

No. 893,648.

PATENTED JULY 21, 1908.

F. A. PETERS.
SPROUTING APPARATUS.
APPLICATION FILED APR. 3, 1908.

2 SHEETS—SHEET 1.

Fig. 1.

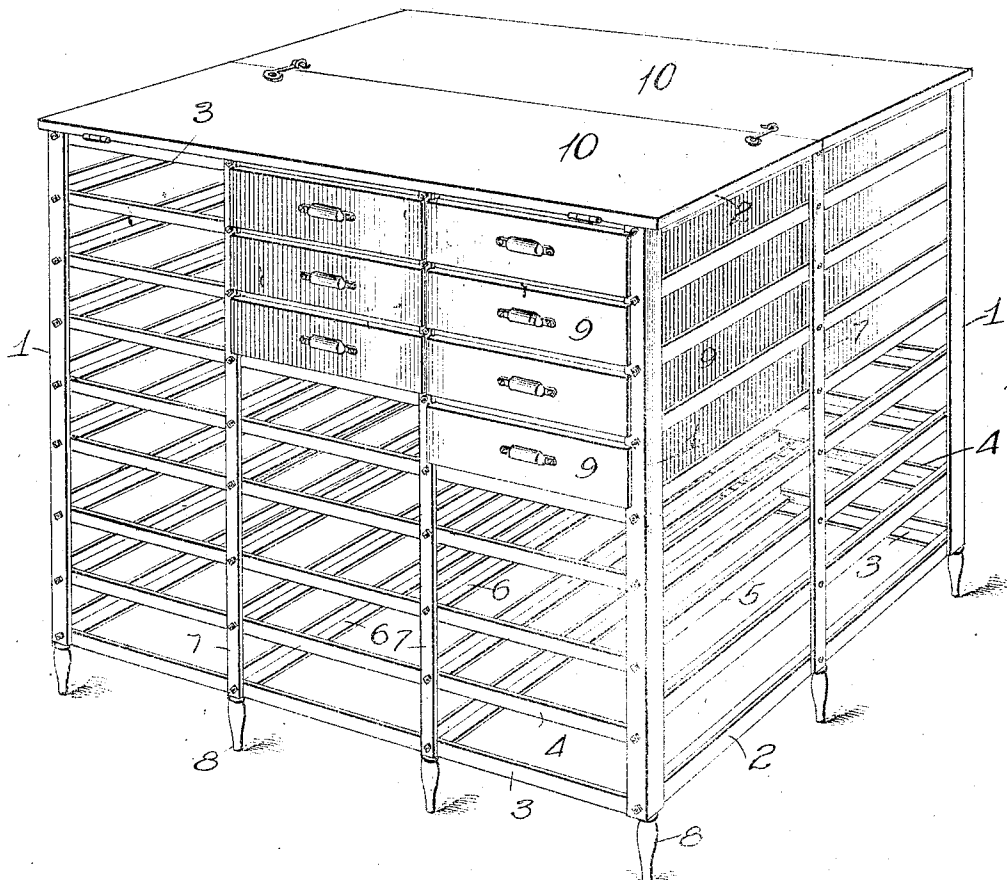
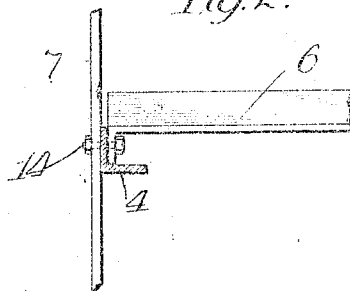


Fig. 2.



