

B. H. & W. C. ADAMS.
SEED TESTING CABINET.
APPLICATION FILED SEPT. 22, 1908.

986,426.

Patented Mar. 14, 1911.

2 SHEETS—SHEET 1.

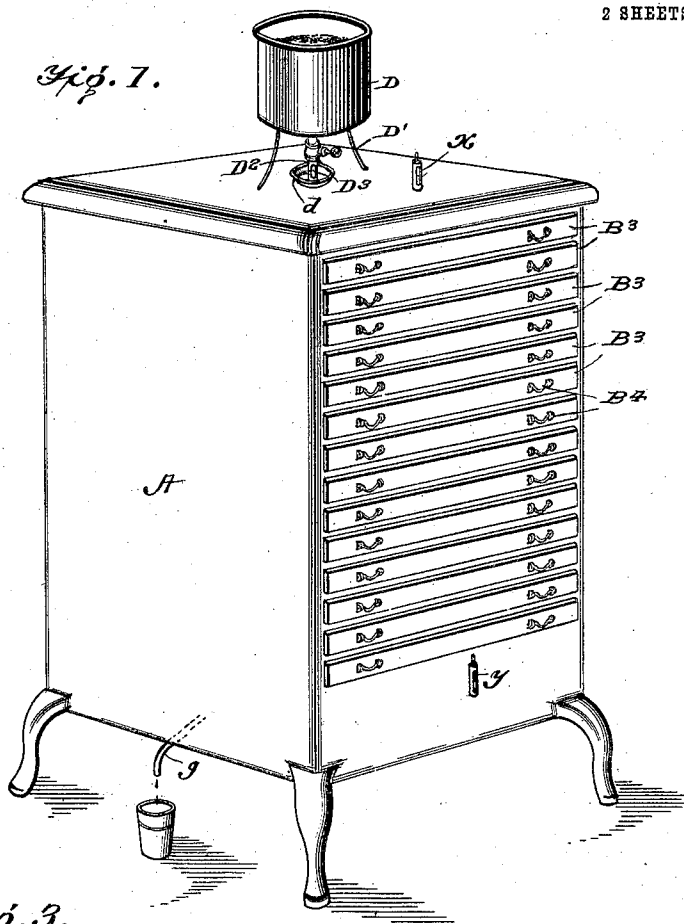
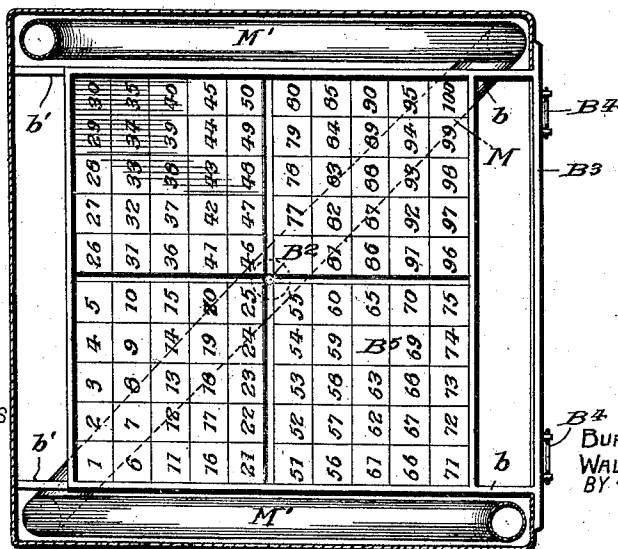


Fig. 3.



