

(No Model.)

W. R. PATTERSON.
INSULATING TAPE.

No. 497,336.

Patented May 16, 1893.

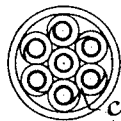
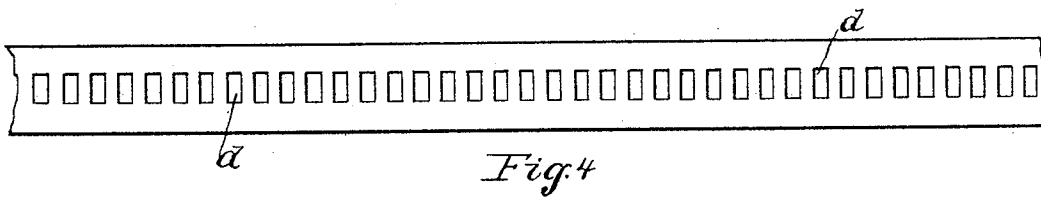
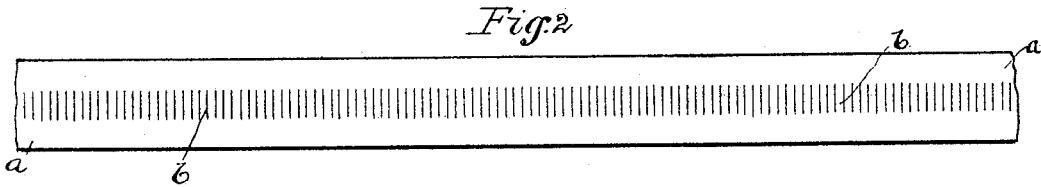
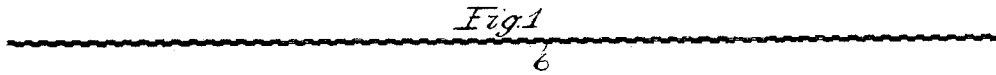


Fig 5

Witnesses;
George L. Cragg,
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Inventor,
William R. Patterson,
By Barton & Brown
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UNITED STATES PATENT OFFICE.

WILLIAM R. PATTERSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE WESTERN ELECTRIC COMPANY, OF SAME PLACE.

INSULATING-TAPE.

SPECIFICATION forming part of Letters Patent No. 497,336, dated May 16, 1893.

Application filed August 24, 1891. Serial No. 403,597. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. PATTERSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Insulating the Wires of Telegraph-Cables, (Case No. 89,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

Heretofore paper tape has been used as an insulator or clothing for the different wires of cables but the tape having been of uniform consistency and wound on of uniform thickness no air spaces have been left between the wires.

My invention herein consists, first, in paper tape corrugated transversely at the center, the edges being left unbroken so that the tape may have sufficient strength to permit it to be wound upon the wire; and second, my invention consists in a cable, the separate wires of which are insulated by paper tape corrugated transversely at the center, said tape when wound upon the wires on account of such softening or partial cutting away of the center thereof being contracted or puckered at the center so that the thickness of the covering composed of the central or corrugated portion of the tape will be greater than at other portions thereof. In this manner a spiral ridge of loose texture or consistency is formed about each wire. As many layers of such paper tape may be wound about each wire as may be desired. I have found that two layers of sixty pound paper in strips five-eighths of an inch wide are sufficient to cover a No. 18 B. & S. gage conductor to a diameter of an eighth of an inch.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is an enlarged edge view of a strip of paper embodying my invention. Fig. 2 is a plan view of the same. Fig. 3 is an elevation of a single wire insulated with my paper tape. Fig. 4 is a plan view of a piece of paper tape in which the central portion is perforated or partially cut away. Fig. 5 is an end view of a cable composed of seven wires

embodying my invention, the air spaces being shown between the different wires.

Like parts are indicated by similar letters of reference throughout the different figures.

The tape *a* may be corrugated and cut in the center *b* as indicated in Figs. 1, 2 and 3 by running the same through cogged wheels, the cogs being of the required width. In this manner the central portion of the tape is torn and stretched and thereby softened so that when wound upon a wire as shown in Fig. 3 this central portion *b* will take the form of a spiral ridge. Any desired number of thicknesses of tape may be wound about the different wires; when formed into a cable as shown in Fig. 5 there will be air spaces *c* between the wires, thus making the electrostatic capacity of the cable much less than that of cable wound with ordinary tape.

In Fig. 4 I have shown perforations *d* at the center of the tape. When tape thus partially cut away at the center is wound upon the wire it is evident that air spaces will be formed where the paper has been removed. Thus the desired result will be accomplished. The manner of making these perforations or of corrugating the tape at the center is immaterial so long as the tape when wound upon the wire will leave air spaces between the wires.

I have found the tape corrugated at the center as shown in Figs. 1 and 2 preferable to the form shown in Fig. 4, since the corrugation and cutting may be made at the same time the tape is being wound onto the bobbins, while cutting in the manner shown in Fig. 4 requires special machinery which must be kept in order.

My invention admits of other modifications which would readily suggest themselves to those skilled in the art, and I therefore do not limit myself to the precise details of construction illustrated and described herein. For instance, two or more lines of perforations parallel, or nearly so, may be provided in the tape at or near the center of the tape.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. As a new article of manufacture, an in-

insulating tape weakened at the middle in such manner and to such extent, that when wound into a helix one or more helical ridges may be formed at or near the center of said tape,
5 substantially as described.

2. As a new article of manufacture, an insulating tape adapted when wound into a helix to buckle upon one or more interior lines

to form helical ridges upon said tape, substantially as described.

In witness whereof I hereunto subscribe my name this 5th day of August, A. D. 1891.

WILLIAM R. PATTERSON.

Witnesses:

EDITH M. ARNOLD,
GEORGE L. CRAGG.