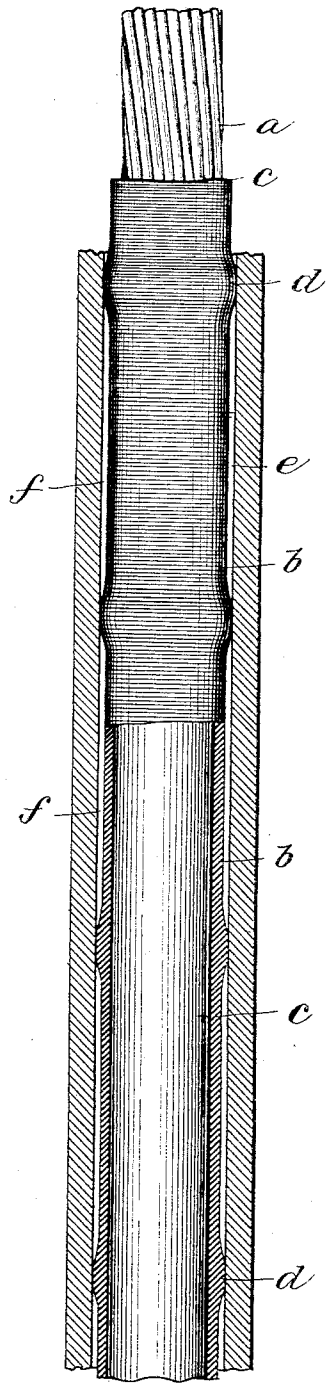
(No Model.)

# W. R. PATTERSON.

## MANUFACTURE OF TELEGRAPH CABLES.

No. 382,767. Patented May 15, 1888.




Witnesses:
Sam'l B. Dover.
Wm M. Giller.

Inventor.
William R. Patterson,
by George P. Barton,
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N. PETERS. Photo-Lithographer, Washington, D. C.

# UNITED STATES PATENT OFFICE.

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

## MANUFACTURE OF TELEGRAPH-CABLES.

SPECIFICATION forming part of Letters Patent No. 382,767, dated May 15, 1888.

Application filed July 18, 1887. Serial No. 244,599. (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 Manufacture of Telegraph-Cables, (Case 70,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to electric cables in which several insulated conductors are formed into a core and protected by lead pipe.

The object of my invention is to reduce the electrostatic capacity of the cables by avoiding compressing the insulation of the conductors throughout the length of the cable, as heretofore, and at the same time to cause the pipe to fit tightly to the core at intervals, so that in case of a break or leak water would not penetrate to any considerable distance.

My invention is illustrated in the accompanying drawing, in which I have shown a piece of electric cable, partially in section, embodying my invention.

The core *a* consists of any desired number of conductors separately insulated by fibrous material wound thereon in the usual manner. The core thus formed may be served by one or more thicknesses of serving, *b c*, which may be all wound at one and the same operation. Instead of winding on this serving to a uniform thickness, as heretofore, I make it at intervals in bunches *d d*. These bunches may be at intervals of, say, a foot in an inch and-a-quarter cable, and the different bunches should be of a uniform diameter. The average thickness of the serving may vary according to the size of the cable and other conditions. If the serving be, say, one sixteenth of an inch in thickness between the bunches or thicker portions, I would preferably make the said thicker portions, say, one-eighth of an inch in thickness. If the serving were one-thirty-second of an inch in thickness, I would make the bunches one-sixteenth of an inch in thickness. The more space there is between the bunches the lower will be the electrostatic capacity; but more cable will be lost in case of a break.

The length of the bunches may therefore be varied according to circumstances.

The pipe *e* is either formed by a press directly upon the core, or the core may be drawn into the pipe. In either case only the thicker portions or bunches *d d*, &c., of the serving will be compressed by the pipe, and the pipe at these points should fit closely to the bunches. Thus between the bunches dead-air spaces *f f* are formed, and the core will not be compressed except at intervals. The electrostatic capacity of the dielectric will thus be materially reduced, while at the same time the flexibility of the cable will be increased.

When the core is drawn into the pipe in sections, it is necessary to roll the pipe so that the bunches will be compressed sufficiently to prevent water, should it enter the cable, from penetrating to any considerable distance.

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

1. In an electric cable, the combination, with the core of insulated conductors, of a waterproof pipe inclosing the same, and a serving between the interior of the pipe and the conductors, said serving being in bunches, the bunches being compressed by the pipe, whereby air-spaces are formed and the compression of the covering of the conductors at said air-spaces prevented, substantially as described.

2. In an electric cable, the core, the serving wound thereon and bunched at points *d*, and lead pipe surrounding the core and compressing the serving at points *d*, as described.

In witness whereof I hereunto subscribe my name this 7th day of May, A. D. 1887.

WILLIAM R. PATTERSON.

Witnesses:
GEORGE P. BARTON,
WM. M. GILLER.