

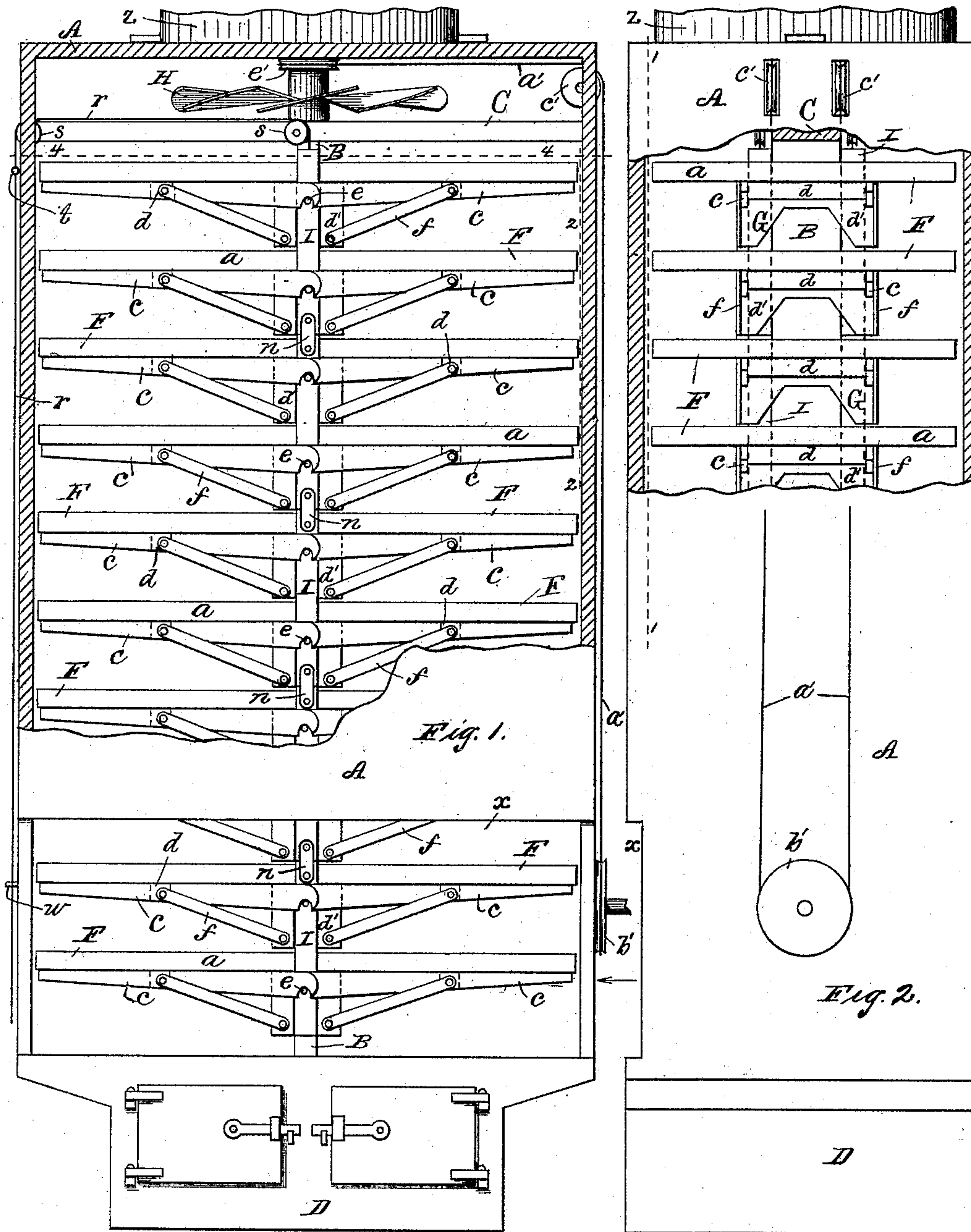
(No Model.)

2 Sheets—Sheet 1.

C. W. SOVERHILL.  
FRUIT EVAPORATOR.

No. 468,731.

Patented Feb. 9, 1892.



Attest:

M. L. M. & Dumott.  
C. M. Krepsier.

Inventor:

Charles W. Soverhill,  
By E. B. Whitmore, Atty.