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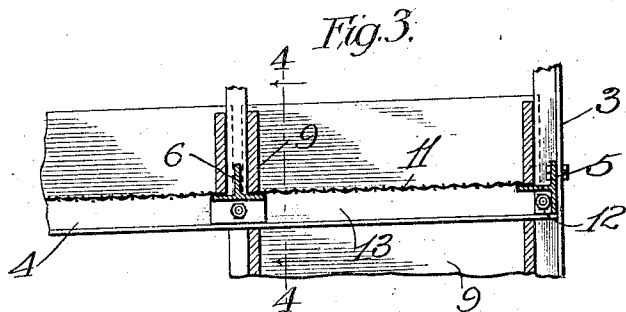
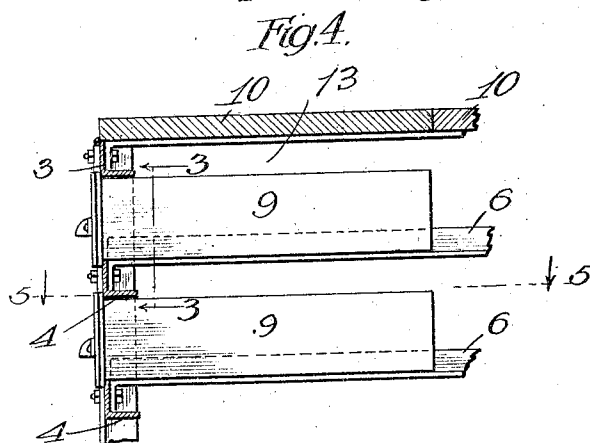
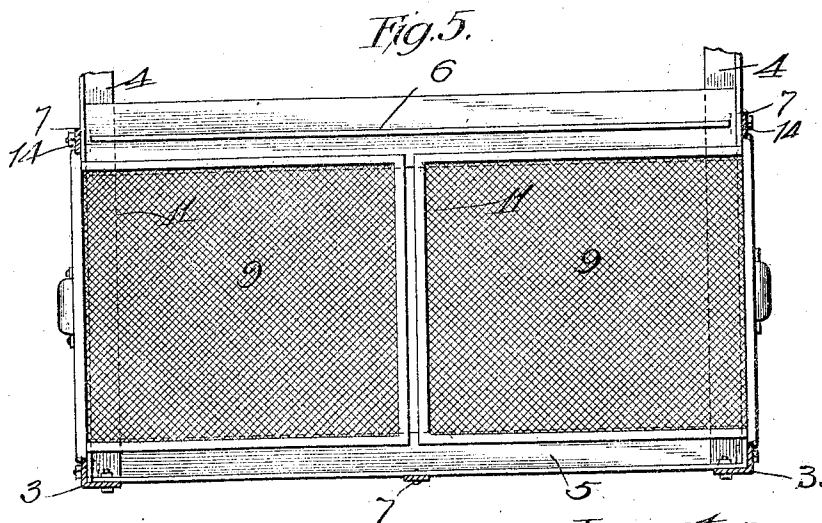
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

FRED A. PETERS, OF ABRAMS, WISCONSIN.

SPROUTING APPARATUS.

No. 893,648.

Specification of Letters Patent.

Patented July 21, 1908.

Application filed April 3, 1908. Serial No. 424,953.

To all whom it may concern:

Be it known that I, FRED A. PETERS, a citizen of the United States of America, and a resident of Abrams, Oconto county, State of Wisconsin, have invented certain new and useful Improvements in Sprouting Apparatus, of which the following is a specification.

The main objects of this invention are to provide an improved form of apparatus for germinating or sprouting grains, tubers and bulbs, particularly for the purpose of rendering them more digestible as animal food, to provide an improved construction for apparatus of this character in which the grain is placed in series of superimposed drawers and in which the sides of the drawers themselves form the inclosing side walls of the apparatus and are so arranged as to provide suitable openings for the admission of air in a suitable manner for promoting to a high degree the process of germination; to provide an apparatus of this character comprising a series of separately removable superimposed drawers having perforated bottoms and so arranged that water sprayed into the upper compartment will percolate downwardly through the grain from one compartment to another so as to moisten all of the grain without necessitating the withdrawal of the individual drawers for that purpose; and to provide an improved form of skeleton frame structure for supporting the drawers in sprouting apparatus of this character. These objects are accomplished by the device shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a sprouting apparatus constructed according to this invention, some of the grain drawers being removed to illustrate the skeleton structure of the frame. Fig. 2 is a detail showing the method of attaching the T-bars which serve as guides for the drawers to the upright strips at the front and back of the skeleton frame. Fig. 3 is a fragmentary transverse section taken on a plane parallel with the front of the apparatus, as indicated by the line 3—3 of Fig. 4, and illustrating the arrangement of the air spaces at the sides of the frame. Fig. 4 is a vertical section taken at right angles to the plane of Fig. 3 on the line 4—4 of Fig. 3, the bars 5 and 7, which would be seen in the background, being omitted for the sake of clearness. Fig. 5 is a horizontal section on the line 5—5 of Fig. 4, illustrating the relation of the front and back drawers and their positions in the skeleton frame.

In the form shown in the drawings, the supporting frame is a skeleton structure comprising upright angle bars 1 at its corners, horizontal angle bars 2 and 3 forming bottom and top frames connecting the uprights 1, a series of intermediate horizontal frames formed of front and back angle bars 4, transverse T-bars 5 and 6, and intermediate uprights 7 which brace the horizontal bars 4 and 5 to prevent sagging between the ends of the frame.

The skeleton frame is supported upon a plurality of legs 8, as illustrated in Fig. 1. The bars of the skeleton frame are so arranged as to subdivide the frame into a plurality of tiers of superimposed compartments, all of said compartments being of the same size and each being provided with a tray or drawer 9 by means of which it is almost completely filled. The top of the frame is provided with doors 10 which are hinged to the skeleton frame in such manner as to permit the entire top to be opened so that water may be sprayed into the upper drawers and allowed to percolate through all of the drawers while the drawers are in position in the frame without requiring the withdrawal of the individual drawers for the moistening of the grain therein.

