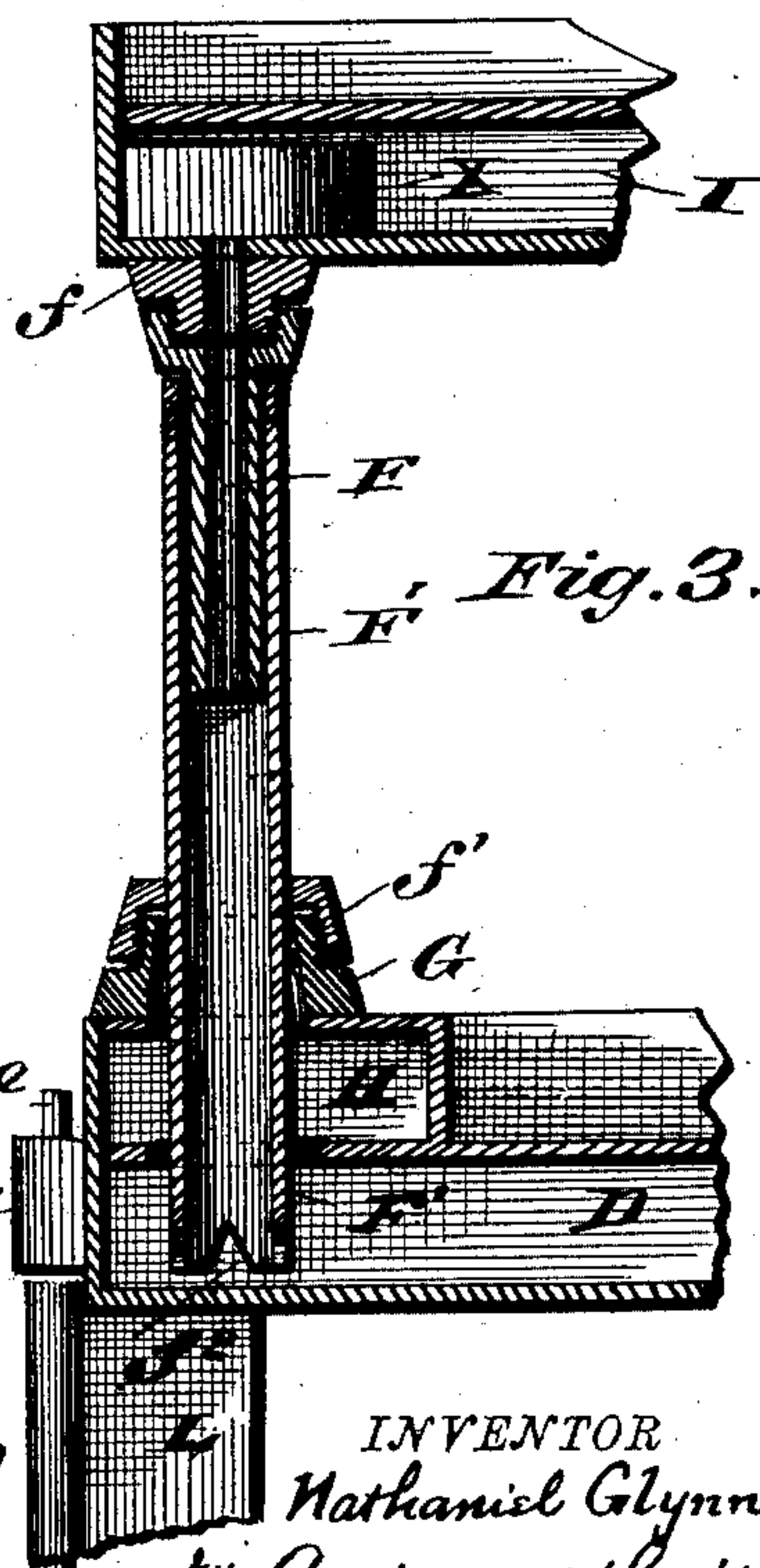
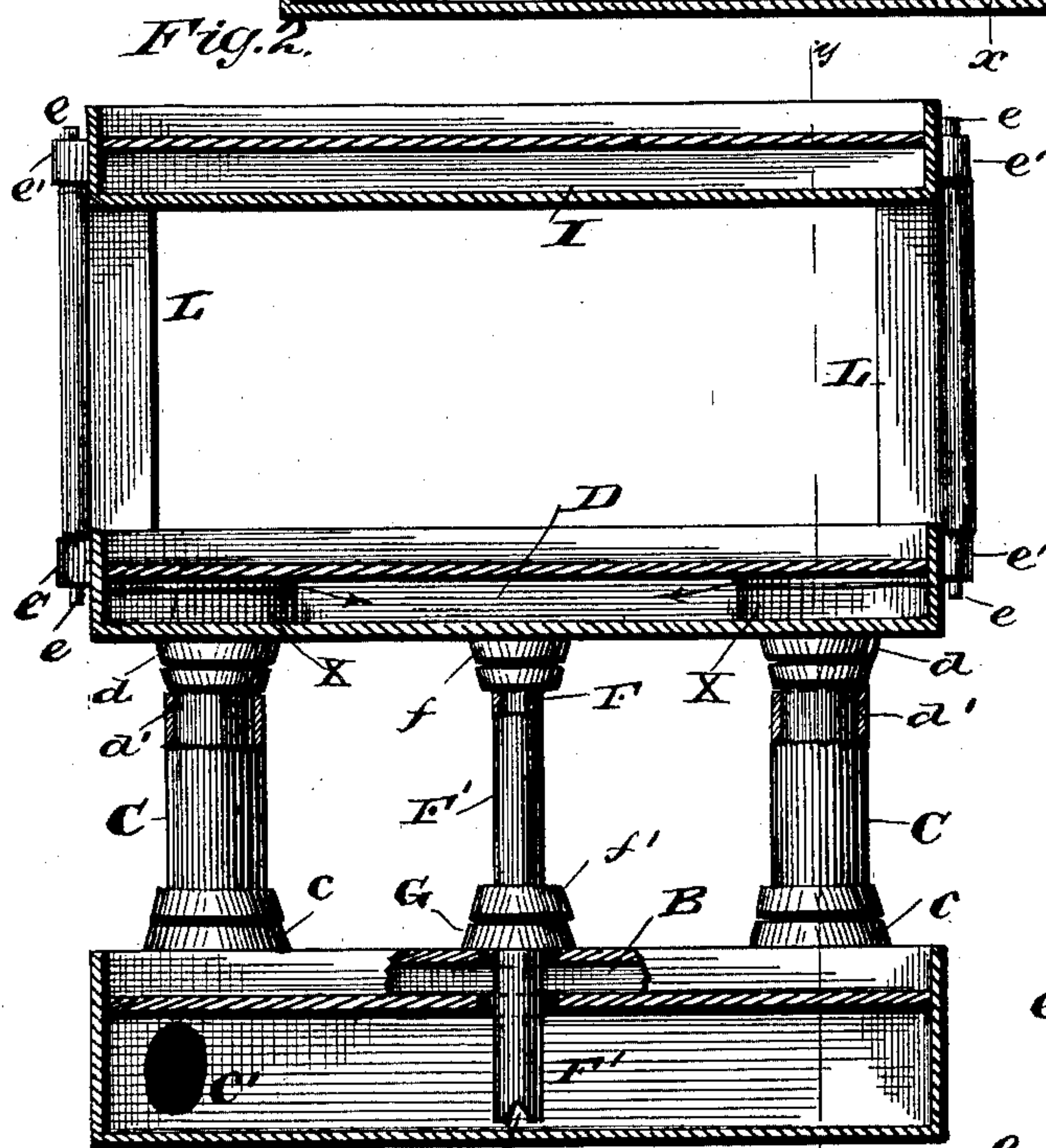
