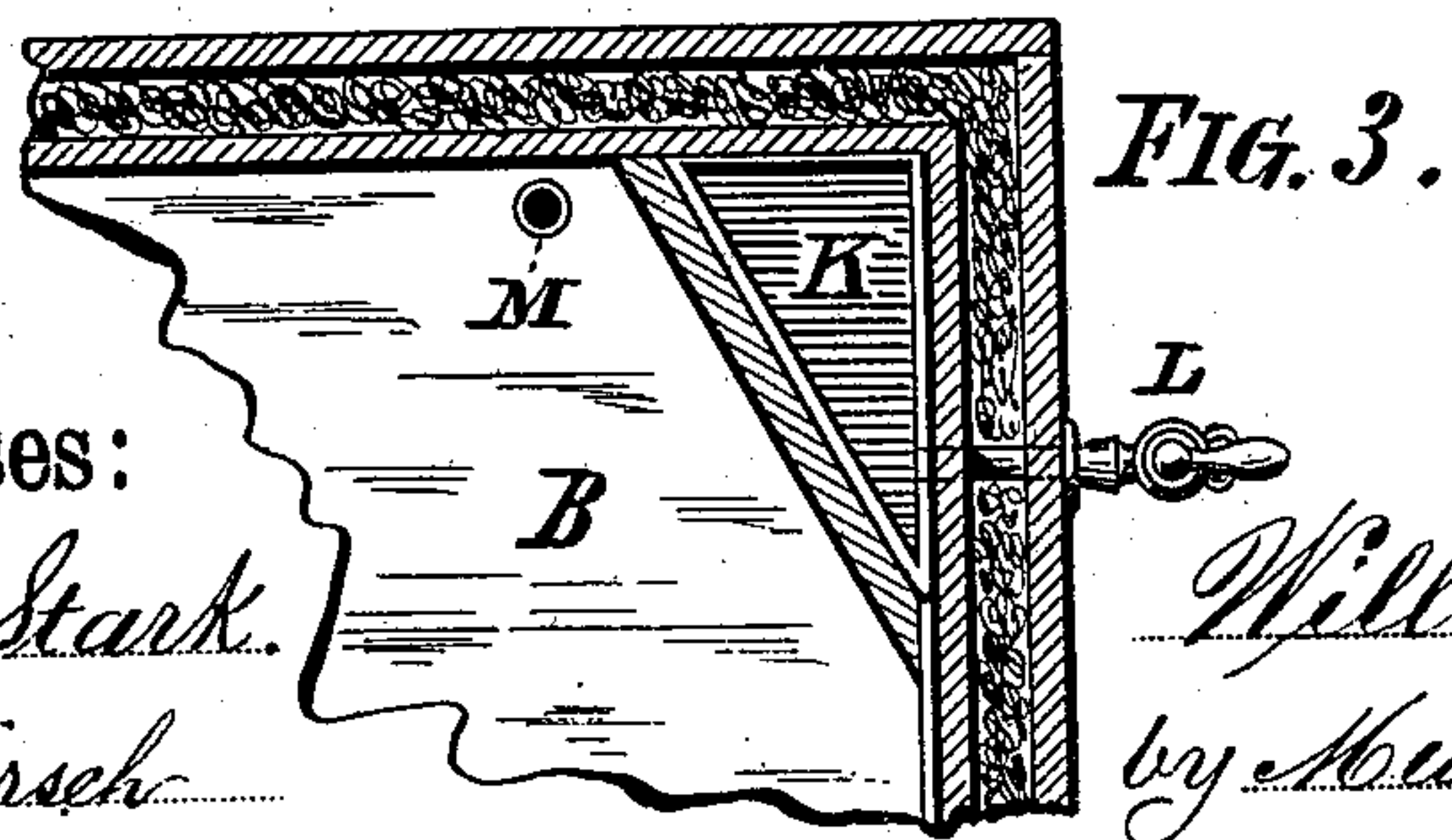
