

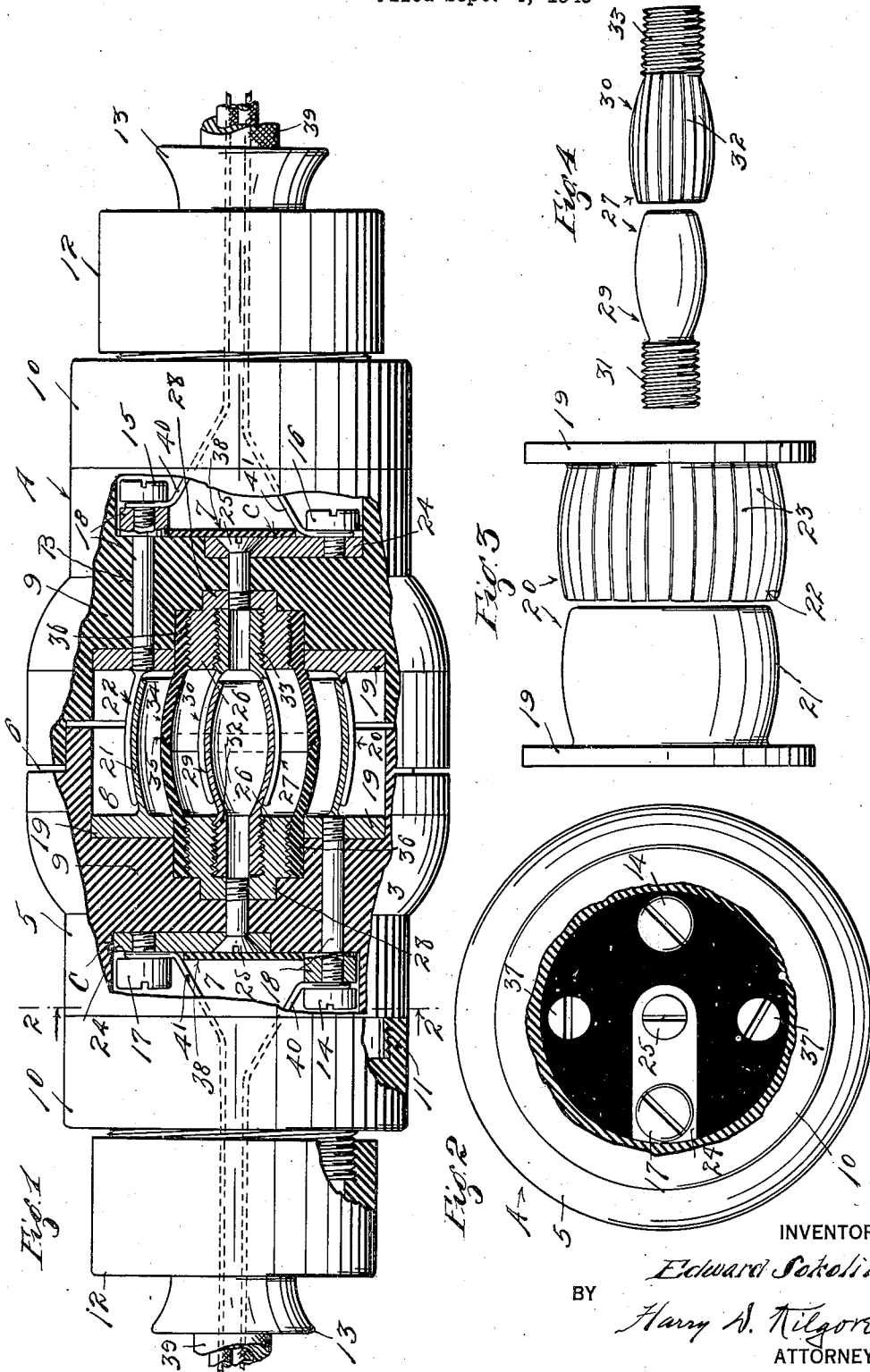
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SWIVEL FOR ELECTRIC CABLES

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SWIVEL FOR ELECTRIC CABLES

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1 Claim. (Cl. 173—324)

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My present invention relates to improvements in swivels for electric cables of the type disclosed and broadly claimed in my co-pending application Serial Number 614,168 executed of even date herewith.

This invention is in the nature of a modification of the swivel shown in the above identified application, and has for its object to provide a simple and highly efficient swivel for electric conductors connecting sections of an electric cable.

To the above end, the invention consists of the novel devices and combination of devices hereinafter described and defined, in the claim.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is a view principally in central longitudinal section;

Fig. 2 is a view partly in elevation and partly in section taken on the line 2—2 of Fig. 1; and

Figs. 3 and 4 are elevational views of the inner and outer conductor swivels, respectively, removed from the device and the members of each thereof pulled apart.

The letter A indicates, as an entirety, a cylindrical body of suitable insulating material. This body A includes two axially aligned substantially duplicate members 5 connected by a swivel joint 6 and each having an end compartment 7. A central compartment 8 is formed in the two body members 5 and the partitions between the end compartments 7 and the central compartment 8 are designated by the numeral 9. A primary cap 10 is attached, by screw threads 11, to each body member 5 and affords a closure for its end compartment 7. A secondary cap 12 is attached to each primary cap 10 by screw-threads and has on its top a flaring mouth 13. The parts thus far referred to are fully shown and described in the co-pending application heretofore referred to.

