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[54] **APPARATUS FOR MOUNTING A TRANSFORMER**

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[52] **U.S. Cl.**.....**248/221**, 248/230

[51] **Int. Cl.**.....**F16m 13/02**

[58] **Field of Search**.....248/221, 231, 230, 248/224, 225, 65; 174/163

[56] **References Cited**

UNITED STATES PATENTS

3,374,978	3/1968	Salmon et al.	248/221
3,637,084	1/1972	Vitz	248/225
2,273,701	2/1942	Funke	248/224 UX
1,737,151	11/1929	Derbyshire	248/331 X
3,258,250	6/1966	McMullin	248/225 X
3,221,892	12/1965	Morcheles et al.	248/225 X
3,497,171	2/1970	Farmer et al.	248/221

FOREIGN PATENTS OR APPLICATIONS

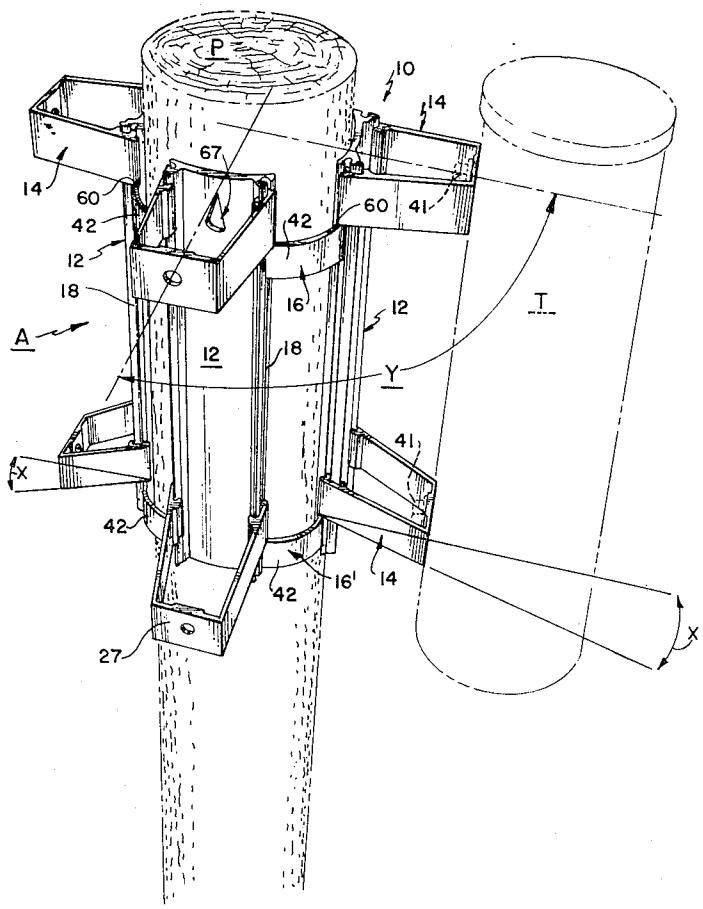
1,343,400	10/1963	France	248/231

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[57] **ABSTRACT**

Improved apparatus for mounting one or more transformers, in cluster fashion, about an upstanding pole support and the like. The apparatus is generally comprised of at least one support-engaging bearing plate, a transformer mounting bracket slidably connected to the bearing plate and an adjustable link subassembly slidably and pivotally interlocked to the bearing plate for facilitating unitized handling and quick emplacement of the bearing plate about a pole as well as for providing fine and extensive adjustment of the emplaced bearing plate about the pole.

