F. H. LEHMAN.

SASH WEIGHT.

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1,050,553.

Patented Jan. 14, 1913.

Fig. 1.

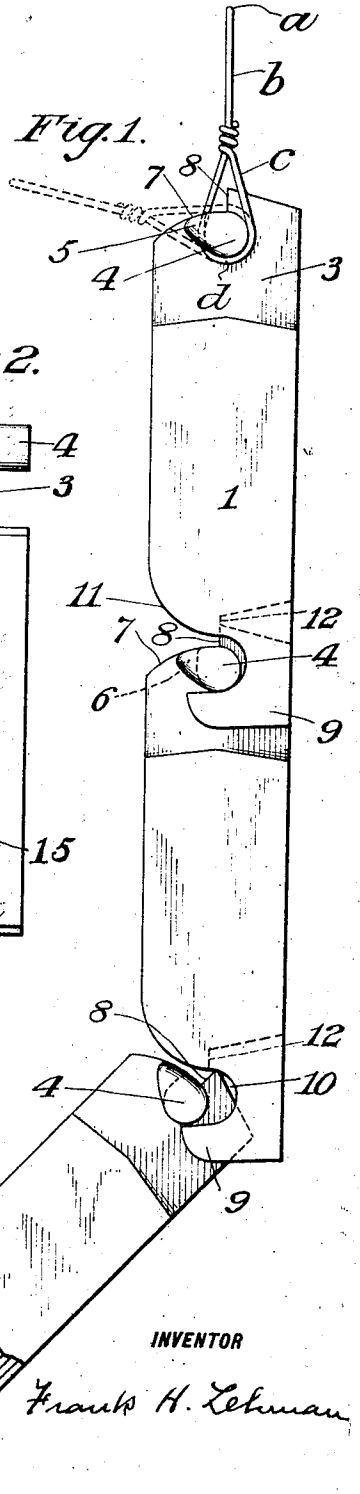

Fig. 4.

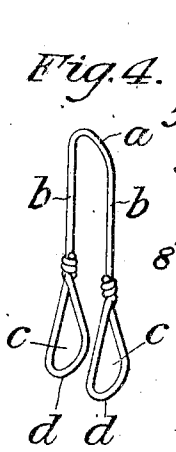

Fig. 3.

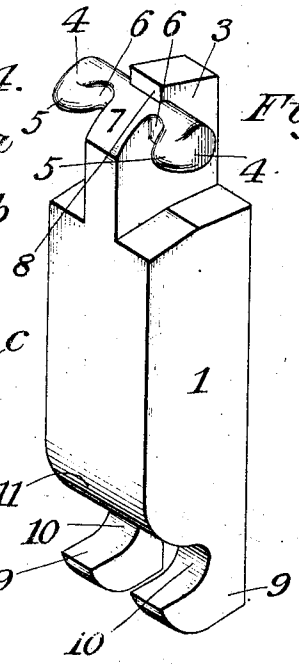

Fig. 2.

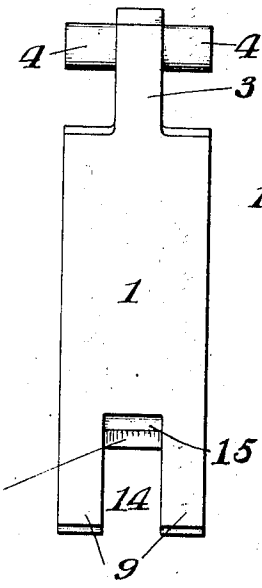

Fig. 5.

WITNESSES:

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SASH-WEIGHT.

1,050,553. Specification of Letters Patent. Patented Jan. 14, 1913.

Application filed November 22, 1909. Serial No. 529,358.

To all whom it may concern:

Be it known that I, FRANK H. LEHMAN, a citizen of the United States, residing in the city of Lebanon, county of Lebanon, and State of Pennsylvania, have invented certain new and useful Improvements in Sash-Weights, of which the following is a specification.