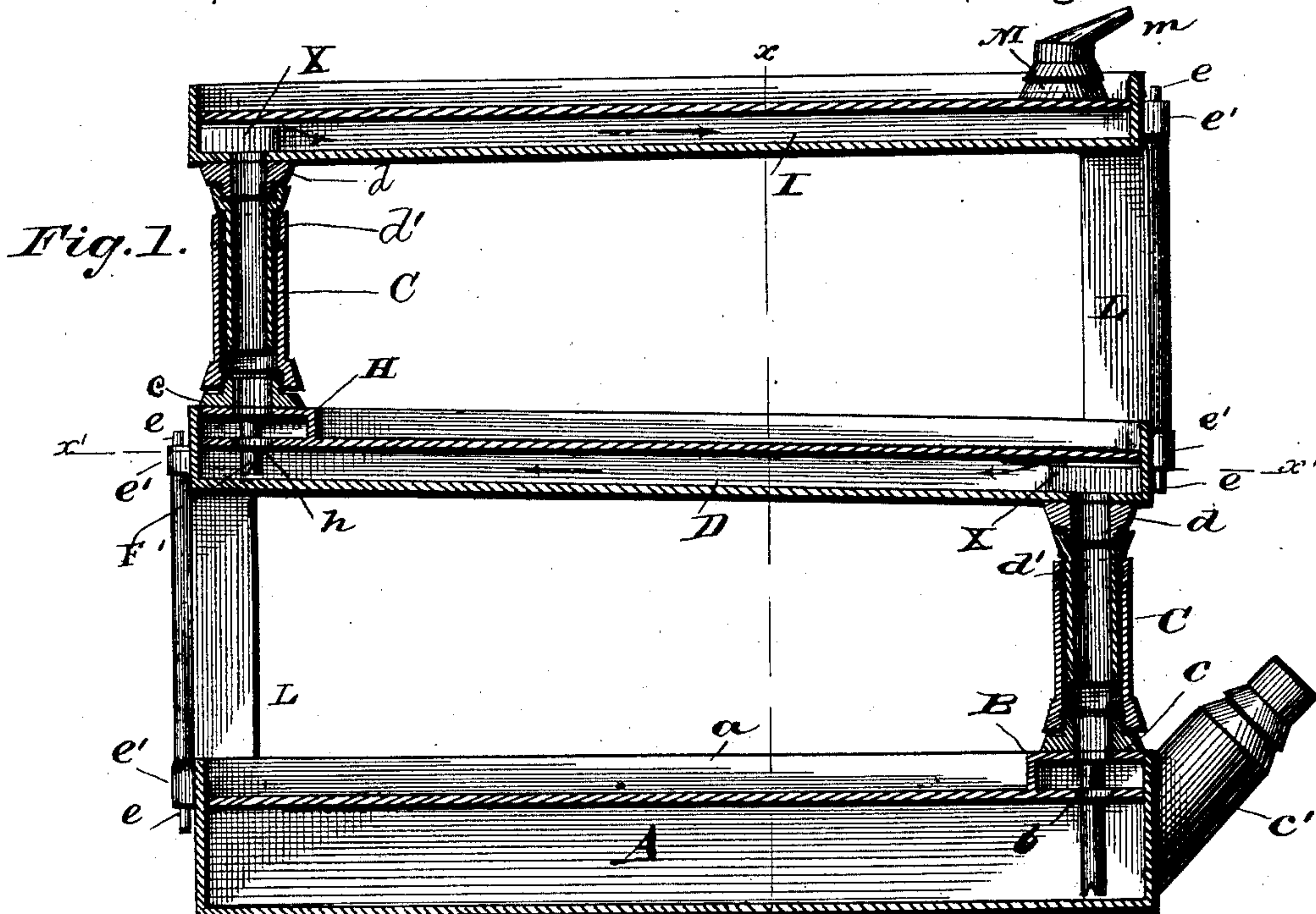