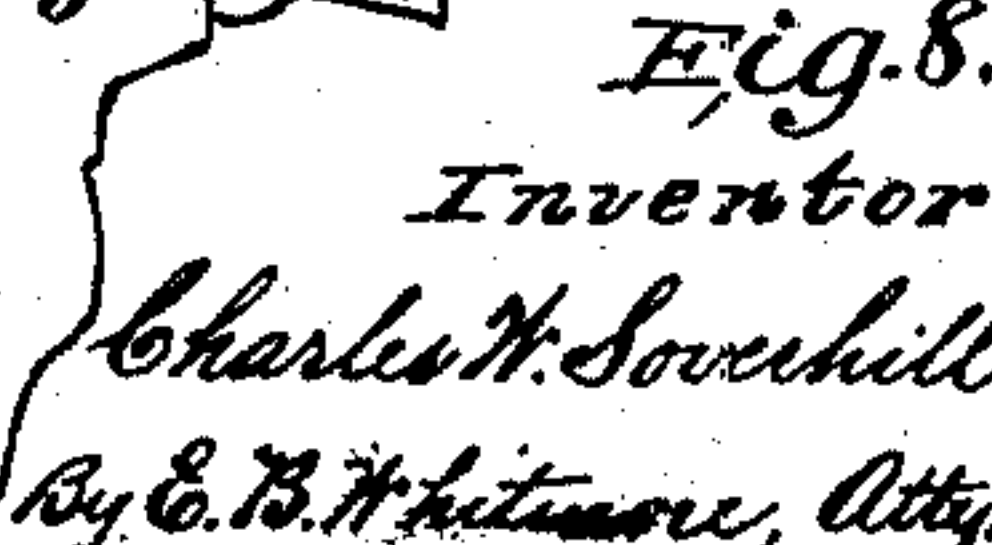
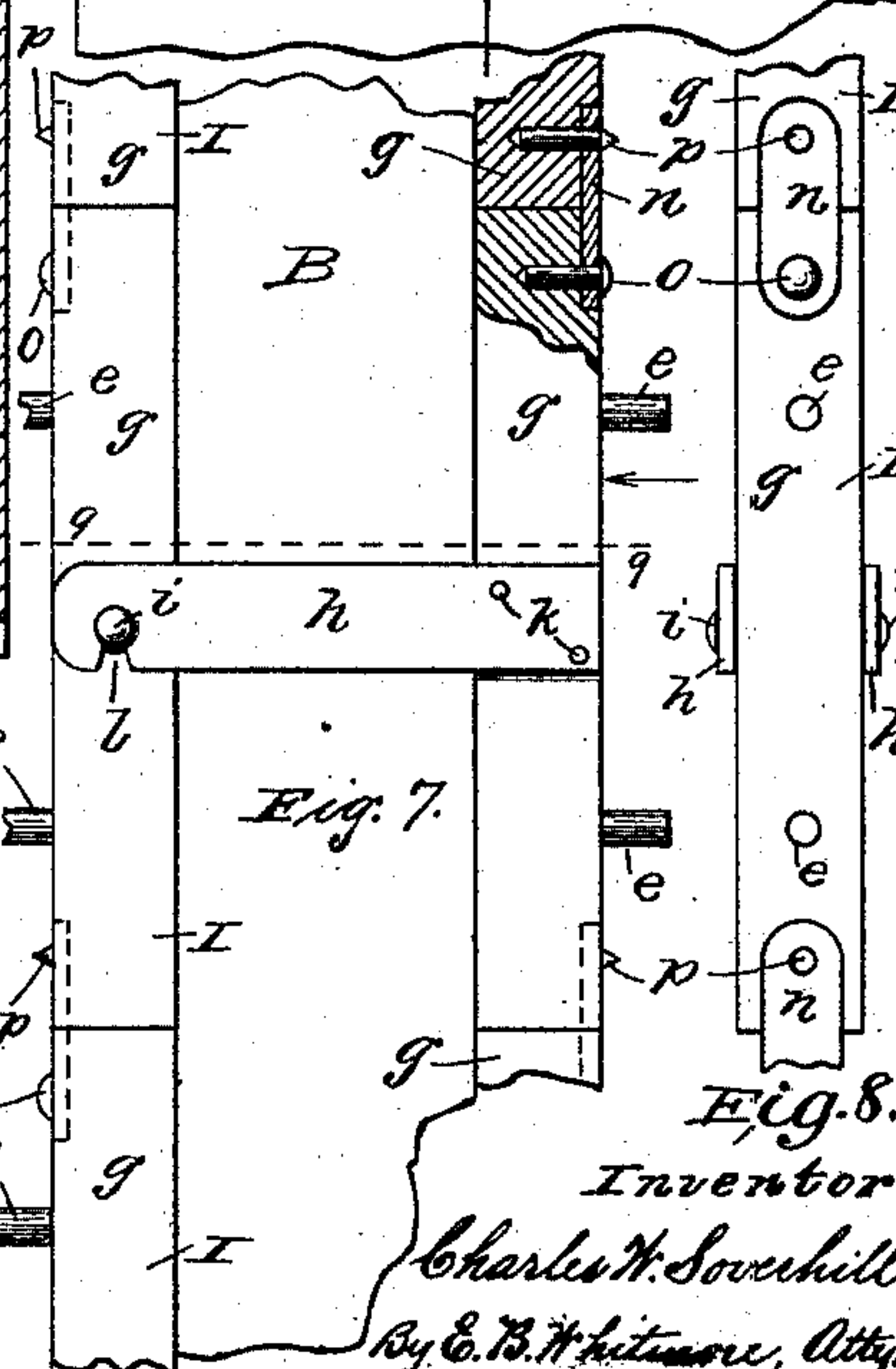