10 Claims, 11 Drawing Figures



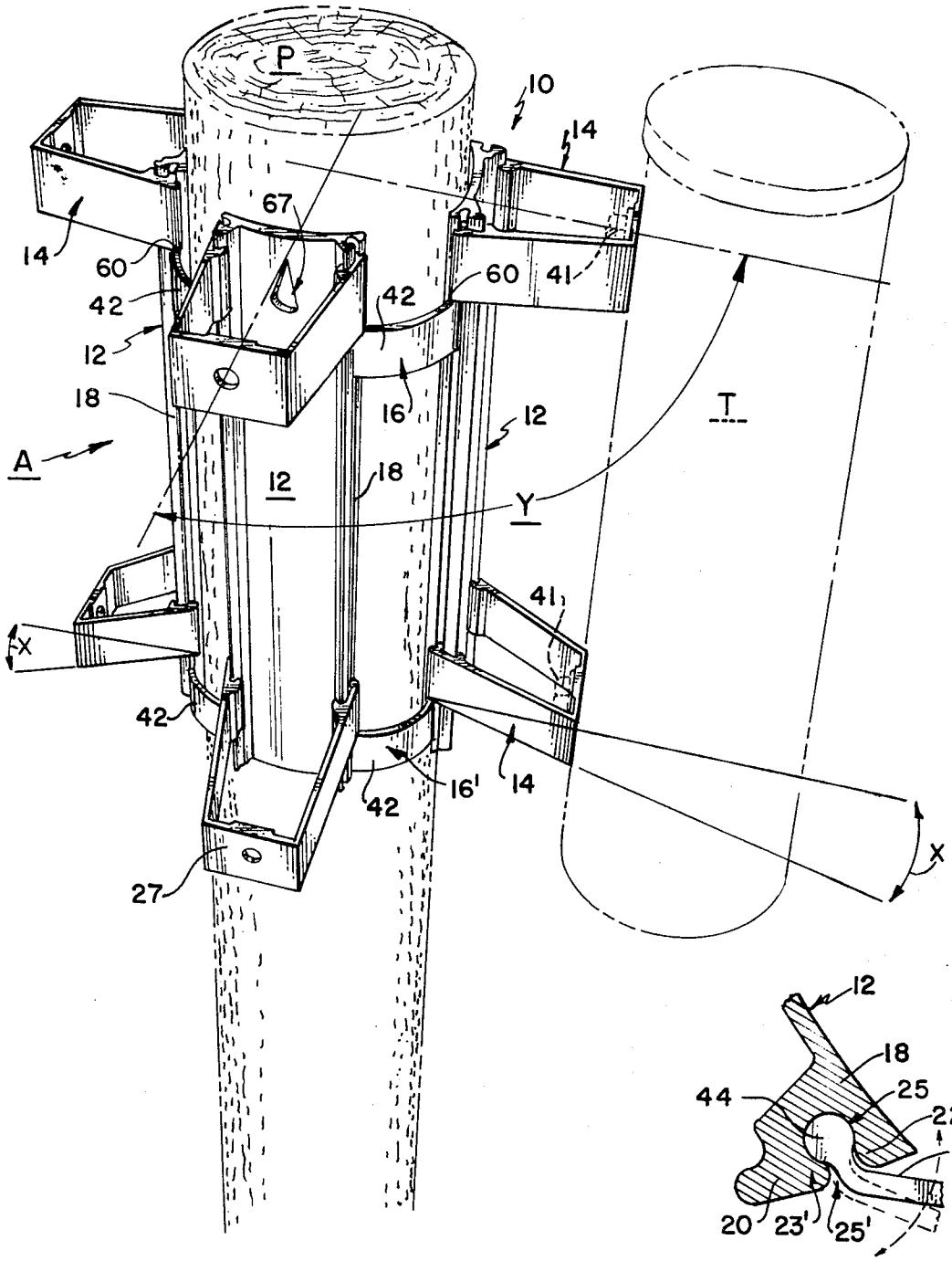


FIG. 1

FIG-5

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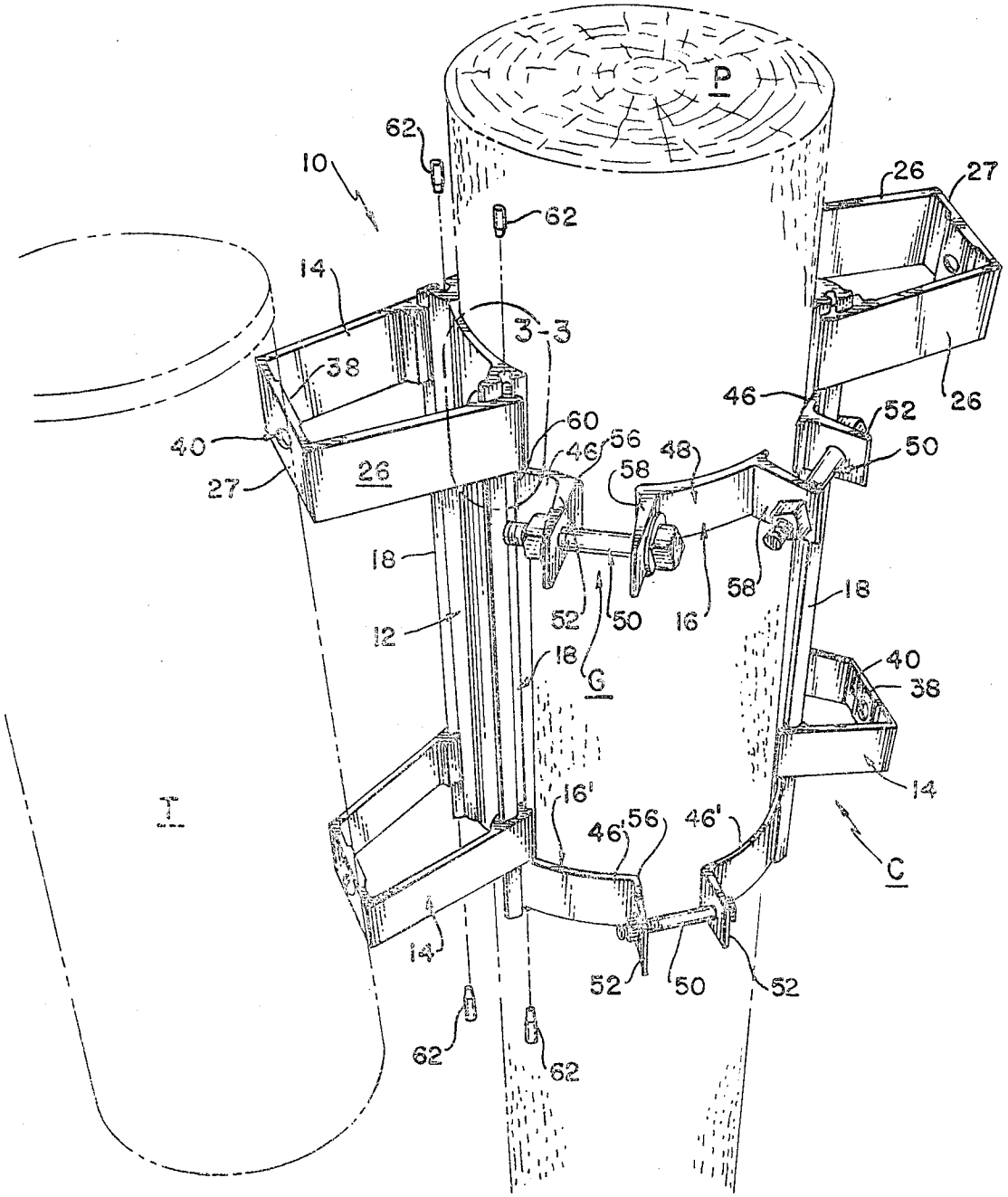


