Nov. 6, 1962 A. J. WRIGHT 3,062,319

ANTI-SLIP ANTI-MAR LADDER HEAD

Filed May 8, 1961

Fig. 2.

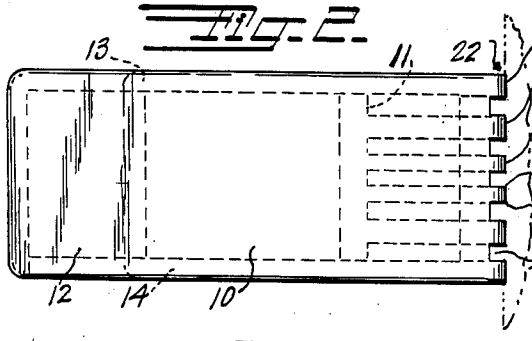


Fig. 3.

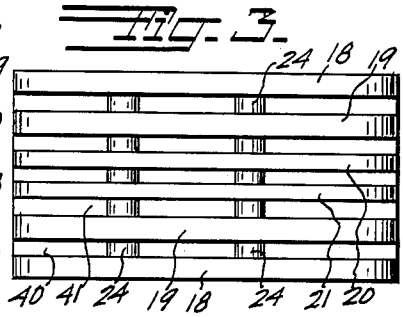


Fig. 1.

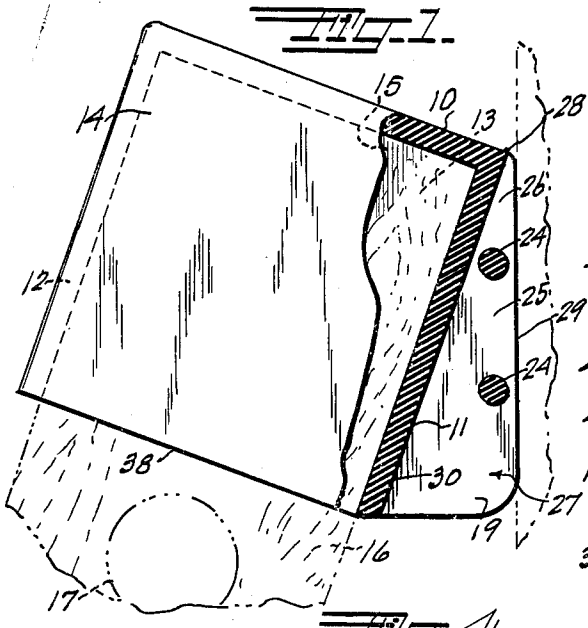


Fig. 5.

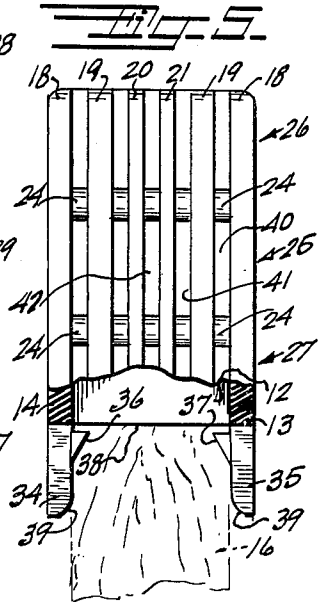
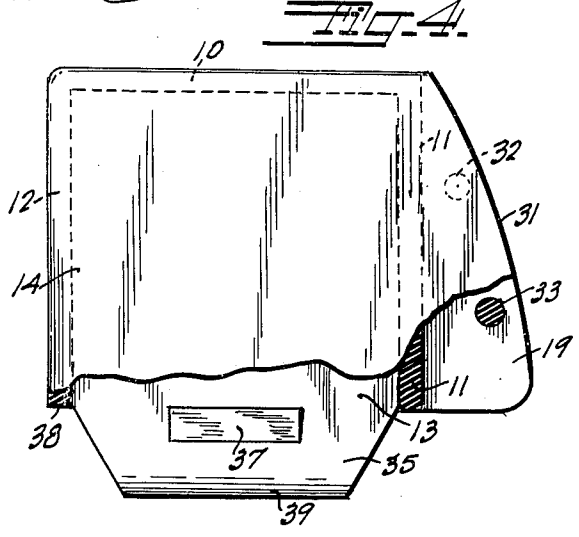


Fig. 4.



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ANTI-SLIP ANTI-MAR LADDER HEAD

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This invention relates to improvements in maintaining the head end of a ladder against slipping or marring a surface against which it is supported, and provides a cap for each of the side rails of the ladder and which cap is provided with a vertically ridged support face which is formed of resilient material, the ridged face of resilient material providing the maximum in friction substantially devoid of any marring tendency, thus providing a safety device for the user of the ladder as well as a surface protective device.

The objects and advantages of the invention are as follows:

First, to provide a safety device for the head end of a ladder and which is of the highest efficiency in slip prevention.

Second, to provide a safety device as outlined the friction face of which is formed of highly resilient material to prevent marring of a supporting surface.

