Sept. 2, 1952 H. R. RAWSON 2,608,797

HOTBED

Filed May 19, 1948 2 SHEETS—SHEET 1

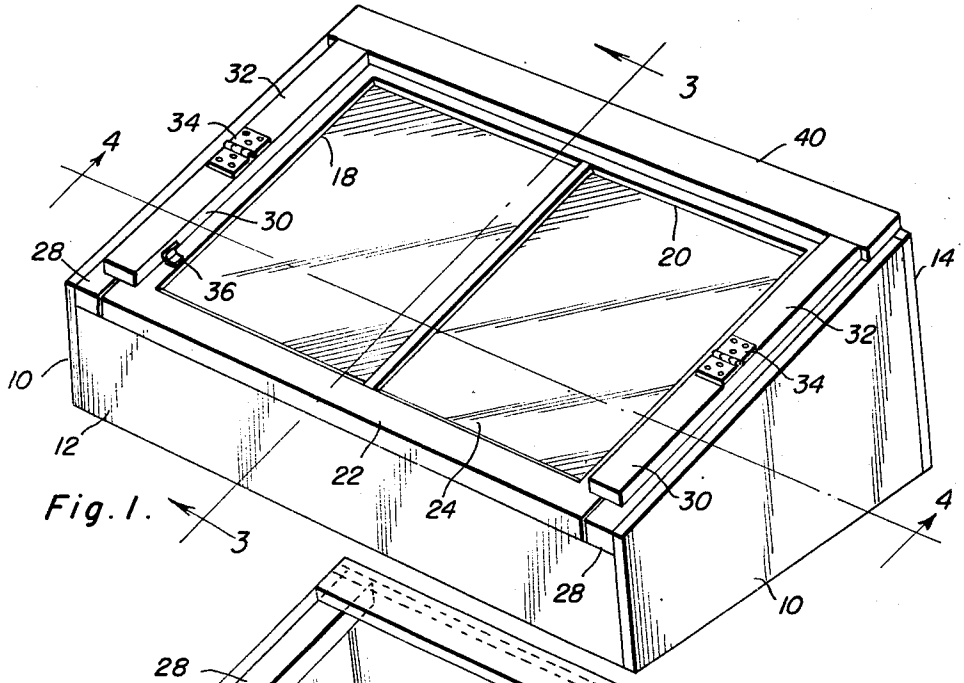



Fig. 1.

