C. P. ZIMMERMAN.

SCALE BEAM BOX.

APPLICATION FILED MAR. 8, 1915.

1,189,417. Patented July 4, 1916.

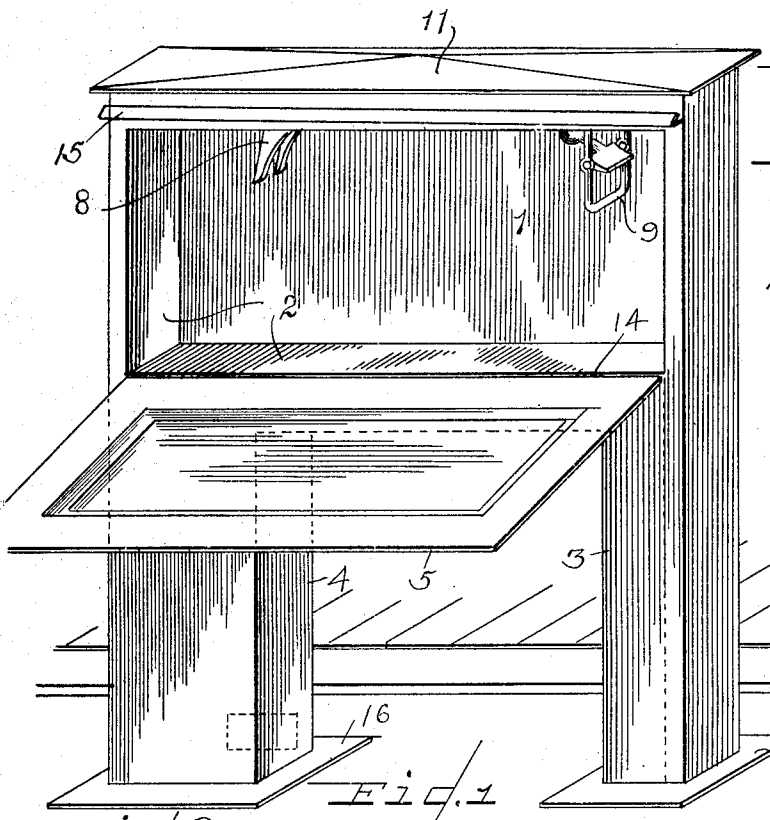


Fig. 1.

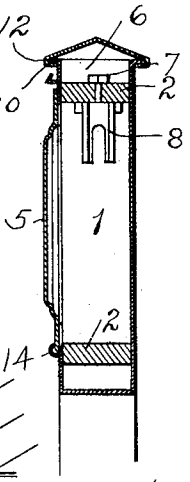


Fig. 5

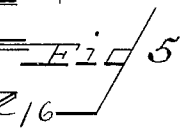


Fig. 2.

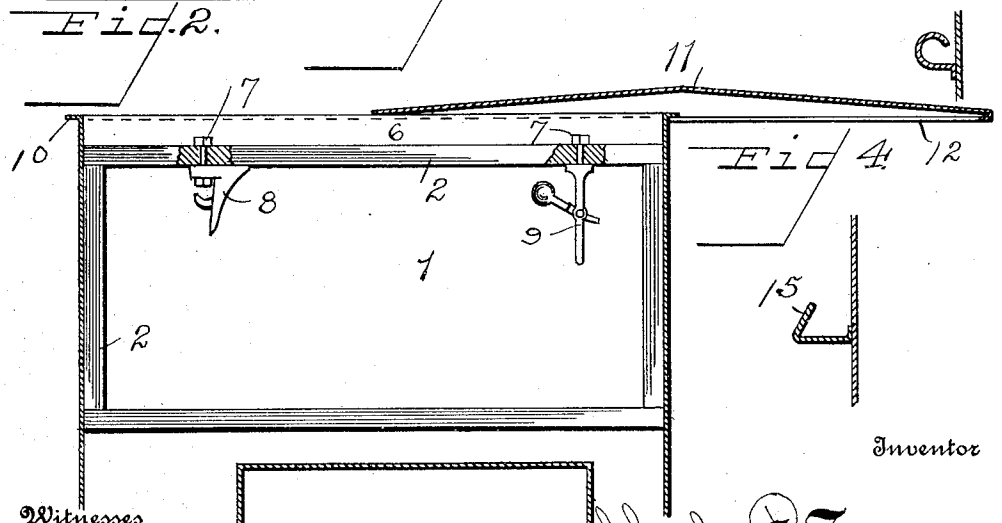


Fig. 4

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UNITED STATES PATENT OFFICE.