Each of the drawers consists of a rectangular box open at the top and having its side walls imperforate, being preferably formed of wood. The bottom of each drawer is in the form of a metal screen 11 preferably of woven wire whose mesh is close enough to support the grain while at the same time permitting the free passage of air and water through it.

The front wall of each of the front drawers preferably extends in each direction beyond the side walls, so as to form flanges which serve as stops for preventing the drawers from being pushed inward beyond the proper position, and these flanges also abut against the front bars of the frame to completely close the front wall against air currents. The rear face of the frames and the rear drawers similarly form a closure for the rear of the apparatus. The side walls of the drawers 9 are of about the same height as the spacing between the front angle bars 4. The side walls of the drawers 9, as will be seen from Fig. 3, do not abut against the vertical flanges of the T-bars 5 at the sides of the frame and therefore provide air inlet and outlet openings 12 between the tops of the

sides of the drawers 9 and the T-bars 5 and communicating with air spaces 13 which extend across the entire frame between each horizontal layer of drawers. The air entering the inlet openings 12 and becoming warmed through contact with the germinating grain passes upward through the screen bottoms 11 of the drawers and through the interstices between the particles of grain, thus insuring ample aeration to promote rapid germination of the grain. A space is also allowed between the front and rear drawers to create an upward draft to carry off some of the heated air.

In the form shown, the front and rear angle bars 4 are placed with their horizontal flanges at the bottom, and the T-bars 6 have the vertical web cut off near each end so as to permit the horizontal flanges to be bent downward, as illustrated in Fig. 2, so as to rest in the bosom of the angle 4, with the upper surface of the horizontal flanges of the bars 6 flush with the upper edge of the bar 4. The bars 4, 6, and 7 are then connected together by a single bolt or rivet 14 at each joint. The T-bars 5 are placed with their middle web horizontal and flush with the tops of the angle bars 4, as shown in Fig. 3, and are bolted to the corner angles 3 and up-rights 7 as in Fig. 5.

The operation of the device shown is as follows:—A quantity of grain is spread evenly over the bottom of each of the drawers 9, the drawers being slid out from the skeleton frame for the purpose of filling or emptying them. When all of the drawers are in position in the frame, the covers 10 are opened and all of the grain is moistened by spraying water upon that in the upper set of drawers and allowing it to percolate through the entire series. The covers are then closed. The surplus moisture drains off at the bottom, and the grain is thereafter moistened at suitable intervals to prevent its becoming dried. The construction admits of withdrawing any of the drawers and examining its contents from time to time, or of supplying moisture to any drawer individually. The structure of the skeleton frame is such that the apparatus may be readily knocked down and re-assembled without requiring special skill on the part of the person assembling it. This is of particular advantage in cases where large units are used, whose size is too great to permit of their being readily transported in the assembled condition.

The device shown is particularly intended for preparing grain which is to be used for animal food. When feeding the animals the operator empties the drawers in rotation, filling each with fresh grain when its germinated contents are removed. The total number of drawers in use should be such that the grain

in each will have reached the proper degree of germination, when it is reached in its proper order of rotation. The operation of the apparatus is thus continuous.

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

1. A sprouting apparatus, comprising a skeleton frame and a tier of drawers mounted therein, one above the other, each of said drawers having a perforated bottom, the walls of said drawers being arranged to overlap the frame at one side to prevent the inflow or escape of air at such side and being spaced apart at another side to provide air inlet and outlet openings at said other side.

2. A sprouting apparatus, comprising a supporting frame, a tier of removable drawers in said frame, each having a perforated bottom adapted to support grain therein and having side walls attached to said bottom for confining the grain thereon, and a door forming a closure for the top of said frame and adapted to be opened to permit water to be supplied to the grain in said drawers while said drawers are in position in the frame.

3. A sprouting apparatus, comprising a skeleton frame and a tier of drawers mounted therein, the bars of said frame being arranged to form guides for slidably supporting said drawers, the front of said frame comprising intersecting bars extending between said drawers, and the fronts of said drawers being arranged to overlap said bars to form a closure of said front against air currents.

4. A sprouting apparatus, comprising a skeleton frame formed of metal bars arranged in the form of a series of horizontal frames connected together by uprights, drawers supported on said frames, each frame comprising transverse and longitudinal bars connected together with flush upper surfaces to support and guide the drawers.

5. In a sprouting apparatus, the combination of a supporting frame and a series of tiers of drawers, said frame comprising a plurality of similar horizontal frames rigidly connected one above the other by uprights, each of said horizontal frames comprising a plurality of parallel T-bars connected by transverse bars at their ends, the T-bars at opposite sides of said horizontal frames being disposed with their middle webs in a horizontal plane substantially flush with the top of said transverse bars and the intermediate T-bars being disposed with their middle webs vertical and with their base flanges substantially flush with the tops of said transverse bars.

Signed at Chicago this 28th day of March, 1908.

FRED A. PETERS.

Witnesses:

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MARY M. DILLMAN.