June 21, 1938. D. H. YOUNG 2,121,379

GUARD OR PROTECTIVE DEVICE FOR TREES OR HYDRANTS

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Fig. 1.

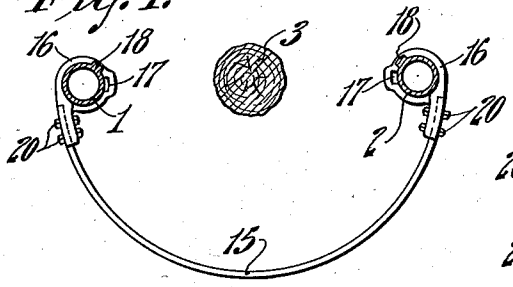


Fig. 2.

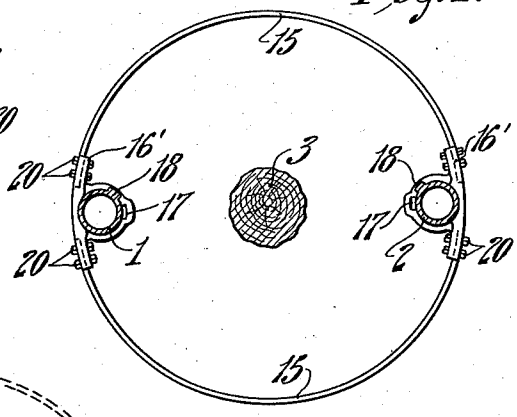


Fig. 3.

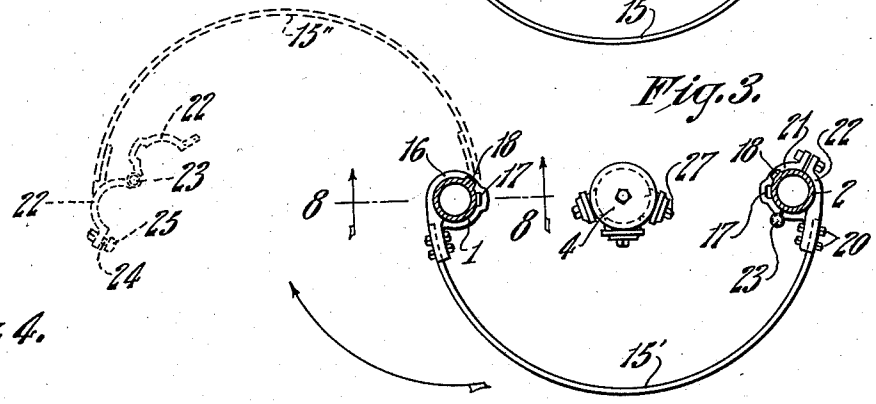


Fig. 4.

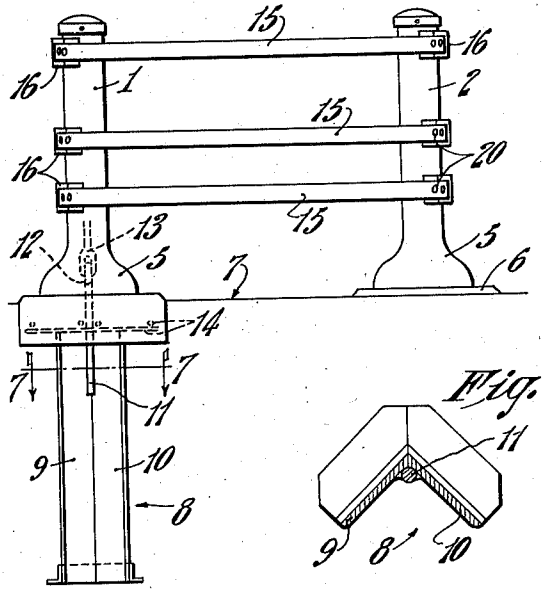


Fig. 5.

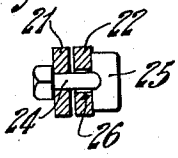


Fig. 6.

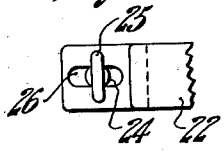


Fig. 7.

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Fig. 8.

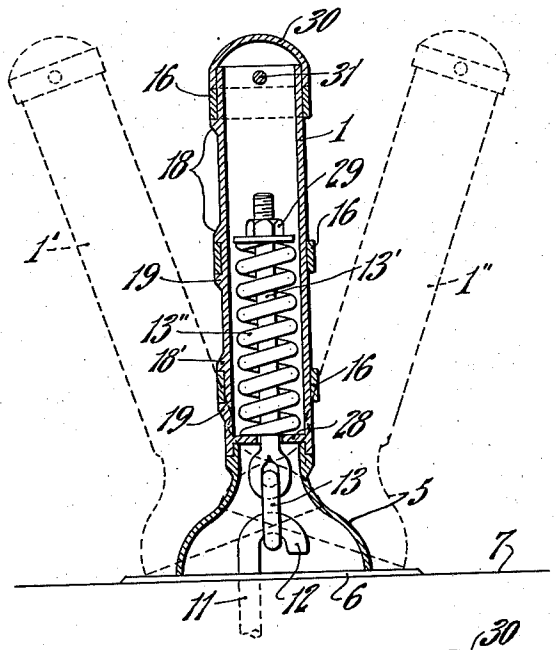


Fig. 9.