My invention relates to improvements in sash-weights and particularly to what are known as sectional sash-weights, in which a series of similarly formed units or sections, having corresponding engaging and locking means, are provided for connection one with another, whereby any number of sections necessary for counterbalancing a window sash of any weight may be readily assembled and suspended in the sash box.

One of the objects of my invention is to provide in a sectional sash-weight special and novel means for attaching a cord, chain, or other suitable suspending medium, to the weight, said means consisting of opposed laterally extending arms having notches therein or keepers formed thereon, whereby a U shaped hanger having opposed terminal loops is adapted to be detachably engaged by said arms and to be securely interlocked therewith when the hanger is brought into longitudinal alinement with the weight.

Another object of my invention is to supply a weight of this type, which can be easily and cheaply manufactured without the use of a core in molding, and which will be very strong and durable and capable of withstanding the rough usage incident to tumbling, handling and shipping.

With the above and other objects in view, the invention consists in the novel construction and arrangement of parts hereinafter fully described, illustrated and claimed.

In the accompanying drawings, Figure 1 is a side elevational view showing two weight sections coupled together, and a third section, partly in section, in the extreme angular position necessary for effecting its engagement with the second section. Fig. 2 is a rear elevational view of a section. Fig. 3 is a perspective view of the same. Fig. 4 is a perspective view of the novel hanger used in suspending the weights; and Fig. 5 is a view in side elevation showing a group of assembled sections as the same appear when being drawn from a horizontal supported position to a vertical suspended position by means of a chain or rope.

Like characters of reference indicate like parts throughout the several views.

Referring now to the drawings, 1 designates a section of a sash-weight embodying my invention, comprising an intermediate body portion which is preferably rectangular in cross-section and is provided at its upper and lower ends respectively with terminal male and female engaging and locking members, the former consisting of a substantially centrally disposed and laterally restricted continuation of the body portion producing the tongue 3, and the latter of the two oppositely disposed and spaced extensions of the lateral portions of the body forming the hooks 9, the space 14 between the hooks being slightly wider than the tongue 3 and thus adapted to accommodate the tongue of a corresponding adjacent section. At its upper end, the tongue 3 is provided with the opposed laterally projecting and preferably centrally disposed arms 4, and above said arms, with the shoulder 8 formed by a longitudinal extension of the rear portion of the tongue. The hooks 9 open toward the front of the weight, and the openings 10 thereof are of sufficient height and depth to loosely receive the laterally projecting arms 4 of the corresponding adjacent section; while a recess 15, formed in the lower rear part of the weight body contiguous to and of equal width with the space 14 between the hooks 9, and terminating at its forward end in an abutment 12 lying in the same plane substantially with the front face of the shoulder 8, is adapted to receive the shoulder of such corresponding adjacent section, and, by the cooperation of said abutment and shoulder, the former acting as a stop to prevent forward movement of the latter, to prevent accidental disconnection of the sections when the same are hung in vertical alinement in the manner hereinafter explained. It will be observed that in the present instance the recess 15 does not extend from one side of the weight body to the other, but that the same terminates forwardly at the abutment 12, the plane of said abutment and the front face of the shoulder 8 being preferably parallel with the front and rear faces of the weight and disposed preferably midway therebetween.

In sectional sash-weights of this character it is highly desirable that the engaging and locking members should be so constructed as to permit of the several sections constituting a given weight being very closely and compactly nested together, in order that the least possible unoccupied or dead space may be left between the sections, and so that the mass of the united sections may approximate as closely as possible that of a solid non-sectional weight of equal length and similar cross section, and for the further purpose of providing convenient means for readily and positively connecting the weights to a chain by means of a hanger which may be easily and quickly adjusted and so interlocked therewith as to obviate accidental disconnection, I have in my present invention provided novel and very efficient means, the same consisting of a specially devised U-shaped hanger shown in Fig. 4, adapted to co-act with notches 6 and lugs 5 formed on the laterally extending arms 4 of the tongue 3.

