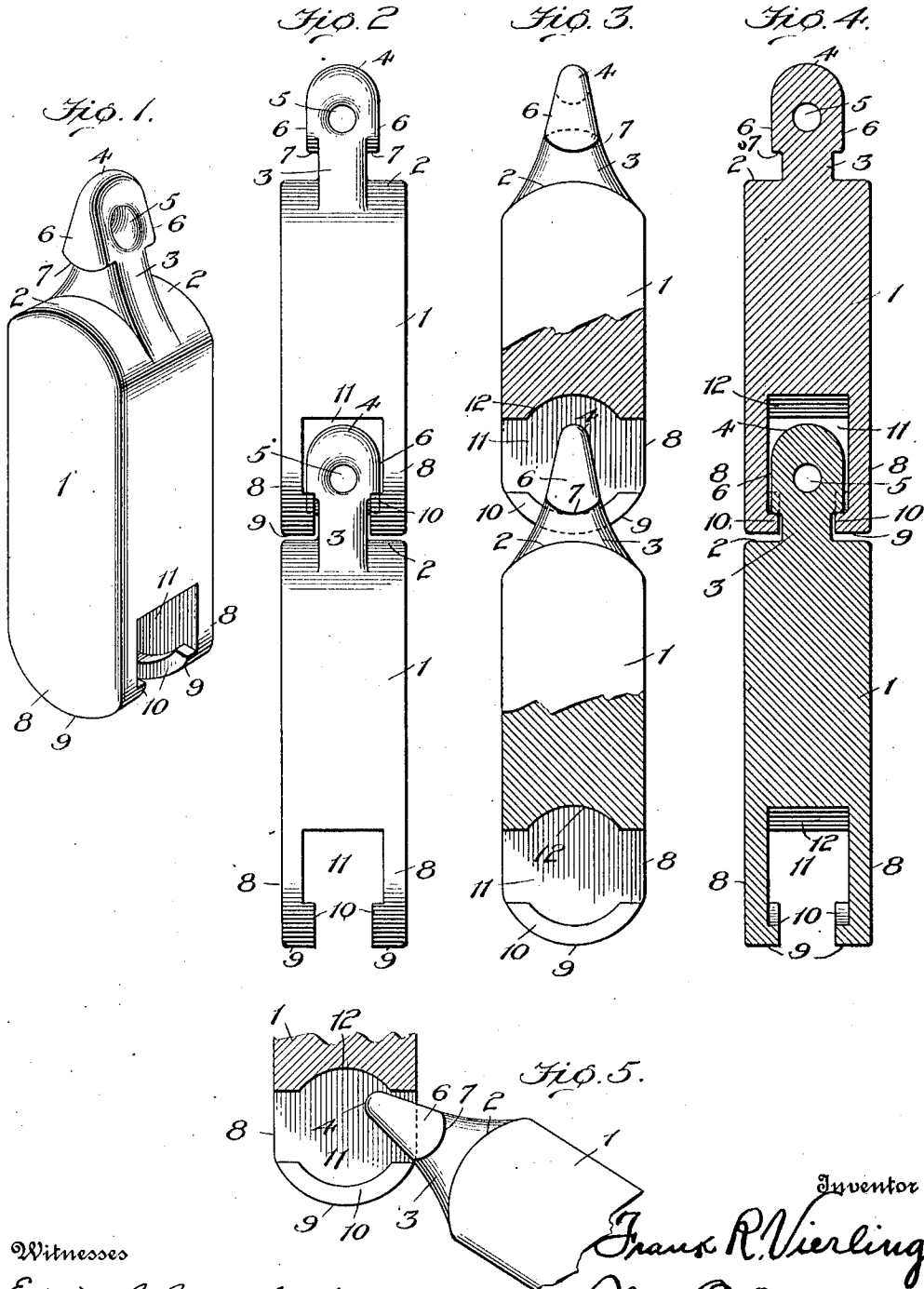


F. R. VIERLING.
SASH WEIGHT.
APPLICATION FILED FEB. 6, 1912.

1,048,607.

Patented Dec. 31, 1912.



Witnesses
Edwin L. Bradford
M. D. Ballauf

384

Inventor
F. R. Vierling.
M. C. Dye,
Attorney

UNITED STATES PATENT OFFICE.

FRANK R. VIERLING, OF OMAHA, NEBRASKA.

SASH-WEIGHT.

1,048,607.

Specification of Letters Patent.

Patented Dec. 31, 1912.

Application filed February 5, 1912. Serial No. 675,623.

To all whom it may concern:

Be it known that I, FRANK R. VIERLING, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Sash-Weights; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates, generally stated, to builders' hardware, but more particularly to sash-weights, and with greater particularity to sectional sash-weights formed of attachable and detachable units arranged and adapted to collectively provide the exact weight required as a counterbalance for a particular sash or other object of given weight.

The invention has among other purposes that of producing inexpensive, durable and efficient weight members or units of cast metal which may be taken from the molder's sand in practically a finished condition; weights of the character described adapted to be readily and securely coupled together or uncoupled, by agency of self-contained means, through openings such as ordinarily provided in window frames, and within the limited confines of the ordinary sash-casings; and also weights possessed of structural features adapted to render them proof against accidental separation when once properly assembled.

The invention will be hereinafter particularly described and pointed out in the claims following.

