

May 31, 1949.

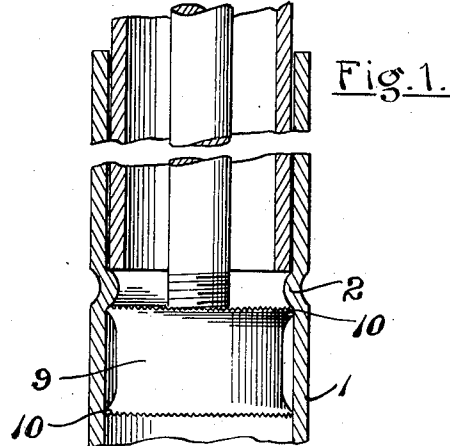
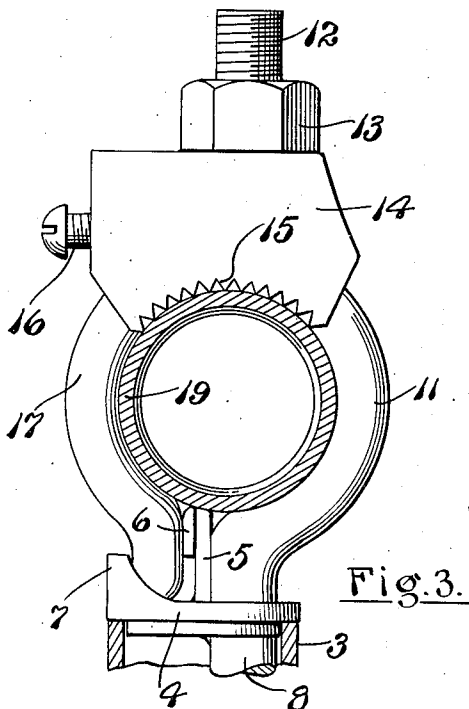
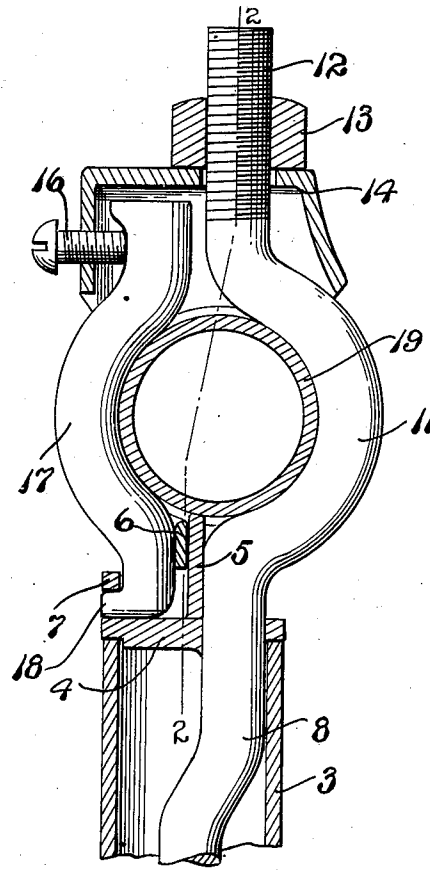
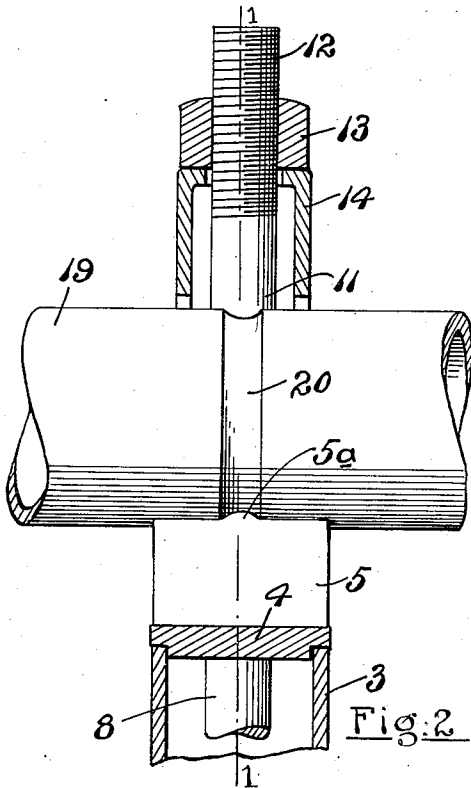
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2,471,611