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SCALE-BEAM BOX.

1,189,417. Specification of Letters Patent. Patented July 4, 1916.

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To all whom it may concern:

Be it known that I, CHARLES P. ZIMMERMAN, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Scale-Beam Boxes, of which the following is a specification.

My invention relates to platform scales of large capacity such as are usually located out of doors for weighing stock, wagons, railway cars, etc., and more particularly to the beam box for such scales.

The object of the invention is to simplify the structure of such devices whereby they will not only be cheapened in construction, but will be more efficient in use, pleasing in appearance, convenient for the connection and disconnection of the beam supports, afford ample protection to the bearing, and unlikely to get out of repair.

It has heretofore been the custom to build beam boxes in the form of a continuous box-like structure from the ground line to the top and to construct such structures of wood. It has been found by experience that the wooden beam boxes are seriously affected by the elements and by atmospheric conditions. The boxes and the parts thereof expand and contract under varying atmospheric conditions. This expansion and contraction of the parts of the beam box causes a disturbance of the adjustment of the scale beam and results in the warping and cracking of the material constituting the beam box, causing the latter to leak. The leakage of the beam box is further detrimental to the scale beam, causing rust and corrosion of the bearings, tending to render the scale less sensitive. The swelling and warping of the parts causes the doors to bind and causes great difficulty in opening and closing same. Not only do the wooden beam boxes have a tendency to warp and crack and to leak, thereby failing to afford ample protection to the scale beam, but being constantly exposed to the elements, decay soon occurs and replacement of the beam box is soon necessary. A further disadvantage of the ordinary wooden beam box is the difficulty of gaining access to the beam connections which, as the boxes are ordinarily constructed, necessitates a partial dismantling of the box.

To provide a beam box which is impervious to moisture and which will afford ample protection to the scale parts within, and which will be influenced to minimum degree by expansion and contraction, will be durable, neither cracking nor warping, and which will resist decay, is the primary object of the present invention.

With the above primary and other incidental objects in view, as will more fully appear in the specification, the invention consists of the features of construction, the parts and combinations thereof, and the mode of operation, or their equivalents, as hereinafter described and set forth in the claims.

Referring to the drawings, Figure 1 is a perspective view of the beam box forming the subject matter hereof with the door thereof open. Fig. 2 is a longitudinal sectional view of the upper portion of the box with the top cover partially removed. Fig. 3 is a transverse detail sectional view of the assembled box. Fig. 4 is an enlarged detail sectional view of the weather strip or drainage gutter, and Fig. 5 is a similar view of a modification thereof.

Like parts are indicated by similar characters of reference throughout the several views.

The beam box forming the subject matter hereof is preferably constructed from sheet metal, preferably galvanized iron, galvanized steel, or other suitable material. The box proper comprises an upper or body portion 1 inclosing a rectangular frame 2 of wood or of metal, and supported upon pedestals or legs 3 and 4. The rectangular frame 2 preferably conforms to the shape of the opening into the body portion 1 of the box. Such opening is normally closed by means of a door 5 hinged to the body portion of the structure. The body portion 1 extends somewhat above the top of the rectangular frame 2, as shown in Figs. 2 and 3, thereby forming within said body portion 1 above said frame a chamber or compartment 6 in which are located the retaining