In the accompanying drawings which form part of this application and whereon corresponding numerals refer to like parts in the several figures: Figure 1 is a perspective view of one individual sash weight or unit. Fig. 2 is a side elevation of two weight-sections or units connected in operative relation. Fig. 3 is a face view of parts shown by Fig. 2, the lower end of each unit being in section to illustrate more clearly the manner of connecting them. Fig. 4 represents a longitudinal central section through the same units, and, Fig. 5 is a fragmentary view showing the lower end of one unit in section, and the opposite or upper end of a second or adjacent unit at the instant of being attached or coupled together.

Reference being had to the drawings and

numerals thereon, it will be noted that but two weight-sections or units are here shown connected for purposes of illustration, but obviously these may be multiplied indefinitely in number, size and weight without in the least departing from the spirit of this invention. Moreover, the said sections or units, except as to size and weight, are counterparts one of the other and for this reason the following detailed description of one is sufficient and applies equally to all.

The numeral 1 indicates the body portion of the present invention, same being by preference of rectangular form in cross section and of cast iron having its corners knocked off or rounded in the process of casting, and having also a curved or convex upper end as 2.

At its upper end the body portion 1 merges gradually and uniformly into a central wedge-like projecting web 3 entirely crossing said body having its upper end 4 perforated as at 5 and provided with integral suspension bearings or trunnions 6, 6. These bearings 6, 6 extend laterally from both sides of said web and are curved upon their lower edges as at 7 to afford at times rocker bearings upon which the units collectively may be flexed in a direction at right angles to the supporting axes of the said suspension bearings. The opposite or lower end of body portion 1 is broken by a transverse slot opening through the body or unit from side to side, and is constricted at its lowermost edge by oppositely disposed inwardly projecting segmental flanges; or in other words is bifurcated or formed with downwardly extending parallel side flanges 8, 8 having curved or convex lower extremities 9, 9, and oppositely disposed inwardly projecting segmental retaining fins 10, 10, as clearly indicated, thus leaving a rectangular chamber 11 having open ends and bounded upon opposite sides by flanges 8, 8 while above said chamber is an arched or concave roof 12 all for purposes now to appear in connection with a brief description of the process of assembling two or more weight-sections or units in operative relation.

An appropriate number of the improved sash-weight units having been selected with due regard to weight of the glazed sash or other object to be counter-balanced, and with regard also to the dimensions of the particular sash-casings, an ordinary sash-cord (not shown) is first secured through

the opening 5 of one unit. This unit is then introduced into the sash-casing where it hangs in a vertical position with one open end of its chamber or open ended slot 11 exposed to full view through the opening provided in all ordinary sash casings for the introduction of sash weights. In this, or substantially this position, the upper or wedge shaped end of a second unit is introduced into chamber or slot 11 at an angle as indicated by Fig. 5 of the drawings, until the rounded lower edges or rocker bearings 7 of trunnions or suspension bearings 6 pass the front ends of flanges or fins 10, the concavity 12 at top of the chamber 11 in the meantime affording the necessary clearance. This accomplished said second unit is permitted to drop into a vertical position as the first is elevated to make room for it in the sash-casing, the two then assuming the relative position indicated by Figs. 2, 3 and 4, with the end 4 of one within recess or slot 11 of the other, and with one pair of rocker bearings 7 supported by one pair of the segmental retaining flanges or fins 10 as best shown by Fig. 3. In like manner other sash-units may then be added according to requirements, and obviously when thus connected they collectively operate as a counterbalance, and perform the well known functions of ordinary one-piece weights but with the economical and structural advantages heretofore mentioned.

35 Having thus described my invention, what I now claim and desire to secure by Letters Patent is:

1. As an article of manufacture a sash weight unit comprising a body portion merging gradually and uniformly at one end into a central wedge-like projecting web, suspension bearings extending laterally from both sides of said web, said unit furthermore being bifurcated at its opposite end and having a constricted portion for

engaging and retaining suspension bearings, such as aforesaid, upon an adjacent unit whereby units thus connected may be collectively flexed in a plane at right angles to the supporting axis of said suspension bearing, in either direction from the longitudinal axis of said units.

2. As an article of manufacture a sash weight unit comprising a body portion merging gradually and uniformly at one end into a central wedge-like projecting web, suspension bearings with curved lower edges extending laterally from both sides of said web, said unit furthermore being bifurcated at its opposite end and having oppositely disposed segmental fins for engaging and retaining suspension bearings, such as aforesaid, upon an adjacent unit whereby units thus connected may be collectively flexed in a direction at right angles to the supporting axis of said suspension bearings.

3. As an article of manufacture a sash weight unit comprising a body portion merging gradually and uniformly at one end into a central wedge-like projecting web, suspension bearings extending laterally from both sides of said web, said unit being provided with a bifurcation at its opposite end in the same plane as that occupied by said web and furthermore having a constricted portion for engaging and retaining suspension bearings, such as aforesaid, upon an adjacent unit whereby units thus connected may be collectively flexed in a plane at right angles to the supporting axis of said suspension bearings, in either direction from the longitudinal axis of said units.

In testimony whereof I affix my signature, in presence of two subscribing witnesses.

FRANK R. VIERLING.

Witnesses:

JULIUS J. ZITNIK,
ELLA A. STEVENS.