C. J. BROWN.

LADDER SAFETY ATTACHMENT.

APPLICATION FILED DEC. 26, 1917.

1,285,918. Patented Nov. 26, 1918.

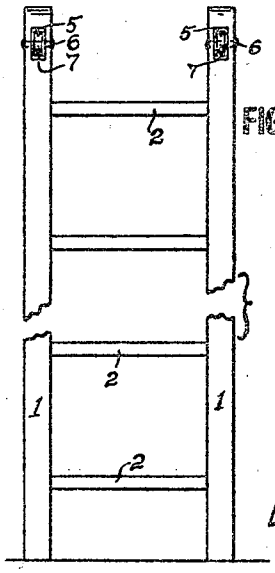


FIG. 1.

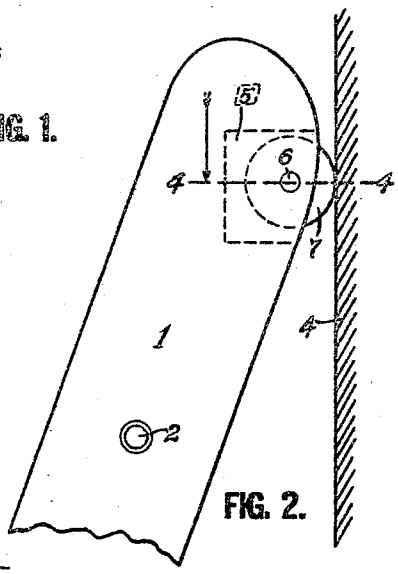


FIG. 2.

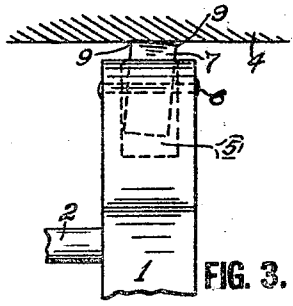


FIG. 3.

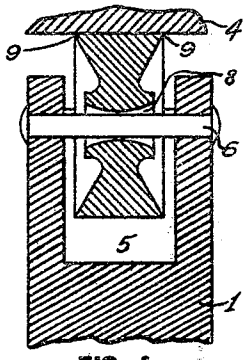


FIG. 4.

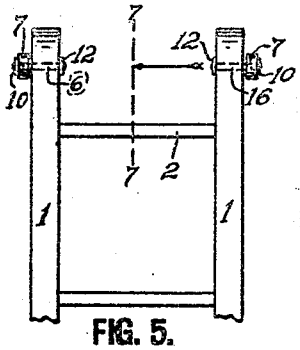


FIG. 5.

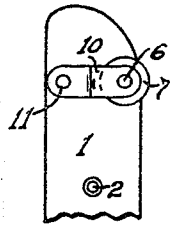


FIG. 6.

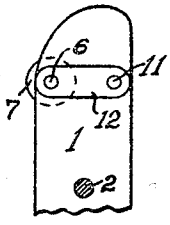


FIG. 7.

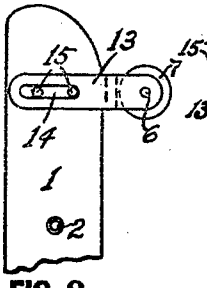


FIG. 8.

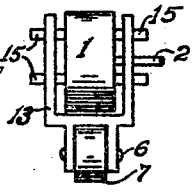


FIG. 9.

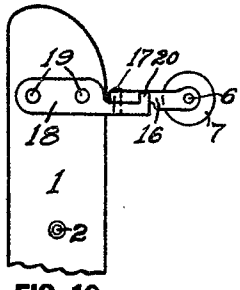


FIG. 10.

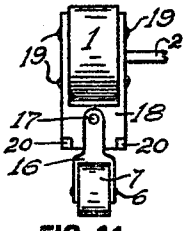


FIG. 11.

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# UNITED STATES PATENT OFFICE.

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## LADDER SAFETY ATTACHMENT.

1,285,918. Specification of Letters Patent. Patented Nov. 26, 1918.

Application filed December 26, 1917. Serial No. 209,003.

*To all whom it may concern:*

Be it known that I, CHARLES J. BROWN, a citizen of the United States, residing at River Falls, in the county of St. Croix and State of Wisconsin, have invented a new and useful Ladder-Safety Attachment, of which the following is a specification.