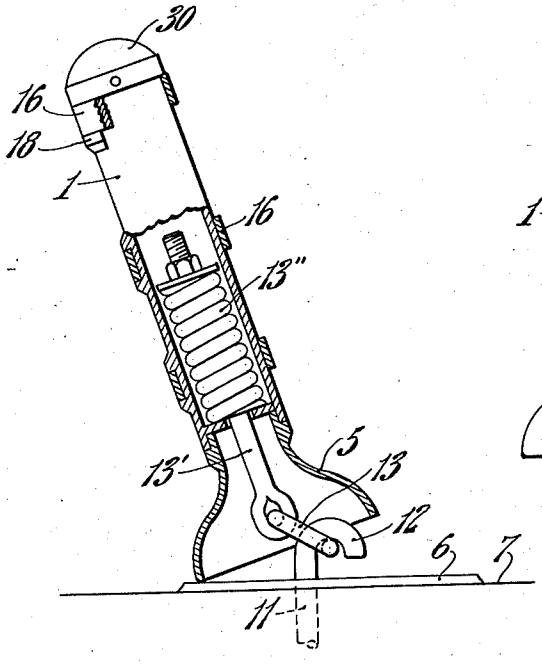
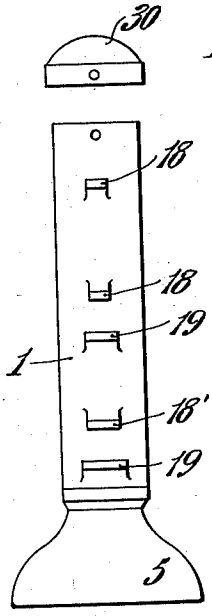


Fig. 10.



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UNITED STATES PATENT OFFICE

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GUARD OR PROTECTIVE DEVICE FOR TREES OR HYDRANTS

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Application August 14, 1936, Serial No. 96,068

3 Claims. (Cl. 189—23)

This invention relates to improvements in a guard or protective device for trees or hydrants which are located near to, or in the travelled highway, where they are very liable to be broken, or injured, in the event a motor vehicle, for different reasons, as skidding, should strike a tree or hydrant, as such vehicles often do.

Broadly, my invention comprises post members, which are secured to the roadway in such a manner that, if they should be struck by a moving motor vehicle, they will automatically yield, or tip laterally, and, will automatically return to their original upright position, after the force is removed. Also, the yielding attaching means for the post is such that they may have a sliding movement on the surface of a concrete pavement, or roadway, with the result that the liability of completely breaking down of the post will be prevented, since it would yield in the direction of the active force, or blow.

Removably secured, on two of these post members, are a plurality of metal bands, or bars, of any desirable size and weight. In the drawings, as shown, there are three (3) parallel arranged bars, but I do not limit myself to any particular number. These bands are removably supported on the posts by means of a slot and lug construction, the slots being located in the ring members to which the bands are secured, and the lugs being formed on the post and of different sizes.

Means is provided for quickly detaching one of the ends of the protective bands, when the fire hydrant is to be used, and swinging it away from the hydrant. The same wrench, or tool, which is employed for opening, or removing, the hydrant valve, or cap, is used for detaching one of the ends of the protective bands, as will be described.

Referring to the drawings:—

Fig. 1 is a top, plan view of the structure, for protecting a tree in which a semi-circular band is shown.

Fig. 2 shows a complete, or circular band.

Fig. 3 illustrates the protective bands around a hydrant, with one-half of the band in dotted lines, shown open for use.

Fig. 4 illustrates the two posts with the bands attached thereto, also, showing the supporting portion of the post which is located below the surface of the ground and to which the post is yieldingly and slidably attached.

Figs. 5 and 6 are detail views of the removable attaching means for one end of the bands.

Fig. 7 is a detail view on the line 7—7 of Fig. 4, showing angular-shaped members to which the post is connected.

Fig. 8 is a detail, sectional view of one of the posts, showing the tension spring therein, and in an upright position.

Fig. 9 shows a post in a tilted position with the spring compressed, when the post is tilted, and

Fig. 10 shows the series of lugs, or projections on a post.

