

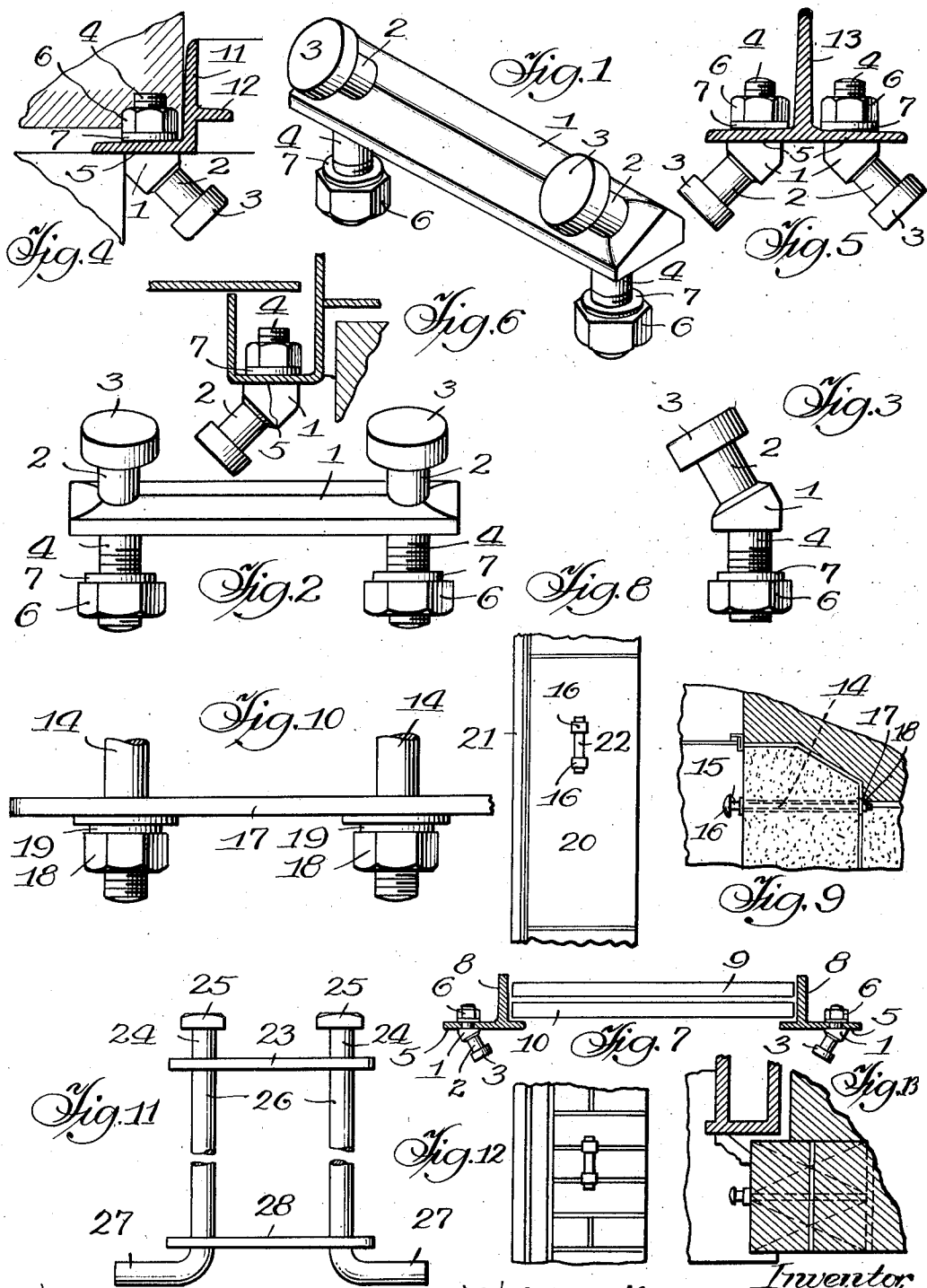
July 13, 1937.

W. L. HARRISON

2,086,768

WINDOW CLEANER'S SAFETY ANCHOR

Filed June 25, 1935



Witness:
Chas. H. Koush.

By

William L. Harrison,
Parkinson & Lane, Attys.

Inventor

UNITED STATES PATENT OFFICE

2,086,768

WINDOW CLEANER'S SAFETY ANCHOR

William L. Harrison, Chicago, Ill., assignor to
Harrison-Weise Company, Chicago, Ill., a corporation of Illinois

Application June 25, 1935, Serial No. 28,318

6 Claims. (Cl. 20—72)

This invention relates to window safety anchors to insure the safety of window cleaners, and to which anchors the ends of the window cleaner's safety belt are fastened to prevent him from falling while cleaning windows at greater or less heights.

Formerly safety anchors were made with their ends formed into lag screws to be screwed into each side of the wooden window casing, with the attendant danger of the wood becoming rotten, rusting of the threads, etc., and the anchor pulling out. Then later came into use safety anchors extending entirely through the window casing, wall or the like, with nuts or other fastening means, for securing the inner ends of the anchor rods to a metal bar or the like, but in these devices the anchor was made of several separate parts which ultimately would become loosened with respect to each other because of rust, strains or other causes, and ultimately become unsafe. And this is true even were such parts spot welded together, for the reason that the area of a spot weld is so small that in time it will rust through and the parts of the anchor become loose.