N. GLYNN.
FRUIT EVAPORATOR.

No. 367,514.

Patented Aug. 2, 1887.



WITNESSES
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B. Fugitt.

INVENTOR
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(No Model.)

2 Sheets—Sheet 2.

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Fig. 5.

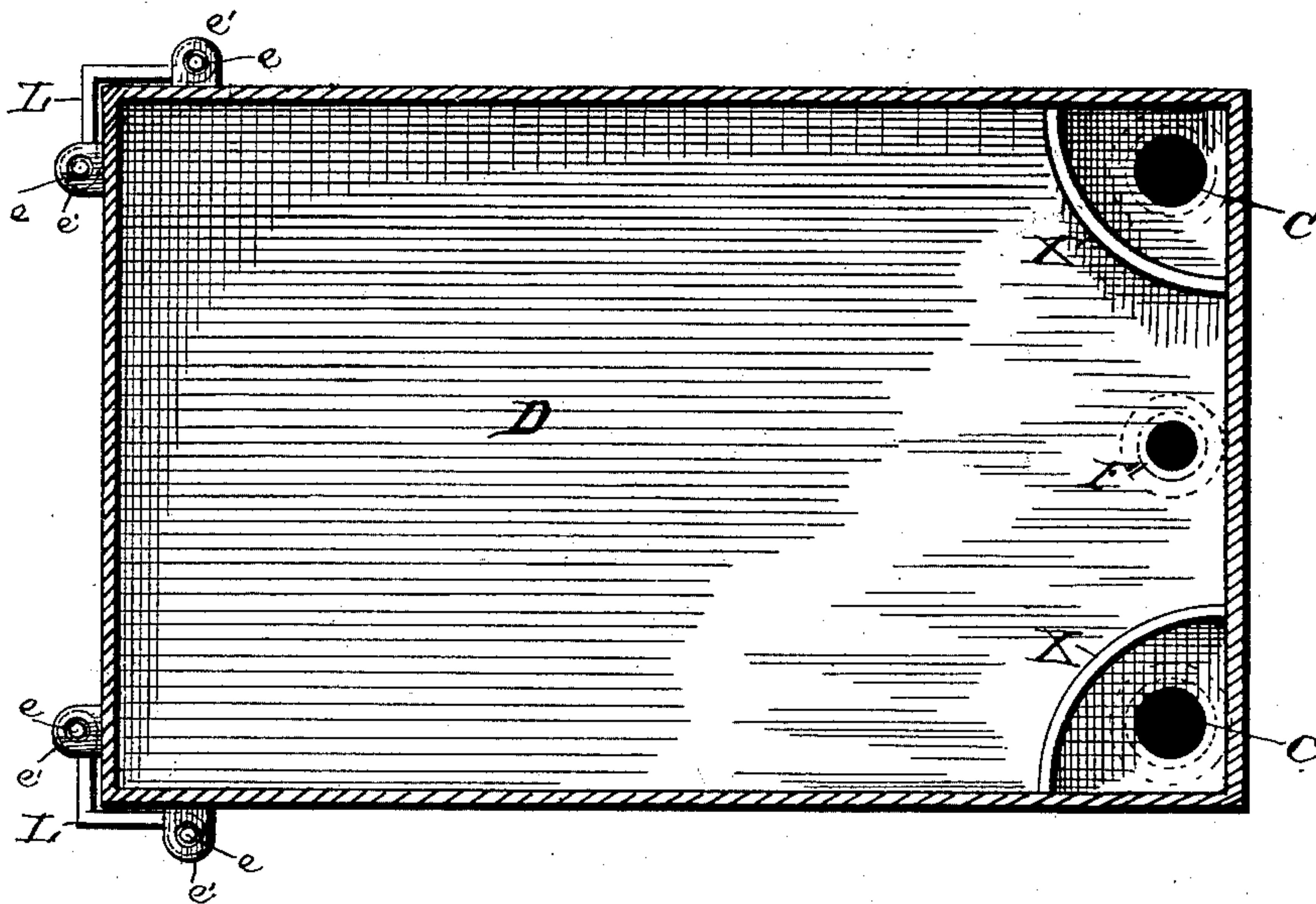
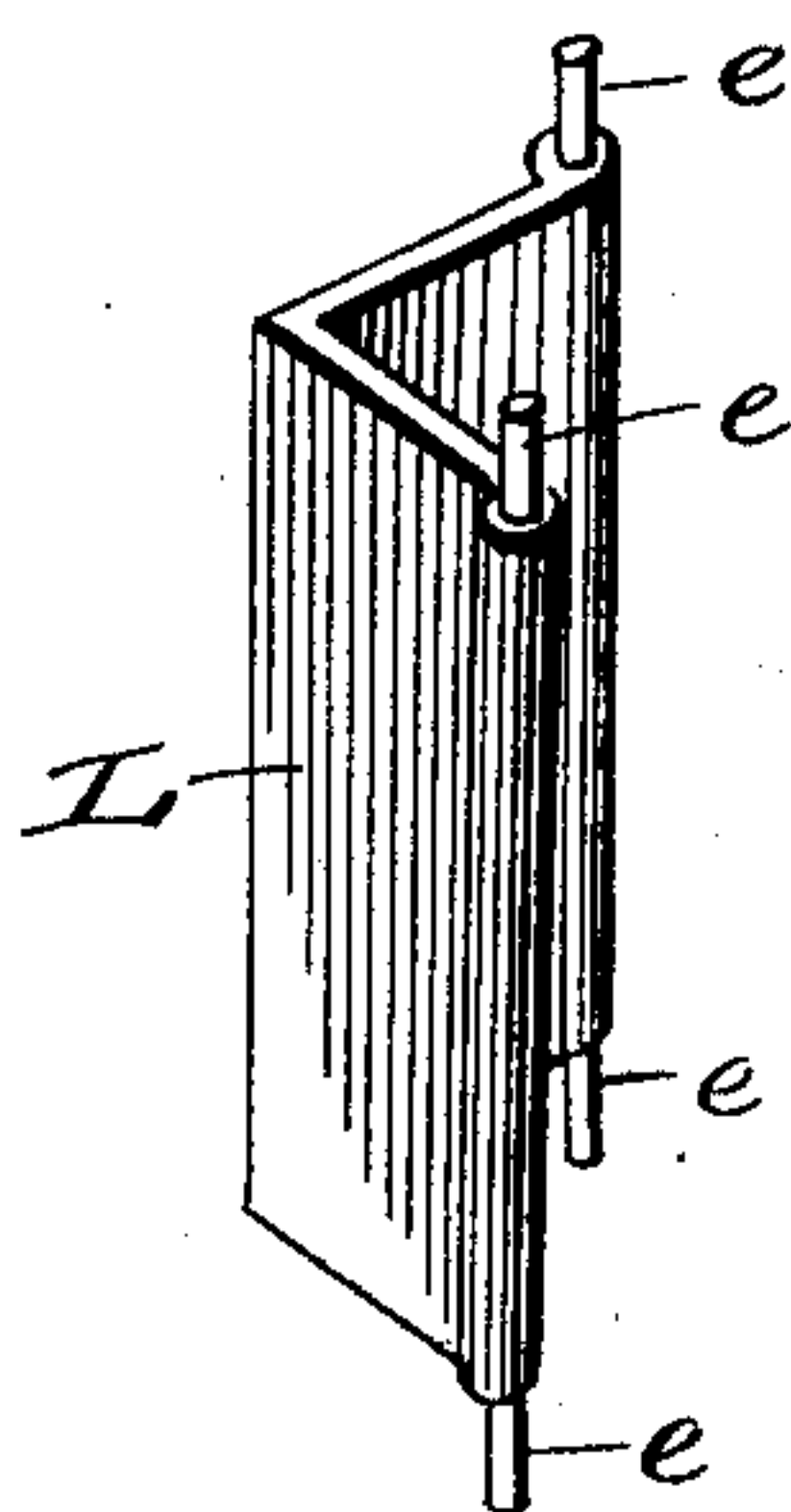