Third, to provide a safety device as outlined with ribs rectangular in cross-section and ranging from relatively shallow at one end to relatively deep at the other end, to provide for variable deflection throughout their height, thereby increasing the restraining effect against slippage on a supporting surface.

Fourth, to provide a safety device as outlined with releasable securing means to prevent accidental loss from the ladder.

Fifth, to provide a safety device as outlined in which the ribs are intermediately resiliently interconnected for maintenance against excessive distortion under lateral stresses.

Sixth, to provide a safety device as outlined which is simple in construction, formed into a unit ready for installation, and economical to manufacture.

In describing the invention reference will be had to the accompanying drawings, in which:

FIG. 1 is a side elevation of the invention as applied to the head end of a ladder rail, and shown in contact with a supporting surface and partly in section.

FIG. 2 is a top plan of FIG. 1.

FIG. 3 is a friction face view of FIG. 2.

FIG. 4 is a side elevation of a modification of the invention provided with releasable securing means to prevent loss from the ladder rail, partly in section.

FIG. 5 is a friction face view of FIG. 4 and is also shown partly in section.

The invention consists of a cap having a top wall **10**, front wall **11**, rear wall **12**, and side walls **13** and **14**, and arranged to fit snugly over the head end **15** of a ladder side rail **16**, above the topmost rung **17**.

This cap may be formed of metal or plastic material but is preferably formed of a resilient thermoplastic or live rubber, the latter being particularly desirable as the cap can then be stretched over the top of the rail.

The non-mar anti-slip element is preferably formed of live rubber and consists of a plurality of spaced ribs and shown as consisting of two relatively wide ribs **18** and **19** for each side and a pair of narrower ribs **20** and **21** located centrally, to provide variable resiliency across the face **22**, the variable resiliency insuring higher anti-skid efficiency because of increased flexing, thereby presenting the sharp corners **23** under lesser thrust laterally, the thicker ribs providing the principal support, the ribs all being spaced about equally.

Another very important feature is presented in the elastic connections **24** which are located slightly inward and about equally spaced between top and bottom, two being shown and which provide the best results, as these connectors maintain the ribs adjacent thereto as a body movable in unison, while the intermediate portion **25**, upper portion **26** above the top connector, and the lower portion **27** are free to flex and therefore overcome any tendency for creeping through a reaction, the lower portion having a high degree of flexibility as the ribs at that point set in seven or eight times the depth of the very top at **28**, the face **29** being formed at an angle of approximately 20 degrees relative to the outer face **30** of the front wall of the cap. This friction face, in the case of a metal cap, is vulcanized on the face **30**, however, when made of live rubber, the entire unit, cap and friction face, can be molded and completed in a single operation.

FIGS. 4 and 5 illustrate a modification in which the face **31** is arcuately formed, but still having the resilient connectors between the ribs as indicated at **32** and **33**; the principal feature of this modification existing in the releasable securing means indicated as an engaging wedge formed on the insides of the depending lips **34** and **35** as indicated at **36** and **37**, and being located slightly below the bottom **38** of the cap, the lips being rounded at the lower ends to permit the fingers to be inserted thereunder to retract the wedges from complementary recesses formed in the side rail **16**, thereby positively locking the cap on the rail to definitely avoid loss. The finger releases are indicated at **39**.

The center ribs are preferably made to a width about half and not more than two-thirds of the widths of the outer ribs, the intervening grooves **40**, **41**, **42** being of substantially equal width but not to exceed one-eighth inch.

Thus an anti-skid, anti-mar device is provided which is of the utmost in safety in view of the variable flexing and resiliency characteristics, and in view of the use of live rubber, providing no marring characteristics.

I claim:

1. In a non-mar, non-slip cap for the head end of a side rail of a ladder, with the cap having a top, front, back, and side walls, and having a transverse series of vertically formed spaced ribs projecting forwardly from the front wall, and with the cap snugly fitting the head end and formed of resilient material,

means for increasing the resistance to slippage when the ribs are resting against a wall or the like,

comprising forming said ribs throughout the height of the front wall and

to a plurality of different facial widths (**18**, **19**, and **20**, **21**) for variations in resiliency of respective ribs

providing an intermediate area of relatively low resiliency by

forming integral interconnecting spacers (**24**) transversely connecting the series of ribs adjacent the forward edges,

thus providing maximum resiliency at the upper and lower ends and therefrom gradually diminishing to a degree of substantial rigidity at the intermediate area.

2. A structure as defined in claim 1, in which a lip (34, 35) is formed integral with and depending from two of said walls,
to provide hand holds for pulling the cap onto the head end of the side rail.

3. A structure as defined in claim 2, in which

engaging means (36, 37) formed on the interior faces of the lips for cooperation with
engaging means provided on the ladder head,
and with the engaging means releasable at will through opposed outward retraction of the lips,
with the cap removable by upward pull on the lips.

References Cited in the file of this patent

UNITED STATES PATENTS

2,925,877 Wright ---------- Feb. 23, 1960