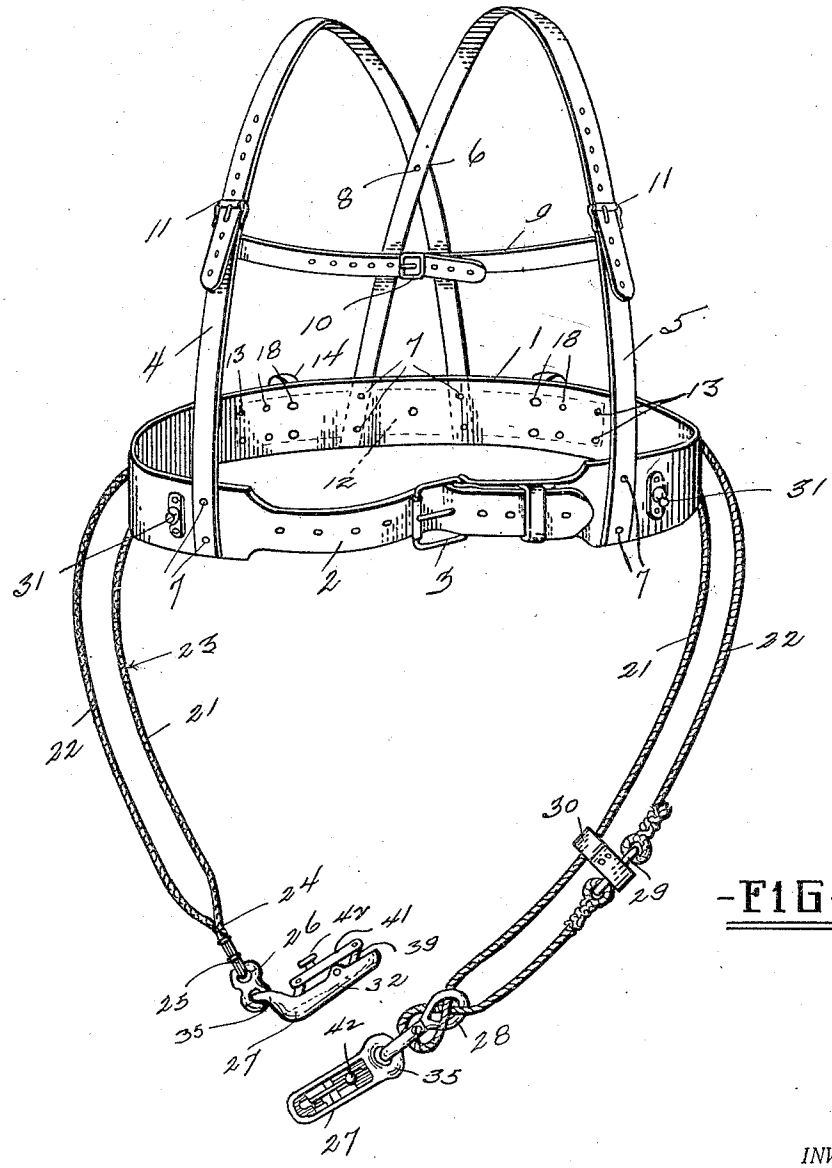
Nov. 15, 1927. 1,649,240

B. KUGLER

SAFETY HARNESS AND COUPLING FOR WINDOW CLEANERS

Filed Jan. 5, 1927 2 Sheets-Sheet 1



-FIG-1-

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SAFETY HARNESS AND COUPLING FOR WINDOW CLEANERS

Filed Jan. 5, 1927 2 Sheets-Sheet 2

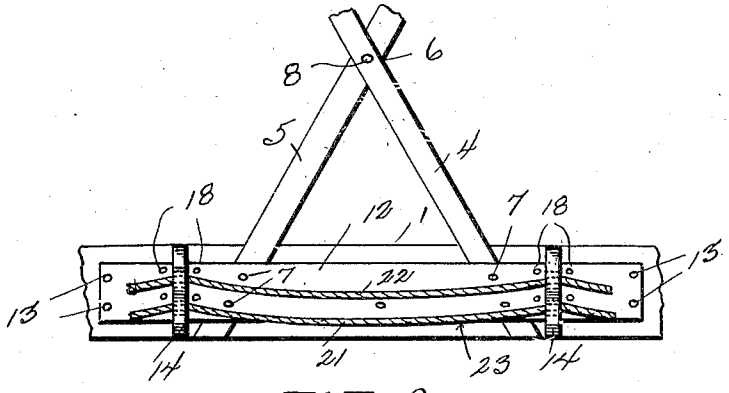


FIG-2-

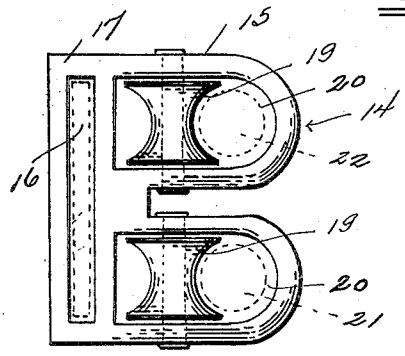


FIG-3-

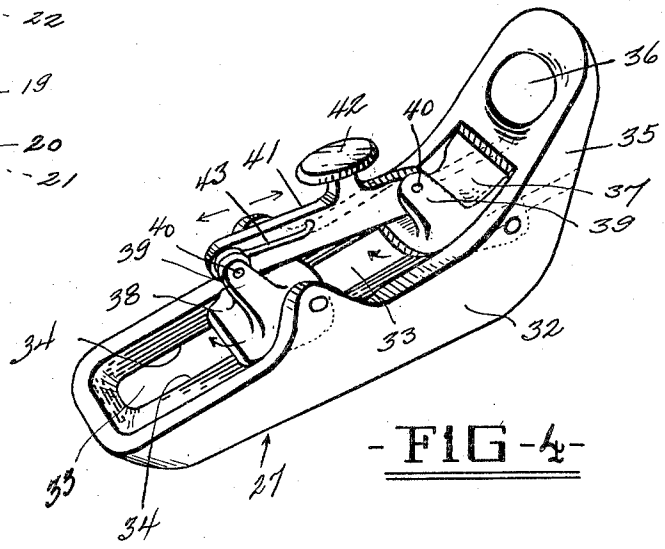


FIG-4-

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Patented Nov. 15, 1927. 1,649,240

UNITED STATES PATENT OFFICE.

BENJAMIN KUGLER, OF CHICAGO, ILLINOIS.

SAFETY HARNESS AND COUPLING FOR WINDOW CLEANERS.

Application filed January 5, 1927. Serial No. 159,109.

My present invention, in its broad aspect, has reference to improvements in harness and couplings therefor for securely supporting and holding persons engaged in occupations necessitating work high above the ground in precarious positions, as for instance window cleaners; and more particularly it is my purpose to provide a window cleaner's harness which will not become disengaged from the person of the wearer irrespective of his position; which will permit a window cleaner to move himself about upon a window sill thereby to cleanse the whole surface of a large pane, and that without readjusting the harness; which can be attached to a wearer or removed with facility and which will not be uncomfortable or in the way when worn, and which is durable and simple in construction, and not prohibitively costly.

Another object of my invention is to provide a unique and improved coupling for a window cleaner's harness to attach said harness to suitable anchorages provided on the frames of windows or in adjacent wall structure, such for instance as the anchorages shown in my prior Patents Nos. 1,449,516; 1,442,159, and 1,588,590, respectively granted May 27th, 1923; June 16th, 1923, and June 15th, 1926. My present coupling, in some respects, is an improvement on the coupling shown in my prior patent No. 1,588,592, granted June 15th, 1926, and it is adapted for use either with single or double stud anchorages, means being provided in either instance to positively, securely and independently grip the heads of the studs of an anchorage. My present coupling has a pair of unique and improved locking pawls or detents which are connected to a single operating rod for simultaneous manipulation by the thumb of an operator, and a spring normally urges said pawls or detents to a locking or active position.