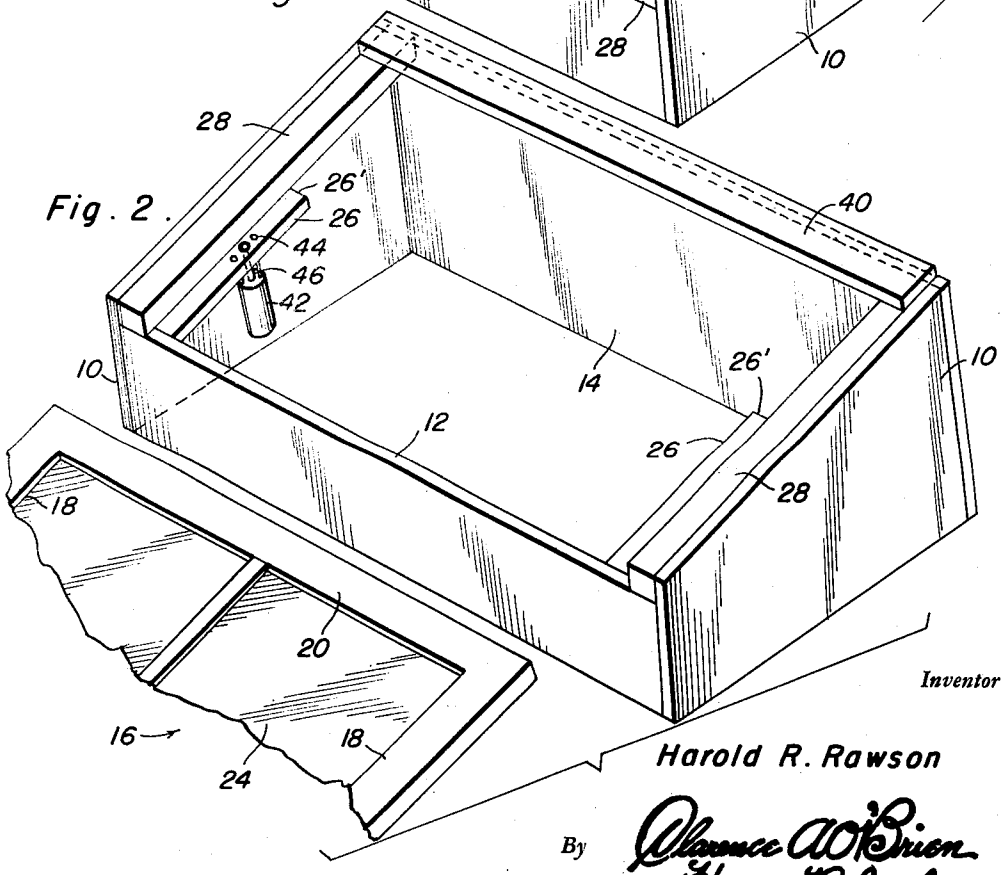



Fig. 2.

Inventor

Harold R. Rawson

By Clarence A. O'Brien and Harvey B. Jackson

Attorneys

Sept. 2, 1952 H. R. RAWSON 2,608,797

HOTBED

Filed May 19, 1948 2 SHEETS—SHEET 2

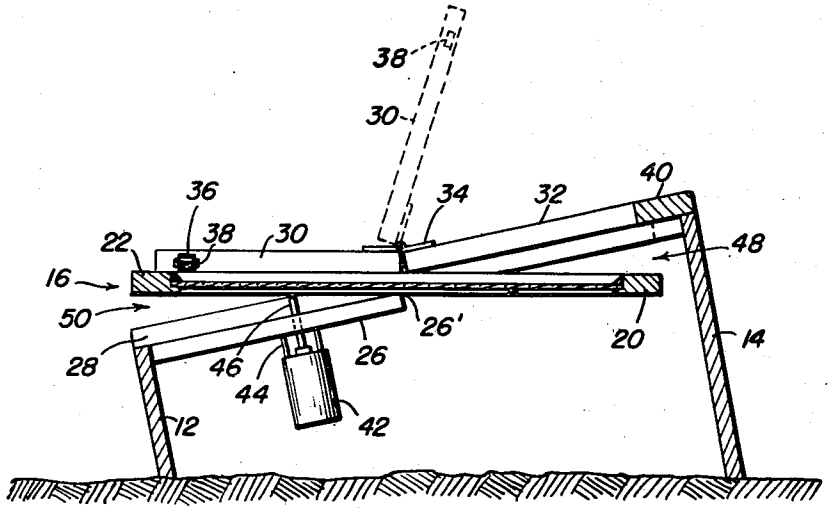



Fig. 3.

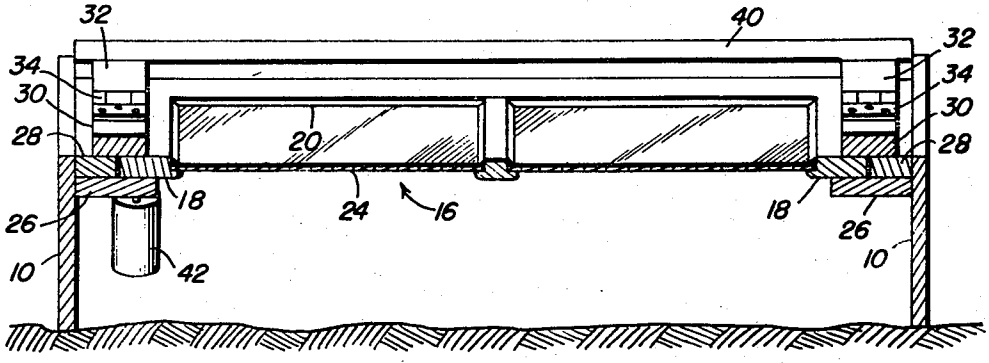



Fig. 4.

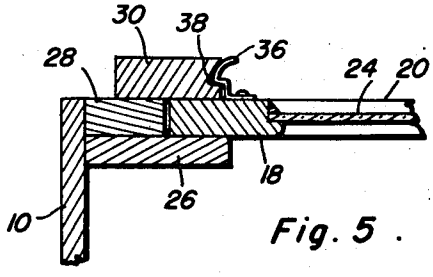



Fig. 5.

