F. J. BRUNELL.

COUNTERWEIGHT.

APPLICATION FILED JUNE 5, 1918.

1,281,503. Patented Oct. 15, 1918.

Fig. 1.

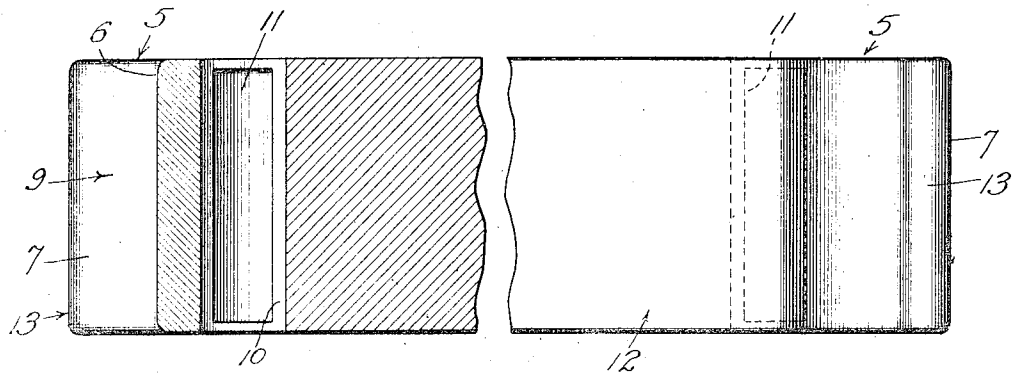


Fig. 2.

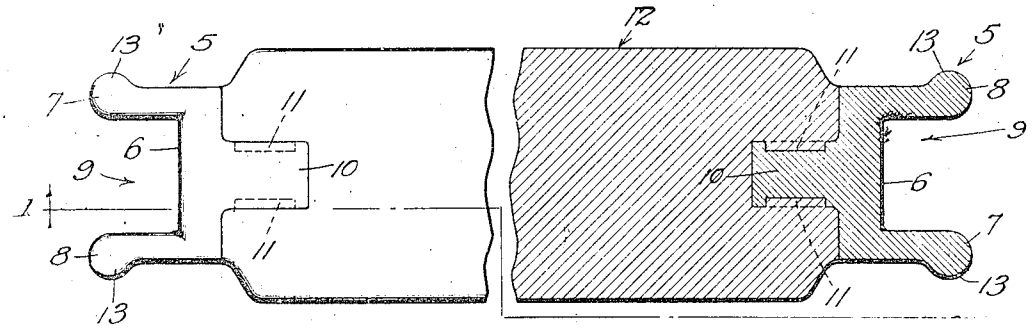
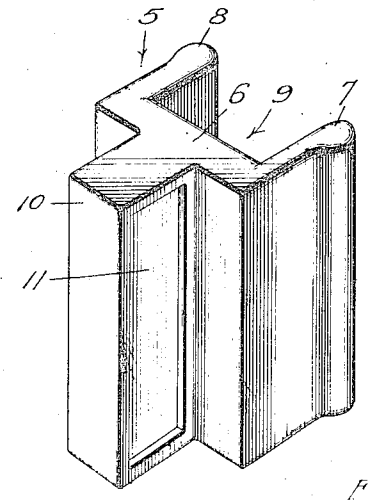


Fig. 3.



Witnesses:
Robert H. Weir
Arthur W. Carlson

Inventor
Frank J. Brunell
by Jones Bain & Beam
Atty's.

UNITED STATES PATENT OFFICE.

FRANK J. BRUNELL, OF CHICAGO, ILLINOIS.

COUNTERWEIGHT.

1,281,503. Specification of Letters Patent. Patented Oct. 15, 1918.

Application filed June 5, 1918. Serial No. 238,296.

To all whom it may concern:

Be it known that I, FRANK J. BRUNELL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Counterweights, of which the following is a specification.

My invention relates to improvements in counter weights and has especial reference to weights of this character used to counterbalance elevator cages.

Weights of this character, as practically used in elevator installations, are relatively long and have their ends tooled so as to smoothly work between parallel wooden or metal guides.

A shoe of greater or less width, depending upon whether the vertical guides are of wood or metal, is usually fashioned in each end of the weights, and made smooth, so that they will slide over the vertical guiding surfaces with as little resistance, due to friction, as may be, thereby minimizing wear of the contacting surfaces.

The cheapest grade of iron is as well adapted for weights, such as that which is made of worthless scrap, comprising largely, discarded old tin cans, and the like, as a higher quality. The difficulty encountered in attempts to use it is that it is very refractory and difficult to tool and since the castings made of it wholly are exceedingly rough, the charge for labor required to finish the guide surfaces is greater than the difference in the cost of the two grades of metal. The result is that a higher grade of iron has heretofore been used entirely for the purpose. Even when a more expensive soft iron is used, and the shoes are made integral parts of the weights, the inconvenience of handling the entire mass, to tool the shoe, increases the productive cost for labor, as well as for material.

One of the objects of my invention is to make weights, of the character described, of the cheaper grade of iron and to make separable shoes, of relatively light weight and size, of a superior metal. I then clean and smooth up the shoe surfaces by pickling or tumbling or both, until they are practically as smooth as when finished by more expensive tooling.

After the shoes are fitted, they are then placed in a mold and the body part of the weight, constituting the lower grade of iron is cast around portions of the shoes to hold them permanently attached to said body part.

Other and more specific objects of my invention will become readily apparent to persons skilled in the art from a consideration of the following description when taken in conjunction with the drawings, wherein:—

Figure 1 is a broken-in-two elevation of the weight, showing one part in section, taken on line 1—1 of Fig. 2, and the other part in elevation.

Fig. 2 is a plan view showing a part in section.

Fig. 3 is an isometric perspective view of the shoe before being placed in the mold to be joined to the main body part of the weight.

In all the views the same reference characters are employed to indicate similar parts.

The shoe consists of a U-shaped part 5 provided with a yoke portion 6 and two projecting ears or prongs 7 and 8, forming between the prongs a space 9, within which is to be contained the vertical guides upon which the shoes move when they are performing the functions intended. In the center of the yoke part 6, and projecting rearwardly thereof, is a leg 10, provided with an incut panel 11, on each side, to receive portions of the cast iron weight 12, when the latter is molded around that portion of the shoe. The prongs 7 and 8 are outwardly enlarged, as at 13, so as to hold them more firmly in the mold and to prevent them from floating or being disturbed by the washing effect of the liquid iron when the body part 12 is being cast.

The incut panel 11 serves to hold the two different qualities of metal firmly together and does not weaken the shoe to any extent, as any contraction of the hotter metal on either side of the rearwardly projecting part 10, tends to apply a crushing strain to this part rather than to produce an effect to tear it asunder, as it would if a hole were made through the projection 10.

While I have herein shown a single embodiment of my invention, for the purpose of clear disclosure, it is manifest that changes may be made in the configuration and arrangement of the parts within the scope of the appended claims.

Having described my invention, what I claim is:—

An elevator counter-weight comprising a body part having a shoe at each end, each said shoe comprising a U-shaped part having a rearwardly projecting shank in the median plane of said part and having indentations in its sides to receive cast metal of the body part, said shoes being held in place by the metal of the body part entering said indentations and partly surrounding said shank.

In testimony whereof I hereunto subscribe my name.

FRANK J. BRUNELL.