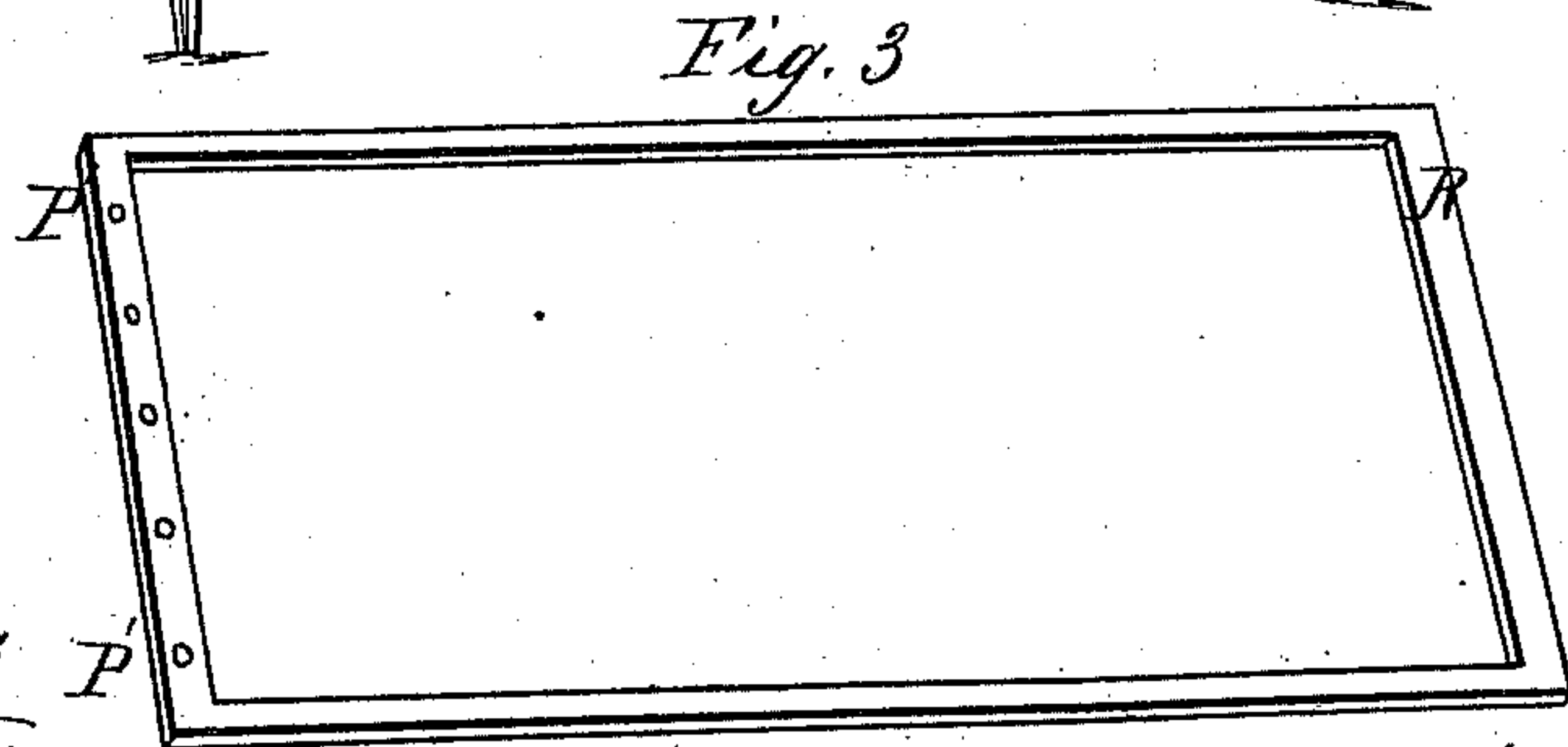