The value of human life is so great as to demand the very highest safeguards against danger. As is well known, window cleaners in cities have to perform their duties at great heights, where a single slip or misstep will in an instant of time cause their very lives, as well as the lives of others on the street below, to be entirely dependent upon the safety anchors to which their safety belt is attached. It is thus apparent that the need is tremendously great for safety anchors that are as near perfection as possible.

Among the objects of the present invention is to provide such safety anchors that will be at all times dependable and possess the maximum degree of safety.

Another object is to provide a safety anchor in which the various parts are integrally united and capable of easy installation in the building.

A further object is to provide a safety anchor having no joints to become weakened from rust or other causes.

A still further object is to provide a safety anchor that is forged into a single piece.

Another object is the provision of safety anchors that combine speed of attachment of the ends of the safety belt thereto with maximum safety.

Other objects, advantages and capabilities will later more fully appear.

My invention further resides in the combina-

tion, construction and arrangement of parts illustrated in the accompanying drawing, and while I have shown therein preferred embodiments, I wish it understood that the same are susceptible of modification and change without departing from the spirit of my invention.

In the drawing:—

Fig. 1 is a perspective view of a safety anchor embodying my invention.

Fig. 2 is a side elevation of the safety anchor shown in Fig. 1.

Fig. 3 is an end elevation of the safety anchor shown in Figs. 1 and 2.

Fig. 4 is a view partly in section showing one manner of attachment of the safety anchor to a metal window casing.

Fig. 5 is a view partly in section showing a pair of my safety anchor units attached to a mullion.

Fig. 6 is a view partly in section showing one of my improved safety anchor units attached to a hollow metal casing.

Fig. 7 is a view partly in section showing a pair of my safety anchor units attached to a metal window casing.

Fig. 8 is a fragmentary front elevation showing one of my improved safety anchor units attached to a stone window jamb.

Fig. 9 is a fragmentary transverse horizontal section through Fig. 8.

Fig. 10 is a fragmentary side elevation of the inner end of the anchor rods and showing the bar to which they are secured in the general type of construction shown in Figs. 8 and 9.

Fig. 11 is a modified form of safety anchor shown in side elevation.

Fig. 12 is a fragmentary front elevation of a brick window jamb showing the type of safety anchor shown in Fig. 11 applied thereto.

Fig. 13 is a fragmentary transverse horizontal section through Fig. 12.

Referring more specifically to Figs. 1 to 7, inclusive, which show the preferred form of my improved safety anchor unit, the parts of the safety anchor unit (with the exception of the nuts which secure the same in place) are all made integrally in one piece preferably by forging, and preferably of a substantially non-corrosive metal. The body portion 1 has integrally formed therewith the neck portions 2, on each of which is formed the head 3 over which the clips on the ends of the safety belt are fastened. Extending from the opposite side of the body portion 1 and opposite the neck portions 2, are the threaded rod-like extensions 4 which extend at an angle to the neck portions 2. This angularity is effective-

ed by forming the upper and lower faces of the body portion 1 at an angle to each other. Or in other words, one edge of the body portion is thicker than the other. The purpose of having the neck portions 2 stand at an angle will be readily understood by an inspection of Figs. 4, 5, 6 and 7, in which it will be seen that this angularity places the heads 3 and necks 2 in better position to have the safety belt clips placed thereover, and also lessens sidewise strains that would otherwise tend to bend the neck portions 2.

In securing these safety anchor units in position in metal window casings, mullions and the like (see Figs. 4, 5, 6 and 7), the threaded rod-like extensions 4 will each be inserted through a corresponding hole in the web, flange or the like 5, and the nut 6 with a split spring washer or the like 7 therebeneath screwed tightly into place. This tightly secures the safety anchor units in position for use, with the heads 3 of each unit in vertical alinement with each other.

In Fig. 7 the metal window casing is shown at 8, and the upper and lower window sash at 9 and 10, respectively. In Fig. 4 the metal window casing 11 is provided with the guide strip 12. Fig. 5 shows two of my safety anchor units applied to a metal mullion having the outer faces 5 and the inwardly extending flange 13.

In the form shown in Figs. 1-7, it is seen that the safety anchor unit (with the exception of the nut and spring washer) is integrally made in one piece of non-corrodible metal, and thus affords maximum strength and safety, for the reason that there are no separate parts to become loosened from one another or detached. The unit is accordingly practically everlasting, and due to the neck and head protruding outwardly at the proper angle is instantly available for use without setting up strains sidewise therein to bend and weaken the parts.