WITNESSES

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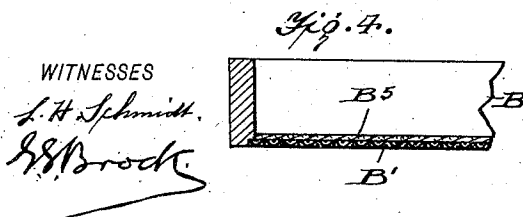
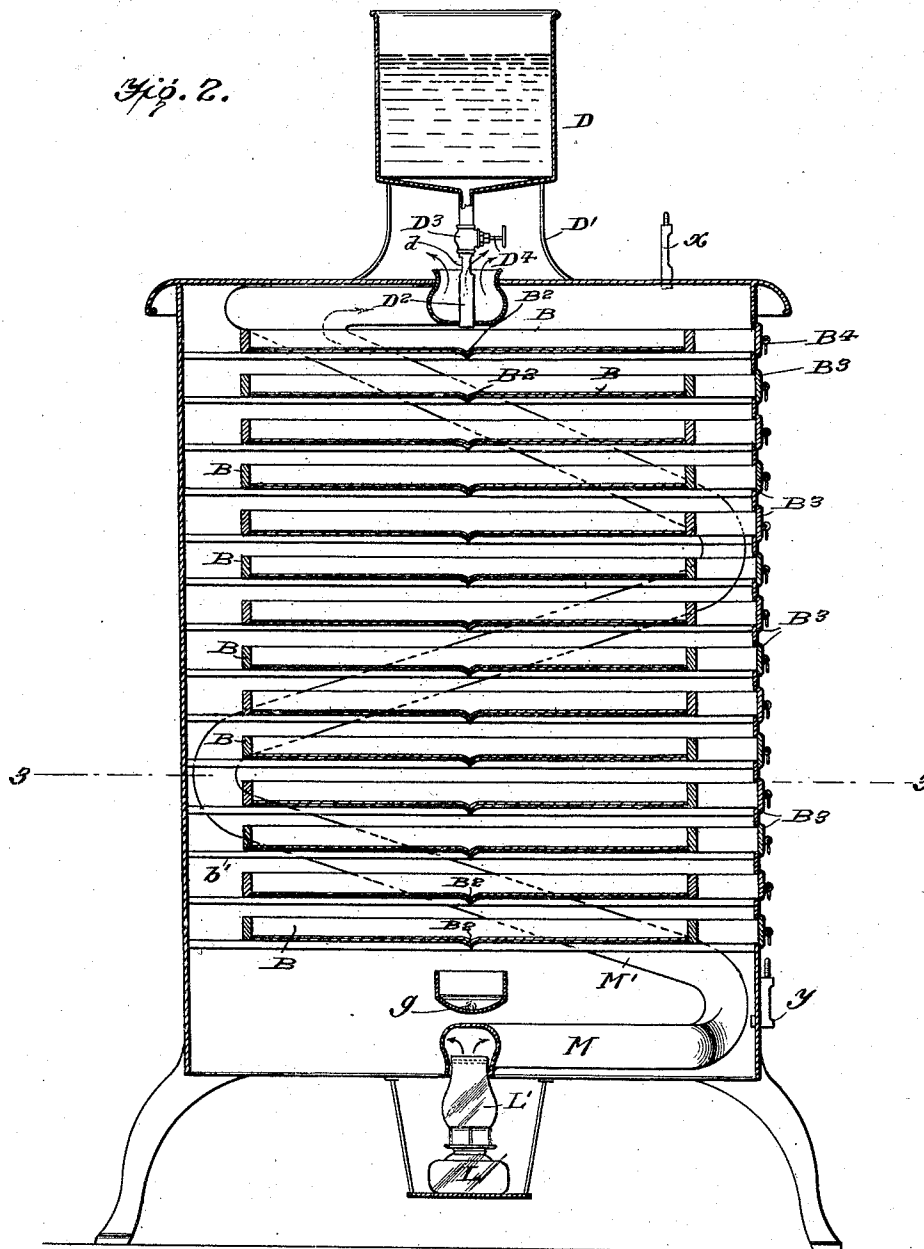
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2 SHEETS—SHEET 2.



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BURTON H. ADAMS,
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UNITED STATES PATENT OFFICE.

BURTON HENRY ADAMS AND WALTER CLARK ADAMS, OF DECORAH, IOWA.