FIG. 2

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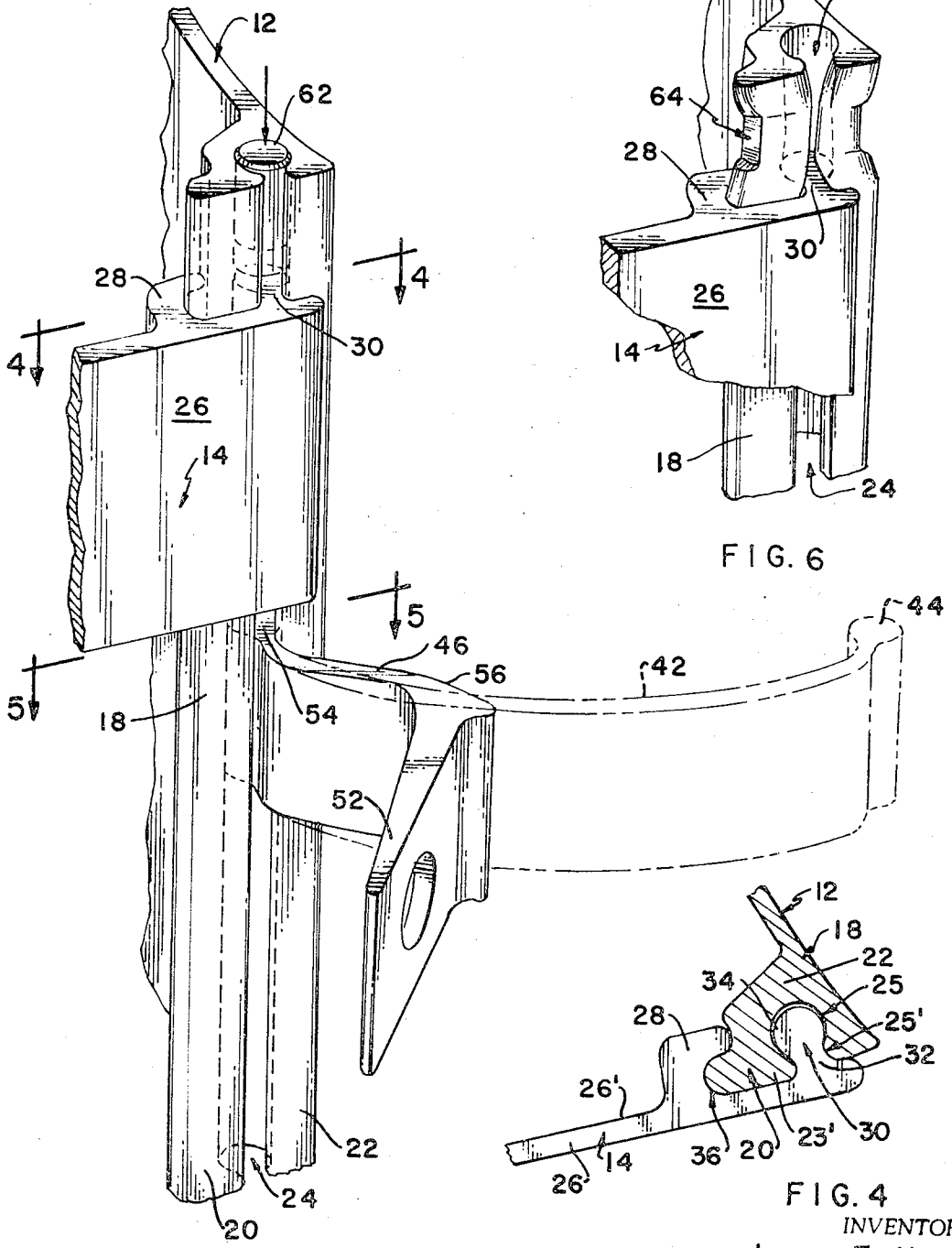


FIG. 3

FIG. 6

FIG. 4

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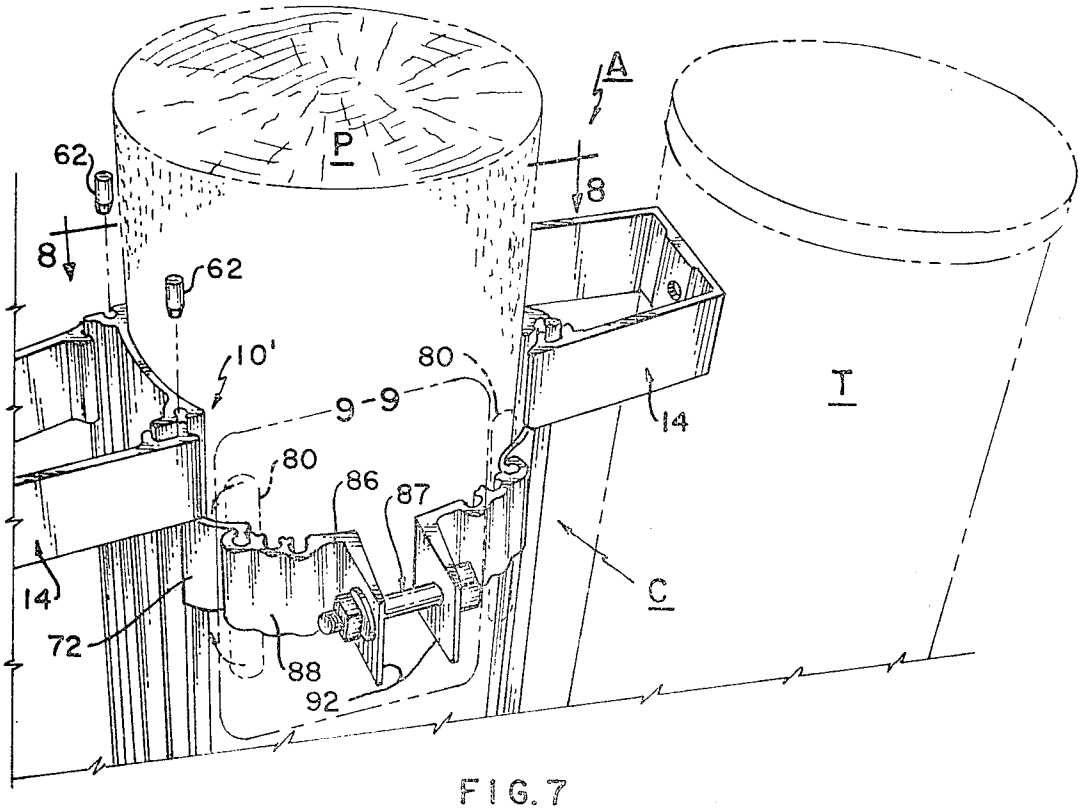


