

J. L. ROGERS.
TROLLEY POLE.
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1,054,243.

Patented Feb. 25, 1913.

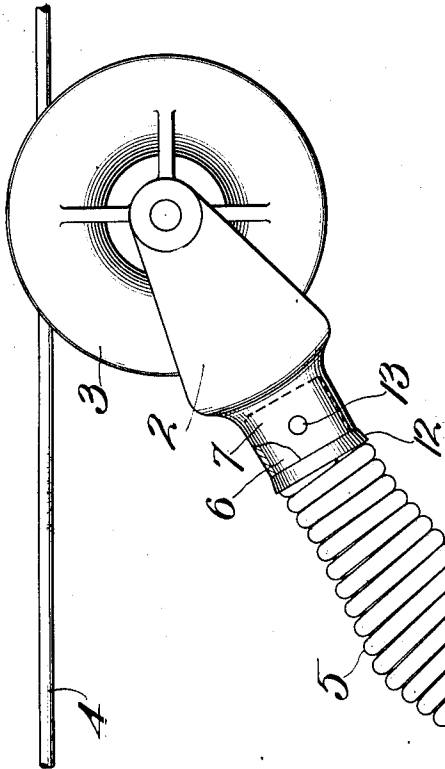
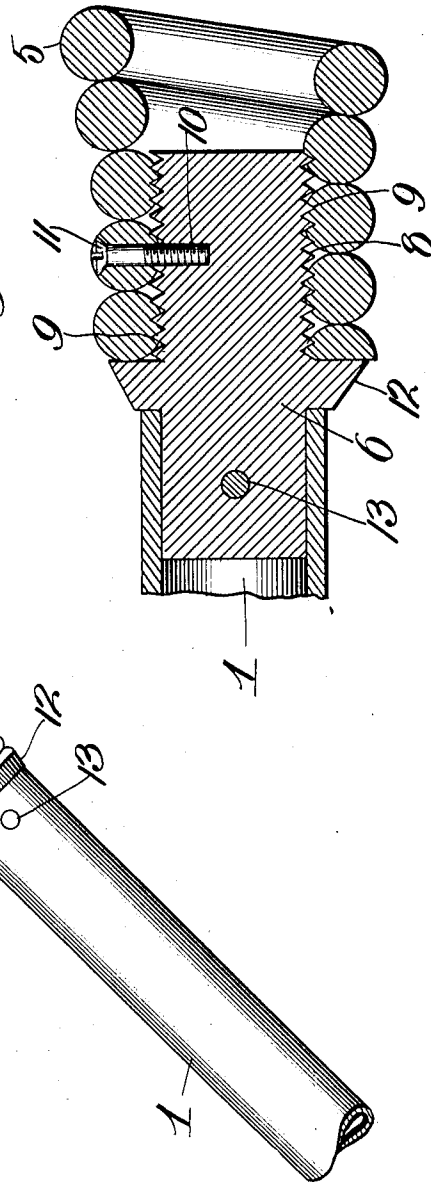


Fig. 1.

Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH L. ROGERS, OF KANSAS CITY, MISSOURI.

TROLLEY-POLE.

1,054,243.

Specification of Letters Patent.

Patented Feb. 25, 1913.

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To all whom it may concern:

Be it known that I, JOSEPH L. ROGERS, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Trolley-Poles, of which the following is a specification.

This invention relates to trolley poles and has for its object to produce a construction whereby the trolley wheel is enabled to respond to and accommodate all vibratory movements of the trolley wire while traveling in engagement therewith.

A further object is to produce a trolley pole which operates efficiently and reliably and is of simple, strong, durable and inexpensive construction.

With these general objects in view and others as hereinafter appear, the invention consists in certain novel and peculiar features of construction and organization as hereinafter described and claimed; and in order that it may be fully understood reference is to be had to the accompanying drawing, in which—

Figure 1, is a side elevation of the upper part of a trolley pole embodying my invention, the trolley wheel being shown in operative engagement with the trolley wire. Fig. 2, is an enlarged longitudinal section showing the preferred method of connecting the resilient portion of the pole with the rigid portion thereof.

In the said drawing, 1 indicates the usual or any preferred type of trolley pole adapted to be pressed upwardly and forwardly by the customary means, not shown.

2 is the harp in which the wheel 3 is journaled and 4 is a trolley wire for engagement by the wheel.

5 indicates a spring constituting what is hereinafter termed the resilient portion of the pole and said spring is of such character that it will permit the trolley wheel to move radially in any direction with respect to the upper end of the rigid portion, for the purpose of accommodating lateral or up and down vibrations of the trolley wire. The spring is preferably of the helical type and of greatest diameter midway its length from which point it diminishes gradually in diameter to its ends.

The preferred method of connecting the resilient member with the trolley pole and harp is by securing to and within its ends

a pair of similar plugs 6, one of which is also secured to and within portion 1 of the pole and the other to and within the stem 7 of the harp. The plugs 6 where inclosed by the resilient member are threaded as at 8 and the inclosing coils or convolutions of the spring are internally threaded at 9, for the reception of the threaded portions of the plugs, so that the latter may be screwed into the spring, and in order to guard against any possibility of disengagement between the plugs and spring they are pinned together preferably by providing the plugs with threaded holes 10 for the reception of screw bolts 11, extending through coils of the spring and into said holes, only one threaded hole and screw bolt being shown. As a gage to insure registration between the holes 10 and the holes in the spring through which bolts 11 extend the plugs are provided with enlargements or flanges 12 for abutment against the extremities of the spring. At the opposite sides of the enlargements or flanges 12 the plugs are preferably smooth surfaced and of diameter to fit snugly within portion 1 of the pole and the stem of the harp respectively, and said plugs are preferably secured rigidly in said portion 1 and stem of the harp by means of pins 13.

When not in use the resilient portion of the pole will stand in alinement with portion 1, but when the wheel is in engagement with the wire said resilient portion will bend rearwardly so that the wheel shall bear a relation to portion 1 substantially as shown in Fig. 1 and by its location close to the wheel will enable the latter to instantly respond to vertical or lateral vibrations of the trolley wire, it being also noted in this connection that the resilient member particularly when of the coiled spring type as shown, permits the wheel to have a slight turning movement to accommodate curved portions of the trolley wire where the car turns a corner. Because of this automatic self adjustment of the wheel it stands in substantially parallel relation to the direction of the wire at all times and is therefore less susceptible to rapid wear than a wheel that bears a fixed relation to the body of the pole. The spring 5 being weaker than the spring which holds the pole elevated, will yield rearwardly when the wheel passes under the wire at the supported points of the same, viz. at the points where

the cross wires are connected to it and thus in effect cushion the wheel at such points and reduce the shock or vibration tending to effect a sudden depression of the pole as a whole and the disengagement of the wheel from the wire, the wheel being thereby retained more reliably in operative engagement with the latter.

From the above description it will be apparent that I have produced a trolley pole embodying the features of advantages enumerated as desirable in the statement of the object of the invention, and I wish it to be understood that I reserve the right to make all changes properly falling within the spirit and scope of the appended claim.

claim:

A trolley pole comprising a rigid lower portion, a harp, a wheel journaled in the

harp, a helical spring of diminishing diameter from an intermediate point toward and internally threaded at its ends, a plug screwed in to each end of the spring and provided with an external flange abutting against the adjacent end of the spring, one of the plugs also fitting in the said rigid lower portion and the other in the harp, pins fastening the plugs to said lower portion and the harp, and screw bolts extending through coils of the spring into said plugs.

In testimony whereof I affix my signature, in the presence of two witnesses.

JOSEPH L. ROGERS.

Witnesses:

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