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PLATFORM FOR LADDERS

3,318,415

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2 Sheets-Sheet 1

FIG. 1.

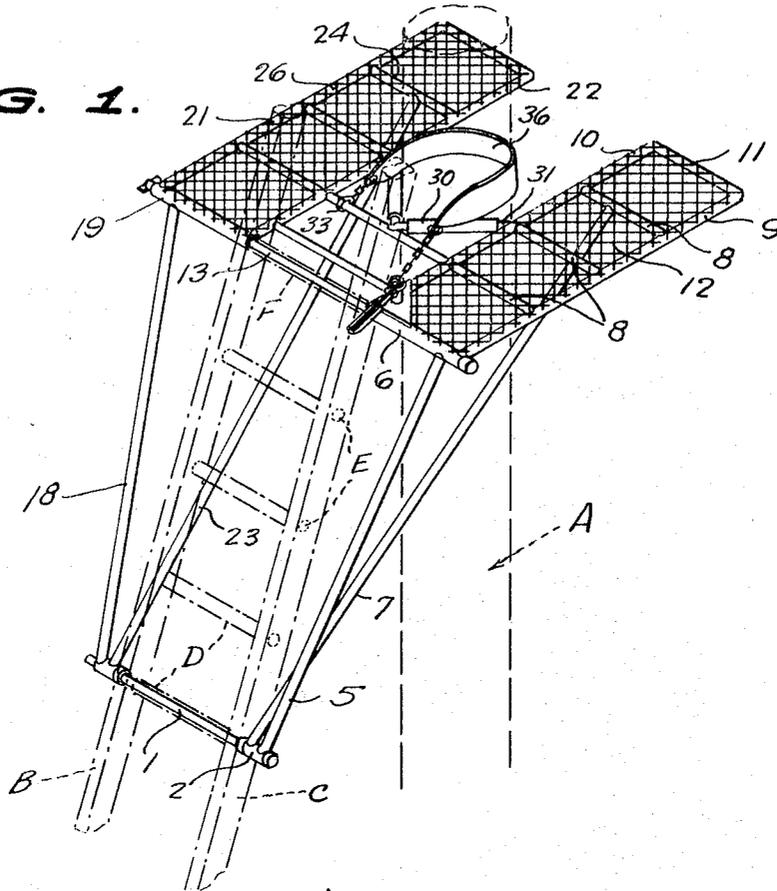


FIG. 4.

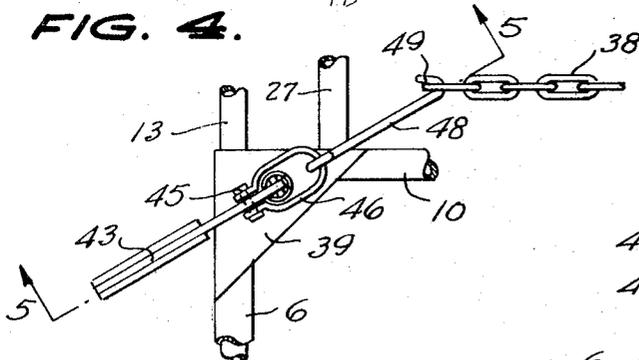


FIG. 6

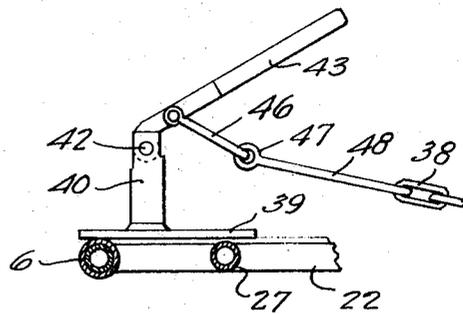
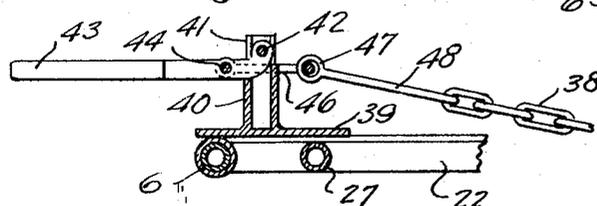


FIG. 5.



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PLATFORM FOR LADDERS
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The present invention is concerned with a platform mountable upon ladders having tubular rungs.

The principal object of the present invention is to provide a platform which can be quickly and easily mounted upon an end portion of a plain or extensible ladder having tubular rungs and which platform assists in retaining such ladders against upright elongated cylindrical objects such as trees, telephone poles or the like, and which platform when supported by the ladder upon such elongated objects permits workman to prune the tree or otherwise work thereon or when mounted against a telephone or power line pole to effect repairs and maintenance work on lines supported thereby.