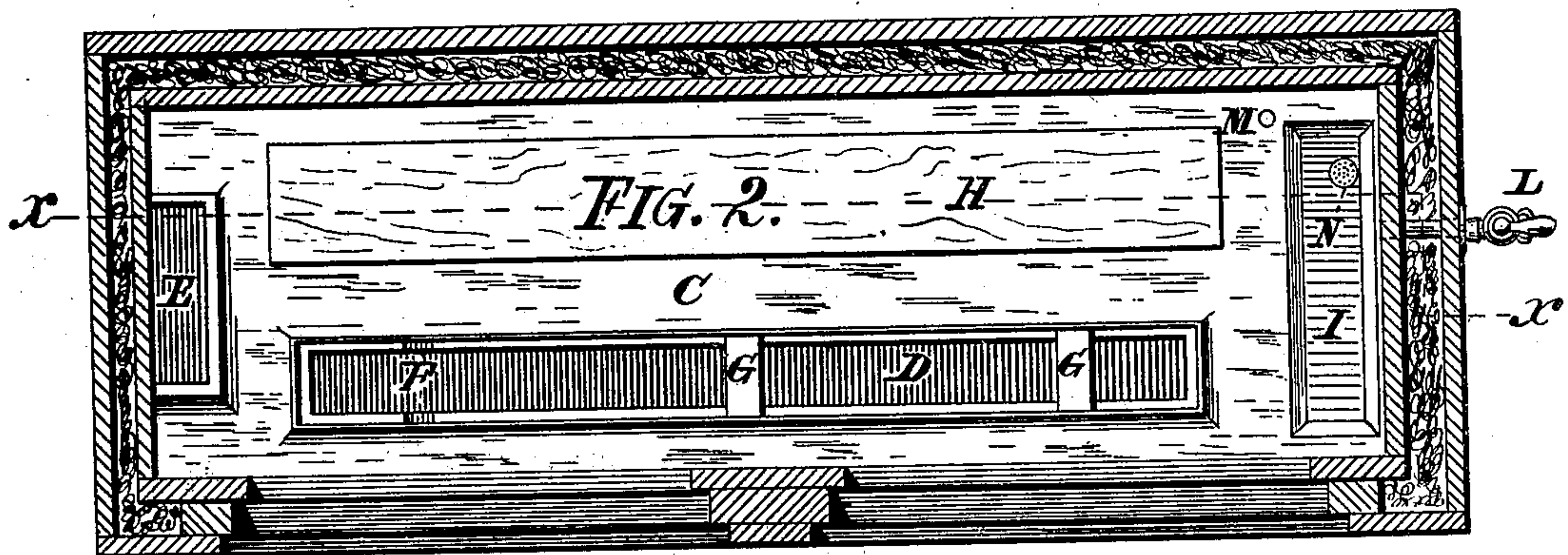