FIG. 7

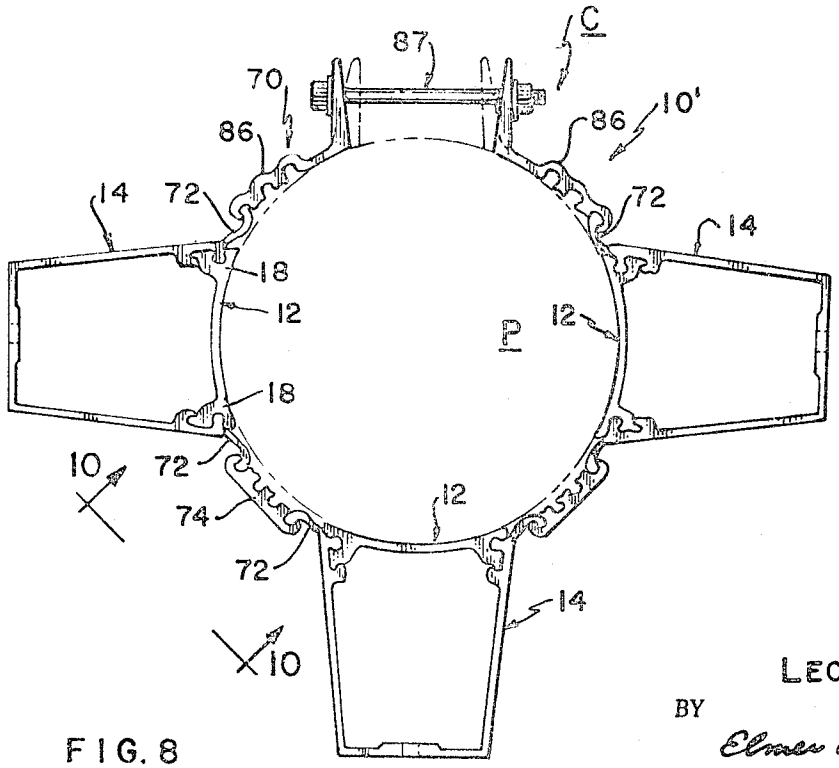


FIG. 8

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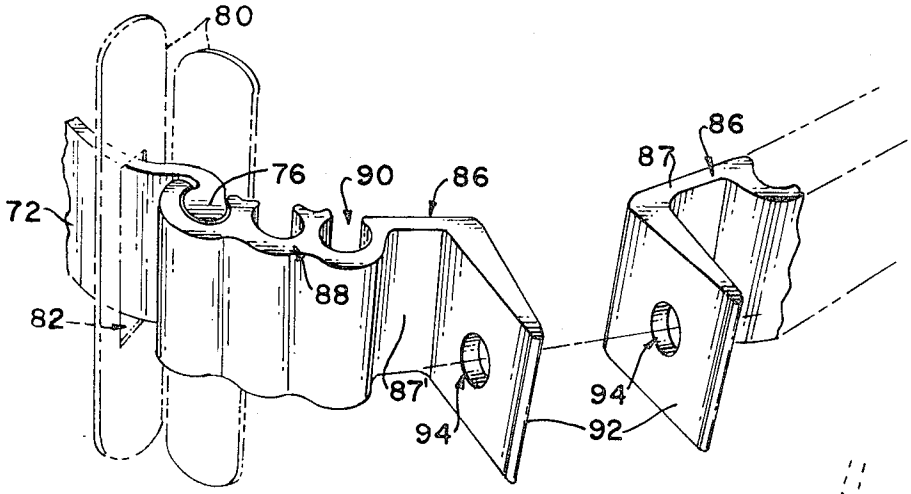


FIG. 9

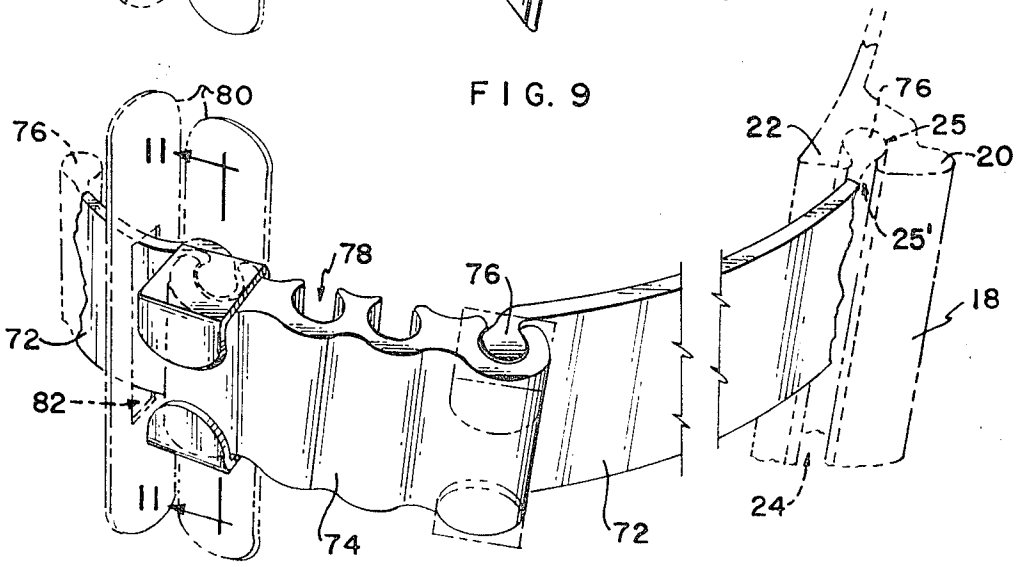


FIG. 10

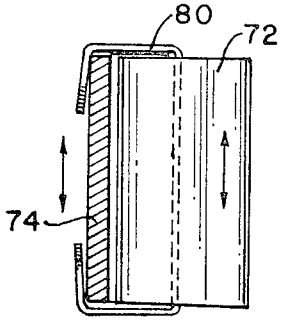


FIG. 11

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APPARATUS FOR MOUNTING A TRANSFORMER

BACKGROUND OF THE INVENTION

This invention relates to an apparatus for mounting one or more transformers about a pole. More particularly, it relates to an improved transformer pole mounting apparatus or device advantageously made up, as per each transformer to be mounted, of a bearing plate, a transformer mounting bracket and an adjustable link subassembly for effecting clamping engagement of the bearing plate about a pole at a preselected position thereon.

Prior transformer pole mounting devices which permitted adjustable clamping engagement of the device about the pole also tended to permit or failed adequately to guard against accidental disconnection of the device therefrom. Examples of such prior apparatus are shown in U.S. Pat. No. 2,708,087 to Blackstone granted on May 10, 1955; U.S. Pat. No. 3,374,978 to Salmon et al. granted Mar. 26, 1968, and U.S. Pat. No. 3,497,171 to Farmer et al. granted Feb. 24, 1970.

The improved transformer pole mounting device of the present invention is provided with an improved pole bearing plate and unique yet separate transformer support brackets slidably connected to the plate. A novel adjustable link subassembly is operatively associated with the bearing plate and support brackets for clampingly holding the plate about a pole. By reason of the adjustable link subassembly of the device it can be readily handled as a unitized assembly whether disconnected from about a pole or connected thereabout, thereby facilitating the emplacement of the device about the pole at a preselected position without the danger of the device dropping away from the pole during installation and use. In other words, a number of the mounting devices according to this invention can be assembled out of contact with the pole and then placed on such pole at any desired location, in a belt-like manner, and affixed in place by a suitable tie means, such as a tie bolt later described, or, after assembly or placement on a pole, the plurality of devices can be adjusted vertically by loosening and tightening of the tie means, all without danger of disconnection of individual elements.