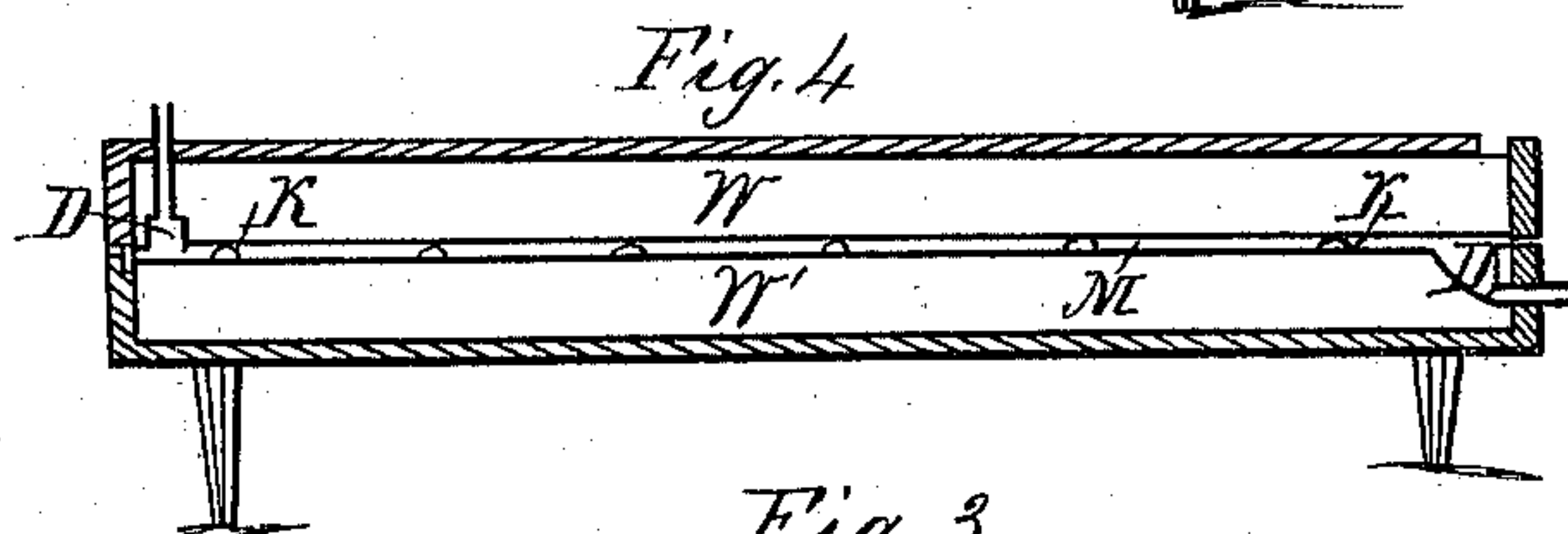
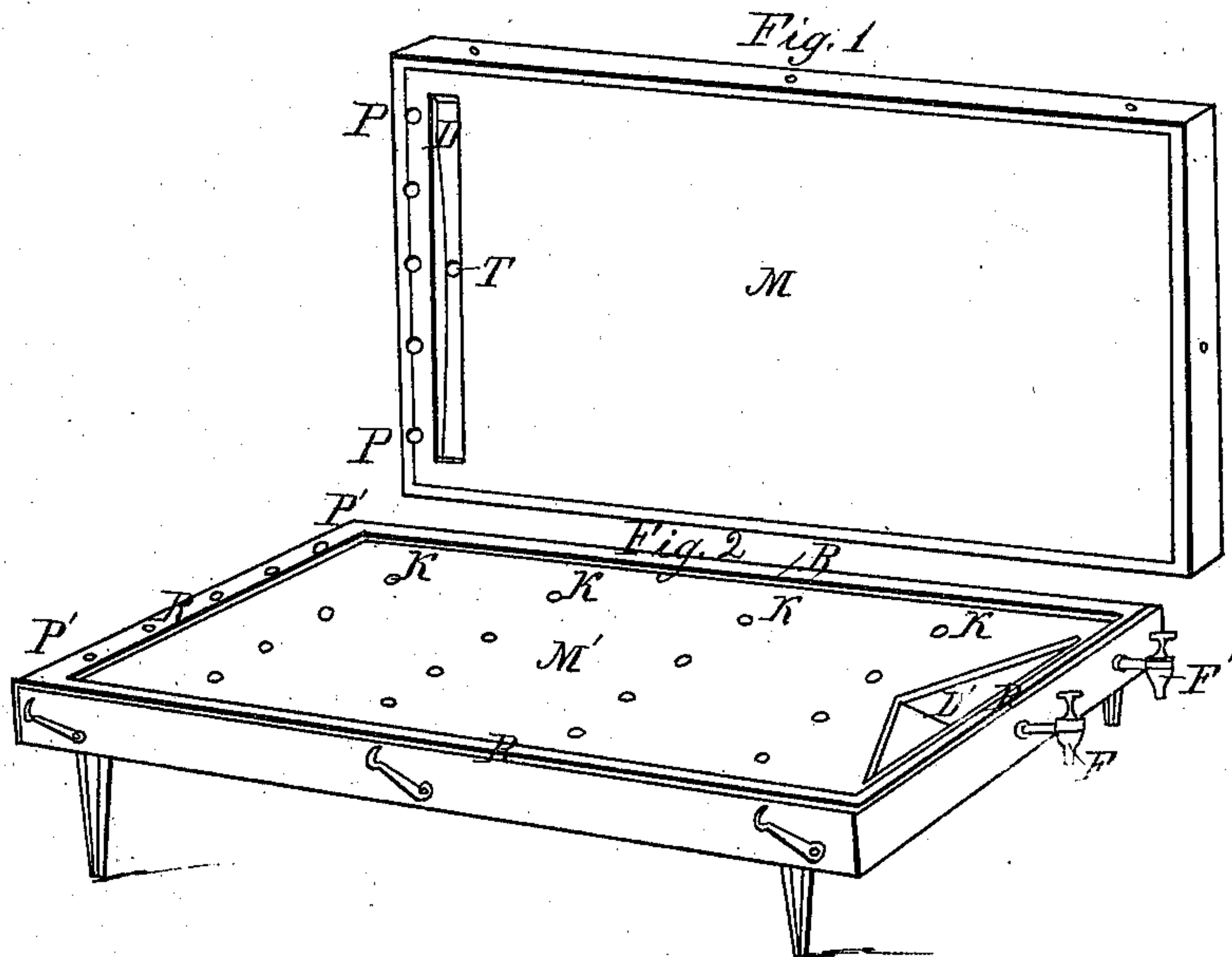
