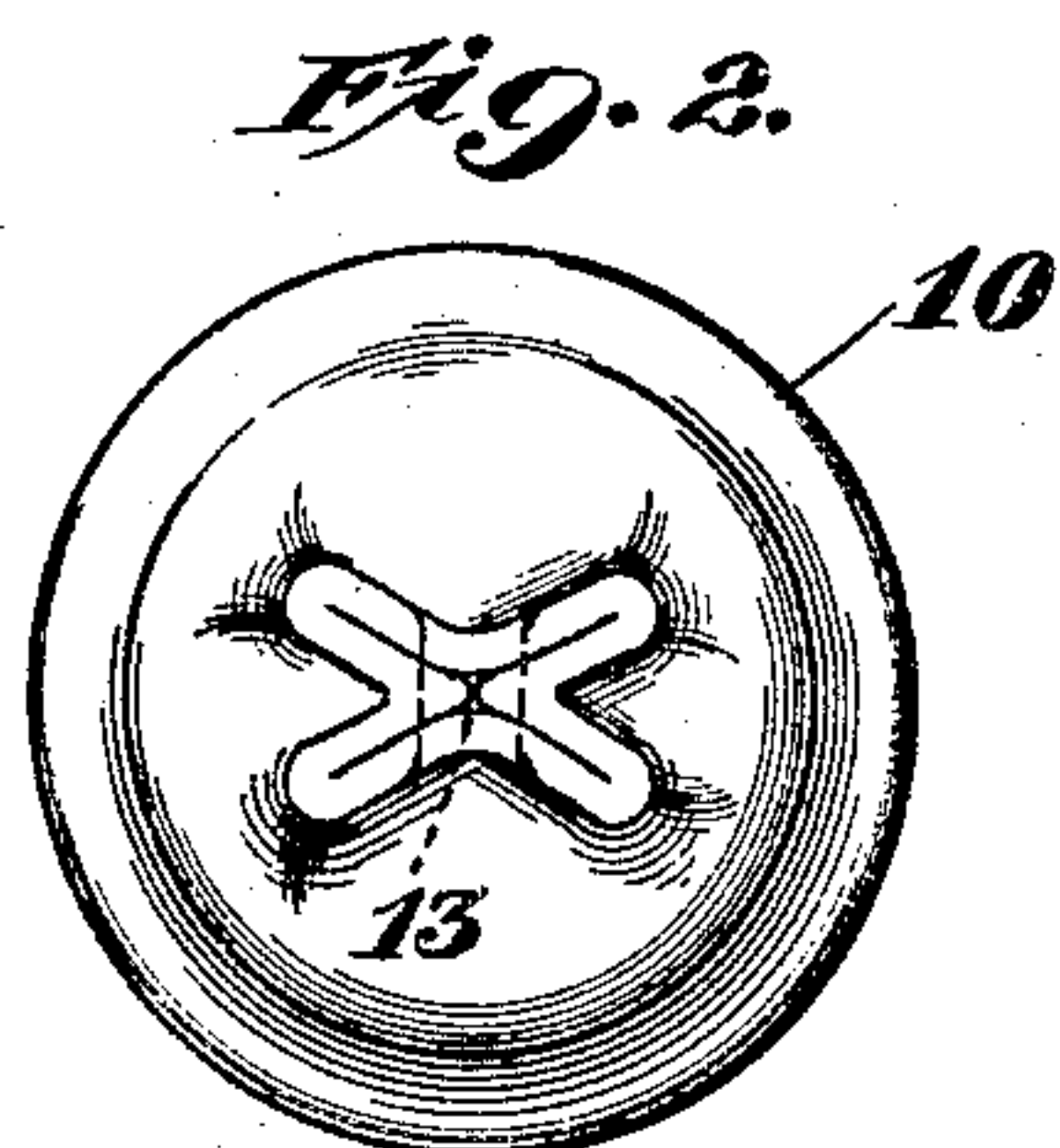
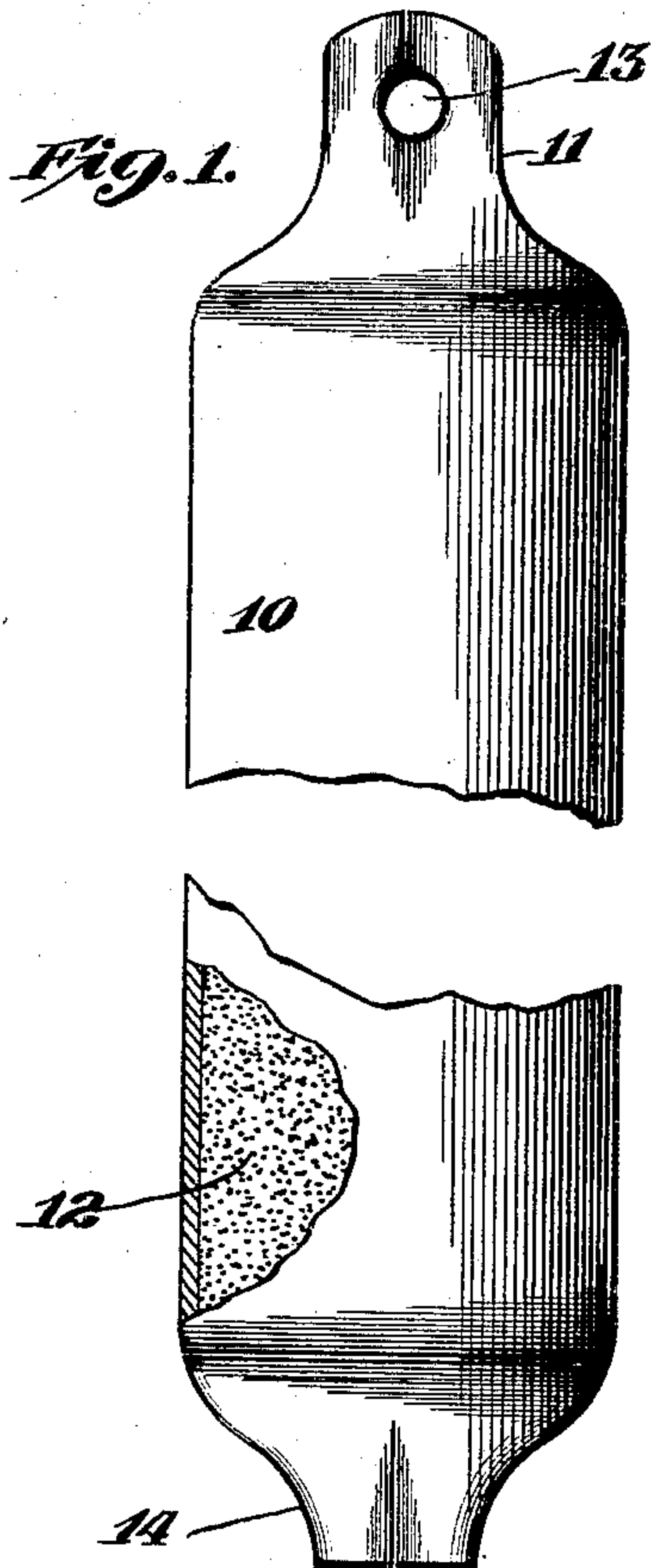


