

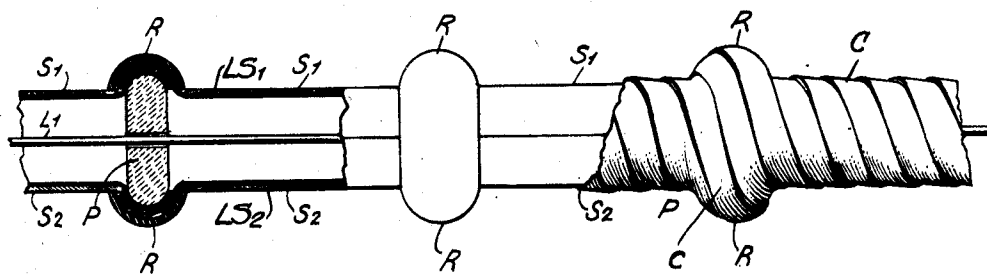
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FLEXIBLE HIGH FREQUENCY LINE

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FLEXIBLE HIGH FREQUENCY LINE

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5 Claims. (Cl. 173-265)

The present invention is concerned with a flex-
ible radio frequency transfer line. According
to the invention, the said line consists of an
internal conductor which is co-axially surrounded
by an outer conductor consisting of a plurality
of links which are connected by means of joints.
The best plan is to build the outer conductor of
the co-axial line bipartite, i. e., of two shell-
shaped halves. Adjoining links are united by
means of ball joints, the latter being pressed
around rings of insulation material which keep
the inner and the outer current-carrying con-
ductor suitably spaced apart.

The invention is illustrated in the drawing.
Shifted or threaded upon the inner conductor
L₁ are closed insulating rings or beads P con-
sisting of porcelain or the like. The outer con-
ductor comprises semi-cylindrical shells S₁ S₂
made from copper sheeting which are kept apart
from the inner conductor by the insulator rings
P which are shifted or threaded upon the inner
conductor. The shells S₁ and S₂ have at their
ends spherical surfaces which engage over one
another and which most suitably are press-fitted
over the similarly spherical insulator rings by the
aid of an outer copper ring R. In this manner
ball or universal joints are constituted between
two consecutive links. In order to insure an air
and water tight seal the outer conductor may be
provided with a lead sheath LS₁ and LS₂ located
inside the sheaths S₁ and S₂. Over the outer
copper conductor there are fitted conveniently
several bands of copper foil C in a spiral present-
ing a large pitch, these spirals extending unin-
terruptedly from one end of the cable to the other.
As a result there is obtained a smooth cylindrical
surface upon which a copper sheath or cover may
be brought so as to insure an air and water tight
seal.

What is claimed is:

1. A flexible radio frequency line comprising
inner and outer conductors spaced apart by in-
sulating rings whose outer periphery is rounded
over to form an element of a ball joint, said outer
conductor consisting of a plurality of horizontally
split tubular links of relatively short length, each
of the ends of said links having their ends formed
in spherical manner to engage and forming the
other element of said ball joint, said links being
joined by an outer holding ring.

2. A flexible radio frequency line comprising
inner and outer conductors spaced concentrically
apart by insulated rings having their outer
periphery rounded over to form an element of a
ball joint, said outer conductor consisting of a
plurality of semi-cylindrical tubular links of rela-
tively short length, each of said links having
their ends formed to engage the end of another
similar tubular link, and each of said link ends
shaped to engage the outer periphery of said in-
sulated rings, each of said links joined by a
plurality of metallic rings which are bent to con-
form with the ends of said links.

3. A flexible radio frequency line comprising
inner and outer conductors spaced concentrically
apart by a plurality of insulators having their
outer periphery rounded over to form an element
of a ball joint, said outer conductor consisting
of a plurality of semi-cylindrical tubular links of
relatively short length, each of said links having
their ends formed to engage the end of another
similar tubular link, and each of said link ends
shaped to engage the outer periphery of said in-
sulated rings, each of said links joined by a plu-
rality of metallic rings which are bent to conform
with the ends of said links, said outer conductors
and said metallic rings being completely covered
by a spiral winding of a band of metallic tape.

4. A flexible radio frequency line comprising
inner and outer conductors spaced concentrically
apart by insulated rings having their outer
periphery rounded over to form an element of a
ball joint, said outer conductor consisting of a
plurality of semi-cylindrical tubular links of rela-
tively short length, each of said links having their
ends formed to engage the end of another simi-
lar tubular link, each of said link ends shaped to
engage the outer periphery of said insulated rings,
each of said links joined by a plurality of metallic
rings which are bent to conform with the ends
of said links, and said outer conductor having
its inside provided with a lead sheath to insure an
air and water tight seal.

5. A flexible radio frequency line comprising
inner and outer conductors, said outer conductor
comprising a plurality of split tubular links which
are joined by insulated ball joints and a covering
of copper foil spirally wrapped around said outer
conductor.

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