Inventor

Harold R. Rawson

By Thomas A. O'Brien and Harvey B. Jackson

Attorneys

Patented Sept. 2, 1952

2,608,797

# UNITED STATES PATENT OFFICE

2,608,797

## HOTBED

Harold R. Rawson, Downers Grove, Ill.

Application May 19, 1948, Serial No. 27,912

3 Claims. (Cl. 47—19)

1

This invention relates generally to hotbeds and more particularly to a hotbed including a frame with a sash extending over the top of the frame and pivoted to the frame adjacent the midpoints of the top edges of the side walls of the frame by novel means so that the weight of the sash is substantially balanced for easy opening and whereby balanced openings are provided to insure against drafts in the hotbed due to wind, the device being provided with means for automatic opening and closing of the sash according to changes in temperature within the hotbed.

A primary object of this invention is to provide a sash mounting for a hotbed of extremely simple construction, allowing the easy opening of the hotbed manually, as well as automatically by means of heat responsive actuating means.

Another object of this invention is to provide a hotbed construction in which the rear wall is higher than the front wall and the sash of the frame is pivoted so that balanced openings are provided to insure against drafts caused by wind blowing from either the front or the rear of the hotbed, while still providing for ample ventilation thereof.

Still another object of this invention is to provide a construction in which a sash in a hotbed frame is releasably secured at the sides of the frame so as to be easily removed as well as tilted.

Yet another object of this invention is to provide a hotbed construction in which the front and rear walls are inclined in the same direction to the vertical, this feature, in connection with the above mentioned balanced opening feature, operating to further insure against the creation of drafts within the hotbed due to wind.

And a last object to be mentioned specifically is to provide a hotbed construction which is relatively inexpensive and practicable to manufacture, which is safe, simple and convenient to use, and which will give generally efficient and durable service.

With these objects definitely in view, this invention resides in certain novel features of construction, combination and arrangement of elements and portions as will be hereinafter described in the specification, particularly pointed out in the appended claims, and illustrated in the accompanying drawings which form a material part of this application, and in which:

Figure 1 is a three dimensional view of the assembled hotbed;

Figure 2 is a grouped three dimensional view of the structure illustrated in Figure 1, the sash being shown fragmentarily as removed from the

2

hotbed, and the parts hereinafter referred to as the elongated hinged members being removed;

Figure 3 is a transverse vertical sectional view, taken substantially upon the line 3—3 in Figure 1 and looking in the direction of the arrows, the sash being shown in tilted position, a second position of a lower portion of one of the above mentioned elongated hinged members being shown in a second position in dash lines;

Figure 4 is a longitudinal vertical sectional view, taken substantially upon the line 4—4 in Figure 1; and,

Figure 5 is a fragmentary enlarged transverse sectional view designed to show the construction whereby the sash is releasably connected to the said lower portions of the elongated hinged members.

Similar characters of reference designate similar or identical elements and portions throughout the specification and throughout the several views of the drawings.

Referring now to the drawings in detail, the hotbed includes a pair of side walls 10 which are vertical and which are of tapered form and rigidly secured to a front wall 12 and a rear wall 14. The rear wall 14 is of a greater height than the front wall 12 and both walls may be inclined in the direction which will be considered forward or toward the front of the hotbed.

A sash, generally indicated by the numeral 16, is comprised of side rails 18, an upper rear rail 20 and a lower front rail 22, together with a complement of panes 24 of glass or the like. The side rails 18 rest upon a pair of plates 26 which are rigidly secured to the side walls 10 of the frame and extend from the front wall 12 to a point slightly beyond the mid-point of each side of the frame. The upper rearwardly disposed edge 26' of these plates supports the sash when the same is tilted, as indicated in Figure 3.

Another pair of somewhat similar members 28 extend the full length of the side walls 10 and are secured thereto on the upper edges thereof and parallel to the plates 26, to which plates these members 28 may be rigidly secured.

A pair of elongated hinged members, each comprised of a lower portion 30, an upper portion 32 and a hinge 34, are secured by means of their upper portion 32 to the members 28, so that the lower portion 30 may be pivoted on the hinges 34, as is clearly indicated in Figure 3. A pair of spring clips 36 are mounted on the side rails 18 of the sash 16 and these clips have portions which releasably engage in slots 38 on the inner edges of the said lower portion 30, to hold the sash in

operative position relative to the frame, while allowing the sash to be tilted as indicated. The sash may be further supported, and its swinging motion limited by way of a longitudinally disposed check strip 40 rigidly secured to the frame at the upper rear edge thereof.