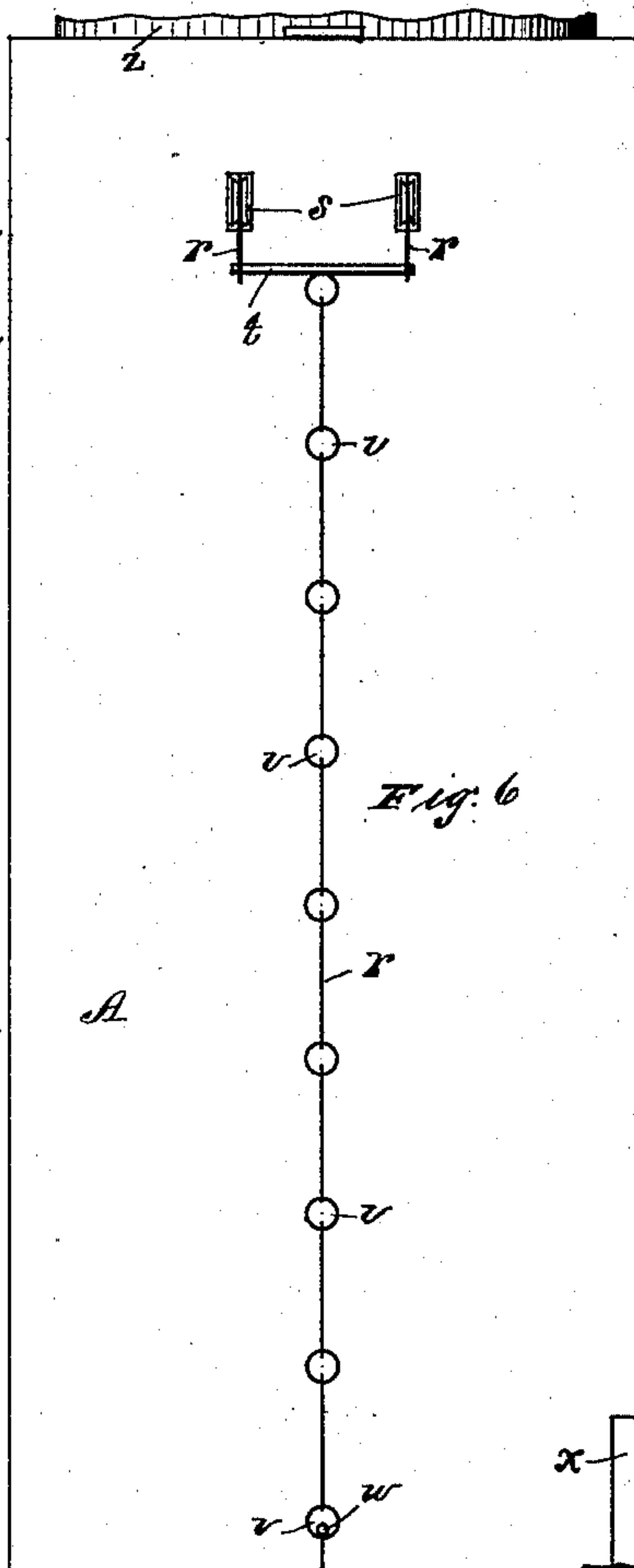
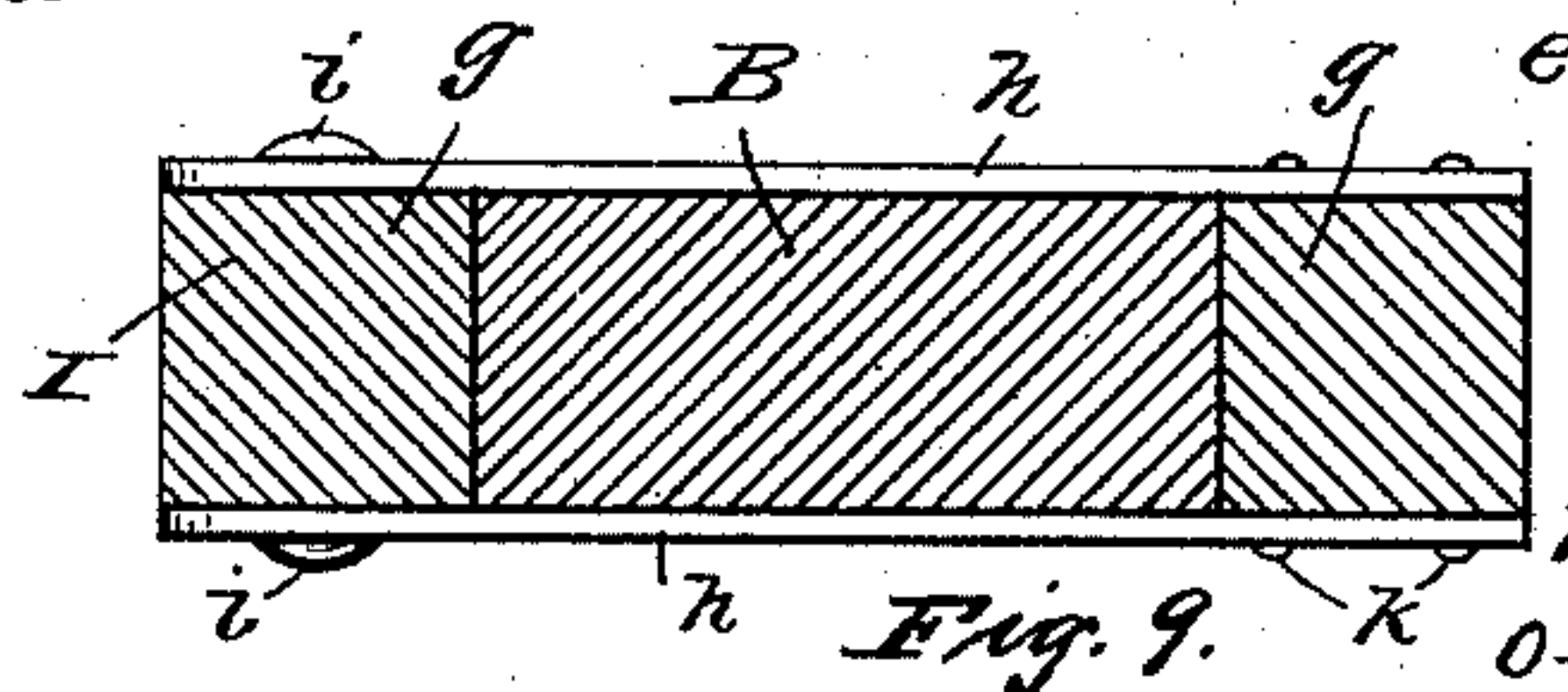