Referring to the drawings in detail:—

1 and 2 designate the two posts which are preferably located on the opposite sides of a tree, indicated at 3, or hydrant 4, which it is desired to protect from being injured, or broken, by a motor vehicle, or any other means. These posts, as shown, are formed with a broadened, or flared-out base portion 5. 6 designates a concrete raised portion above the street level 7, which portion is a part of the securing means of the posts, indicated by the metal, angular-shaped member 8, (see Fig. 7), having the arm members 9 and 10, in the apex of which the rod 11 is welded, as shown. This rod is formed with a hook portion 12, to receive an eye, or link 13, of a spring tension rod 13', which is located within the post, for adjusting the tension of a coiled spring 13''. The details of this tension means are also shown described and claimed in my co-pending application. 14 indicates a wire reinforcing means in the block of concrete 6.

The tree, or hydrant-protecting means comprises the metal band, or bar members 15, three of which are shown. These bands are secured, at their free ends, to the posts 1 and 2, by means of the post fittings 16, shown in Fig. 1. These members are formed with a recess 17, which is designed to freely pass over the projections 18 and 18' on the posts. The post fitting members 16 are then turned 90° out of register with the openings 17. Lugs 19, on the posts 1 and 2, are located below the post fittings 16 for supporting these fittings.

It should be stated that the lugs 18 and 19 and openings 17 are of different sizes, increasing in width from top to bottom of the post so that the lowermost fitting 16, and the one immediately above, or the middle fitting, may be installed on the post, and supported thereon, in their proper positions, (see Fig. 10).

The post fittings 16 are securely supported on the posts by cooperation with the integral lugs on the post in such a manner as to permit rotary movement of the fittings or posts relative to each other under the influence of a glancing blow, either against the post or against the fittings or

any device attached to the fittings. The lowermost fitting 16 has a slot wide enough to pass the lugs 18, the upper of the lugs 19, and the lug 18', but too narrow to pass the lower lug 19, and the middle fitting 16 is provided with a slot wide enough to pass the lugs 18 only. The upper fitting 16 is provided with no slot, and rests directly on the upper lug 18. Because of this construction, the lowermost fitting 16 will slip over all the lugs except the bottom lug 19, upon which it will rest; the middle fitting 16 will slip over the lugs 18 and rest on the upper lug 19, and the top fitting 16 will slip over the top of the post and rest on the upper lug 18 and under the cap 30.

The bands 15 are secured to these fittings by means of the bolts 20.

In Fig. 2, the bands 15 are duplicated on the opposite side of the tree 3, and the fittings 16 are formed with the double arm portions 16'.

Referring to Fig. 3, the bands 15' are connected to the semi-circular clamps 21 and 22 having the hinge joint 23. 24 indicates a securing member for normally retaining the clamps 21 and 22 in place on the post 2. This member is formed with a head 25, which, when turned 90° will lay across the slot 26, and, when parallel thereto, will readily pass through this slot, permitting the bands 15 to be swung into the dotted line position 15''. The same tool that is used to engage the screw bolt 27 of the hydrant will fit the member for turning the same.

Referring to the construction shown in Fig. 8, the post 1 is formed with the plate 28 through which the tension rod 13' passes. The upper end of this rod is threaded to receive the nut 29. The nut is for varying the tension of the coiled spring 13'' for the purpose of maintaining the post in a vertical position and to limit the movement of the same into an inclined position, in either direction, as shown in the dotted line positions 1' and 1''. In Fig. 9, when the post is tilted, the coils of the spring 13'' are closed. By making the spring 13'' of large gage wire, the resistance to tilting is increased, and, will also offer resistance to its sliding on the concrete 6.

A suitable cap member 30 is provided for the tubular post 1, as shown, and is held in place with the pin 31.

It is to be understood that I do not limit myself to the use of bands, as a tree or hydrant protective means that are secured to the posts 1 and 2; but I may, if desired, employ wire cables, chains, or fabricated sheet metal in their place. This construction may be used around large trees by using several posts, instead of two, as shown.

Also, any suitable means may be employed for attaching these protective means.

What I claim is:—

1. A safety fence post comprising a flat base plate, means for anchoring said plate, a tubular post member slidably supported on said plate, a hook member rigidly secured on said anchoring means, resilient connecting means including a link member between said hook member and said post member.

2. A safety fence post comprising a flat base plate, means for anchoring the said plate, a tubular post member slidably supported on said plate, a hook member rigidly secured on said plate, resilient connecting means between said hook and said post, said resilient connecting means comprising an internal shoulder in said post, a compression spring seated on said shoulder, a bolt passing through said spring, a link member pivotally connecting said bolt to said hook, a washer engaging the top of said spring, and a nut threadably secured on said bolt above said washer, said nut and washer providing means for adjusting the compression of said spring.

3. A safety fence post comprising a base, a tubular open-ended post slidably supported on said base, said post being formed with an integral internal transverse partition formed with an axial opening, a compression spring within said post and having an end supported on said partition, a rod passing through said spring and said opening, means on the upper end of said rod for adjusting the compression on said spring, the lower end of said rod being formed with an eye, a hook rigidly secured in said base, a link connecting said hook and said eye, and an imperforate cap removably secured over the upper end of said post, whereby said post when subjected to impact will first move laterally to the limit of said link and then tip.

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