A heat responsive actuating means 42, of any suitable character, is rigidly secured, as indicated at 44, to the plates 26, or to one of the plates 26, and this means 42 must have a reciprocating plunger 46 or equivalent means adapted to reciprocate substantially vertically according to temperature changes and to engage a side rail 18 of the sash.

The operation of this invention will be clearly understood from a consideration of the foregoing description of the mechanical details thereof, taken in connection with the drawings and with the above recitation of the objects sought to be achieved by this invention. It will be clear how the inclined rear wall 14 accentuates the effect of the balanced openings at 48 and 50 at the rear and front of the frame, as indicated in Figure 3, especially when a wind is blowing as from the left hand side in Figure 3, while still allowing for proper convective ventilating currents of air within the hotbed. Obviously, the weight of the sash on the lower side thereof will be slightly greater than the weight of the sash above the points 26' of pivotal connection on the plates 26. The hinges 34 will be disposed substantially vertically above the said points 26'. It will be clear how the above described construction allows the sash to be tilted, as well as allowing the sash to be removed from the lower sections 30 by merely forcing these sections upwardly away from the sash, as indicated in Figure 3, whereafter the sash may be removed from the hotbed frame whenever desired. In this connection, it should be noted that there is no positive or fixed connection between the sash and any portion of the frame, that is, there are no bolts or clamps necessary to be used in order to hold the sash in proper relation with the other portions of the frame, while the automatic actuating means 42 is also freely disengageable from the sash and need not be manipulated or disconnected when the sash is to be removed.

Obviously, many minor variations may be made in the details of construction and proportionment of the various elements of this invention without departure from the spirit and scope thereof. Accordingly, the scope of this invention should be limited only as determined by a proper interpretation of the subjoined claims.

Having described the invention, what is claimed as new is:

1. A hotbed frame including upright side walls, a front wall, a rear wall of a height greater than the height of said front wall and inclined upwardly and forwardly toward said front wall, a sash closing the top of said frame, said side walls carrying inclined plates supporting the forward portion of said sash, the upper edges of said plates terminating at the midpoints of the top edges of said side walls and constituting the pivotal supports for the midsection of said sash when the forward portion of said sash is upwardly tilted into open position, a pair of elongated members having an upper portion fixed in relation to the frame and a lower portion hingedly secured to the upper portion and releasably secured to the sash for pivotal movement therewith, whereby the weight of the sash is substantially balanced for easy opening and whereby balanced forward and rear openings are provided when the sash is tilted in open position to insure against drafts in the hotbed due to wind, while improving ventilation.



2. A hotbed frame including upright side walls, a front wall, a rear wall of a height greater than the height of said front wall and inclined upwardly and forwardly toward said front wall, inclined plates secured to the interior surfaces of said side walls and extending from said front wall and having upper ends terminating in spaced relation from said rear wall, said upper edges providing sash fulcrums and terminating at midpoints of the top edges of the respective side walls, a pair of swinging spaced parallel sash tilting members, means hingedly mounting said members on said side walls with the hinge points lined up with the sash fulcruming edges of said plates, a sash closing the top of said frame, the midsection portions of said sash being rockable on said fulcruming points, and means releasably connecting said sash with said sash tilting members for coincidental swinging with said members whereby the weight of the sash is substantially balanced for easy opening and whereby balanced forward and rear openings are provided when the sash is tilted in open position to insure against drafts in the hotbed while improving ventilation.

3. The structure specified in claim 2 and a longitudinally disposed check strip rigidly secured to the frame at the upper rear portion thereof, said strip overhanging an adjacent longitudinal edge portion of said sash whereby the sash when closed engages said check strip.

HAROLD R. RAWSON.


## REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

| Number | Name | Date |
|---|---|---|
| 106,298 | Wells | Aug. 9, 1870 |
| 216,313 | Crouch | June 10, 1879 |
| 508,209 | Davis | Nov. 7, 1893 |
| 555,431 | Conard et al. | Feb. 25, 1896 |
| 562,075 | Frye | June 16, 1896 |
| 613,171 | McLaren | Oct. 25, 1898 |
| 2,316,309 | Blain | Apr. 13, 1943 |

FOREIGN PATENTS

| Number | Country | Date |
|---|---|---|
| 42,879 | Germany | Mar. 26, 1888 |
| 400,712 | Great Britain | Nov. 2, 1933 |