SEED-TESTING CABINET.

986,426.

Specification of Letters Patent. Patented Mar. 14, 1911.

Application filed September 22, 1908. Serial No. 454,206.

To all whom it may concern:

Be it known that we, BURTON H. ADAMS and WALTER C. ADAMS, citizens of the United States, and residents of Decorah, in the county of Winneshiek and State of Iowa, have invented certain new and useful Improvements in Seed-Testing Cabinets, of which the following is a specification.

Our invention relates to improvements in devices for testing corn and other seed and has for its object to provide a simple, efficient, and convenient device whereby the seed can be tested so as to determine which of the seeds are good and which are unprofitable for use.

Our invention consists of a cabinet provided with removable drawers or trays having foraminous bottoms supporting an absorbent or bibulous pad on which the seeds are placed, and heating apparatus at the bottom of the cabinet.

Our invention consists further in certain novel features of construction, arrangement and combination of parts, as will be herein after fully described and pointed out in the claims, reference being had to the drawings, in which—

Figure 1 is a perspective view of our cabinet. Fig. 2 is a vertical section of the same. Fig. 3 is a horizontal section showing one of the trays or drawers. Fig. 4 is a section of one of the trays.

In carrying out our invention we use a cabinet A, the front wall of which is provided with openings in which are slide drawers or trays B having bottoms of wire netting B' or other foraminous material and a depression B²; the side rails b of the drawers are extended beyond the ends of each drawer proper leaving a space between the front of the drawers and the flanged boards B³, which are on the outside of the cabinet and close the openings in which the drawers slide; these flanged boards are provided with drawer pulls B⁴. In the same manner similar spaces are created between the backs of the drawers proper and back of cabinet.

To the top of the cabinet is fitted a water cup or reservoir D by means of the legs D', a pipe D² which has sight openings d in its sides extending into the cabinet. In the

pipe D² is placed a ball valve D³ operated from the side by a valve stem D⁴, controlling the supply of water from the reservoir to the cabinet. Upon the wire web netting forming the bottom of each drawer is placed a sheet of heavy blotting paper B⁵ divided into four sections, each section containing 25 squares or less marked off and numbered, each square to receive seed separately so that a record can be readily kept of such seed.

In the lower part of the cabinet at its center is suspended a lamp L the chimney L' of which projects upwardly into a horizontal pipe M which extends diagonally across the cabinet from one corner to the opposite corner, the pipe then extends upwardly in a serpentine branch M' on opposite sides of the cabinet passing between the sides of the trays and the side walls of the cabinet from front to back of same, and meeting at the center above the trays, finally discharges the heated air and products of combustion through an opening at the top of the cabinet surrounding the water outlet pipe D², thus heating the reservoir D. The position of the horizontal pipe M is indicated in dotted lines in Fig. 3, and the serpentine form of the branch pipes M' is shown in Fig. 2.

As each drawer has preferably a central depression B², the depressions in the center of the drawers will be directly over each other. The water pan G placed below the lowermost drawer has a drain or waste pipe g running to the outside of the cabinet.

To use our cabinet, the seeds having been placed in the various drawers, said drawers being arranged as shown in Fig. 2, the lamp is lighted and the valve D³ in the pipe D² is now opened and the water allowed to enter the cabinet where it will run onto the top drawer at its center, and be absorbed by the blotting paper; when the paper becomes saturated, the surplus water will now collect at the central depression B² and the bottom of the drawer being of wire netting said surplus will drip to the next drawer below, and this action continues all the way down through all the drawers to the bottom where the surplus water is carried off by the waste pipe g before mentioned. During this pas-

sage of the water, heated air and products of combustion have been rising and heat radiating from the serpentine pipes; and by virtue of the open spaces around the drawers, travels over and under each drawer and finally discharges at the top of the cabinet, some heat passing into pipe D² and discharging through openings *d* in the cabinet, and will heat to some extent the water in the cup D, the drip from which is regulated by the valve D³. This combined action of moistening the blotting paper false bottom and the circulation of warm air gives a moist and humid atmosphere in the cabinet, ventilates the same, and facilitates the germination of the seed. Any drawer can be withdrawn without disturbing the others so that the condition of any seed can be quickly determined and the proper record of the same kept. By giving the heated air and products of combustion a serpentine course the requisite amount of heat will be radiated and the interior of the cabinet will be thoroughly and evenly heated, and the warm, moist air will have time to pass under and over the various trays and maintain an even temperature.

