April 15, 1952 T. L. GREENWOOD 2,592,561

BASE STAND

Filed April 15, 1949

Fig 1.

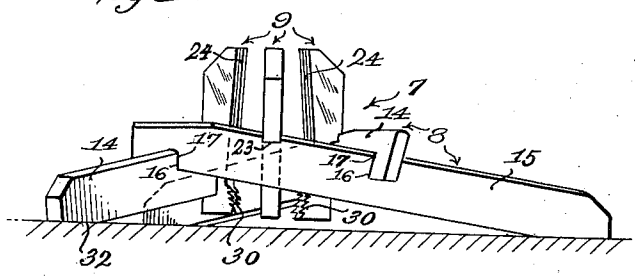


Fig 6.

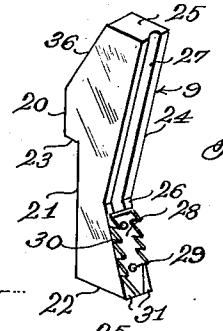


Fig 2.

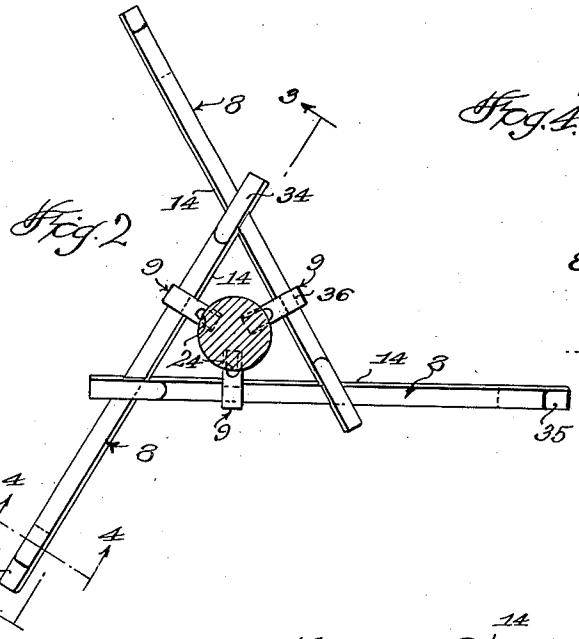


Fig 4.

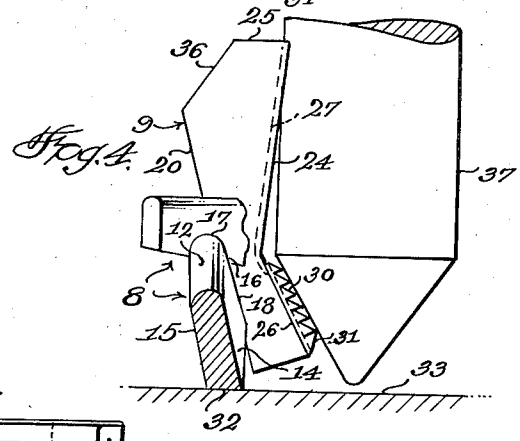


Fig 3.

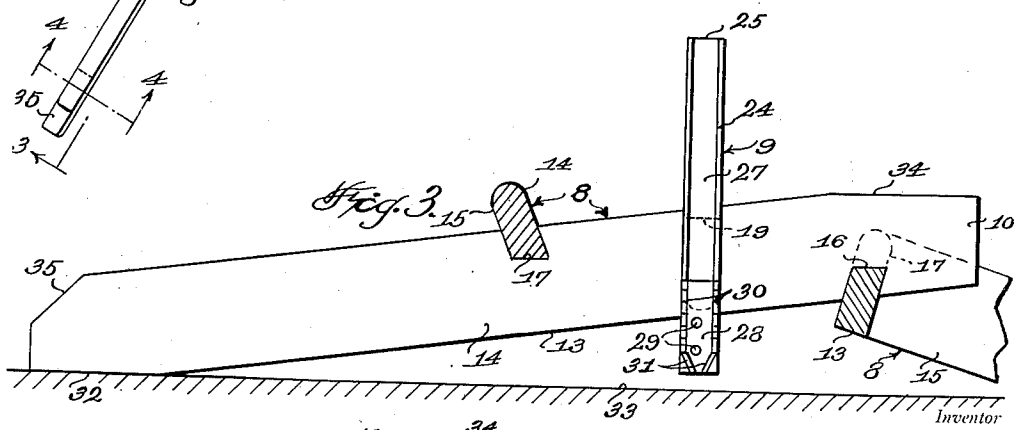
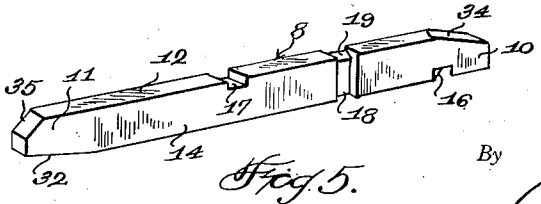


Fig 5.