Fig. 6.



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UNITED STATES PATENT OFFICE.

NATHANIEL GLYNN, OF JOHNSTOWN, OHIO, ASSIGNOR OF ONE-HALF TO
HENRY B. RUSLER, OF SAME PLACE.

FRUIT-EVAPORATOR.

SPECIFICATION forming part of Letters Patent No. 367,514, dated August 2, 1887.

Application filed January 6, 1887. Serial No. 223,535. (No model.)

To all whom it may concern:

Be it known that I, NATHANIEL GLYNN, a citizen of the United States, and a resident of Johnstown, in the county of Licking and State of Ohio, have invented certain new and useful improvements in Fruit-Evaporators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a vertical longitudinal section on line *y y* of Fig. 2. Fig. 2 is a transverse vertical section on the line *x x*, Fig. 1. Fig. 3 is an enlarged vertical section in detail through the tubes *F* and their steam-chambers. Fig. 4 is a detail view showing the construction of the standards *L*. Fig. 5 is a section taken horizontally through the evaporator in the plane indicated by dotted line *x x* on Fig. 1. Fig. 6 is a perspective of the angular standards *E*.

My invention relates to improvements in fruit driers or evaporators of the class in which steam is used to dry the fruit when cut or sliced and laid on stages or platforms; and it consists in the construction and novel arrangement of parts, hereinafter described, illustrated in the drawings, and pointed out in the claims hereto appended.

Referring to the accompanying drawings, *A* represents a rectangular boiler resting on proper supports below its corners or at other proper points.

a is a flange, about one inch high, surrounding the upper surface of the boiler, for the purpose of retaining the sliced fruit thereon.

At one end of the boiler is a shallow steam-chest, *B*, which runs transversely across the former and is preferably about as high as the flange.

Through the roof of the boiler, within the steam-chest, are the apertures *b*, through which the steam escapes from the boiler into the steam-chest. The apertures are near the corners of the steam-chest, and above the apertures at each corner a tubular projection or nipple, *c*, rises from the roof of the boiler, and

is threaded, as shown, to engage the expanded and threaded lower end of a vertical pipe, *C*, hereinafter more fully referred to. The boiler is supplied through the inclined tube or pipe *c'*, passing under the steam-chest and having its outwardly and upwardly inclined end closed by a screw-cap, as shown.