My invention relates to ladders and the object is to provide attachments to be placed at the top end of the rails of a ladder, and which will serve both as rollers for the end of the ladder to ride on when placed against a wall and also as an anti-slipping device to prevent the top of the ladder from slipping to either side.

In the accompanying drawing, Figure 1 is an elevation of a ladder each rail of which is provided with my attachment. Fig. 2 is an enlarged detail elevation as seen when looking from the left in Fig. 1 while the ladder is resting against a wall. Fig. 3 is a top view of Fig. 2. Fig. 4 is an enlarged sectional view on the line 4—4 in Fig. 2. Fig. 5 shows the top end of a ladder equipped with a modified form of my invention. Fig. 6 is a side view of Fig. 5 as seen from the left. Fig. 7 is a sectional view on the line 7—7 in Fig. 5. Fig. 8 is Fig. 6 further modified. Fig. 9 is a top view of Fig. 8. Fig. 10 is another modification of Fig. 6. Fig. 11 is a top view of Fig. 10.

Referring to the drawing by reference numerals, 1 designates the rails and 2 the rungs of an ordinary ladder, which, in Figs. 2, 3 and 4 is resting against a wall 4. In the upper end of each rail I provide a pocket 5 in which is mounted to rotate loosely on a pin 6, a roller or wheel 7, the central bore 8 of which is enlarged toward each side of the wheel, and the face of the wheel is straight so that it forms sharp angular edges 9 where it joins with each side of the wheel.

In operation, when the ladder is placed against a wall these rollers or wheels enable the upper end of the ladder to be slid easily up and down on the wall, which is especially desirable for extension ladders; but the most important service of the wheels is to prevent the ladder from sliding or slipping sidewise on the wall when it is subjected to winds or when the ground is softer under one rail than under the other, or when the painter or other workman standing on the ladder moves its upper end partly sidewise so as to reach as far as possible without going down and moving the entire ladder. This service of preventing side slipping results from the circumstance that any side strain on the ladder, which would tend to make it slip, causes the wheels 7 to tilt and engage with one of its sharp edges 9 in the face of the wall as shown to the left in Fig. 3.

In the modification in Figs. 5, 6 and 7 is shown how each wheel instead of being inserted in the rail of the ladder may be mounted between the rail and a bracket 10, which is secured to the rail by a rivet 11, and the pivot 6 of the wheel, both of which are extended through the rail and clenched over upon a reinforcing and retaining plate 12. In this modification the pivot hole in the wheel is of the same shape as that shown in Fig. 4.

In the modification in Figs. 8, 9 the bore in the wheel may be a straight plain hole as the wabbling movement of the wheel results from wabbling of the bracket 13 in which the wheel is mounted, said bracket being very loosely fitted in straddling position on the rail and having slotted holes 14 making the arms of the bracket movable back and forth on studs 15 fixed in the rail.

In Figs. 10 and 11 is shown how the wheel 7 may be mounted to rotate with a plain bearing on the pin 6 in a fork 16, which is pivoted at 17 to a bracket 18 which is secured by rivets 19 or like means to the rail 1. In this modification the swinging of the fork 16 is limited by lugs 20 on the bracket 18. In either and all of these forms or modifications the main principle is the same, as will appear from the following claims which read upon all the forms shown and many other forms which it is considered unnecessary to show.

With either form of the invention one also saves the usual cost of making ladders extra wide at the bottom end so as to thereby resist their tendency to fall sidewise. A ladder provided with my invention may safely be made with sides parallel as illustrated in the drawing.

What I claim is:

1. The combination with the upper end of a ladder, of wheels mounted thereon and arranged to face and contact with the wall or other object against which the ladder may lean when in position for use, each of said wheels having a cylinderical face with sharp side edges and a wabbling movement enabling it to engage the wall with either edge

of its face so as to prevent sidewise slipping movement of the ladder.

2. The combination with a ladder of two hoods fixed one to the upper end of each side bar of the ladder, an axle fixed in each hood, and a wheel journaled on each shaft, said wheels having each a plain cylindrical face terminating in sharp side edges, and the bore of the wheel being enlarged toward both ends so as to allow the wheel to wabble.

3. The combination with a ladder having its rails or side bars arranged in substantially parallel relation all along the ladder, of wheels mounted on the upper ends of the side bars and having each a cylindrical face with sharp side edges, said wheels having their axes arranged in substantially transverse relation to the ladder but mounted to wabble so as to engage by their edges the object against which the ladder may lean.

In testimony whereof I affix my signature.

CHARLES J. BROWN.

**Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."**