nuts 7 of the beam hanger 8 and the latch frame 9. The top edge of the side and end walls of the body portion 1 are flanged or turned outward, as indicated at 10. The body portion is provided with a detachable sliding top 11 which may be of any suitable shape to shed water and which has been shown in the drawings as of a low pyramidal form. The edges of this sliding or detachable top are inturned as at 12 beneath the out-turned flanges of the body portion, thereby providing guides or keepers. The top 11 slides longitudinally upon the body portion 1 and when withdrawn permits ready access to the chamber 6 and to the nuts 7 of the beam hanger and latch frame. When in its adjusted or closed position the top may be secured by means of a screw or bolt passing through the flanges 10 and 12 of the body portion 1 and the top, respectively, at one end of the structure. For ordinary conditions of use it has been found that if sheet metal of sufficient gage and strength is employed no reinforcement will be required within the pedestals or legs 3 and 4. However, for certain conditions of use, or in large structures, it is desirable to extend the side bars of the rectangular frame 2 downward to the ground line within the pedestals or legs 3 and 4, as shown by dotted lines in Fig. 1.

The door 5 of the beam box is hinged at 14 to the body portion of the structure at the bottom of the beam box opening. This door is preferably stiffened by means of panels pressed into the material forming the door, these panels being projected beyond the normal plane of the door. Any suitable fastening device may be employed for retaining the door in its closed position. The edges of the top or cover portion 11 form eaves which overhang the sides of the structure and would therefore tend to direct any water beyond the line of the opening of the door. The drops of water, however, have a tendency to cling to the metal of the structure and to follow the under side of the eaves to the vertical walls down which they trickle.

To more effectually exclude moisture from the beam box, there is provided, immediately above the door and secured to the outer wall of the body portion 1, a weather strip comprising a strip of material having its edge bent inward at an acute angle forming a channel of trapezoidal form which extends across the face of the box, preferably at a slight inclination whereby moisture collected within the channel formed by said angular flange will be drained to one end of the structure and discharged therefrom. This protective channel is shown in Fig. 1 at 15 and in detail in Fig. 3. To afford a wider support for the legs or pedestals and to protect the foundation upon which such legs or pedestals rest, the lower ends of the legs or pedestals are provided with laterally disposed flanges 16. The leg 4 is provided upon one side with an opening, indicated by dotted lines in Fig. 1, for the entrance of the fifth lever of the scale into said pedestal or leg. The connections between the fifth lever and the scale beam extend upward through the hollow interior of the leg or pedestal 4 to their connection with the scale beam.

From the above description it will be apparent that there is thus provided a device of the character described, possessing the particular features of advantage before enumerated as desirable but which obviously is susceptible of modification in its form, proportion, detail construction, or arrangement of parts without departing from the principle involved or sacrificing any of its advantages.

While in order to comply with the statute the invention has been described in language more or less specific as to certain structural features, it is to be understood that the invention is not limited to any specific details but that the means and construction herein described comprise but one mode of putting the invention into effect and the invention is therefore claimed broadly in any form or modification within the scope of the appended claims.

Having thus described my invention, I claim:

1. In a beam box for scales, a metallic housing, a horizontally disposed wall upon which the weighing beam is suspended dividing the housing into a beam compartment located below said horizontal wall and a compartment above said wall into which the beam supports extend, and independent closures for said compartments.

2. In a beam box for scales, a metallic housing to contain the weighing beam of a scale having a lateral opening therein, a closure for the opening of greater marginal extent than that of the opening overlapping the margins of the opening and abutting on the face of the housing, and an outwardly extending flange overhanging the upper edge of the closure.

3. In a beam box for scales, a main body portion formed of sheet metal, and two spaced legs or pedestals also formed of sheet metal carrying at their upper ends the said main or body portion, one of said pedestals or legs having an opening thereinto and a passage therethrough communicating with the interior of the main body.

4. In a beam box for scales, a supporting frame within which the weighing beam is suspended, a metallic housing inclosing the rectangular frame and having an opening therein permitting access to said beam, and a closure for said opening.

5. In a beam box for scales, a metallic housing divided into two compartments, metallic pedestals on which the housing is supported, a hinged closure for one of the compartments, and a sliding closure for the other compartment.

In testimony whereof I have hereunto set my hand this 24 day of February, A. D. 1915.

CHARLES P. ZIMMERMAN.

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