Within the body A are two electric conductors B and C, each having two terminals 14 and 15, and 16 and 17, respectively, in the form of large headed screws. The conductor B further includes a pair of long, large headed screws 18 and a pair of laterally spaced metal disks 19 in the central compartment 8. These disks 19 are axially aligned with each other and the body A. The disks 19 are held seated on opposite walls of the compartment 8 by screws 18 which extend through holes in the two partitions 9. The heads of the screws 18 impinge the walls of the two partitions 9 in the end compartments 7. These

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screws 18 have screw-threaded engagement with the disks 19 at diametrically opposite points. The heads of the screws 18 have axial holes therein and the terminals 14 and 15, extend, one in each of said holes and have screw-threaded engagement with said heads.

The two disks 19 are electrically connected by a swivel 20 comprising inner and outer hollow, truncated ellipsoids 21 and 22, respectively. These ellipsoids 21 and 22 are telescopically connected and separable by relative axial movements. The shell of the inner ellipsoid 21 is solid and the shell of the outer ellipsoid 22 is made up of a multiplicity of spring fingers 23 that yieldingly engage the inner ellipsoid 21 for good electrical contact therewith and automatically yieldingly disengage therefrom, when under opposed pulling force. The swivel 20 is in axial alignment with the body A, and the ellipsoids 21 and 22 are integral with the disks 19 at their outer ends.

The conductor C further includes a pair of plates 24, a pair of screws 25, a pair of cylindrical members 26 and a swivel 27. The plates 24 extend radially in opposite directions from the axis of the body A and are mounted in recesses in the walls of the partitions 9 in the compartment 7. The terminals 16 and 17 have screw-threaded engagement, one with each of the plates 24 at their outer end portions. The cylindrical members 26 are externally and internally screw-threaded and mounted in recesses in the end walls of the compartment 8. On the outer end of each cylindrical member 26 is a boss 28. The screws 25 extend through aligned holes in the plates 24, and the partitions 9 and have threaded engagement with the bosses 28. These screws 25 not only electrically connect the plates 24 and the cylindrical members 26 but hold the same clamped onto the partition 9.

The swivel 27 is like the swivel 20 and includes a pair of inner and outer hollow, truncated ellipsoids 29 and 30, respectively. These ellipsoids 29 and 30 are telescopically connected and separable by relative axial movements. The shell of the ellipsoid 29 is a solid and has on its outer end a tubular extension 31 that extends into one of the cylindrical members 26 and has threaded engagement therewith. The shell of the ellipsoid 30 is made up of a multiplicity of spring fingers 32 that yieldingly engage the ellipsoid 29 for good electrical contact therewith and automatically yieldingly disengage therefrom, when under opposed pulling force. On the outer end of the ellipsoid 30 is a tubular extension 33 that ex-

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tends into the other cylindrical member 26 and has threaded engagement therewith.

The swivel 27 is much smaller in cross-section than the swivel 20 in which it is concentrically contained. These two swivels 27 and 20 are electrically separated by partition 34 of the same formation as said swivel and of suitable insulating material. This partition 34 affords an annular housing for the swivel 27 and comprises two axially aligned members with an overlapping joint 35 therebetween. On the outer ends of the partition 34 are hub-like extensions 36 which extend over the cylindrical members 26 and are connected thereto by screw-threads and telescoped into the orifices of the respective rings.

In addition to the screws 18, the disks 19 are further secured to the partitions 9 by screws 37. The plates 24 and screws 37 are covered by a sheet of insulating material 38.

The inner end portions of a two-part electric cable 39 are inserted through the mouth 13 and axial holes in the caps 10 and 12. The wires 40 in the cable 39 are attached to the terminals 14 and 15 and the other wires 41 in said cable are attached to the terminals 16 and 17.

It will be understood that the invention described is capable of various modifications within the scope of the invention herein disclosed and claimed.

What I claim is:

In an electrical swivel, the combination and arrangement comprising: a separable body of insulating material, a compartment in each end and central portion thereof and including a pair of swiveled members; a pair of swiveled conductors in the central compartment, one concentric in the other, each including a pair of hollow truncated ellipsoids, the outer ellipsoids of each

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pair including a plurality of spring fingers telescopically engaging the inner ellipsoid of each respective pair, whereby the function of electrical contact, of swiveling, of automatic yielding disengagement of the ellipsoids under oppositely pulling strain, is simultaneously accomplished, each of the ellipsoids of the outer conductor having a flat fastening ring and each of the ellipsoids of the inner conductor having a tubular fastening boss; a hollow, truncated ellipsoid insulator insulating the conductors from each other and including a pair of swiveled members, each having a tubular fastening boss on the outer end mounted between the respective rings and the respective bosses of the concentric conductor; securing elements connected to the respective rings; compound bolt terminal-connectors contacting the outer conductor to wire conductors; terminal-reach-connector assemblies contacting the inner conductor to wire conductors; plate insulators insulating conductor elements in the end compartments between the terminals.

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