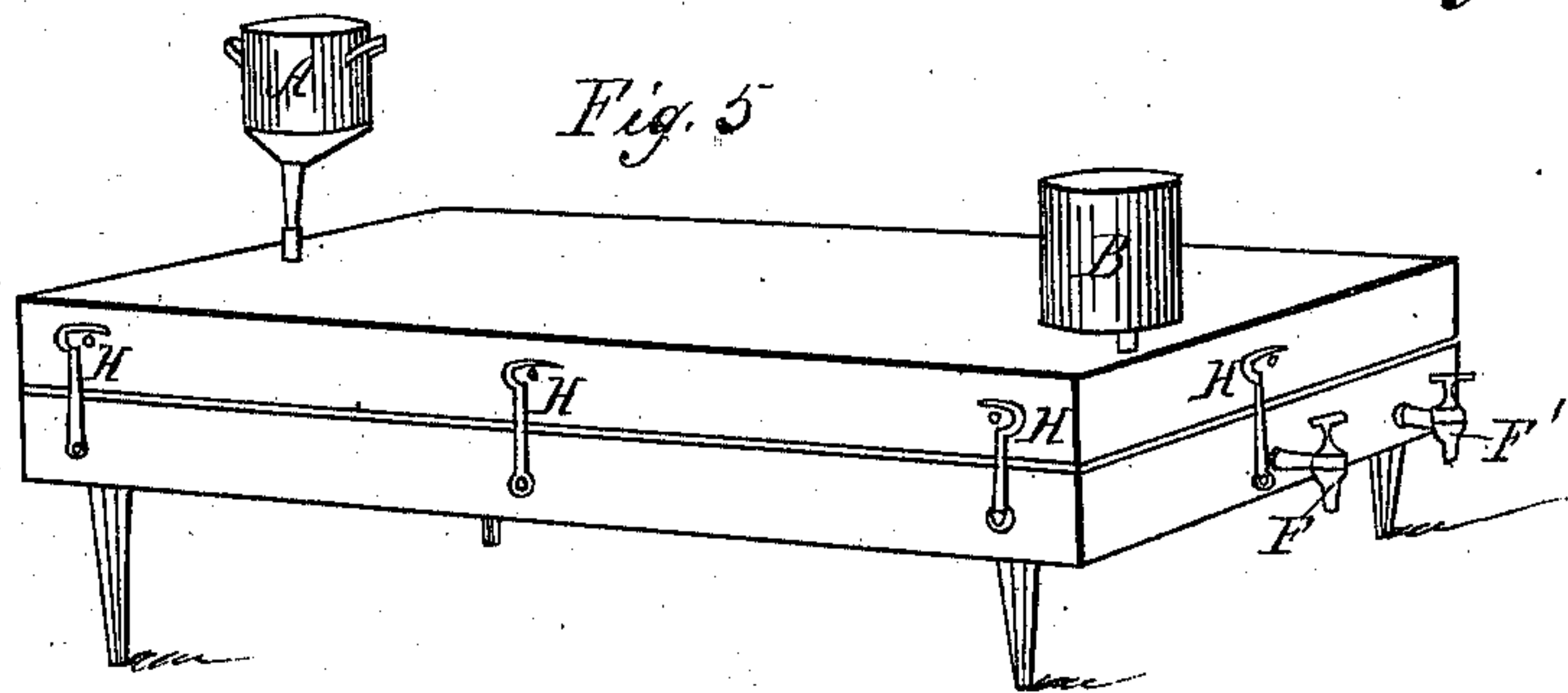