I also improve upon the attaching ropes for the harness, and the method whereby ropes are attached to a harness and to the anchorage couplings. Other and equally important objects and advantages will become apparent as the description of my invention proceeds, but while I have in the present instance defined for the sake of illustration an article of a certain specific form, it will be understood that I do not desire to limit myself except as may be indicated by the scope of the claims appended hereunto and forming a part of this specification.

In the drawings wherein is illustrated an embodiment of my invention;—

Figure 1 is a perspective view of my harness assembly,

Figure 2 is a fragmentary view of the back thereof,

Figure 3 is a side view of my roller chocks for the attaching ropes, and

Figure 4 is a perspective view of my improved coupling.

In the drawings wherein like characters of reference are used to designate like or similar parts throughout the several views thereof;—

The numeral (1) designates the belt portion of my harness which is relatively wide and is formed of heavy leather or other suitable material. One end of the belt (1) is formed with a tongue (2) and the other end has mounted thereon a buckle (3) for engaging the openings in the tongue to attach the belt about the body of the wearer. In order to prevent the belt from slipping over the shoulders or down about the legs of the wearer, and also to properly position the belt, I have provided a pair of straps (4) and (5) crossed as at (6) in the back of the wearer (after the manner of suspenders) and riveted or otherwise attached as at (7) to the belt at both the front and the back, and on the outside face of the belt. The two straps (4) and (5) are also riveted together as at (8) where they cross each other in the back. A chest strap (9) which is formed in two sections adjustably connected together by a buckle (10) prevents the straps (4) and (5) from slipping down over the shoulders of the wearer, and in order that the straps (4) and (5) may be adjusted in length, they too are formed in sections with adjustable buckle connections (11).