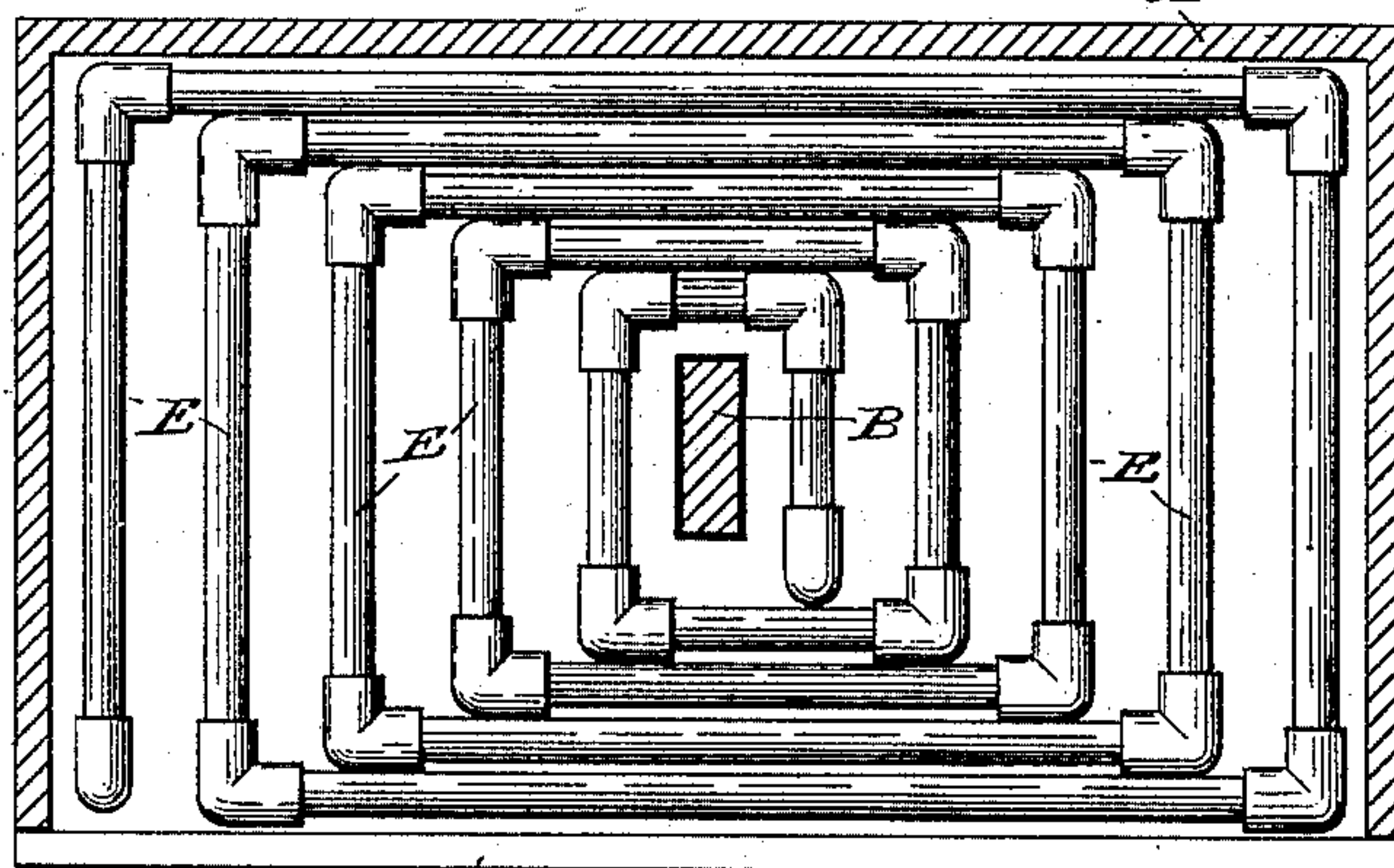