A further and important object of the invention is to provide a ladder with a platform thereon which permits the ladder and platform to be quickly and easily attached to, detached and moved from one cylinder upright object to another so that a workman can mount and be supported by the platform at various heights along the object safely and without injury to the upright object and permits the workman to work for prolonged periods around the upright object freely and with unlimited use of both hands.

Further objects of the invention will be in part pointed out and in part obvious in the following detailed description of the accompanying drawings, in which,

FIG. 1 is a perspective view of the present platform mounted upon a ladder and an upright object.

FIG. 2 is an enlarged top view partly in section of the present platform mounted upon a ladder.

FIG. 3 is a cross-sectional view taken on line 3-3 of FIG. 2.

FIG. 4 is a further enlarged top view of a clamping means in its locked position forming part of the present invention.

FIG. 5 is a cross-sectional view taken on line 5-5 of FIG. 4.

And FIG. 6 is a side elevation of the clamping means in its unlocked position.

Referring now more particularly to the accompanying drawing wherein like and corresponding parts are designated by similar reference characters, FIG. 1 shows the present platform mounted upon an upright cylindrical object A, which may be, for example, the trunk of a tree or a utility pole as used by telephone and electrical power companies.

B indicates a ladder such as an aluminum or magnesium ladder and may be the extensible section of an extension ladder or the ladder proper. Said ladder is of a conventional construction having a pair of upright legs B and C with tubular rungs D extending between and fixedly attached to said upright legs with the bores E of said rungs opening through said upright legs. The top rung of said ladder is indicated by F.

The present platform has a rod 1 insertable through the bore E of one of said ladder rungs D which is preferably the fourth rung downwardly from the top rung F. A tube 2 has rod 1 extending therethrough and which rod also extends through an annular spacer 3 between said tube and ladder leg C. A ring 4 also has rod 1 extending therethrough and a pin, rivet, or screw 4a extends through said ring and said rod for retaining purposes. A second rod 5 is fixedly joined at one end to tube 2 by welding and extends upwardly and is similarly fixedly joined to a second tube 6. A third rod 7 has one end likewise

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fixedly joined to tube 2 and its opposite end similarly joined to one of the cross-pieces 8 which in turn are joined to side pieces 9 and 10 of an open frame and having an end cross member 11. An expanded metal sheet 12 preferably of aluminum is fixedly connected by welding or the like to elements 6, and 8-11 inclusive extending thereacross.

A rod 13 extends through top rung F of the ladder and also through tube 6 and through a ring 14 which likewise has a pin, rivet or screw 4a extending through the same and said rod 13. Said side members 9 and 10 are fixedly joined to tube 6 by welding and the like.

A further tube 15 has the opposite end portion of rod 1 extending therethrough as does annular spacer 16 and ring 17. A pin, rivet or screw 4a likewise extends through ring 17 and rod 1. A rod 18 is fixedly joined to tube 15 at one end and to tube 19 at its opposite end by welding and the like. Tube 19 and ring 20 have the opposite end of rod 13 extending therethrough while a pin, rivet, or screw 4a extends through ring 20 and rod 13. A pair of side members 21 and 22 are fixedly joined at one end by welding and the like to tube 19 while a rod 23 is fixedly joined at one end by welding and the like to tube 15 and at its opposite end to one of the cross-pieces 24 extending between and fixedly joined to side members 21 and 22. An end rod 25 likewise extends between side members 21 and 22 and is fixedly joined in a similar manner thereto. An expanded metal sheet 26 preferably of aluminum is joined to members 19 and 24-25 inclusive by welding and the like.

A pair of tubes 27 and 28 extends between and are each fixedly connected at their opposite ends to side members 10 and 22 by welding and the like and extends substantially parallel to rod 13. A pair of diverging rods 29 and 31 are fixedly connected at one end forming a V-shaped member whose apex is fixedly connected to the middle of rod 28 while the opposite ends of said rods are fixedly connected also by welding and the like to side members 10 and 22. A pair of resilient tubes 30 and 32 formed of rubber or similar material have rods 29 and 31 respectively extending therethrough. A link 33 has rod 28 extending therethrough while a pair of links 34, one of which extends through link 33 also, a second link thereof extending through an opening 35 of belt 36 which belt is preferably formed of nylon, a braided material or the like. The opposite end of belt 36 has a link of a chain 38 extending through opening 37 of said belt.