While I believe this mode of securing sectional sash-weights to the suspending cord or chain, by the use of a hanger and specially formed laterally extending arms provided on one end of the weight section, to be entirely new and heretofore unknown in the art, and do not therefore wish to limit myself to any particular details of construction, I preferably employ a hanger U shaped, as stated, and bent up from spring wire, having two loop-bearing arms *b* united by a return-bend *a* whereby said arms are normally and yieldably held in parallel relationship with each other. The loops *c* carried by the arms *b* are preferably arc-shaped at their lower portions and have their upper portions formed by tangentially and convergingly continuing the opposite sides of the arc-shaped portions upwardly to the arms. The laterally extending arms 4 of the tongue 3 of the weight section have their extremities shaped cross-sectionally similarly to the loops *c*, being elongated preferably toward the front of the section and having converging upper and lower front faces and rounded or cylindrical rear faces, whereby when the hanger is presented to the section at an angle slightly greater than a right angle and the arms *b* thereof sprung slightly apart, the loops may be slipped over said elongated extremities of the arms, as shown in Fig. 1 by the dotted lines. Notches 6 formed in the arms 4 adjacent the opposite sides of the tongue permit the hanger, when the loops have been thus slipped over the extremities and allowed to return to their normal parallel relationship, to be turned into line with the longitudinal axis of the section, as shown by the full lines in Fig. 1, in which position of the hanger the front portions 5 of said extremities of the arms 4 operate as keepers to prevent detachment of the hanger and section while thus alined.

For suspending a weight in the sash box, it is clear that a cord or chain may be readily secured to the return-bend of the hanger, as shown in Fig. 5.

In operation, two of my improved weight sections may be coupled together by presenting the tongue member of the second section to the double-hook member of the first at an angle of approximately forty-five degrees, in which position the tongue may be introduced into the space 14 between the hooks and the shoulder 8 passed behind the abutment 12 and caused to enter the recess 15, while the laterally projecting arms 4 enter the hook openings 10. When now the second section is permitted to swing into alinement with the first, the sections will be securely locked together against accidental disengagement by the abutment 12 acting on the shoulder 8 and preventing forward movement of the second section so long as the sections remain thus alined. In attaching the first of a series of sections to the chain or rope, the loops of the hanger are first slipped over the laterally extending arms 4, and the hanger is then turned into line with the section, when it will be securely locked thereto by the operation of the grooves 6 and the keepers 5 as before described; and the rope or chain 13 is then attached to the hanger.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is—

1. A sash-weight having at one end laterally and oppositely projecting arms, and cone-shaped lugs formed on the outer ends of said arms, said lugs having their greater axes at right angles to the axes of the arms and at right angles to the longitudinal axis of the weight.

2. The combination with a sash-weight having laterally projecting alined arms at one end thereof with pear-shaped lugs formed on the outer ends of said arms, of a U shaped hanger having a resilient return bend and provided with rigid closed-loop, pear-shaped terminal members, whereby said weight is adapted to be detachably connected and interlocked therewith.

3. The combination with a sash-weight having opposed and laterally projecting arms at one end thereof, recesses formed in said arms adjacent the body of the weight, and lugs of a given conformation formed on the outer ends of said arms; of a U shaped hanger having a resilient return bend with rigid closed-loop terminal members, said terminal members being shaped to conform with said lugs.

4. A sash-weight section having hooks and a locking member at one end and laterally extending arms and a locking member

adapted to engage the hooks and locking member of an adjacent section at the other end, said arms being formed with recesses adjacent the body portion of the section and being provided at their outer ends with pear-shaped lugs extending width-wise of the section.

This specification signed and witnessed November, 1909.

FRANK H. LEHMAN.

Witnesses:
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