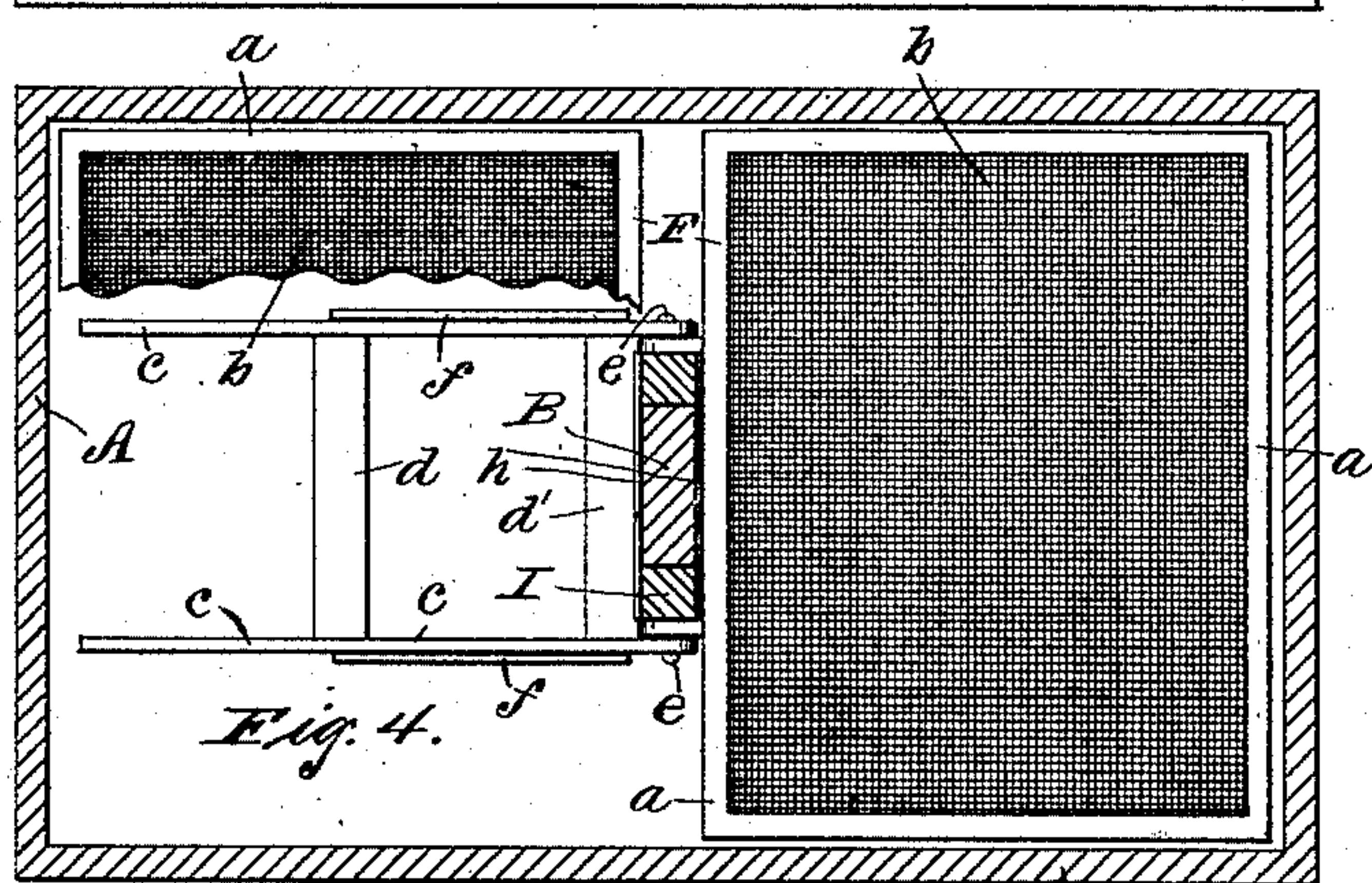
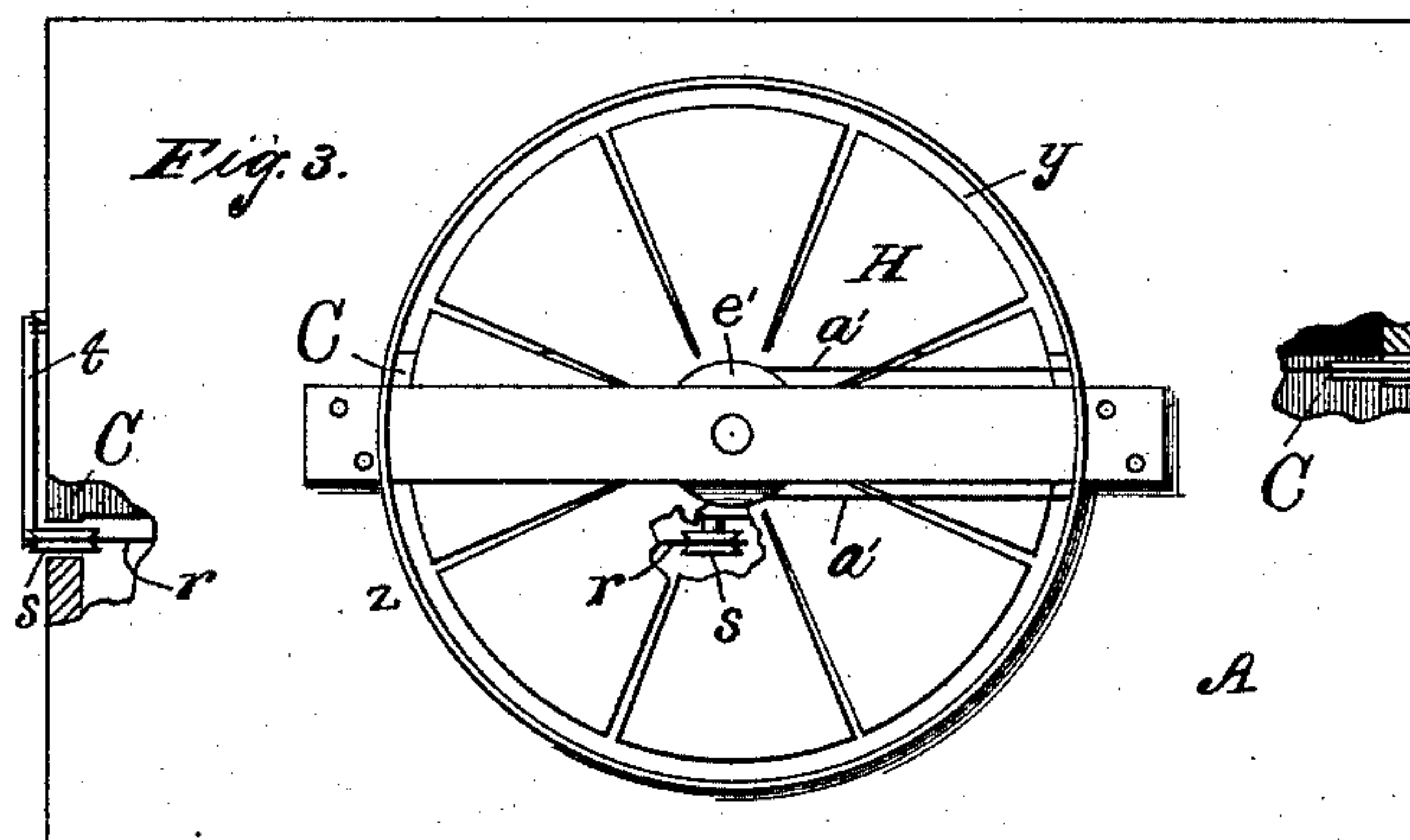
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2 Sheets—Sheet 2.