D is a rectangular steam-chamber above the boiler, from the floor of which, near the corners of one end, depend the tubular projections or nipples *d d*, which are threaded to engage the expanded and threaded upper ends of pipes *d'*, which enter in the upper ends of the pipes *C*, the latter surrounding and supporting the former, and both sets of pipes supporting or aiding to support one end of the chamber *D* upon the boiler. The said chamber is surrounded at its upper surface by a flange similar to the flange *a*, and serving a similar purpose. The end of the chamber *D*, opposite the steam tubes or pipes *C* and *d'*, is supported upon the boiler by standards *E*, which are bent at right angles and have their edges rolled outward, so as to inclose and hold the rods *e* thus secured to the edges. The upward projections of these rods enter vertical sockets *e'*, secured to the edges of the chamber *D*, on each side of a corner of the same, while their downward projections enter similar sockets, *e'*, similarly situated on the edges of the boiler.

f is a tubular projection or nipple depending from the floor of the chamber *D*, midway between the projections *d d*, and threaded to engage the expanded threaded end of a tube, *F*, much smaller in diameter than the pipes *d'*.

The tube *F* enters a tube, *F'*, of somewhat larger diameter, having surrounding it at a suitable point a downwardly-opening thimble or sleeve, *f'*, threaded to engage over a threaded tubular projection or nipple, *G*, which stands from the roof of the steam-chest *B*, midway between the projections *c c*. The tube *F'* extends downward through the projection or nipple *G* and passes through openings in the roof and floor of the steam-chest, and has its lower end, which rests upon the floor of the boiler, either provided with lateral openings *f² f²* or cut away at one side to allow the water of condensation from the steam-chamber *D* to flow down into the boiler.

The steam-chamber D is provided on its upper surface with a steam-chest, H, in all respects similar to the steam-chest B, but at the opposite end of the device; and it has upon its upper surface opening into it above apertures *h h* in its floor the threaded nipple *c*.

I is a steam-chamber similar to the chamber D, except that it is unprovided with a steam-chest on its upper surface, and *d* is a threaded nipple. C and *d'* are steam-pipes. K K' are tubes for the descent of water of condensation from the chamber I to the chamber D, which tubes are arranged and connected similar to the tubes F F', respectively, in Figs. 2 and 3.

L L are standards supporting the chamber I on the chamber D as the latter is supported on the boiler by the standards L. The standards, steam-pipes, and tubes are made of such length that the chamber D inclines slightly downward toward the steam-pipes connecting it with the boiler, and the chamber I inclines downward toward the pipes connecting it with the chamber D, so that the water of condensation can run easily down to the boiler.

The chamber I is provided at its higher end upon its roof with a threaded nipple, M, having a screw-nozzle, *m*, to discharge the vapor formed. The steam rising from the boiler into the steam-chest passes up through the described steam-pipes into the steam chamber D and thence into the steam-chest H, whence it passes by the described steam-pipes into the chamber I, and the vapor passes out through the nozzle *m*. The water of condensation passes in the reverse direction through the described tubes to the boiler. To prevent the said water from descending through the steam-pipes, par-

tial partitions X are provided, which rise from the floors of the chambers D and I nearly to the tops thereof, and run from side to end, and so cut the descending water off from the entrances of the steam-pipes, while the steam can rise over said partitions.

It is evident that a greater number of steam-chambers can be used, if desired, as they are but reduplications of each other, the highest only dispensing with a steam-chest.

The rise of the steam-chests causes the steam rising to the chambers to be more dry, so that evaporation is made more rapid.

Having described this invention, what I claim, and desire so secure by Letters Patent, is—

1. In a fruit-drier, the combination, with the boiler, steam-pipes, the steam-chambers, and the partial partitions rising from the floors of said chambers, so as to prevent the water of condensation from flowing into the steam-pipes, of the tubes for the descent of the water of condensation, having their ends enlarged and threaded, and the threaded nipples for the engagement of said ends, substantially as specified.

2. The combination, with the boiler, steam-chambers, steam-chest, steam-pipes, and tubes for descent of water of condensation, of the standards L and E, the rods *e*, and sockets *e'*, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

NATHANIEL GLYNN.

Witnesses:

GEO. W. LEWIS,
JOHN A. SCHERMAN.