No. 863,635.

PATENTED AUG. 20, 1907.

C. E. POPE.
BALANCE WEIGHT.
APPLICATION FILED JUNE 11, 1906.



Attest:
Comitche }
Geo. L. Cooper

Inventor:
Charles E. Pope.
by *Dickerson, Brown,*
Reegener + Binney Attys.

UNITED STATES PATENT OFFICE.

CHARLES E. POPE, OF PITTSBURG, PENNSYLVANIA.

BALANCE-WEIGHT.

No. 863,635.

Specification of Letters Patent.

Patented Aug. 20, 1907.

Application filed June 11, 1906. Serial No. 321,133.

To all whom it may concern:

Be it known that I, CHARLES E. POPE, a citizen of the United States, and a resident of Pittsburg, county of Allegheny, State of Pennsylvania, have invented
5 certain new and useful Improvements in Balance-Weights, of which the following is a specification.

My invention relates to tubular balance weights such as are commonly used to counterpoise window sashes, and for similar purposes. Its object is to pro-
10 duce a weight which shall be of substantially the same specific gravity as the ordinary cast iron weight, but of smoother exterior surface, and less frangible, as well as more economical in manufacture.

In the drawings, Figure 1 is an elevation, partly
15 broken away, of a sash weight embodying my invention. Fig. 2 is a top plan view thereof.

To make a sash weight according to my invention, I take a piece of wrought iron or steel tubing of the proper length and diameter for the required weight,
20 and form at one end of its body portion 10 an axially disposed indrawn crimped or folded head 11, which is substantially closed so as to prevent the escape of the filling material therefrom. The head 11 may be formed in either a drawing or stamping press, as desired, and
25 may preferably be of the cruciform cross section clearly shown in Fig. 2. This head 11 is then transversely perforated at 13 to receive a supporting cord or chain. I then fill the tubular shell with a mass 12 of suitable heavy filler, which may be iron ore dust, pulverized
30 scale or heavy cinder. The lower end of the tube is then indrawn and crimped, as shown at 14, Fig. 1, the bottom closure being made tight as before. It is of course understood that the walls of the head 11 are closed together for a substantial distance so that the
35 perforation 13 will not permit the shaking out or loss of any of the filling material therefrom. It will be seen that the sash weight so made has both ends of its tube tightly closed to prevent the escape of filling

material, that its diameter is constant from end to end of the body portion so that there are no projecting
40 shoulders to prevent its smooth passage through the casing if the balance is used for a sash weight or the like, and that its weight is substantially equal to that of cast iron. The head of the tube being integral with the body and of the same wrought material, is very
45 strong and cannot be broken off. In addition, the hole 13 for the cord being pierced and preferably tapered, as shown, affords an easy passage for the cord or chain in contradistinction to the hole in the upper
50 end of the ordinary sash weight, which is apt to fill with sand or slag which must be chipped out before the cord can be placed therein, leaving rough edges which are apt to cut or chafe the cord.

I have filed of even date herewith, Serial Nos. 321,132; 321,134 and 321,135 other applications for
55 balance weights formed with wrought tubular bodies, and showing different methods of closing the upper and lower ends thereof. As these closures of the upper and lower ends are independent of each other, it is obvious that they are to a certain extent interchangeable, that
60 is, the indrawn head of the present application might be used with the form of bottom closure shown in either of the other applications. It is of course obvious that I do not herein claim anything claimed in any of said
65 applications.

What I claim is:

1. A balance weight comprising a tubular body formed with an indrawn crimped transversely pierced closed head, a closed bottom and a heavy filling.
2. A balance weight comprising a tubular body formed
70 with an indrawn closed crimped end substantially cruciform in cross section, and a heavy filling.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CHARLES E. POPE.

Witnesses:

JOHN F. KRAFT,
JAMES S. DOUTHITT.