PIPE CLAMP

Filed June 11, 1945

2 Sheets-Sheet 1



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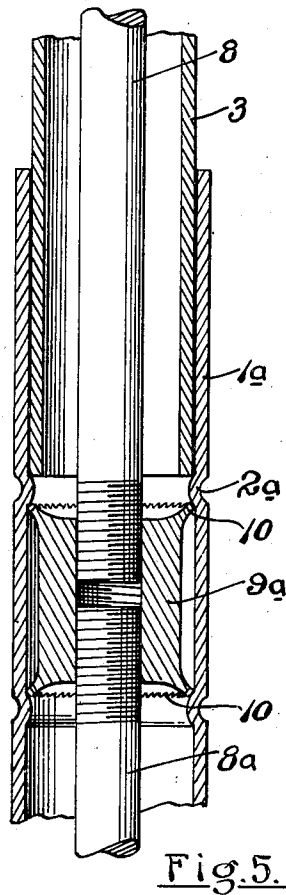
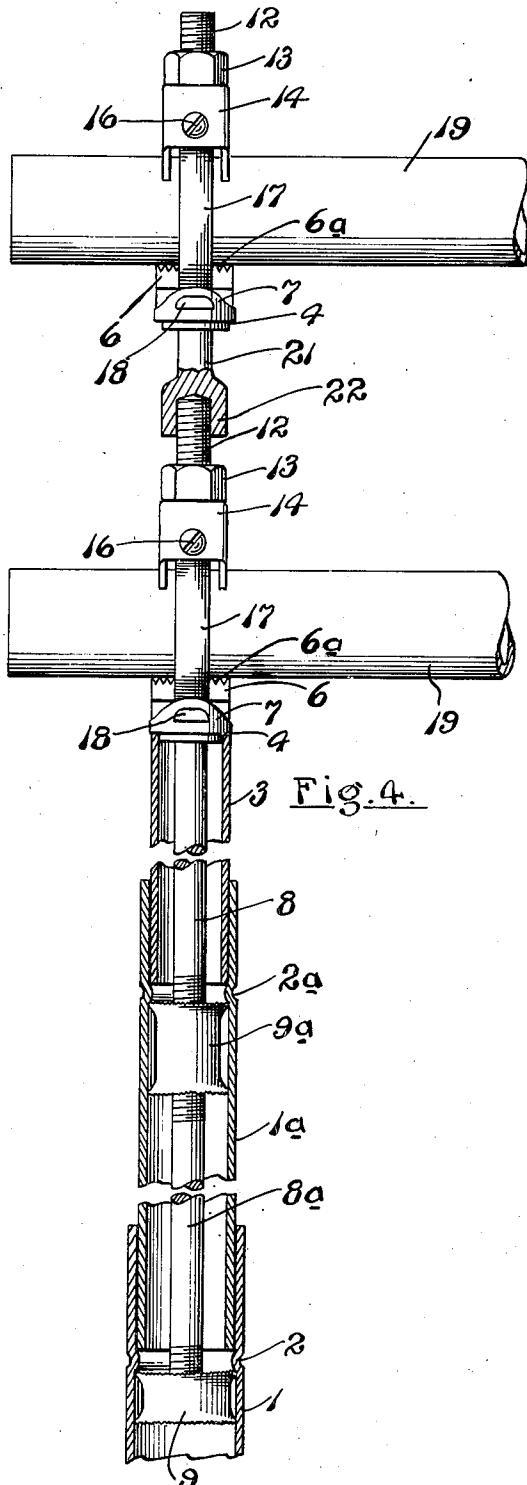
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UNITED STATES PATENT OFFICE

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PIPE CLAMP

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8 Claims. (Cl. 287—54)

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This invention relates to a pipe or rod clamp. One place where it is intended to be used is in connection with a clothesline supporting structure, in which a cross bar at the top of an upright post may be clamped and secured in place by the use of my invention to which cross bar clotheslines are attached. A plurality of the posts and of the cross bars may be utilized in many different assemblies. It is of course to be understood that the clamp may be used in many other relations and the invention is not to be restricted to the one example given.

It is an object and purpose of the present invention to provide a durable and efficient, readily manufactured and economically produced clamp for the purposes stated and in which the tightening or release of the clamp is very simply and easily accomplished. Further objects of the invention are concerned with novel structure for varying the height of the vertical posts to which the cross bar or rod may be clamped, and also for providing a simple additional structure for mounting cross bars one above the other, spaced apart in parallelism, the clamp of my invention being used therewith. Many other objects and purposes than those specifically recited will appear as an understanding of the invention is had from the following description, taken in connection with the accompanying drawings, in which,

Fig. 1 is a vertical section illustrating the clamp of my invention, the section being taken substantially on the plane of line 1—1 of Fig. 2.

