H. A. Harvey,

Sash Weight.

No. 64,976. Patented May 21, 1867

Fig: 1.

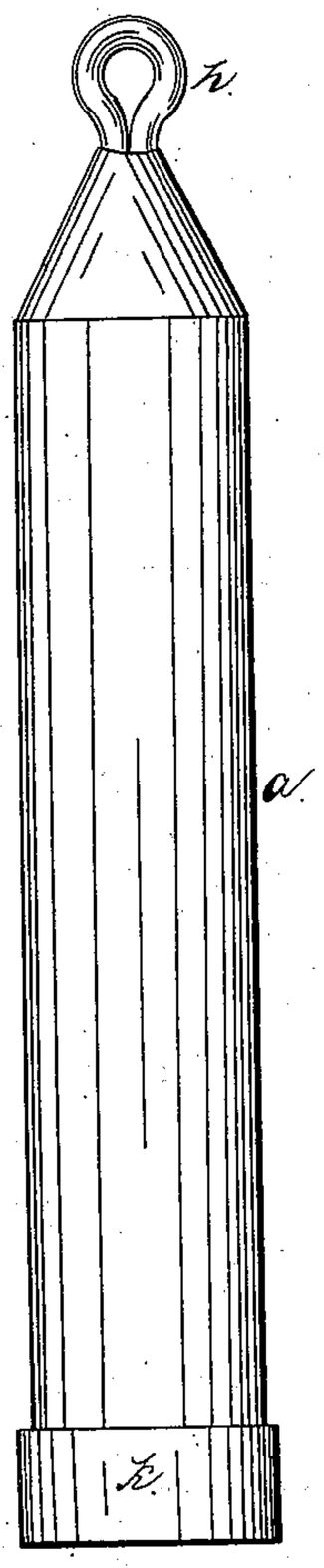
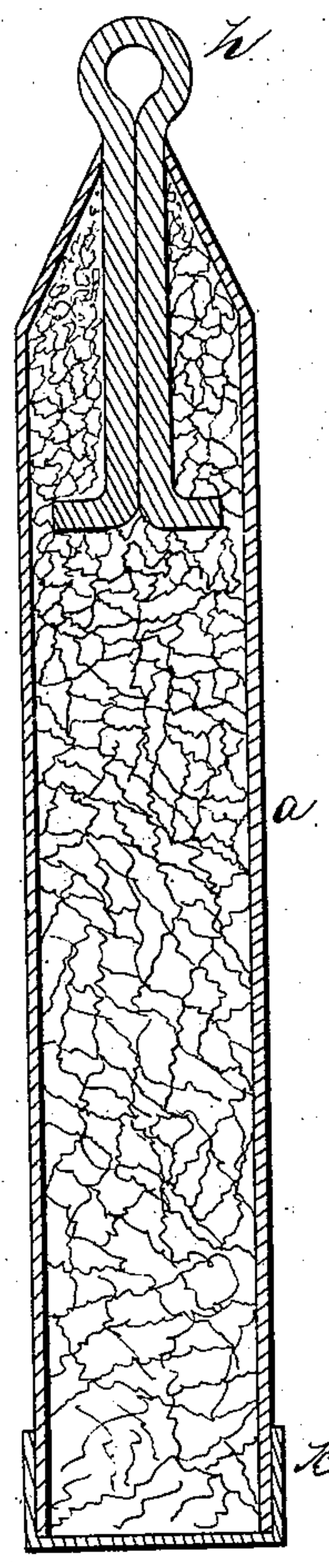


Fig: 2.



Witnesses:

S. S. Conklin

Wm. H. Kilroy

Inventor:

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United States Patent Office.

HAYWARD A. HARVEY, OF NEW YORK, N. Y.

Letters Patent No. 64,976, *dated May* 21, 1867.

IMPROVED WINDOW-SASH WEIGHT.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, HAYWARD A. HARVEY, of the city, county, and State of New York, have invented a new and useful Sash-Weight; and that the following, taken in connection with the drawings, is a full, clear, and exact description thereof. In the drawings—

Figure 1 is an elevation of, and

Figure 2, a vertical section through my improved sash-weight.

It has been customary for many years to use sash-weights of cast iron, which are usually rough on their exterior and apt to cut or abrade the sash-cords, and are, moreover, costly. Weights for other purposes have also been made by enclosing shot, fragments of iron, stone, &c., in boxes of wood, or cases, such as bottles or jugs of earthenware, and lately sash-weights have been made of blast-furnace slag run in a molten state into metallic cylinders. The latter class of weights are deficient in specific gravity, and must therefore be made of increased size, but are improvements on the old cast-iron weight in so far as smoothness of outside is concerned. My weight is of greater specific gravity than the weights of the latter class, and is of comparatively small cost when compared with the cast-iron weights, while at the same time it has a smooth surface. Its manufacture on a large scale will, moreover, utilize large quantities of a material at present of small value.

My weight is composed of an exterior case of metal (sheet iron by preference) rammed full of broken or powdered iron ore, (primitive ore by preference, such as is found in the Lake Champlain region,) with the interstices filled and the particles cemented together with plaster of Paris, Roman or other cement or cementing substance, so as to form a species of concrete, the base of which is a heavy ore. This ore is often found containing either sulphur, phosphorus, or other foreign matters, in such quantities that it is valueless for metallurgic processes, and often contains as high as ninety per cent. of iron, and is, therefore, nearly as heavy as iron itself, and it is this kind of ore that I prefer to use.

I prefer to make the case *a* of sheet iron with a conical or pyramidal top, and attach thereto or insert therein an eye, *h*. The iron ore is then to be broken or ground up until it is of the size of small shot, no particles being larger than will conveniently enter the case, and rammed into the case from the bottom. The interstices between the particles of ore are then to be filled with cement in a fluid state. If the weight be a long one I first ram in a quantity of ore, partially filling the case, then pour in cement, then ram again, and so on in succession till the case is full. Another method of manufacture that I have essayed with success is to make the concrete first and then pour it into the case and ram it, if desired. The bottom of the case *k* is then put on and secured, and the weight is finished.

Where heavy ores, such as lead ores, are cheap, I intend to use them as the base of the concrete in place of and as an equivalent for iron ore, and I find by experience that the case really needs no bottom, a simple turning or bending inwards of the bottom edge, so as to form an irregular or regular flange, serving to hold the concrete within the case.

Other modes of manufacture may be adopted, but the weight when finished must be a metallic case filled with a concrete of ore and cement. The finished weight will be of small cost when compared with cast iron of greater specific gravity than compound weights heretofore made, and will have a smooth surface.

I claim as of my own invention, the new article of manufacture herein described, namely—

A sash-weight composed of a metallic case filled with iron ore and cement, manufactured as herein set forth.

H. A. HARVEY.

Witnesses:

GEO. W. PENWARDEN.

F. I. DOMINICK.