Oct. 28, 1924. 1,513,292

L. STEINBERGER

COLUMN STRAIN INSULATOR

Filed June 12, 1919

Fig. 1.

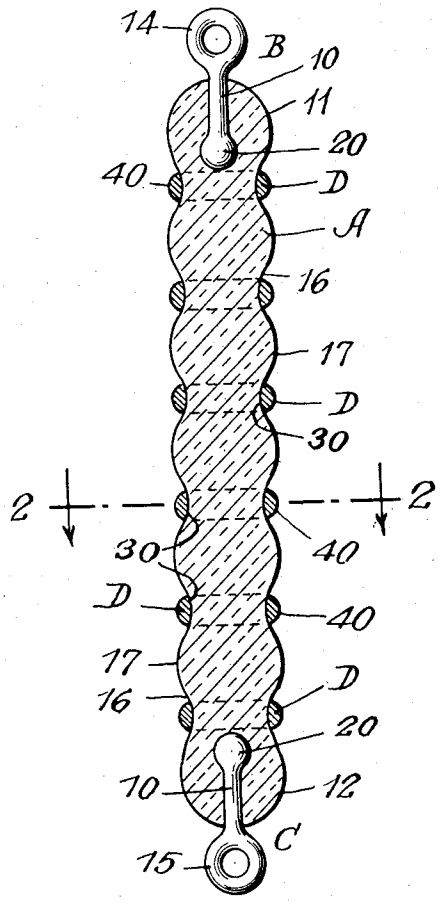
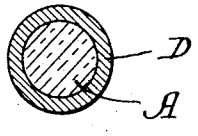


Fig. 2.



INVENTOR
Louis Steinberger
BY
Cornelius C. Billings
ATTORNEY

Harold Brochern

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UNITED STATES PATENT OFFICE.

LOUIS STEINBERGER, OF BROOKLYN, NEW YORK.

COLUMN-STRAIN INSULATOR.

Application filed June 12, 1919. Serial No. 303,725.

To all whom it may concern:

Be it known that I, LOUIS STEINBERGER, a citizen of the United States, and a resident of the borough of Brooklyn, city and State of New York, have invented certain new and useful Improvements in Column-Strain Insulators, of which the following is a specification.

This invention relates to column strain insulators provided with a plurality of electrical stress distributors.

One of the objects of the invention is to provide a column strain insulator with oppositely disposed stress distributing elements embedded within the ends thereof and with a plurality of circular electrical stress distributors molded at intervals to the outer surface of the insulator.

Other objects will appear from the subjoined specification and claims.

Referring to the drawings in which the same reference character indicates the same part in the several views:

Fig. 1 is a vertical section with parts in elevation of an insulator embodying my invention.

Fig. 2 is a section on line 2—2 of Fig. 1.

In the drawings, A represents an elongated body of insulating material provided preferably with rounded ends 11 and 12 and a plurality of alternately arranged uniformly spaced annular grooves 16 and ridges 17 located along the surface of the insulator from end to end.

Molded within the respective ends of the insulator body A are devices B and C, each of which is provided with a shank portion 10, the inner ends of said shank portion 10 being provided with a ball or globular formation 20. These ball shaped or globular formations are situated opposite each other in the body of the insulator, thus forming electrical stress distributing elements. The outer end of each shank portion 10 is provided with eye-bolts 14 and 15 extending outside of the body of insulating material for securing the insulator to a support or to the line by any well known means.

Rings of conducting material D are molded at substantially uniform distances apart to the surface of the insulator body in each groove, as shown, the inner surfaces 30 of the said rings D having the substantial shape of the surface of the grooves, and the outer surface of the ring is rounded as at 40.

The function and effect of these oppositely disposed globular ended shanks and of the plurality of metallic rings is to form stress distributing elements which redistribute the electrical stresses and strains within the body of the insulator, thereby avoiding concentration of heat and prolonging the life of the insulator.

As changes of construction could be made within the scope of my invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A column strain insulator comprising an elongated body of insulating material having a fastening device molded in the opposite ends thereof, said fastening device having portions formed thereon which act as electrical stress distributors, and a series of rings surrounding the said body of insulating material and arranged to co-act electrically with the said stress distributors formed on said fastening devices to redistribute the electrical stresses set up within the insulator.

2. A column strain insulator comprising an elongated body of insulating material having eye-bolts molded in the opposite ends thereof, said eye-bolts having globular portions formed thereon to act as electrical stress distributors, and a series of rings surrounding said body of insulating material and arranged to co-act electrically with the said stress distributors formed on said eye-bolts to redistribute the electrical stresses set up within the insulator.

3. A column strain insulator comprising an elongated body of insulating material having alternate annular ridges and grooves formed on the exterior thereof, metallic fastening devices having electrical stress distributing elements formed thereon and molded in the opposite ends of said insulator, and metallic rings secured in the grooves formed in the insulator body to assist in redistributing the electrical stresses set up within said insulator.

4. A column strain insulator comprising an elongated body of insulating material having electrical stress distributors molded in the opposite ends thereof, and a series of rings surrounding said insulator body, said

rings being uniformly spaced apart and arranged to co-act with said stress distributors to redistribute the electrical stresses and diffuse the heat set up within said insulator.

5. A column strain insulator comprising an elongated body of insulating material having alternate annular ridges and grooves formed on the exterior thereof, metallic fastening devices having stress distributors formed thereon molded in the opposite ends of said insulator, and a series of metallic rings secured in the grooves formed in the insulator body to assist in redistributing the electrical stresses and strains set up within said insulator, said rings being similar to each other and spaced apart substantially equal distances from each other.

6. A column strain insulator comprising an elongated body of insulating material having alternate annular ridges and grooves formed on the exterior thereof, metallic fastening devices having stress distributors formed thereon molded in the opposite ends of said insulator, and a series of metallic rings secured in the grooves formed in the insulator body to assist in redistributing the electrical stresses and strains set up within said insulator, said rings being similar to each other and spaced apart substantially equal distances from each other, the end rings of said series being closer to said static shields than to each other.

7. A column strain insulator comprising an elongated body of insulating material having electrical stress distributors held in the opposite ends thereof and a series of rings disposed intermediate of said stress distributors and arranged to coact with the said stress distributors to redistribute the electrical stresses.

8. A column strain insulator comprising an elongated body of insulating material having electrical stress distributors embedded in the opposite ends thereof, and a series of rings the upper surface of each of which is rounded in a plane taken through the axis of revolution of said ring, said rings being spaced apart and arranged to coact with said stress distributors to redistribute the electrical stresses.

9. A strain insulator comprising an elongated body of insulating material, fastening devices anchored in the respective ends of said body, and metallic rings surrounding said body, said rings being substantial duplicates of each other and arranged so that their centers lie on a line joining said fastening devices, and said fastening devices having stress distributing surfaces arranged to co-operate with the rings.

10. A strain insulator comprising an elongated body of insulating material, fastening devices anchored in the respective ends of said body, metallic rings surrounding the said body, said rings being substantial duplicates of each other and arranged so that their centers lie on a line joining said fastening devices.

In witness whereof, I have hereunto set my hand at the borough of Manhattan, city and State of New York, this 6th day of June, 1919.

LOUIS STEINBERGER.

In presence of:—
ISABEL R. FLETCHER.