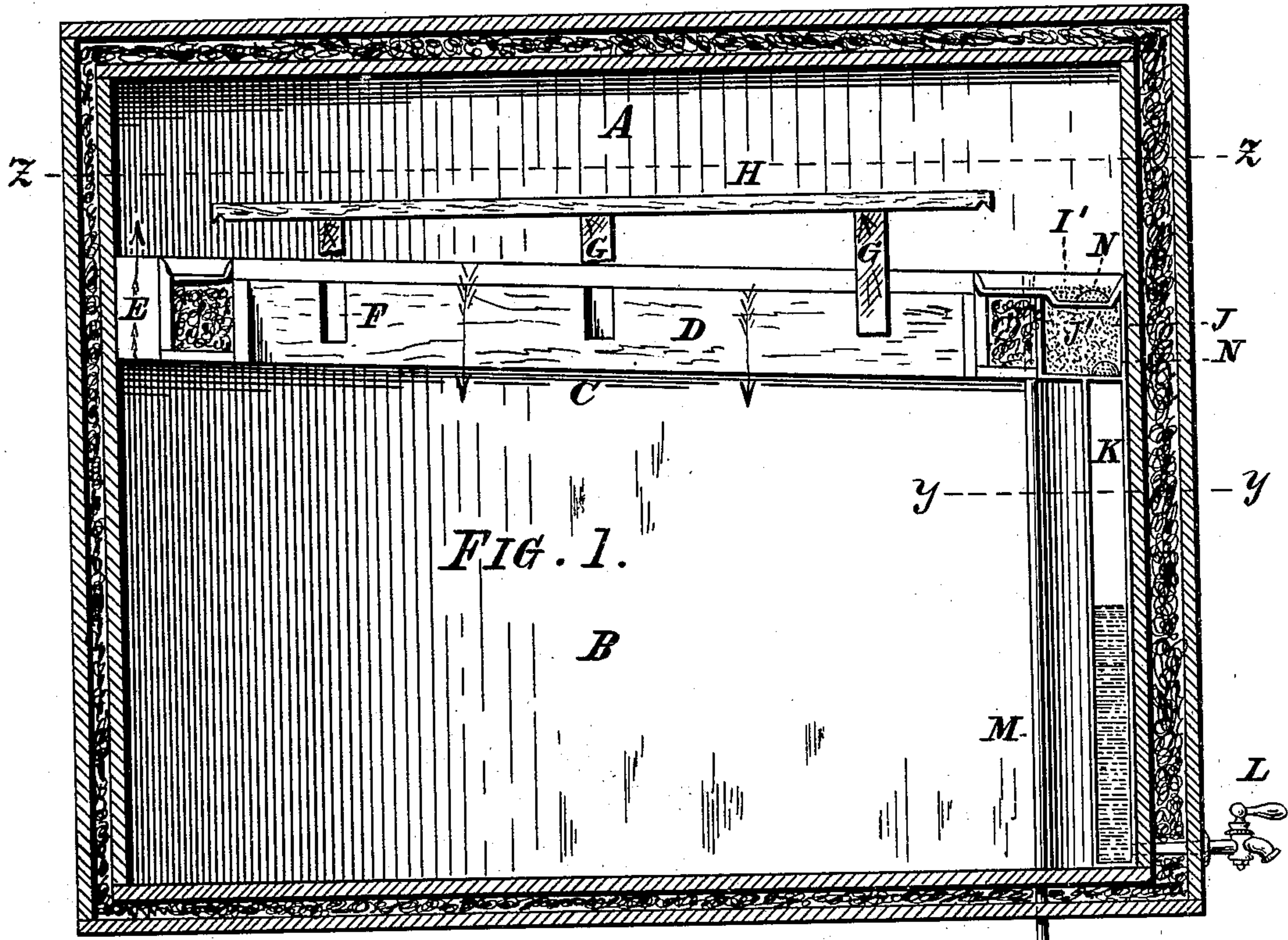