SUMMARY OF THE INVENTION

The primary purpose of the instant invention is to provide an improved adjustable transformer pole mounting device for clampingly attaching a transformer to a pole at a desired position thereon.

The device is generally comprised of a bearing plate adapted to engage both a transformer mounting bracket slidably and interlockably connected thereto and a pole.

The device also includes an adjustable link means or subassembly adapted to be rotatably or pivotally and slidably interconnected to the bearing plate for enabling initial and loose assembly of the plate about the pole and for effecting clamping engagement of the device about the pole. If desired, in a particular embodiment a link subassembly can be made up of selectively coupled and interlocked links for extending the overall circumferential extension of a link assembly about a pole.

The height of a bearing plate in supporting a transformer of greater height can be minimized such that a part of the bracket connected to the plate and opposed

portions of the plate all lie in a common plane so as to define an acute angle between the plate and the bracket.

By reason of the slidable interlock of a bracket element with a given plate and by reason of the pivotal and slidable interlock of the link means therewith, a bearing plate advantageously includes locking means for preventing disconnection of a link assembly or bracket element therefrom.

Even though the various elements of the device of the instant invention are preferably made up of aluminum extrusions other appropriate manufactured materials can be used.

Although the device is particularly useful for mounting one or a plurality of transformers about a pole it is not intended to be limited thereto, but is useful for mounting other devices in a similar manner.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an aerial perspective view of an upstanding pole provided with a preferred embodiment of a transformer pole mounting device of the instant invention;

FIG. 2 is an enlarged aerial perspective view of a slightly modified form of the device with certain parts in exploded relation and taken from a position on the blind side of the perspective view in FIG. 1;

FIG. 3 is an enlarged fragmentary perspective view taken within the bounds of line 3—3 of FIG. 2;

FIG. 4 is an enlarged cross sectional view taken along line 4—4 of FIG. 3;

FIG. 5 is an enlarged cross sectional view taken along line 5—5 of FIG. 3;

FIG. 6 is a fragmentary perspective view similar to FIG. 3 and illustrates a slightly modified form of the apparatus of the instant invention;

FIG. 7 is an aerial fragmentary perspective view of another embodiment of the apparatus of the instant invention with certain parts shown in exploded relation and with other parts shown in dotted lines;

FIG. 8 is a cross sectional view taken along line 8—8 of FIG. 7 and illustrates the view rotated about 180° relative to the view in FIG. 7;

FIG. 9 is en enlarged perspective view with certain parts removed and taken within the bounds of circumscribing line 9—9 of FIG. 7;

FIG. 10 is an enlarged fragmentary perspective view, with parts added and a part removed, of a certain portion of the apparatus as viewed along line 10—10 of FIG. 8; and

FIG. 11 is an enlarged cross sectional view taken along line 11—11 of FIG. 10.

DETAILED DESCRIPTION

With further reference to the drawings, particularly FIGS. 1–6 thereof, a preferred embodiment of the instant invention will be described which illustrates an adjustable device 10 for clampingly mounting three transformers in cluster fashion about an upstanding pole of circular cross-section, such as a wood pole, at a preselected position A thereon. The illustrated device generally comprises a plurality of three bearing plates 12 and a pair of transformer support brackets 14 vertically spaced from each other and slidably and interlockably connected to each one of the three bearing plates. The device also includes a series of two adjustable and pivotal link means or subassemblies 16 and 16′ vertically spaced relative to each other. Each one

of the two series of link subassemblies is made up of various link elements, etc., which extend between and are interconnected to the plurality of the three plates in a unique manner for effecting initial placement of the three plates about the pole at a desired position thereon such as A in FIGS. 1–2 and subsequent clamping engagement of the three plates thereabout at A.

As will become more apparent hereinafter, device **10** is of flexible unitized construction whether installed about a pole by way of its series of two link subassemblies **16** and **16'** or asssembled apart therefrom.

Three plates **12** are preferably disposed about the pole such that adjoining plates **12** of the three plates on the pole are angularly spaced **90°** relative to each other as indicated at Y in FIG. **1.** Because of the **90°** spacing between adjoining plates endmost plates **12** of the three plates provide ample clearance space C on the order of **180°** for the operator on the opposite side of the pole as shown in FIGS. **2** and **7–8.** Such clearance C enables the operator to easily reach any one of the three plates **12** of device **10** at A such as for mounting or dismounting a transformer T relative to a plate **12** as will be further described below.

Another embodiment of device **10'** of the instant invention is illustrated in FIGS. **7–11.** Corresponding parts of devices **10** and **10'** of the instant invention have like reference numerals in the manner depicted in FIGS. **1–6** and **7–11.**

The plates **12,** brackets **14** and certain elements of a series of link subassemblies **16** or **16'** all of a given device **10** are preferably made up of a suitable grade of aluminum extrusion material thereby facilitating the manufacture and handling of the device of the instant invention during its use.

Inasmuch as each one of a plurality of three bearing plates **12** of illustrated device **10** is of identical construction, a description of one of the three plates will suffice for all unless otherwise specified. Similarly each one of the pair of brackets **14** associated with a given plate **12** of device **10** are of substantially identical construction as well as each one of the two link subassemblies **16** and **16'** individually interconnected to the three plates. Thus a description of one of the pair of brackets **14** of device **10** or one of the series of two subassemblies **16** and **16'** will suffice for all unless otherwise specified.

In an advantageous embodiment of the instant invention, device **10** is comprised of a bearing plate **12** preferably of one piece extruded construction having an arcuate shape in transverse section for application to a pole of generally circular configuration in transverse section. Opposed side edges of a plate are provided with ribs **18** fully extending between the ends thereof. Opposed ribs of a plate **12** preferably project outward from and normal to the outer convex face thereof. Each of the opposed ribs **18** of plate **12** is of generally triangular configuration in transverse section as best indicated in FIGS. **4–5.** An opposed rib **18** of a plate **12** is comprised of an outer reduced tongue-like rib element **20** and an inner grooved element **22** integrally connected thereto. Inner grooved element **22** has an elongated keyhole-type slot or groove **24** having an enlarged inner open portion **25** and a reduced outer portion or entry channel **25'** in direct open communication therewith as best indicated in FIGS. **3–5.** Certain adjoining surface portions of the tongue and grooved elements of a rib **18** are of reversed curvilinear extent so as to define a dovetail shape **23'** in transverse section as best shown in FIGS. **4** and **5.**