Fig. 2 is a fragmentary vertical section substantially on the plane of line 2—2 of Fig. 1 and looking to the right.

Fig. 3 is a fragmentary transverse section and side elevation showing the clamp.

Fig. 4 is an elevation, partly in section, showing the novel structure for varying the length of the bar or rod carrying posts and showing two cross bars or rods clamped in positions of use, and

Fig. 5 is a fragmentary enlarged vertical section through the intermediate and upper sections of the extensible posts.

Like reference characters refer to like parts in the different figures of the drawings.

In the structure a tubular vertical post 1, which may be of any desired length and at its lower end inserted in the ground or mounted on any suitable base to support it, adjacent its upper end has an inwardly pressed annular rib 2 formed therein. Into the upper open end of the post 1 a relatively short section 3 of tubular form is inserted. At the upper end of the tubular section 3 a covering plate or cap 4 is positioned. A

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vertical member 5 is secured to one member of the clamp as hereafter described and engages the cap 4. A companion member 6 is secured to the other intermediate member of the clamp and bears against a side of the member 5 when the clamp is in operative position as shown in Fig. 1. The plate or cap 4 at one side has an upwardly extending lip or bracket 7 with an opening therethrough as shown.

One of the clamp members is formed preferably from a rod 8 which extends through an opening in the plate 4 and may be soldered or otherwise secured to said plate. The rod 8 extends lengthwise of the section 3 and is screw threaded at its lower end to thread into a substantially cylindrical nut 9. The nut 9 is outwardly flanged and serrated at 10 at its upper and lower ends, the upper flange bearing against the rib 2 when the rod 8 is screwed into the nut 9. A short distance above the upper side of the plate 4 the rod 8 is formed into a curved clamp section 11, and thence extended as a vertical terminal threaded section 12 adapted to receive a nut 13.

A cap 14 of the shape and form shown, having a horizontal top and depending sides and ends, is provided with an opening through the top through which the terminal section 12 described extends, and against which the under side of the nut 13 bears. The spaced sides of the cap at their lower edges are of concave form and are serrated to provide spaced apart teeth as indicated at 15 (Fig. 3). Through one depending end of the cap 14 a screw 16 is threaded as shown to come against the upper end portion of the cooperating clamp member 17, which between its ends is bent into an arc form, and at its lower end provided with an outward extending lug 18 passing into and through the opening in the part 7 previously described, the member 6 being secured to the inner side of the clamping member 17 so as to come against the member 5 when the clamp is in its operative position.

A rod, for example as shown, an elongated tube 19, may be passed through and lie between the oppositely extending curved or arcuate portions of the clamp members, said member 19 at a preselected position in its length being formed with an inwardly pressed bead which forms a continuous annular groove 20 around the rod. The upper edge of the member 5 (Fig. 2) is formed with a projection 5a to enter said groove, and as said member 5 is located to the left of the vertical plane of the axis of the rod 19, said rod may be placed within the bend of the clamping member 11 and will stay in place until the other clamp-

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ing member 17 is hooked at its lower end through the opening in the member 7, the cap 14 lowered to position to receive the upper end of said clamping member 17 and the nut 13 tightened. Then by screwing inwardly the screw 16, the clamping members 11 and 17 are brought snugly into secure holding engagement with the rod 19. Preferably the vertical member 6 at its upper edge is provided with a plurality of consecutive teeth 6a as shown in Fig. 4. Such teeth together with the teeth provided by the serrations at 15 on the sides of the cap 14 bite into the rod 19 and hold it against rotative or other movement.

As shown in Figs. 4 and 5, instead of the upper section 3 entering a single lower post 1, such post may be increased in length by inserting into the upper end of the post 1 an intermediate section 1a which, near its upper end is formed with an inwardly pressed bead 2a, and the upper tubular section 3 inserted into such intermediate section 1a. The rod 8 from one end of which the clamping member 11 is formed passes through the upper section 3 as before and screws into the upper end of a longer cylindrical nut 9a, provided at its upper and lower ends with the serrated annular lips 10. The lower nut 9 within the lowermost post section 1 has a rod 8a connected therewith, which rod also threads at its upper end at the lower end of the intermediate nut 9a as shown. The horizontal cross rod 19 is clamped in place by the same structure of clamp as shown in Fig. 1.