A. Thompson,

Milk Cooler.

No. 22,900.

Patented May 11, 1869.



Witnesses
J. B. Foster
H. J. Quinn.

Inventor
A. Thompson.

United States Patent Office.

ASAPH THOMPSON, OF HUDSON, OHIO.

Letters Patent No. 89,900, dated May 11, 1869.

IMPROVEMENT IN MILK-COOLER.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ASAPH THOMPSON, of the town of Hudson, in the county of Summit, and State of Ohio, have invented a new and useful Milk-Cooler, for cooling milk and other liquids, called "A. Thompson's Buckeye Milk-Cooler for Dairies;" and I hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the annexed drawings, and the letters of reference marked thereon, making a part of this specification, in which—

Figure I represents the upper portion of said cooler detached, the front of the figure being the inner or lower side thereof.

In said figure—

M is the metallic base of said part, and is a little smaller in each of its dimensions than the said part or upper box, of which it is the base.

Said upper part is a box, hollow throughout, and water-tight.

P P is a row of perforations, from below upwards to the cavity within the box.

T is the lower orifice of a tube, which is water-tight, and extends entirely through the upper box.

D is a depression in the box and its metallic base, for receiving and holding the milk as it is poured into the tube T, and is diffusing itself over M, and, with the corresponding depression at the other end of the lower box, will hold about three quarts each.

This box is, in the figure, represented as standing upon its side.

Figure II represents the lower portion or box.

M', its metallic surface, similar to M.

R is the India-rubber packing, extending entirely around the outer edge of the box, and is of such dimensions as to make a sufficiently water-tight packing.

P' P' is a row of perforations, made from the upper face of this box downward, through the packing and upper surface of this box to the cavity within, and corresponds exactly, in size, form, and position, with the perforations P P, and when the boxes are put in position for use, constitutes, with P P, water-tight tubes, through which the water passes from the cavity in the upper box down into the corresponding cavity in the lower box.

K K K K are rows of knobs upon M', of a height equal to the thickness of the packing.

The object of these is to keep these metallic surfaces apart, but close together.

D' is the depression in M', to receive and hold the cooled milk for discharge through the faucet F.

Figure III represents the rubber packing R, detached, the thickness of which should be about one-eighth of an inch, which is, of course, the same as the thickness of the stratum of milk to be cooled.

P' P' are the perforations through the same, and are same as P' P' in Fig. II.

Figure IV represents a section of the "milk-cooler," made lengthwise, and perpendicular to its base, in which W is the water-cavity in the upper box, and W' the same in the lower.

D and D', the depressions in the metallic surfaces.

M, the milk-cavity, between said surfaces.

K K, the knobs, which keep the surfaces apart and this cavity open.

Figure V represents the cooler in position for use,

slightly inclined, the end having the faucets being a little the lower.

A is the tunnel, into which the milk is poured.

This has a tube at the bottom, which enters a perforation made through the upper surface of the upper box to the cavity within.

F' is the water-faucet, for discharge of the water.

F is the milk-faucet, for discharge of the milk.

The two boxes are fastened together by the hooks H H, &c., or by clamps with thumb-screws, or their equivalents.

The operation of this "milk-cooler" is as follows:

The cooling-liquid is put into the reservoir B, which is at the lower end of the cooler, and passes thence into the cavity of the upper box, fills it, flows through the perforations P P and P' P', shown in Figs. I and II, into the cavity of the lower box, and the faucet F' being closed, accumulates in the lower end of the lower cavity and upper cavity and perforations, until all are entirely full.

Then the faucet F' is turned slightly, and the water begins to flow, care being taken to have the outflow of water through F' so slow as to keep all said cavities at all times full.

Thus the two metallic surfaces are kept at all times in full contact with the flowing water, and of course as cold as that water.

After the cooler is cooled thus, the milk is poured into the funnel A.

The milk-faucet F is kept closed until the milk-cavity is filled, then this faucet is turned, the same care being taken as to the flow of milk as above stated as to flow of water.

The water and milk are kept flowing at the same time, and thus a thin stratum of milk is exposed to the full action of the two metallic surfaces, one on each side of it, and is thereby quickly and thoroughly cooled, the water in the cavities of the boxes being kept from becoming warm by constantly flowing.

When the cooler is not in use, it can easily be taken apart by loosening the hooks or clasps, removing the upper box, and the milk-cavity easily cleaned and dried, and the whole put together again for use.

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

1. The two hollow boxes, with their metallic surfaces M M', the knobs K K, &c., depressions D D', and perforations, or their equivalents, substantially as shown and set forth.

2. The combination and arrangement of said boxes with faucets, reservoirs, and packing, for the purpose and substantially as herein set forth.

3. The mode of cooling milk and other liquids, by causing a thin stratum thereof to so flow between two metallic surfaces as to keep the cavity therefor at all times full of the liquid to be cooled, while the metallic surfaces are themselves kept cool by a stratum of cooling-liquid, so flowing forward over the upper sides of the one, and (the same stratum) backward in full contact with the under side of the other, as to keep all the cavities at all times both full and flowing, substantially as set forth.

ASAPH THOMPSON.

Witnesses:

H. B. FOSTER,

H. L. DEACON.