The trays slide on guide rails *b'* so that they will be maintained in a level position at all times while in the cabinet and being withdrawn.

The pipe D² from which the drip takes place passes through the pipe M' at the center of the same and has a tight fitting joint therewith. The heat from the cabinet passes out the slits or sight openings *d* in the pipe D² affording complete ventilation.

Each cabinet will preferably be equipped with two thermometers, one of which *x*, will be at the top and front and extending into space above the top drawer; while the other thermometer, *y*, will be placed at the bottom in front and will extend into the space under the lower drawer.

The cabinet is preferably to be made of galvanized steel, and the wire gauze drawer bottoms may be supported on wire reinforcements. It is of course understood that a gas jet, or any form of lamp may be used for heating.

We also desire it to be understood that wire gauze, perforated metal, wire or a combination of any or all of these materials may be used for the bottoms of the trays which support the bibulous pads B⁵.

While we have shown the drip depressions B² in the center of the trays they may be located at any desired point and will be preferably in line with each other.

We claim:

1. A seed testing device comprising a cabinet, seed trays disposed within said cabinet, means for supplying water to said cabinet

above said trays, and means for regulating the supply of water to the cabinet for keeping the seeds on the trays at a proper degree of moisture.

2. A receptacle for seed testers having absorbent material therein for keeping the receptacle damp, means for supplying moisture to the absorbent material and for controlling such supply, means for heating the receptacle and means for maintaining the heat therein.

3. A seed testing device comprising a cabinet, air heating means located in the lower portion of the cabinet, a water supply cup located at the top of the cabinet and having controllable connection with the interior of the same, and a bank of removable trays disposed in said cabinet between the water supply cup and the air heating means.

4. A seed testing device comprising a cabinet, a water supply cup at the top of the cabinet, and having controllable communication with the interior of the same, a bank of removable seed receiving trays or drawers fitting within said cabinet, said drawers having foraminous bottoms, and a central drip depression therein, absorbent pads fitted within said trays, air heating means located below said trays, said trays being provided with open spaces at all sides of same.

5. A seed testing cabinet, a water supply cup connected with the top of the same by a pipe having openings in its side walls, means for regulating the supply of water from the water supply cup, a series of removable seed trays and drawers having open spaces on all sides, said trays having foraminous bottoms provided with a central drip depression, absorbent pads fitting within said trays and having characterized spaces thereon, a drip pan located below said bank of trays and an air heating device located below said trays.

6. A seed testing device consisting of a cabinet, a bank of trays for receiving the seeds and so mounted in said cabinet as to leave open spaces on all sides of said trays, and means for heating the interior of said cabinet, said means comprising a generator disposed at the bottom of the cabinet, a horizontally disposed pipe mounted above said generator and beneath the lowermost tray said pipe having a central opening to receive the heated air from the generator, and said pipe extending from one corner of the cabinet to the diagonally opposite corner, and branch serpentine pipes extending upwardly from each end of the horizontally disposed pipe between the inner side walls of the cabinet and the side rails of the trays and discharging at the center of the top of the cabinet.

7. A tray or drawer for seed testers con-

sisting of side walls and an absorbent false bottom having characterized spaces on its upper surface, and means for supporting said absorbent bottom within the tray.

5 8. A tray or drawer for seed testers consisting of side walls, a foraminous bottom and an absorbent pad fitted within the drawer and resting on said bottom, the upper

surface of said absorbent pad having characterized spaces thereon.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