A bracket **14,** preferably of one-piece extruded construction, includes a web **27** and a leg section **26** extending from each end of such web **27,** and is adapted to be connected to plate **12** at the inner ends of such legs **26** and to support or partially support a later-applied transformer T at web **27.** Each mutually facing or inner surface **26'** of a leg **26** of bracket **14** is provided with a pair of spaced flanges **28** and **30** which cooperate to form a dovetailed recess **36** to receive dovetail element **23'** of rib **18** in snug, slidable relationship and which extend substantially the full width of the leg. Flange **30** has an enlarged outer portion **34** of circular cross-section adapted to be fitted within slot **24** of rib **18** in a snug, slidable arrangement, so that there is in effect a double tongue-and-groove connection of bracket **14** to plate **12** as best indicated in FIG. **4.**

The web **27** of bracket **14** is provided with an enlarged inwardly facing intermediate portion **38** that acts to reinforce the bracket when a transformer T is connected to the outwardly facing side of the web **27** of the bracket upon passage of a suitable fastener **41** through an aperture **40** of the web in conventional fashion as indicated in FIGS. **1–2.** In order to minimize the height of a plate **12,** the bottom edge or surface of either leg of lower bracket **14** and opposed portions of the associated plate **12** normally all lie in a common vertical plane and can be arranged relative to each other so as to define a vertical acute angle between the bottom edge of bracket **14** and the opposed portions of the associated plate **12** when the lower bracket **14** is connected to a given plate in the manner depicted in FIG. **1.** One advantageous angle has been found to be 30° as indicated at X in FIG. **1.** Thus when the lower bracket of a pair of brackets **14** is disposed at such an acute angle device **10** will mount a transformer T of somewhat greater height than plate **12.**

The device of the instant invention includes an adjustable link subassembly **16** that advantageously extends between a pair of plates **12** and is pivotally interconnected to each for clampingly holding the assembly about a pole at a predetermined position thereon as illustrated at A in FIGS. **1–2.** The link subassembly **16** in this embodiment is generally comprised of a pair of arcuate shaped links **42** vertically spaced from each other. Each link **42** extends between and is pivotally interconnected to adjacent or opposed ribs **18** between endmost and intermediately disposed plates **12.** In order to facilitate pivotal connection of a link **42** to the rib **18** of a given plate **12** each end of link **42** includes an enlarged rod-like portion **44** that fully extends transversely of the link and that has a greater diameter than the thickness of the intermediate portion thereof as shown in FIGS. **3** and **5.** Enlarged rod-like portion **44** at either end of link **42** has a diameter that substantially corresponds to but is somewhat less than the diameter of the enlarged groove **25** of grooved portion **22** of a rib **18,** and is adapted to be slidably engaged therein. The intermediate portion of a link **42** has a thickness somewhat less than the neck **25'** of the keyhole groove **24** of a rib **18.** Therefore, the enlarged rod-like end **44** of a link **42** can be pivotally or hingedly interlocked to the grooved portion of a rib **18** of a given plate **12.**

The link subassembly is also advantageously comprised of a pair of end or stud links **46,** a spacer or intermediate link **48** of arcuate shape in transverse sec-

tion and two bolt nut assemblies 50 for adjustably and releasably interconnecting the pair of stud links 46 and spacer link 48 together as shown in FIGS. 2–3. For a reason that will become more apparent hereinafter each link 46 is of reversed curvilinear form in transverse section. One arcuate end of a stub link 46 is provided with an apertured radial-like flange 52 that projects outwardly of the outer or convex side thereof. The opposite arcuate end of a stub link is provided with an enlarged rod-like flange 54 that extends the full width of the associated stub link as best depicted in FIG. 3. The rod-like flange 54 of the stub link is adapted to be slidably engaged in groove 25 of a rib 18, and the link 46 then extends outwardly through reduced or necked-in groove 25′ of rib 18, so that stub link 46 is then pivotally and interlockably connected to the grooved portion 22 of an outer rib 18 of an endmost plate 12, as shown in FIGS. 2–3.

By reason of a stub link 46 being of reversed curvilinear extent, the flanged end of the stub link on the concave side thereof is provided with a planar portion 56 for tangentially engaging a peripheral surface portion of a pole P upon clamping engagement of device 10 about the pole during installation thereof in the manner illustrated in FIGS. 2–3. Groove 24 of rib 18 is located intermediate of the grooved portion thereof and the rod-like end 54 of a link 46 is offset radially outward of the planar portion 56 thereof, so that the rod-like flanged end 54 of the link is pivotally connected to rib 18 without interfering with the tangential engagement of planar portion 56 with the outer peripheral surface portion of a pole upon installation of the device thereabout.

Each arcuate spacer link 48 is provided with a radially disposed apertured flange 52 that projects outwardly from the convex side thereof. A bolt-nut assembly 50 is passed through aligned apertures of adjacent flanged ends of adjoining links 46 and 48 in a known manner in order to effect mounting of device 10 about a pole P as will be subsequently described.

Depending upon the diameter of a pole P and depending upon the overall arcuate extent of a pair of stub links 46 relative to the diameter of the pole, spacer link 48 can be omitted, if desired. As indicated in FIG. 2 a lower link subassembly 16′ includes a pair of stub links 46′ of greater arcuate extent than the pair of stub links 46 of upper link subassembly 16. Thus lower link subassembly 16′ merely requires a single bolt-nut assembly 50 for effecting clamping connection of device 10 about a pole.

During assembly of device 10 of the instant invention an upper intermediate link 42 is preferably pivotally interconnected to adjacent outwardly disposed ribs 18 and between intermediate and endmost plates 12 prior to slidable interlocked connection of an upper bracket 14 to the intermediate plate of the three plates 12. On the other hand, a lower bracket 14 is slidably interconnected to its associated ribs of its respective intermediate plate 12 prior to pivotal interlocked connection of a lower link 42 to outwardly facing adjacent ribs between intermediate and endmost plates of the three plates. Moreover, an upper stub link 46 is pivotally connected to an outwardly facing rib 18 of an endmost plate 12 prior to an upper bracket 14 being slidably interlocked to opposed ribs 18 of the given endmost plate. Similarly, lower bracket 14 is slidably interlocked to an endmost plate of device 10 prior to insertion of rod-like flanged end 54 of lower stub link 46 or 46′ into groove 24 of outwardly facing rib 18 of the endmost plate 12, and prior to insertion of rod-like flanged end 44 of a lower intermediate link 42 into groove 25 of respective inner rib 18 of the endmost plate. It can be seen that, when assembled as described above, leg portions 26 in each instance abut or rest upon portions of links 42, 46 and 46′ and are thereby vertically retained in position, and are prevented from slipping downwardly when installed on a pole.