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BASE STAND

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Application April 15, 1949, Serial No. 87,645

8 Claims. (Cl. 248—48)

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This invention relates to a novel base stand for uprights such as Christmas trees, beach and lawn umbrella poles or the like and has for its primary object to provide a stand of extremely simple construction formed of detachable parts which are retained in assembled relationship by the engagement of certain of the parts with an upright disposed tree trunk, pole or the like.

Another object of the invention is to provide a stand formed of two groups of corresponding parts requiring no fastenings for connecting and assembling the stand parts and having holes or trunk engaging elements which are brought and held in clamping engagement with the lower end of a tree trunk or pole by their engagement therewith and by the weight of the tree trunk or pole.

Still a further object of the invention is to provide a base from which a tree trunk or pole can be readily detached by an upward lifting movement thereof and which is provided with foot portions for engagement with a supporting surface and which are remotely disposed with respect to one another to provide a stable and substantial support to prevent overturning of the base and upright supported thereby.

Additional objects and advantages of the invention are to provide a base stand capable of being assembled or disassembled without the use of any tools or accessories of any kind; which is supported at a plurality of remotely spaced points on a supporting surface to make the stand self leveling; which is capable of engaging upright elements of a plurality of cross sectional sizes and to effectively clamp such elements, and which may be quickly and easily disassembled and stored in a very limited space.

Numerous other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawing, illustrating a presently preferred embodiment thereof, and wherein:

Figure 1 is a side elevational view showing the base stand assembled;

Figure 2 is a top plan view thereof and showing an upright member engaged thereby;

Figure 3 is an enlarged sectional view of the stand taken substantially along a plane as indicated by the line 3—3 of Figure 2;

Figure 4 is an enlarged sectional view, partly broken away, taken substantially along a plane as indicated by the line 4—4 of Figure 2 and at substantially a right angle to Figure 3;

Figure 5 is a perspective view of one element of the stand, and

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Figure 6 is a similar view of another element thereof.

Referring more specifically to the drawing, the novel base stand comprising the invention is designated generally 7 and is composed of six parts including three corresponding bars, each designated generally 8 and three corresponding jaws or clamp elements, each designated generally 9.

Each of the three bars 8, as best illustrated in Figure 5, comprises an elongated member having an inner end 10 and an outer end 11, a top edge 12 and a bottom edge 13, and an inner side 14 and outer side 15.

The bottom edge 13 is provided with a groove 16 adjacent the end 10 extending between the sides 14 and 15 and which is disposed with its axis at an angle of approximately 60° to the plane of each of said sides and which extends from the inner side 14 diagonally in a direction toward the bar end 10. The upper edge 12 is provided with a groove 17 which likewise extends from side to side of the bar 8 and which is disposed intermediate of the ends of said bar and inclined in the opposite direction to the groove 16. As best seen in Figure 3, the bed portion of the groove 17 is inclined downwardly toward the bar end 10. The inner face or side 14 of the bar 8 is provided with a groove 18 which extends between the top and bottom edges 12 and 13 and which is inclined downwardly and in a direction away from the bar end 10 and the upper end of which communicates with a similarly disposed cross groove 19 formed in the top edge 12 and the bed of which is inclined downwardly and toward the bar end 10, as best indicated in dotted lines in Figure 3. It will be understood that the other two bars 8 are identical in construction with the bar 8 as illustrated in Figure 5 and as just described.

Each of the three identical clamp elements or jaws 9 comprises an elongated body member having an outer edge 20 which is provided with an inwardly offset surface 21 extending from the lower end 22 of the jaw 9 upwardly to a point beyond the intermediate portion of said jaw and which defines at its upper end a downwardly facing shoulder 23. The inner edge of the jaw 9 includes a downwardly and inwardly inclined upper portion 24 which extends from the upper end 25 of said jaw to a point beyond the center of the jaw and a lower inner edge portion 26 which is inclined downwardly and outwardly. Said surfaces 24 and 26 are preferably provided with a groove 27 of arcuate cross section which

extends from end-to-end thereof. A metal plate 28 is secured longitudinally to the lower inner edge surface 26 by driven fastenings 29, however, the plate 28 may be omitted if the jaw 9 is formed of a relatively hard material. The side edges of the metal plate 28 are turned inwardly or away from the inner edge surface 26 and the upper portions of said side edges are notched to define serrated edge portions 30 the teeth of which are inclined downwardly and the lower end portions of said side edges define flanges 31 which extend inwardly or away from the surface 26.