The upper end extension of the terminal threaded section 12 of the rod 8 may be advantageously used for securing a second horizontal rod support thereto. A rod 21 of any desired length at its lower end is provided with an enlarged interiorly bored and threaded bottom portion 22 which may be screwed onto the projecting end 12 above the nut 13, (Fig. 4). The rod 21 is continued upwardly in identity with the previously described rod 8 to provide a clamping part 11 and a threaded terminal section 12, the horizontal transverse plate 4 being permanently secured to the rod 21. Associated with the structure thus described is the cap 14 with the screw 16 carried thereby, and a second clamping member 17 moved inwardly to clamping position by the screw 16 at its upper end, and having a hook connection with the member 7 at its lower end. Further extension upwardly by duplicating the rod 21 and the parts associated therewith may be carried out to any desired extent.

The structure described is readily, easily and economically manufactured, is sturdy and durable and the parts are readily assembled and operated.

The invention is defined in the appended claims and is to be considered comprehensive of all forms of structure coming within their scope.

I claim:

1. A structure as described comprising, a base, a clamping member operably connected with said base and extending therefrom and formed between its ends to embrace one side of a rod, tube or the like, an inverted cap through which said member extends, means adjustably mounted at the outer end of said member to engage against said cap, a second clamping member adapted to be connected with the first clamping member and having one end connected with said base and shaped between its ends to engage the opposite side of said tube, rod or the like and extending at its opposite end into said cap, and

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means adjustably mounted on said cap for engaging the opposite end of the second clamping member for forcing it toward the first member.

2. A construction as defined in claim 1, in which said first adjustable means comprises said first clamping member at its free end being exteriorly threaded and a nut screwed thereon to engage against the outer side of the cap, said cap having depending sides, the lower edges of which are provided with a consecutive series of teeth to engage against the outer side of said rod, tube or the like clamped between said clamping members.

3. A construction as defined in claim 1, said base having an outwardly extending member secured thereto and to the first clamping member and adapted to support a rod, tube or the like and retain it in operable relation to the first clamping member against accidental displacement, and said second clamping member at its end portion nearest said base and at its inner side having a member secured thereto, the outer edge of which is provided with a plurality of spaced apart teeth to engage said tube, rod or the like.

4. In a structure as described, a vertical tubular support, a base located at the upper end thereof, a vertical rod extending through said base and secured thereto, means connected with the lower end of the rod for holding the base at the upper end of the support, said rod above said support between its ends being formed with an outwardly curved arcuate section and at its upper end being exteriorly screw threaded, a cap of inverted cup-like form having an opening in its upper side through which said threaded section of the rod passes, said cap having depending sides and ends, a nut screwed onto said rod above the cap, a second rod formed between its ends with an outwardly curved section, the upper end of said second rod extending into said cap, a screw threaded through a depending end of the cap and adapted to engage against the upper end of said second rod, and an outwardly extending lug at the lower end of the rod, said base having an ear with an opening therethrough into which said lug extends.

5. A construction as defined in claim 4, and a vertical member secured to the upper side of the base at the inner side of said first rod and extending a short distance above the lower portion of the outwardly curved arcuate portion of said rod, said member being located outwardly of the center of curvature of said arcuate portion.

6. A structure as described comprising a base, a vertical post on said base bent into curved shape between its ends, said base having a socket therein, a clamping member having a foot removably received in said socket and having a curved portion between its ends, a cap to embrace the upper ends of both said post and said clamping member and means for retaining said cap in place.

7. The elements of claim 6 combined with an engaging member fixed between said post and clamping member and engageable with a bar clamped between them and means on said cap also engageable with said bar, said retaining means acting to draw said cap into engagement with said bar.

8. The elements of claim 6 combined with a tubular support adapted to receive said base against one of its ends, an internal projection on said support, a nut in engagement with said

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internal projection and a post extending from said base into said support and having a threaded end screwed into said nut.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
257,891	Patee -----	May 16, 1882
319,102	Laughlin -----	June 2, 1885
325,051	Cadwallader -----	Aug. 25, 1885

Number
430,623
974,462
1,071,617
1,663,356
1,871,240
2,026,260
2,080,916
2,191,258

10**6**

Name	Date
Clark -----	June 24, 1890
Bissell -----	Nov. 1, 1910
Hinds et al. -----	Aug. 26, 1913
Smith -----	Mar. 20, 1928
Scheller -----	Aug. 9, 1932
Tarbox -----	Dec. 31, 1935
Hayden -----	May 18, 1937
Matthysse -----	Feb. 20, 1940

FOREIGN PATENTS

Country	Date
Great Britain -----	June 5, 1930
Great Britain -----	Oct. 13, 1932