(No Model.)

W. GRETH.
Refrigerator.

No. 230,771.

Patented Aug. 3, 1880.



Witnesses:

Michael J. Stark.
Frank Hirsch

Inventor:

William Greth,
by Michael J. Stark,
Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM GRETH, OF BUFFALO, NEW YORK.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 230,771, dated August 3, 1880.

Application filed May 6, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GRETH, of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements on a Refrigerator; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying sheet of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has general reference to refrigerators; and it consists in the peculiar combination of parts and details of construction, as hereinafter first fully set forth and described, and then pointed out in the claims.

In the drawings already mentioned, Figure 1 is a longitudinal sectional elevation in line *xx* of Fig. 2. Fig. 2 is a sectional plan in line *zz* of Fig. 1. Fig. 3 is a sectional plan of a fragment of the refrigerator in line *yy* of Fig. 1.

Like parts are designated by corresponding letters of reference in all the figures.

This refrigerator, which is an improvement upon my refrigerator patented to me on the 9th day of September, 1879, consists, essentially, of a rectangular structure of wood, divided in its interior into two compartments—viz., A the ice, and B the preserving chambers—by means of a horizontal partition, C. This latter partition has two longitudinal passages or ducts, D, for the descending cold air, and a duct, E, in the highest part of said partition for the passage of the ascending warm air. In the walls of the ducts D there are recesses F for the reception of cross-pieces G, upon which are loosely placed the ice-racks H. The upper surface of the partition C is provided with a metallic covering of zinc or similar metal not affected by moisture, said covering being raised around the ducts D and E to prevent the water dripping from the ice-rack from entering the said ducts. On one side of this partition there is formed a depression, I, serving as a gutter to collect said water, and in said partition, below said gutter, there is formed a receptacle, J, containing a stratum of filtering material, J', such as gravel, charcoal, fine sand, &c. Below this recepta-

cle, and in one corner of the preserving-chamber, is formed a reservoir, K, having on its lower end a faucet, L. From the top surface of the partition C leads a waste-pipe, M, to conduct sediments and other impurities out of the refrigerator, as hereinafter more fully set forth.

One of the objects of the construction of a refrigerator as described is to utilize the water resulting from the melting of the ice and to render the same fit for drinking and other purposes. This object is accomplished in the following manner: The floor of the ice-chamber being inclined, the water dripping from the ice-racks H runs down upon said floor and collects in the gutter I. This gutter I prefer to fill with fine sand I', so that all the coarser impurities and slimy matter are at once arrested by said sand, and, if a sufficient quantity has collected in said gutter, are carried off by the waste-pipe M. The water passing through this stratum enters the receptacle J, which is also filled with a filtering stratum, and, passing through this stratum, escapes into the water-reservoir K below said receptacle J.

By thus constructing the filtering part of my refrigerator the coarser impurities of the water are collected and retained in the sand within the gutter I, which sand when foul is readily removed and renewed, while the partly-filtered water, in passing through the filtering stratum J', is entirely freed from any impurities that may have entered the same, and escapes into the reservoir in a perfectly pure and wholesome condition.

It will now be observed that the space between the floor of the ice-chamber and the ceiling of the preserving-chamber is partly utilized for the filter, so that the latter occupies, as it were, no space whatever that is otherwise available for refrigerating purposes.

The water-reservoir extends from the ceiling to the floor of the preserving-chamber, and is formed by a diagonal wall connecting the rear and one of the side walls of said chamber, thereby taking a triangular shape.

By thus constructing the water-reservoir in one of the corners of said preserving-chamber, the former occupies the smallest possible

space, and does not in any manner encroach upon the available space of the said preserving-chamber.

5 In many cases I may dispense with the receptacle J containing a filtering stratum, as described, and use the filtering stratum in the gutter I alone, which stratum, owing to the fact that it is so readily accessible and renewed, will, if frequently changed, produce sufficiently
10 clean water to render it fit for drinking purposes.

To prevent the filtering strata from being washed into the water-reservoir, the bottom of the gutter I as well as the receptacle J are
15 fitted with strainers N, which have apertures too small for the passage of the particles of said filtering strata.

As hereinbefore described, the ice-racks H are placed upon cross-pieces G, fitted into recesses F in the walls of the ducts D, said pieces G projecting upward above the floor of the ice-chamber sufficiently to allow the cold air to pass under said racks into the ducts D, and thence into the preserving-chamber B.
25 These cross-pieces are loosely inserted into said recesses, and may therefore be readily removed for cleaning purposes or for closing communication between the ice and preserving chambers through the ducts D. In this
30 latter case, the cross-pieces being removed, the racks H are placed over the said ducts,

and thereby close the same sufficiently to prevent a perceptible current of cold air from passing into said preserving-chamber, although not entirely intercepting the passage of cold
35 air to said chamber. This construction is very desirable for regulating the circulation of air according to the external temperature of the atmosphere in different seasons of the year, and when properly attended to will greatly
40 diminish the consumption of ice.

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

1. The combination, with the partition C, 45 having in its lowest part a depression, I, filled with a filtering stratum, I', of the reservoir K, made of triangular form, as and for the object specified.

2. The combination, with the partition C, 50 having the depression I filled with a filtering stratum, I', of the receptacle J, with the filtering stratum J' and the water-reservoir K, as and for the object stated.

In testimony that I claim the foregoing as
55 my invention I have hereto set my hand in the presence of two subscribing witnesses.

WILLIAM GRETH.

Attest:

MICHAEL J. STARK,
FRANK HIRSCH.