In order to further assure that upper and lower brackets 14 as well as upper and lower links 42 and 42 or 46 and 46′ remain connected to their associated ribs 18 of a given plate 12 during assembly of device 10, a locking pin 62 can be forceably inserted in conventional fashion in the enlarged groove 25 of a rib 18 exteriorly of the brackets and inks as indicated in FIGS. 2–3. Instead of a locking pin 62, upper longitudinal end portions 64 of the grooved element of 22 of a rib 18 can be upset and deformed towards each other by an appropriate pinch-type crimping tool (not shown) so as to cause partial collapse of an upper end section 66 of keyhole groove 24 in the manner shown in FIG. 6. Such partial collapse of an upper end section of the groove 24 of a rib of a given plate 14 reduces the size of the end section of the groove and thereby effectively prevents disassembly of the same during use of device 10 as shown in FIG. 6. Although the lower end of plate 12 is not shown in FIG. 6, it is to be understood that the lower longitudinal end of the grooved element 22 of a rib can be deformed in similar fashion. Apart from the locking pin 62 and deformed section 64 described above, any appropriate locking means can be used for positively holding a bracket 14 and links 42 and 46 or 42 and 46′ assembled to their respective plate 12 of a device of the instant invention.

It is to be understood that device 10 during mounting thereof about a pole P is preferably comprised of a pair of like link assemblies 16 and 16 or 16′ and 16′ instead of dissimilar units 16 and 16′, as described above. Therefore, for the purpose of simplicity it is assumed that device 10 is provided with upper and lower link subassemblies 16 for effecting mounting of device 10 about a pole P as will now be described.

During mounting of device 10 about a pole, the overall circumferential extent of the device is selected relative to the diameter of the pole so that a sufficient gap G is allowed between opposed surfaces of adjacent flanges 52 and 58, for instance, of adjoining links 46 and 48 of a given link subassembly 16 to assure that the device can be connected about a pole P and drawn into tight clamping engagement thereabout. A preferred method for mounting a device 10 about a pole is to disconnect at least one bolt assembly 50 of the upper and lower link subassemblies 16 whereby device 10 is readily flexible. Such disconnection of device 10 enables the operator to grasp and hold the device at one end thereof as if it were made up of a series of interconnected chain link elements. Moreover, by reason of the rod-like flange ends 44 or 54 of a link 42 or 46 of a given link subassembly 16 having sufficient transverse extent, the links 42 and 46 of a link subassembly 16 effectively restrain flexible movement of the disconnected device in a direction generally longitudinal thereof. Hence, flexibility in a limited direction of disconnected device 10 advantageously enables the oper-

ator to firmly and controllably grasp the device during its placement about the pole at A.

As indicated in FIG. 1, the upper end of a plate 12 can be provided with a triangular shaped opening 67. The opening enables the operator to initially hang the device in open position on a hook (not shown) located at the predetermined position A of the pole. Initially hanging device 10 by way of such hook relieves the operator from carrying a substantial part of the weight of the device thereby enabling the device to be initially but loosely held on pole P at position A. After initial positioning of device 10 around pole P at A, the operator passes a bolt-nut assembly through aligned apertures of adjacent flanges 52 and 58 of adjoining links 46 and 48 of a given link subassembly 16 for interconnecting the disconnected endmost plates of device 10 about the pole, thereby loosely assembling the device thereabout. Upon selective tightening of either or both bolt-nut assemblies 50 of a given link subassembly 16, device 10 is progressively drawn into tight clamping engagement about the outer peripheral portion of pole P at A.

The concave sides of a plate 12 or spacer link 48 preferably have a radius of curvature that substantially corresponds to the radius of a pole P so as to assure maximum uniform clamping engagement of a device about the pole. However, the oncave side of a plate 12 can have a curvature somewhat different than that of a pole and sufficient clamping engagement of the device and the pole P will still be obtained upon sufficient tightening of a bolt-nut assembly 50. By reason of adjustable attachment of device 10 about pole P into clamping engagement therewith upon selective tightening of one or more bolt-nut assemblies 50 as described, the device can support one or more transformers on the pole in the manner shown in FIGS. 1-2 without the danger of the device dislodging from A.

As indicated in FIGS. 7-11, device 10' advantageously constitutes another embodiment of the instant invention. Device 10' is comprised of upper and lower link assemblies 70 (only one of which is shown for the sake of brevity in FIGS. 7-8) for clampingly engaging the plurality of three plates 12 thereof about pole P at A.

A link assembly 70 is generally comprised of a pair of end links 72 of approximately S-shaped configuration and an intermediate elongated and multigrooved link 74 for circumferentially selectively intercoupling the end links 72 together. Each longitudinal end of an end link 72 is provided with a rod-like flange 76. As shown in FIGS. 8 and 10, multigrooved link 74 is provided with a series of four longitudinally spaced open-ended keyhole grooves 78. Each groove 78 extends transversely of a link 74 and opens or projects inwardly from the back or concave side thereof.

In assembly, a rod-like flanged end 76 of a link 72 is inserted and pivotally connected to a preselected groove 78 of link 74 in the manner best shown in FIG. 10. When the terminal rod-like flanged end 76 of an end link 72 is pivotally and interlockably connected to the groove 24 of the associated inner grooved rib element 22 of a given endmost or intermediate plate 12, adjacent ribs 18 of such plates are pivotally interconnected together by way of links 72, 74 and 72 as illustrated in FIG. 8.

In order to prevent disconnection and to lockingly connect links 72 and 74 in assembly, there is provided a bendable locking strap 80 of aluminum or steel, having an elongated aperture 82 adapted to receive link 72, or in other words, to enable strap or elongated ring 80 to slide over and fit around link 72 and its flanged rod-like end 76. Such strap is slipped onto link 72 and thereafter one flanged end 76 of link 72 is inserted into a preselected groove 78 of multigrooved link 74. Strap 80 is then manually pushed into abutment against the edges of such groove 78 to enclose flange 76, as illustrated in FIGS. 7-8 and 10. The two ends of strap 80 are then folded or bent over the ends of flange 76 and the end surfaces of link 74 to lock the links 72 and 74 in relationship with each other, while permitting free relative pivotal movement.