The bottom surface of each bar 13 is beveled at the outer end 11 of said bar to provide a foot member or supporting surface engaging member 32 which is also beveled from saide to side of its bar 8 and in an upward direction from the inner side 14 toward the outer side 15 so that when the bars 8 are disposed with the foot members or surfaces 32 thereof resting flush on a supporting surface 33, said bars will be inclined upwardly with respect to said supporting surface 33 from their outer ends 11 to their inner ends 10 and the bars 8 will also be canted so that the inner surfaces 14 thereof will be inclined upwardly and outwardly, as best illustrated in Figures 3 and 4. The ends of the bars 8 may be beveled, if desired, on their upper sides as seen at 34 and 35 and the outer side of the upper end of each jaw 9 may also be beveled, if desired, as seen at 36.

To assemble the stand 7 the three bars 8 are first arranged so that their inner end portions will form a triangle and the notch 16 of each bar 8 is positioned to engage in a notch 17 of another bar 8, as illustrated in Figure 2, and so that the outer end portions 11 of the bars 8 will project outwardly from the equilateral triangle thus formed and will be equally spaced from one another. By this arrangement with the inner ends 10 of the bars 8 each engaging on the upper portion of the intermediate part of another of the bars 8, the triangular portion thus formed will be elevated with respect to the outer ends 11 of the bars so that each of said bars will be inclined outwardly and downwardly from its inner end 10 to its outer end 11, the angle of such inclination being determined by the transverse inclination or slope of the bed portions of the notches 16 and 17 and which is formed so that when the base bars 8 are thus assembled the foot members or surfaces 32 will rest flush on the supporting surface 33. Further, the longitudinal inclination of the bed portions of the grooves 16 and 17, as best illustrated in Figure 3, will cause each of the bars 8 to be canted so that the inner surfaces 14 thereof will be inclined upwardly and outwardly of one another from their bottom edges 13 to their top edges 12 and the foot members 32 are transversely beveled so that when the bars 8 are thus canted said surfaces 32 will engage flush on the supporting surface 33. It will thus be readily apparent that the base portion of the stand 7 formed by the three base bars 8 will provide a stable support which engages the supporting surface 33 at three remote points to minimize any tendency of the stand to overturn when a tree or pole is supported thereby and which will render the stand 7 self leveling.

After the base bars 8 have been thus assembled a jaw 9 is applied to the inner side 14 of each bar 8 and in a position substantially transversely thereof by the engagement of its inwardly offset

surface 21 in the transverse groove 18 of said bar and by engagement of its shoulder 23 in the communicating groove 19 of said bar 8 and with the surface 24 of the jaw 9 disposed above the surface 26. The grooves 18 and the beds of the grooves 19 are inclined slightly, as previously described, so that when the jaws 9 are applied thereto and when the bars 8 are assembled, as previously described and as illustrated in Figures 1 to 4, said jaws 9 will be disposed in substantially upright positions.

With the stand 7 thus completely assembled, as previously described and as illustrated in Figure 1, the lower end or base portion of a tree trunk, such as a Christmas tree, pole or post may be inserted downwardly between the upper clamping surfaces 24 and centrally thereof and the lower end of such trunk, pole, or post, designated 37, will come into contact with the lower clamp surfaces of the jaws 9, as defined by the serrated edges 30. As the lower end of the upright 37 continues to move downwardly it will rock the lower ends 22 of the jaws 9 outwardly and away from one another to cause portions of the jaw surfaces 21 to fulcrum on the lower ends of the grooves 18 and so that the upper ends 25 of the jaws 9 will swing inwardly to bring the upper ends of the clamping surfaces 24 into clamping engagement with the upright 37. The length of the grooves 19 and shoulders 23 is sufficient to prevent said shoulders from being disengaged from the grooves 19 and to maintain the jaws supported by the bars 8, and the more downward pressure which is exerted on the upright 37 due to its weight or the weight of parts supported thereby or due to a manual downward pressure applied thereto, the tighter jaw portions 24 will clamp the upright 37 to anchor it in the base 7.

It will thus be readily apparent that the upright 37 will effectively function to retain the stand 7 in assembled position, as illustrated in Figure 2, for supporting the upright 37 in a vertical position; however, said upright may be readily removed from the stand 7 by merely lifting upwardly thereon to release the jaws 9 from clamping engagement therewith, after which the jaws 9 can be lifted out of engagement with the bars 8 and the bars 8 disassembled and stored in stacked or abutting relationship with one another and with said jaws so that the stand will form a compact bundle when not in use.

While the upright 37 has been shown as circular in cross section and having a tapered lower end, it will be readily apparent that uprights of other cross sectional shape could be mounted in the stand 7 and that the lower end thereof need not be tapered. It will also be apparent that the stand 7 may be made in various sizes and that any given size stand will support uprights within a relatively wide range of cross sectional sizes. It will also be apparent that the bars 8 and jaws 9 may be formed of various materials such as wood, metals, plastic etc.