Referring now to Figure 2, which is a fragmentary back view of my belt, it will be noted that the ends of the straps (4) and (5) are riveted or otherwise attached beneath a reinforcing member (12) which is riveted or otherwise attached as at (13) to the back of the belt. The reinforcing member (12) is preferably formed of heavy leather, but may be of other suitable material. A pair of roller chocks generally des-

ignated by (14) are carried in spaced relationship on the back of the belt, and each chock has a body portion (15) provided with a slot (16) in its base (17) through which the reinforcing member (12) extends and is riveted as at (18) to each side thereof, or sewn if desired, to hold the chocks in place on the belt. Each chock has a pair of spaced rollers (19) in openings (20) through which are adapted to be trained, the sections (21) and (22) of my harness attaching or supporting rope (23).

The rope (23) is doubled upon itself intermediate its length as at (24), and the eye (25) is engaged in a figure-8 coupling (26), the other loop of which is connected with one of my anchorage couplings generally designated by (27). The two sections (21) and (22) of my rope (23) are trained through the chocks (14) and are thereby connected securely to the belt although free movement of the belt along the rope is permitted. Section (21) is looped about and within another figure-8 swivel coupling (28), and the free end thereof and the free end of section (22) are each spliced to a swivel coupling (29). A keeper (30) is also provided for properly positioning the sections. The swivel coupling (28) is connected with another of my anchorage couplings (27).

A pair of studs (31) are riveted to the belt so that when a wearer is not actually engaged in work, or washing windows, the rope ends and couplings (27) may be hooked over the studs to retain the same out of the way.

My anchorage coupling (27) is formed with an elongated body (32) which is centrally recessed as at (33) and flanged about the recess as at (34). Extending at an angle from the rear end of the body is an extension (35) having an eye (36) therein for receiving the end fittings of an attaching rope, such as my rope (27). The recess and flange extend through the rear of the body as indicated by dotted lines so that the studs of harness anchorages may be inserted therein, the heads of the studs being engaged by the flange (34). In order to prevent detachment of the coupling from an anchorage I have provided a pair of pivoted detents or pawls (37) and (38) which are spaced from each other on the body, and are adapted in their active position to engage the flange (34) in recess (33) thereby to obstruct passage or withdrawal of studs from the recess. Each detent or pawl is provided with an upstanding integral arm (39), to and between which is pivoted as at (40) a bar (41) having integrally formed thereon intermediate its length an upstanding finger button (42). By pushing the button (42) forward and backward by the thumb the pawls or detents (37) and (38) are raised and lowered, and a spring (43) normally urges the pawls to their active position (shown in Figure 4) intercepting and obstructing the recess (33) to prevent withdrawal of anchorage studs therefrom.

In operation, my belt is engaged about the waist of a wearer, the shoulder straps positioned and adjusted, and the chest strap properly adjusted to comfortably and snugly affix the harness on the wearer. The couplings (27) are engaged over the studs to hold the rope ends out of the way. When a window is to be washed, the couplings (27) are disengaged and one coupling is engaged with an anchorage on each side of the window frame, the rope (27) in which case extends across the back of the window washer to support him, although the belt is slidable on the rope to permit the workman to cleanse the whole surface of the pane without adjusting the belt. Manifestly the window washer cannot fall from the window, or otherwise become hurt while my harness is properly attached, and neither is he inconvenienced in his work. The couplings (27) cannot become accidentally disengaged from the anchorages since the detents or pawls (37) and (38) cannot be removed from the anchorages until the rod is pushed to release them. My harness and coupling therefore serve a practical and useful purpose, and are, I believe, a marked improvement upon others which may be found on the market.

While in the foregoing there has been illustrated and described in the specification such combination and arrangement of elements as constitute the preferred embodiments of my invention, it is nevertheless desired to emphasize the fact that interpretation of my invention should only be conclusive when made in the light of the subjoined claims.

I claim:—

1. A safety harness comprising a belt, straps attached to the belt for disposition on the shoulders of a wearer to support and retain the belt, a breast strap attached to the shoulder straps to prevent disengagement of the same, and means carried by the belt for attachment to a base.

2. A safety harness comprising a belt, adjustable straps attached to the belt for disposition over the shoulders of a wearer to support the belt, said straps being crossed at the back of the wearer, an adjustable breast strap attached to the shoulder straps to prevent disarrangement of the same, and means carried by the belt for attachment to a base, said belt being slidably engaged with said means.

3. A safety harness comprising a belt, adjustable straps attached to the belt for disposition over the shoulders of a wearer to support and retain the belt, said straps being crossed at the back of the wearer, an adjustable breast strap attached to the shoulder

straps to prevent disengagement of the same, a pair of roller chocks carried on the belt, and means extending through said chocks for attaching said belt to a base.

4. In a safety harness for window cleaners, a belt, straps for positioning and securing the belt on the body of a wearer, a pair of chocks having slots therein, a reinforcing member extending through the slots in the chocks and secured to the belt for attaching the chocks, means for attaching the belt to a base trained through said chocks thereby to permit sliding movement of the belt with respect to said means, studs on the belt, and couplings on the ends of said means for engaging a base and also for engaging the studs to hold said means out of the way when the belt is not attached to a base.

In testimony whereof, I affix my signature hereunto.

BENJAMIN KUGLER.