Link subassembly 70 is also comprised of a second pair of end links 72, a pair of approximately L-shaped links 86 and a bolt-nut assembly 87. Each L-shaped link 86 of the pair of links includes a leg section 87' of arcuate form in transverse section having a multigrooved portion 88 at the free end thereof. The multigrooved portion 88 of a link 86 is preferably made up of three transversely extending open ended grooves 90 that are longitudinally spaced relative to each other. Each groove 90 is of approximately keyhole configuration in transverse section and projects outwardly from the concave or backside of link leg section 87'. A groove 90 has a size that substantially corresponds to the size of the keyhole groove 24 of a plate 12 whereby one flanged end 76 of link 72 can be freely pivotally connected to a groove of the grooved portion 88 of link 86 and the second flanged end 76 to groove 24. The other leg section 92 of link 86 projects radially outward from the convex outer side thereof as shown in FIGS. 7-9. Leg section 92 of a link 86 has an aperture 94 for receiving a bolt of a bolt-nut assembly 87 when adjacent flanges of links 86 are interconnected together during installation of device 10' about pole P at A.

Strap 80 lockingly holds a pivotal connection between the flanged end 76 of link 72 and a selected grooved portion of the multigrooved portion 88 of link 86 in the same fashion as for lockingly holding the pivotal connection between links 72 and 74 as aforedescribed. A flanged end 76 of link 72 associated with link 86 is pivotally connected to a grooved element 22 of a rib 18 of an endmost plate of the series of three plates 12 in the same fashion as another link 72 associated with link 74 is pivotally connected to opposed ribs 18 of intermediate and endmost plates 12 in the manner aforedescribed.

Device 10' can be assembled about a pole P such as aforedescribed for device 10, upon disconnection of bolt-nut assembly of each link subassembly 70 thereof. The pivotal connections between links of link subassembly 70, e.g., between links 72 and 74, advantageously maximize the overall flexibility of the device without adversely affecting the placement of device 10' about pole P at A during use of the device. By virtue of this enhanced flexibility of device 10', it can be readily drawn into tight clamping engagement about pole P at A when a bolt-nut assembly 87 is passed through aligned apertures 94 of adjacent flanges 92 of adjoining links of a given link subassembly 70 and is tightened in conventional fashion. Such flexibility of device 10' also enables it to be securely clamped to poles P of irregular shape in transverse section such as oval or elliptical shape without sacrifice of sufficient clamping engagement of device 10' about pole P.

Hence device 10' can mount one or more transformers T without danger of the device slipping down pole P or otherwise dislodging.

Although plates 12 and the various links of link subassemblies 16, 16' and 70 of devices 10 and 10' of the instant invention have been described as being of arcuate form in transverse section, it is to be understood that they could also extend linearly, or various combinations of arcuate and linear extension could be employed depending upon the cross-sectional configuration of a pole or the like about which the device of the instant invention is to be installed. Similarly a plate 12 can be of linear shape in transverse section or of combined linear and cirvilinear shape. Moreover, even though upper and lower link subassemblies such as, e.g., 16 have been provided for a given device 10, a single link subassembly can be used. Depending upon the weight and/or length of the transformer or the like to be supported by device 10, a single bracket 14 may be merely connected to a given plate 12.

If desired, interconnecting links 74 or 86 could be of curvilinear shape. Instead of a locking strap 80 either end of an opening 78 or 90 of a link 74 or 86 could be crimped as indicated at 64 in FIG. 6 or plugged as indicated by plug element 62 in FIG. 3 for retaining the enlarged end 76 of a link 72 in its selected groove 78 or 90 of a link 74 or 86.

Advantageous embodiments of a transformer mount have been shown and described. It is obvious that various changes and modifications may be made therein without departing from the appended claims, wherein:

What is claimed is:

1. A transformer mounting apparatus comprising in combination at least one bearing plate disposed in bearing engagement with a support pole, said plate being provided with elongated and longitudinally extending tongue and groove portions at opposite sides thereof, a transformer mounting bracket provided with spaced leg elements and the free ends of said leg elements having enlarged rod-like portions which are slidingly and pivotally disposed in the groove portions on opposite sides of said plate, means including link elements for securing the plate to the support pole, said link elements including certain elements which are provided with rod-like portions that also are slidingly and pivotally disposed in the said groove portions on opposite sides of said plate along with the leg elements of the transformer mounting bracket and adjustable bolt means engageable with said link elements for tightly clamping said bracket said plate and said link elements against said support pole.

2. A transformer mounting apparatus as set forth in claim 1 including a plurality of bearing plates with each of said plates being provided with elongated and longitudinally extending tongue and groove portions at opposite sides thereof for attachment either to a transformer bracket or to link elements.

3. A transformer mounting apparatus as set forth in claim 1 wherein certain of said link elements are of approximately S-shaped configuration in transverse section and others of said link elements are provided with longitudinally spaced grooved portions which interlock with the S-shaped link elements.

4. A transformer mounting apparatus as set forth in claim 1 including deformed sections on the tongue and groove portions of the plate for preventing slidable movement of a bracket relative to the plate.

5. A transformer mounting apparatus as set forth in claim 1 including pin means disposed in the groove portions of the plate for preventing slidable movement of a bracket relative to the plate.

6. A transformer mounting apparatus comprising in combination a plurality of bearing plates disposed in bearing engagement with a support pole, each of said plates being provided with elongated and longitudinally extending tongue and groove portions at opposite sides thereof, a generally U-shaped transformer mounting bracket associated with each of said plates and provided with spaced leg elements and the free ends of said leg elements having enlarged rod-like portions which are slidingly and pivotally disposed in the groove portions on opposite sides of their associated plate, means including link elements for securing each of the plates to the pole, said link elements including certain elements which are provided with rod-like portions that also are pivotally and slidingly disposed in said groove portions on opposite sides of said plates along with the leg elements of the transformer mounting bracket and adjustable bolt means for clamping said plates said brackets and said link elements against said pole.

7. A transformer mounting apparatus as set forth in claim 6 wherein certain of said link elements are of approximately S-shaped configuration in transverse section and others of said link elements are provided with longitudinally spaced grooved portions which interlock with the S-shaped link elements.

8. A transformer mounting apparatus as set forth in claim 6 including deformed sections on the tongue and groove portions of a plate for preventing slidable movement of a bracket relative to the last mentioned plate.

9. A transformer mounting apparatus as set forth in claim 6 including pin means disposed in the groove portions of a plate for prevening slidable movement of a bracket relative to the last mentioned plate.

10. A transformer mounting apparatus as set forth in claim 6 wherein said plates said brackets and said link elements are made in the form of light metal extrusions.

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