A metal plate 39 is mounted on metal sheet 12 and affixed thereto by welding or the like while a post 40 extends normal to said plate and is also affixed thereto at one end by welding or the like. Said post 40 has a top lateral end slot 41 in which the base end of a L-shaped lever 43 extends and is pivotally supported by a stub axle 42 extending through said post and the inner end of said lever. A link 46 has a bolt 44 extending through the same and through said lever and is retained by a nut 45 in threaded engagement with said bolt. An eye 47 of a hook 48 has link 46 extending therethrough while hook end 49 is capable of engaging one of the links of the chain 38.

In the use of the present platform rod 1 is inserted through a rung D of a ladder while rod 13 is inserted through a second rung, for example, an end rung F of the ladder. Tubes 2 and 15, spacers 3 and 16 and rings 4 and 17 are mounted upon the opposite ends of rod 1 as shown in FIG. 2 and pins 4a or the like inserted through said rings and said rod.

Also tubes 6 and 19 and rings 14 and 20 are positioned on the opposite ends of rod 13 and pins 4a or the like inserted through these rings and this rod.

The ladder is raised to a desired position relative to

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the height of an upright object A and tubes 30 and 32 placed against the periphery of said upright object. Belt 36 is passed around said upright object A and a link of chain 38 has hook 49 inserted therethrough while lever 43 is in the unlocked position as shown in FIG. 6. Thereafter lever 43 is pivoted about pin 42 drawing said chain 38 taut to the position indicated in FIGS. 4 and 5. As a result belt 36 draws tubes 30 and 32 tightly against said upright object retaining the ladder and platform at the desired position on said upright object.

The workman can then ascend the ladder and walk on the sheets 12 and 26 around the upright object for working thereon. It would, of course, be desirable for the workman to have a safety belt circling said upright object for his own protection. The length of the ladder, whether a standard single or extension ladder determines the height to which the platform can be ultimately raised. With the platform so attached to the upright object, it would neither twist or roll even under the weight of the workman moving therearound.

To move the platform up or down upon the object A or to other objects, it is simply necessary to pivot lever 43 to its unlocked position of FIG. 6 and disconnect chain 38 from hook 49. Thereupon the ladder can be raised or lowered relative to the object or moved to other upright objects for being detachably connected thereto in the same manner as described hereinabove.

The present invention is capable of considerable modification and such changes thereto as come within the scope of the appended claims is deemed to be a part thereof.

I claim:

1. A platform attachable to a ladder with tubular rungs comprising a pair of rods each insertable through a different rung of the ladder, at least one platform having an end connected to one of said pair of rods, a second pair of rods each having an end connected to the other of said first pair of rods, one of said second pair of rods having its opposite end connected to said one of said first pair of rods, the other of said second pair of rods having its opposite end connected to said platform and means connected to said platform and capable of detachably encircling an upright object.

2. A platform attachable to a ladder with tubular rungs as claimed in claim 1 including a second platform having an end connected to said one of said first pair of rods and spaced apart from said first platform, a third pair of rods having an end connected to the other of said first pair of rods, one of said third pair of rods having its opposite end connected to said one of said first pair of rods and

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the other of said third pair of rods having its opposite end connected to said second platform.

3. A platform attachable to a ladder with tubular rungs comprising a pair of rods each insertable through a different rung of the ladder, a pair of platforms, a second pair of rods each extending between and connected to different end portions of said first pair of rods, a third pair of rods each connected to a different one of said platforms and one of said first pair of rods, at least one rod extending between and connected to said platforms spacing the same apart, a V-shaped member connected at its apex to said connecting rod and at its ends to said platforms, a belt connected at one end to said connecting rod and means for detachably connecting the other end of said belt to the other rod of said first mentioned pair of rods.

4. A platform attachable to a ladder with tubular rungs as claimed in claim 3 wherein each of said platforms has a frame and an expanded metal sheet fixedly mounted on its frame.

5. A platform attachable to a ladder with tubular rungs as claimed in claim 3 wherein said means consists of a chain attached to said belt, a plate connected to said other rod of said first mentioned pair of rods, a hook for detachably engaging a link of said chain, a post mounted on said plate, a lever pivotally connected to said post and a link pivotally connected to said lever and said hook.

6. A platform attachable to a ladder with tubular rungs as claimed in claim 3 including two pair of tubes with each pair thereof having a different end portion of one of said first mentioned pair of rods extending there-through, means for retaining said tubes on their rods, said second pair of rods being joined to said tubes and said third pair of rods being joined to one of said pair of tubes.

7. A platform attachable to a ladder with tubular rungs as claimed in claim 3 including a ladder and said platforms being positioned on opposite sides of said ladder.

8. A platform attachable to a ladder with tubular rungs as claimed in claim 3 wherein a plate is joined to one of said platforms and said means is mounted on said plate.

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