In the form shown in Figs. 8, 9 and 10, the rod-like extensions 14 are made longer to accommodate the greater thickness of a stone, brick, concrete or other form of masonry wall. Also the neck 15 protrudes straight instead of at an angle (but it may extend angularly if desired). The head in this form is shown at 16. There is also provided the anchor plate 17, which is formed with properly spaced holes to receive the rod-like extensions 14, and nuts 18 then screwed on the ends thereof to firmly secure the safety anchor unit in place in the masonry wall. Underneath the nuts are placed split spring washers 19 to hold the nuts against loosening. In this form the parts (with the exception of the nuts, spring washers, and plate 17) are also integrally formed in a single piece, preferably by forging. The face of the stone window jamb is shown at 20, and the window sash at 21. The two neck portions 15 are integrally connected by the body portion 22.

In Figs. 11, 12 and 13 are shown another form having the body portion 23, the neck portions 24, the heads 25 and the rod-like extensions 26. In this form the inner end of each of the rod-like extensions is formed with an angular extension 27, and just back of these is the cross brace and anchor plate 28. All of the parts enumerated are integrally formed into a single piece, preferably by forging. This form is especially adapted for use in a brick wall in which the bricks are laid around the various parts of the safety anchor unit during the building of the wall to firmly incorporate and embed the same therein. Figs. 12 and 13 show this form of safety

anchor unit as built into a brick wall, with the heads 25 and neck portions 24 protruding for attachment thereto of the clips on the ends of the safety belt.

Having now described my invention,
I claim:

1. In window construction a masonry window jamb, a safety anchor unit secured thereto, said unit comprising a body portion from which extends on one face thereof a pair of spaced headed neck portions, and from which body portion extends from the opposite face a pair of spaced, elongated rod-like extensions in respective alinement with the neck portions, said rod-like extensions extending through the masonry jamb, the said body portion, pair of headed neck portions, and pair of spaced elongated rod-like extensions being made integrally in a single piece, a cross bar having spaced openings through which the end portions of the rod-like extensions extend, and nuts threaded on said end portions to tighten the cross bar against the inner face of the jamb and said body portion against the outside of said jamb, with said headed neck portions extending outwardly to permit a safety belt to be attached thereto.

2. A safety anchor unit comprising a body member, a pair of spaced neck portions extending from one face of said body portion, an enlarged head on the free end of each of said neck portions, a pair of spaced rod-like extensions extending from the opposite face of said body portion and respectively in alinement with the neck portions, each of said rod-like extensions having at its end a laterally extending angular portion, a cross brace connecting the rod-like extensions adjacent the laterally extending angular portions, all of said parts being integrally formed in a single piece.

3. In window construction a masonry window jamb, a safety anchor unit comprising a body portion adapted to bear against the outer face of said jamb, a pair of spaced, headed neck portions extending outwardly from the body portion and adapted to receive and hold a safety belt clip, a pair of spaced, rod-like extensions extending from the opposite face of the body portion, a laterally extending angular projection on the end of each rod-like extension, a cross brace connecting said rod-like extensions adjacent said angular projections, said safety anchor unit being adapted to have the masonry material placed therearound during the building of the jamb, so that the unit is securely anchored in the jamb with the said headed neck portions projecting outwardly therefrom, the parts of said unit being integrally formed in a single piece.

4. A safety anchor unit comprising an elongated body portion having a rear face, a front face angularly positioned with relation to the rear face, said body portion being thicker at one edge than the other, a pair of spaced headed projections extending outwardly and forwardly from the front face and positioned one adjacent each end of the body portion, a pair of spaced rod-like extensions extending rearwardly from the rear face, said rod-like extensions being directly opposite the headed projections respectively, the angularity of the front and rear faces resulting in the pair of headed projections extending at an angle towards a window when applied adjacent thereto, said parts being integrally formed into a single piece.

5. A safety anchor unit comprising an elongated body portion having a rear face adapted

to seat against the outer face of a window casing, said body portion being thicker at one edge than the other, the front face of the body portion being angularly disposed with relation to the rear face, a pair of spaced headed projections positioned one adjacent each end of the body portion and protruding outwardly from said front face at an angle to the outer face of the window casing when applied thereto, a pair of spaced rod-like extensions protruding from said rear face, each of the rod-like extensions being directly opposite one of the spaced headed projections so that the pull on the headed projections will be transmitted directly to the rod-like extensions, said parts being integrally formed into a single piece, the rear end of each of the rod-like extensions being threaded to receive a nut to fasten the anchor unit securely to a window casing, a nut for each of said threaded portions, the angularity of the front face of the body portion to the rear face causing the headed projections to extend at an angle toward a window when applied adjacent thereto, said anchor unit

being fastened at a plurality of spaced points to the window casing, whereby the unit cannot turn while in use and the pull of the safety belt upon the headed projections will be transmitted directly through the rod-like extensions to the window casing with full safety to the operator.

6. A safety anchor unit comprising an elongated body portion having a front face and a rear face of generally angular inclination to each other for substantially the entire length of the body portion, a pair of spaced headed projections protruding outwardly and forwardly from the front face of the body portion and a pair of spaced rod-like extensions protruding rearwardly from the rear face of the body portion, each of the rod-like extensions being directly opposite one of the headed projections and angularly inclined with relation thereto so that the pull on each headed projection will be transmitted directly to a rod-like extension, said parts being integrally formed into a single piece.

WILLIAM L. HARRISON.