M. JEWELL, OF CHICAGO, ILLINOIS.

## ARTIFICIAL-ICE SKATING-RINK.

SPECIFICATION forming part of Letters Patent No. 462,316, dated November 3, 1891.

Application filed March 23, 1891. Serial No. 386,104. (No model.)

*To all whom it may concern:*

Be it known that we, IRA H. JEWELL and WILLIAM M. JEWELL, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Artificial-Ice Skating-Rinks, of which the following is a specification, reference being had to the accompanying drawings, in which—

10 Figure 1 is a side elevation of the skating-rink, one side being removed. Fig. 2 is a top or plan view of the interior of the skating-rink.

Our invention relates to skating-rinks, and more particularly to skating-rinks adapted for ice-skating.

It is a well-known fact that in roller-skating rinks, which are always inclosed halls, the skaters are very apt to become overheated and consequently are very likely to take cold upon leaving the rink. The fact that it is necessary in such rinks to chalk the floor of the rink in order to prevent the slipping of the skates is also an objectionable feature of rinks of this kind, as the chalk is disseminated throughout the air of the room in small particles and consequently is inhaled by the skaters with evil results. It is also an established fact that accidents are much more likely to occur in roller-skating rinks than on ice-skating ponds, which are also free from the noise incident to roller-skating rinks. These objectionable features are absent in ice-skating, as the skaters generally exercise in a cool atmosphere in which there is always an abundant supply of fresh air.

The principal object of our invention is to avoid the objections common to roller-skating rinks by providing an ice-skating rink which may be used at all seasons of the year.

Another object of our invention is to provide an improved apparatus for freezing artificial-ice skating-rinks, and for keeping them in good condition for skating purposes.

45 To accomplish these objects our invention involves the features of construction and the combination or arrangement of devices hereinafter described and claimed.

50 In the drawings, A represents the interior of our improved skating-rink, of which B are the walls.

The rink A may be provided with any suit-

able roof, which is not shown in the drawings. The walls B rest upon foundations C, which may be of any suitable construction. 55

The rink A is provided with a floor or bottom D. The floor D and foundations C are designed to form a tank adapted to contain the water or other liquid which it is intended to freeze to form the skating-surface. The floor D is constructed in the manner shown, being highest at the center and sloping gradually to opposite sides of the rink, and is cemented so as to render it water-proof. It is provided at its lower edges near the wall or foundation with drains *d*, as best shown in Fig. 1, by means of which the water or other liquid in the tank may be drawn off when desired. 60 65

E represents a frame-work of iron, which is mounted at a short distance above the bottom D upon supports *e*, as shown in Fig. 1. The frame-work E extends horizontally across the rink, as best shown in Fig. 1, and is adapted to support tiles F, which are loosely placed thereon, as indicated in Fig. 2. The tiles F may be of some ornamental design to add to the appearance of the rink. 70 75

G indicates pipes adapted to conduct ammonia through the tank, which pipes are placed in the tank in an inclined position, and extend from a point immediately below the frame-work E at one side of the tank to the floor of the opposite side of the tank, as best shown in Fig. 1, the incline of the pipes preferably being equal to that of the floor D. The pipes G may be of any suitable number, the number being determined by the size of the tank and the rapidity with which it is desired to freeze the water. The pipes may be connected with each other at each end by a T-joint, as shown. Ammonia is supplied from a suitable engine, and is introduced into the pipes G at their upper ends, and is circulated through the pipes and operates in the usual manner to freeze the water in the tank. A suitable valve (not shown) is provided, by means of which the supply of ammonia may be cut off, when desired. 80 85 90 95

H indicates steam-pipes, which are arranged in the tank in a manner in all respects similar to the ammonia-pipes G, except that they are inclined in the opposite direction, the steam-inlet pipe being immediately below the frame- 100



work E at the side of the tank opposite to that at which the ammonia-inlet pipe is placed. The steam-pipes H may also be of any suitable number, and are connected at their upper ends with a steam-supply pipe, by means of which steam may be circulated from any suitable source of supply through the pipes H. The steam-supply pipe is also provided with a valve, (not shown,) by means of which the supply of steam may be cut off or turned on when desired. The incline of the pipes G and H causes the ammonia and steam to flow more easily through the pipes and renders it much easier to empty the pipes when desired.

It is designed to fill the tank with water or other liquid to a point a few inches above the surface of the tiles F, as indicated in Fig. 1. When it is desired to freeze the pond the steam-supply pipe is closed and the ammonia-supply is turned on and the ammonia is forced through the pipes G, whereby the liquid in the tank is solidly frozen in the usual manner. The rink may then be used for skating purposes until for any reason the surface of the pond becomes rough or unfit for such use, when the ammonia-supply is cut off and the steam-supply is turned on. By this means the ice is quickly melted. As soon as the ice is melted the ammonia-supply is again turned on, the steam being first cut off, and the pond is again frozen, as before.

By the use of our invention we are thus enabled to provide a skating-pond which can

be made at all times suitable for skating purposes, as the time required for melting and freezing the pond is comparatively short.

We are aware that it is common to use ammonia-pipes for freezing bodies of water, and we therefore do not claim such construction broadly.

That which we claim as new, and desire to secure by Letters Patent, is—

1. In a skating-rink, the combination, with a tank, of ammonia-pipes adapted to conduct ammonia through the contents of the tank, and steam-pipes entirely disconnected from and having no communication with the ammonia-pipes and adapted to conduct steam through said tank, substantially as and for the purpose specified.

2. A skating-rink consisting of a building having a foundation and a flooring constituting a water-tank, ammonia-conducting pipes extending in an inclined plane through the water in the tank for freezing the same to provide a skating-surface, steam-conducting pipes extending in a reverse inclined plane directly through the water in the tank to melt the ice when formed for the subsequent refreezing of the water to provide a smooth fresh skating-surface, substantially as described.

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