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M. L. M: Dermott.

E. M. Krepper.

*Inventor:*

Charles H. Sorehill

By E. B. Whitmore, Atty.



# UNITED STATES PATENT OFFICE.

CHARLES W. SOVERHILL, OF NEWARK, NEW YORK, ASSIGNOR OF ONE-HALF  
TO CHARLES H. PERKINS AND SILAS S. PIERSON, OF SAME PLACE.

## FRUIT-EVAPORATOR.

SPECIFICATION forming part of Letters Patent No. 468,731, dated February 9, 1892.

Application filed April 16, 1891. Serial No. 389,206. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES W. SOVERHILL, of Newark, in the county of Wayne and State of New York, have invented a new and  
5 useful Improvement in Fruit-Evaporators, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

My invention is a device for drying fruit  
10 by means of furnace or steam heat; and it consists in various improved parts and devices hereinafter fully described, and more particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a  
15 front elevation of the device, sectioned in part upon the dotted line 1 1 in Fig. 2. Fig. 2 is a side elevation seen as indicated by arrow in Fig. 1, partly sectioned on the dotted line 2 2 in Fig. 1. Fig. 3 is a top view of the de-  
20 vice with parts broken away. Fig. 4 is a transverse section taken on the dotted line 4 4 in Fig. 1. Fig. 5 is a transverse section of the device near the floor, drawn to show a system of steam-heating pipe. Fig. 6 is a side  
25 elevation of the upper part of the device opposite to that shown in Fig. 2. Fig. 7 is a side elevation of a part of the post and adjacent holding-sections, parts being longitudinally sectioned. Fig. 8 is an edge view of a  
30 holding-section seen as indicated by the arrow in said Fig. 7; and Fig. 9 is a transverse section of the post and a holding-section, taken as on the dotted line 9 9 in Fig. 7.

The last three figures are drawn to scales  
35 larger than that of the other figures.

Referring to the parts shown, A is the in-  
closing case of the fruit-drying device, which is preferably rectangular in form and may be  
40 made of any desirable dimensions of wood or other material.

B is a vertical post at the middle of the in-  
closure for supporting the fruit-trays, resting at its lower end upon the floor of the casing and held at its upper end by a cross-bar C  
45 near the top.

D is an ordinary furnace beneath the floor  
of the casing, or the heat for drying the fruit may be supplied by a system of steam-pipes E, (shown in Fig. 5,) the manner of heating the  
50 device not being essential to my invention.

F are shallow trays for holding the fruit, consisting of rectangular frames *a* with sheets of wire-cloth *b* forming the bottoms of the trays.

G are rests for the trays, each consisting of  
55 two parallel horizontal arms *c c*, rigidly connected by cross-bars *d d'*. The inner ends of the arms are formed into hooks which catch upon horizontal pins *e*, Fig. 1, projecting from the sliding sections on the post. The main  
60 bars *d'* extend some distance below the arms *c* and inclined braces *f* join them with the middle parts of the arm *c* to support the latter, as shown in Figs. 1, 2, and 4.

I are sections, Figs. 7 and 8, for holding the  
65 rests G for the trays fitted to slide upon the post B. These sections are each preferably made of a length to carry four of the rests G, which latter are hooked onto pins *e* project-  
70 ing from the sections. The rests G are attached to the sections in pairs, one above the other, the two rests of each pair extending in opposite directions from the post and on a level with each other. When the rests are  
75 in place on the sections, the bar *d'* of each is caused to bear against the vertical side of the section from the fact that each rest overhangs its connections or bearings *e* on the section, these bearings being above the center of grav-  
80 ity of the rest. The vertical parts of the sections are slightly thicker than the post and project slightly beyond the latter at each side, on account of which while the bars *d'* rest snugly against the sections they are at the  
85 same time free from the post.

The sections I are each composed of two parallel vertical blocks *g*, placed, respectively, at two opposite sides of the post, tied together by horizontal cross-ties *h*. The cross-ties are preferably made of thin strips of iron and  
90 rigidly secured to one block *g* by fasteners *k*. The other block of the section is provided with rigid studs *i*, having thin heads to receive the hooked ties entering the recesses *l*. The sections are joined to each other by  
95 means of links or connections *n*, preferably let into the block *g*. These links are secured rigidly to the upper ends of the blocks by fasteners *o* and extend above the blocks suf-  
100 ficiently to pass over pins *p*, rigid in the lower



ends of the blocks of the section next above, as clearly shown in Fig. 7. A lifting-cord *r* for the sections, Figs. 1, 3, and 6, is secured to the upper end of the first section, passing  
 5 thence over pulleys *s s* to the outside of the casing. This cord is preferably made in two parts or branches within the building, one being on either side of the cross-bar *C*, as shown, and joined by a tie-bar *t* outside the  
 10 building. (Clearly shown in Fig. 6.) From and below this tie-bar the cord is single and provided with rings *v*, any one of which may be passed upon a pin or holder *w*, projecting from the side of the inclosure. The distance  
 15 between every two adjacent rings is equal to the length of a section *I*. Now if any ring that may be held by the pin be drawn off the latter by taking hold of the cord and the cord pulled downward, so as to pass the next ring  
 20 onto the pin, the section or sections within the inclosure will be raised sufficiently to allow another section to be added by joining it onto the lowest section within.

In practice, when the lowest ring is on the  
 25 pin the first or upper section *I* is at the bottom of the inclosure and when the rests held by it are supplied with trays of fruit the lifting-cord is pulled downward to pass the next ring over the pin. Another section is now  
 30 attached to the first one, and when supplied with fruit the cord is again pulled to pass the next ring over the pin. In this manner the first section is finally drawn to the top of the inclosure, a section being added and supplied  
 35 with fruit each time a new ring is passed over the holding-pin *w*. Thus the inclosure is filled from bottom to top with trays of fruit over the heating pipes or furnace. The trays  
 40 of fruit are placed upon the rests through an opening *x*, Figs. 1 and 2, at the front and bottom of the casing.