Various other modifications and changes are contemplated and may obviously be resorted to, without departing from the spirit or scope of the invention as hereinafter defined by the appended claims.

I claim as my invention:

1. A holder for detachably clamping and supporting an upright member comprising three corresponding elongated bars arranged substantially on edge, each of said bars having a notch in its bottom edge and adjacent one end thereof and a notch in its upper edge and in inter-

mediate of its ends, the end or first mentioned notch of each bar engaging in an intermediate or last mentioned notch of another of the bars for connecting said bars detachably together and whereby corresponding ends thereof form a triangle, the opposite ends of said bars being remotely disposed relatively to one another and each having a portion for engaging a supporting surface for supporting said triangle in an elevated position, and three corresponding jaw members demountably supported on the inner sides of said bars and intermediate of the ends of the sides of the triangle formed thereby, each of said jaw members having an outer edge portion bearing against the inner surface of one of the bars and a downwardly facing shoulder extending outwardly from said outer edge portion and disposed thereabove and resting on the upper edge of said bar for positioning said jaw member with the plane thereof substantially at a right angle to the plane of said bar, said jaw members having inner, adjacent longitudinal edges disposed substantially in upright positions and including upper downwardly and inwardly inclined portions and lower downwardly and outwardly inclined portions, each of which portions form a clamping surface, said jaws being adapted to receive the lower end of an upright member therebetween and the lower surfaces thereof being adapted to be engaged thereby to cause said outer edge portions of the jaws to fulcrum on the inner surfaces of the bars and the downwardly facing shoulders to slide on the upper edges of the bars for moving the upper clamping surfaces of the jaws inwardly relatively to one another and into clamping engagement with said upright member.

2. A holder for uprights as in claim 1, each of said bars having a groove extending from top to bottom of its inner surface for accommodating the inner edge portion of the jaw therein which is supported by said bar.

3. A holder for uprights as in claim 1, each of said bars having a groove extending from top to bottom of its inner surface for accommodating the inner edge portion of the jaw therein which is supported by said bar, and each of said bars having a notch in its upper edge for receiving the downwardly facing shoulder of said jaw for detachably supporting the jaw on said bar.

4. A holder for uprights as in claim 1, the beds of said notches being inclined longitudinally of the bars for canting the bars to position the inner surfaces thereof in upwardly and outwardly inclined relationship.

5. A holder for uprights as in claim 1, each of said bars having a groove extending from top to bottom of its inner surface for accommodating the inner edge portion of the jaw therein which is supported by said bar, and each of said bars having a notch in its upper edge for receiving the downwardly facing shoulder of said jaw for detachably supporting the jaw on said bar, said grooves being inclined relatively to the top and bottom edges of the bars and said last mentioned notches having inclined beds for supporting said jaws in substantially upright positions.

6. A holder for uprights as in claim 1, the beds of said notches being inclined longitudinally of the bars for canting the bars to position the inner surfaces thereof in upwardly and outwardly inclined relationship, the bottom edges of said bars having beveled portions at the outer ends of the bars and which are beveled longitudinally and transversely thereof to form foot members adapted to engage flush on a supporting surface when the inner ends of the bars are elevated and when the bars are canted.

7. A holder as in claim 1, said lower clamping surfaces having plates secured thereto, said plates having serrated side edges projecting substantially perpendicular from said lower clamping surfaces and inwardly with respect to the jaws.

8. A holder for an upright comprising three corresponding elongated bars each having a bottom edge provided with a notch adjacent one end thereof and a top edge provided with a notch disposed intermediate of the ends of said bar, each of said first mentioned notches detachably engaging in one of the last mentioned, intermediate notches for positioning corresponding ends of the bars in inter-engaging relationship to form a triangular portion, said bars being inclined outwardly and downwardly from said triangular portion and being disposed on edge and supported on their bottom edges and adjacent their outer ends and remote to said triangular portion for positioning the triangular portion in an elevated position, and a clamping jaw demountably supported on each of said bars intermediate of the ends of the side of the triangle formed thereby, said clamping jaws each having an outer edge portion engaging against the inner surface of the bar on which it is supported and being provided with a downwardly facing outwardly extending shoulder at the upper end of said outer edge portion engaging on the upper edge of said supporting bar, each jaw having an inner edge provided with a downwardly and inwardly inclined upper portion forming a clamping surface and a downwardly and outwardly inclined lower portion adapted to be engaged by the lower end of an upright member, positioned between the jaws, whereby the lower end of the upright member when displaced downwardly will function as a wedge to spread said lower jaw portions for rocking said jaws on the bars in directions for swinging the clamping surfaces inwardly and into clamping engagement with the upright member.

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