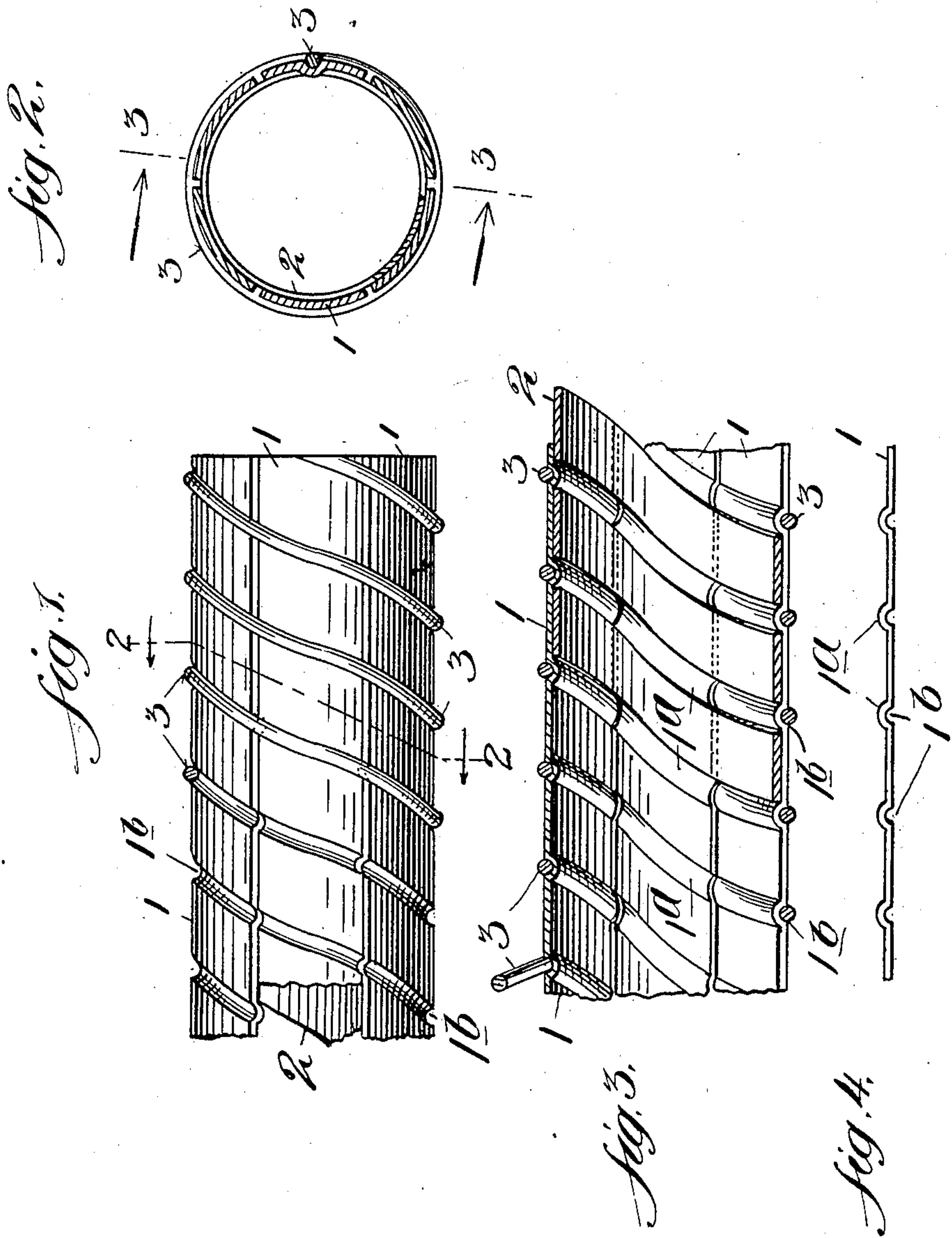


G. A. LUTZ.
FLEXIBLE CONDUIT.

APPLICATION FILED JUNE 17, 1907.

916,742.

Patented Mar. 30, 1909.



Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE A. LUTZ, OF NEW YORK, N. Y., ASSIGNOR TO AMERICAN CIRCULAR LOOM COMPANY,
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FLEXIBLE CONDUIT.

No. 916,742.

Specification of Letters Patent.

Patented March 30, 1909.

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To all whom it may concern:

Be it known that I, GEORGE A. LUTZ, a citizen of the United States, and resident of New York city, borough of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Flexible Conduits, of which the following is a specification.

