F. HOUSKA
SAFETY ATTACHMENT FOR LADDERS
Filed April 9, 1924
To all whom it may concern:

Be it known that I, FRANK HOUSSKA, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Safety Attachments for Ladders, of which the following is a specification.

My invention relates to improvements in ladders of the type designed to lean with the upper end against a wall, roof or other stationary object. The device may be built with the ladder but it is also applicable as an attachment.

It is a well known fact that any ladder leaning against a wall or other object is apt to slide sidewise on the wall and fall down when wind blows or the ground is soft, or when a workman standing on the ladder has to lean over sidewise to reach his work. Such tendency to slide is reduced by the frictional contact of the upper end of the ladder with the wall to the extent the lower end of the ladder is moved outward from the wall, but such outward movement gives the ladder a dangerous tendency to slip, on the floor or other surface supporting it, away from the wall and thus cause it to fall. To prevent such falling the ladders are often placed in a nearly vertical position that when a workman gets on it it is very easily overbalanced away from the wall with disastrous results.

My object is to overcome all of these dangers by giving the lower end of the ladder a pair of rear legs secured together and pivoted to the ladder, and made adjustable and foldable thereto as will hereinafter be fully described.

In the accompanying drawing:

Fig. 1 is a side or edge view of my improved ladder leaning against a wall.

Fig. 2 is a slightly perspective front elevation of the lower portion of the ladder shown in Fig. 1.

Fig. 3 is a section on line 3-3 in Fig. 2 with the attachment folded to the ladder.

Referring to the drawing by reference numerals, 10 designates a wall or other stationary object against which lean the rails 11 of a ladder having rungs 12, usually of cylindrical form.

Upon one of the lower rungs, say the third one from the ground, or 12° in the drawing, I journal the upper ends, or heads 13 of two bracing legs 14 having offset necks 15 the lower ends of which are firmly united by a horizontal bar 16. Journaled upon the middle of said bar 16 is a sleeve 17 having fixed to it a brace-bar 18 which is offset at 18° about the same as the legs 14 are offset at 15°, said offsets permitting folding of the parts to position shown in Fig. 3. Sliding movement of the sleeve 17 is prevented by cotter pins 19° or other suitable means. Likewise, a sleeve or collar 19° is mounted on the lowest rung 19° between pins 19° but in order to get this collar on the rung of a ladder it is divided in halves and secured together by bolts 19°.

The lower half of the collar 19° has a short depending arm 21° with a slot 22° and a bolt hole 23° traversing the slot. The brace 18° is slidable in said slot and provided with several holes 24° through which and through the hole 25° a bolt or cotter pin 26° may be inserted so as to hold the legs 14° at any desired angle relative to the rails.

Pivotally secured to the front-end of the brace 18° by a bolt 26° in a hook 27° which, when the attachment is folded up as in Fig. 3, is hooked up on a rung 28° so as to hold the parts folded.

In some ladders there may be no running a suitable distance from the bottom rung 12° with which to engage said hook as in Fig. 3. I therefore provide the rung 28° as an extra rung adapted to be inserted between the rails at any suitable place and there secured by screws 29° through lugs 38° of collars 31 screw-threaded one upon each end of the rung so as to be adjustable against the rails.

When the attachment is to be applied to ladders already built each head 13° is divided into halves secured together by bolts or cap screws 32°, and one of the halves has a screw threaded shank 33° screwed tightly into the upper end of the adjacent tubular portion 34° of the leg 14°, as best shown in dotted lines in Figure 1. In Fig. 2 is shown that pins 35° or similar means may be used to hold the heads 13° near the rails of the ladder to make the structure more substantial.

In the operation or use of the ladder it is placed at the desired incline for obtaining proper frictional contact between its upper end and the wall or other stationary object. The brace 18° is then adjusted at the pin 25° until the legs 14° touch the ground or floor 32° and are thus ready to prevent the lower...
end of the ladder from sliding away from the wall even though the ladder is inclined enough to give it a firm anti-slipping hold on the wall.

During storage or shipping or moving the ladder for a considerable distance the attachment may be folded up as shown in Fig. 3. The legs 14 and the bar 16 may be considered as a single yoke having two legs made either integral or of tubular legs with T-shaped pieces 14 secured on the legs by pins 14.

What I claim is:
1. The combination with the lower portion of a ladder of a yoke pivoted thereto to swing with its lower portion rearwardly away from the ladder so as to contact with the surface supporting the ladder, a normally horizontally disposed brace pivotally connected with the yoke and extending forwardly between the lower parts of the rails of the ladder and having perforations, a collar loosely journalized and retained near the middle of the lowest rung of the ladder and having a radial arm with a slot in it for said brace, said arm having also a hole with a pin in it said pin being movable into any of the perforations of the brace said yoke being offset near its upper end and said brace being offset near its rear end, so as to enable them to be folded parallel to each other and to the ladder, the yoke upon the rear side and the brace upon the front side of the rungs, and means for securing the front end of the brace in said folded position.

2. The structure specified in claim 1 in which said securing means consists of a hook pivoted to the front end of the brace and adapted to be engaged over a rung in the ladder and also to prevent escape of the brace from the slot in which it is adjustably held.

3. The combination with a ladder of a supporting yoke having two legs, said yoke being pivotally attached to one of the lower rungs of the ladder and swingable with its lower portion rearwardly from the ladder, a supporting piece journalized upon the lowest rung of the ladder and having a slotted hole and a pin hole in transverse direction of the slot, a normally horizontally disposed brace extending through the slot and having several holes, a pin adapted to be inserted in either of said holes and in the hole crossing the slot; the rear end of said brace being pivotally attached to the yoke and the front end having a pivoted hook adapted to hold the brace in folded position upon the front side of the ladder when so desired, and said ladder having a special rung for the hook to engage, said special rung having means for extending its length and for securing its ends to the rails of the ladder.

4. The structure specified in claim 3, in which the special rung has a collar screw-threaded upon each end and formed with lugs having holes for screws by which to secure them to the adjacent rail of the ladder.

5. The structure specified in claim 1, in which the upper part of the yoke is hinged on a rung by bearings divided each in two halves and secured together by bolts, for the purpose set forth.

In testimony whereof I affix my signature.

FRANK HOUSKA.