It is a fan just within the top of the inclosure over the post *B*. Directly over the fan is a circular opening *y* in the top of the  
 45 casing, communicating with the open air or with a flue *z*, as may be desired, to convey away the vapor arising from the drying fruit. The fan is driven by means of a band *a'*, Fig. 2, leading from a driving-wheel *b'*, turned by  
 50 any well-known means. The band passes over pulleys *c' c'* in a wall of the inclosure and around a pulley *e'* on the fan. A vigorous rotation of the fan causes a vigorous upflow of heated air through the wire bottoms of the  
 55 trays and passing through the interstices between the pieces of fruit rapidly carries off its moisture. When the fruit is sufficiently dried, the trays from the rests, held by the lower carrying-sections *I*, are taken out and  
 60 the section removed. The cord *r* is then pulled off the pin *w* and the next ring below passed over the pin, which brings another section to the bottom of the inclosure and opposite the opening *x*. The fruit being taken therefrom  
 65 and the section removed, the next lower ring is passed over the pin, and so on until all the fruit is taken from the inclosure and all the

detachable sections removed. The first or upper section to which the cords *r* are secured remains permanently within the casing. 70

To attach either section to the one above it, the block *g*, to which the cross-ties *h* are permanently secured, (the right-hand block, as shown in Fig. 7,) is passed through the opening *x* and beyond the guide-post *B*, with the  
 75 ties *h* pointing toward said opening. The companion block is then put to place against the edge of the post facing said opening, with the link *n* passed over the pin *p* of the section next above it. The block *g*, having the ties  
 80 *h* attached, is then tilted or inclined at its upper end away from the post, (the lower end remaining in contact with the post,) which raises the free ends of the ties sufficiently to allow them to pass over the studs or pins *i*.  
 85 Upon the block being now brought to a vertical position against the post the openings *l* of the ties readily pass over said respective pins. At the same time the block is thus brought to a vertical position the upper end  
 90 of the link secured to its upper end passes upon the pin *p* in the block next above. Thus the sections are joined to each other upon the post. To remove a section from the post, the block, with the ties attached, is tipped at its  
 95 upper end away from the post sufficiently to lift the ties off the pins *i*. This also frees the link secured to this block from the pin *p* of the section above it, which allows the block, with its attached ties *h h*, to be removed from  
 100 the post. Its companion block being released from the ties may also be taken away from the post.

In case there is no furnace beneath the device and the latter is heated by means of  
 105 steam-pipes, as shown in Fig. 5, the post may extend down through the floor and the sections may be put onto the posts below the floor and be raised through the latter in the  
 110 manner already described, the rests for the trays being attached to the sections above the floor.

What I claim as my invention is—

1. A device for drying fruit, consisting of a rectangular casing and a central longitudinal  
 115 guide-post rigid within the casing, in combination with a series of detachable sections for carrying the fruit, held to slide along said post, and rests for fruit-trays detachably connected with said sections, and a  
 120 lifting-cord attached to the upper section and leading out of the inclosure, substantially as shown and described.

2. A device for drying fruit, consisting of a casing, a central longitudinal post rigid  
 125 within the casing, a series of detachable sections for carrying the fruit, held to slide upon said post, and rests for fruit-trays detachably connected with said sections, in combination with a lifting-cord attached to the up-  
 130 per section and provided with rings or openings and a pin projecting from the casing to engage said openings, substantially as and for the purpose set forth.



3. A fruit-drying apparatus consisting of a casing, vertically-moving carrying-sections for fruit-trays within the casing, a central rigid guide-post within the casing surrounding said sections, and a lifting-cord to raise the sections, in combination with a revolving fan over the sections, the casing being formed with an opening over the fan, and a heating device at the floor of the casing, substantially as shown and described.

4. A fruit-drying apparatus consisting of a casing and a central longitudinal post within the casing, in combination with a series of detachable movable sections for carrying the fruit and a cord for elevating said sections, the latter being each composed of two similar blocks placed upon two of the opposite sides of the post and provided with rigid links at their upper ends and laterally-projecting pins at their lower ends to receive the links of the next adjacent section, one of said blocks being further provided with parallel

hooked cross-ties *h* and the other block being provided with studs to receive said hooked ties, substantially as described and shown. 25

5. A fruit-drying apparatus consisting of a casing with a central longitudinal post within it, a series of detachable movable sections for carrying the fruit, and a cord for lifting said sections, in combination with rests for the fruit-trays, each consisting of parallel arms detachably connected with said sections, and cross-bars *d d'*, with braces for the arms, said main cross-bar *d'* bearing against the contiguous section, substantially as shown and described. 35

In witness whereof I have hereunto set my hand, this 2d day of March, 1891, in the presence of two subscribing witnesses.

CHARLES W. SOVERHILL.

Witnesses:

ENOS B. WHITMORE,  
M. L. McDERMOTT.