The object of my invention is to provide a flexible conduit for receiving electric conductors, and in carrying out my invention I provide a plurality of parallel strips of suitable material, such as metal, extending longitudinally and arranged substantially in tubular form side by side, and within said strips I place a support or winding of suitable material, such as metal, and around the exterior of said strips I place a binding to hold the strips in place, which may be a wire wound thereon, and to hold said binding in place I have shown depressions in the exterior surfaces of the longitudinal strips receiving said binding and preventing displacement thereof.

In the construction shown in the drawings the interior supporting winding lies between interior projections of said longitudinal strips and lengthwise displacement of said strips is limited thereby.

Reference is to be had to the accompanying drawings forming part hereof, wherein—

Figure 1 is a side view of a conduit embodying my invention, part being broken away, Fig. 2 is a cross section substantially on the line 2, 2, in Fig. 1, Fig. 3 is a longitudinal section on the line 3, 3, in Fig. 2, and Fig. 4 is an edge view of a longitudinal strip.

The numeral 1 in the drawings indicates a series of parallel longitudinally disposed strips placed edge to edge and arranged substantially in tubular form, said strips being shown curved transversely. Within the tubular series of strips is a support 2, which may be a suitable metal strip, and is shown wound in a spiral direction in tubular form so that the longitudinal strips 1 rest thereon and are supported thereby. To hold the strips 1 upon winding 2 I place a binding 3 around strips 1, which binding may be of suitable wire wound in spiral form. The strips 1 are shown provided with inwardly extending projections 1^a and external grooves 1^b, which are shown made in spiral form at distances apart, and the windings of

strip 2 lie between the corresponding interior projections 1^a while the binder or wire 3 lies in the corresponding exterior depressions 1^b, whereby the longitudinal strips are supported and held securely in place. The projections 1^a and reëntrant portions or depressions 1^b in conjunction with the winding 2 and binding 3 limit longitudinal movement of strips 1. The grooved portions 1^b of strips 1 serve to assist said strips in bending when the conduit is to be carried around corners and otherwise, as the spiral grooves enable the strips to flex under bending strain.

The conduit may be made by producing strips 1 with the corresponding projecting and reëntrant parts 1^a, 1^b arranged in spiral-like form, winding the supporting strip 2 in spiral-like form, placing the strips 1 thereon with the projections 1^b extending between the edges of the convolutions of strip 2, and winding the binding 3 upon strips 1 and within the depressions or grooves 1^b. Electric conductors may readily be drawn through the conduit formed as above described, owing to the relatively smooth inner surface of the conduit, and the latter is flexible, so as to readily bend when required, the grooved portions of strips 1 serving to permit the strips 1 to readily bend.

Having now described my invention what I claim is:

1. A conduit comprising an interior supporting member, parallel longitudinally disposed transversely curved strips laid wholly without said member and arranged substantially in tubular form, and bent in a spiral direction to increase the flexibility of the same, and a binder encircling said strips.

2. A conduit comprising an inner support, having adjacent edges spaced apart, longitudinally disposed strips laid wholly without said support and having inward projections located between the edges of said support, and a binder around said strips.

3. A conduit comprising a spirally wound strip, longitudinally disposed strips laid wholly without said spirally wound strip, and provided with inward projections and exterior grooves, and a binder surrounding said strips and laid in said grooves.

4. A conduit comprising a spirally wound support, longitudinally disposed strips laid thereon and provided with spirally disposed inward projections located between the con-

volutions of said support, and a binder surrounding said strips.

- 5 5. A conduit comprising a spirally wound support, longitudinally disposed strips laid thereon and provided with projecting and reëntrant parts, the projecting parts extending between the convolutions of said support, and a binder wound in the reëntrant parts of said strips.
- 10 6. A conduit comprising a spirally wound supporting strip, longitudinal strips laid thereon provided with interior spirally disposed projections located between the convolutions of said support and spirally dis-
- 15 posed grooves in the exterior surfaces of said strips, and a binder wound in said grooves over said strips.

7. In a conduit for electric wires, a plurality of circumferentially curved strips, the edges of each strip abutting with the edges 20 of adjacent strips, and each strip having its exterior surface provided with corrugations transverse to its longitudinal dimension, an inner support combined with a binder encircling said tube and holding said abutting 25 edges in proper engagement.

Signed at New York city, in the county of New York and State of New York this 13th day of June A. D. 1907.

GEORGE A. LUTZ.

Witnesses:

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