No. 623,006. Patented Apr. 11, 1899.

J. W. GOTTSCHALK.

FLEXIBLE ELECTRICAL CONDUCTOR.

(Application filed Feb. 8, 1899.)

(No Model.)

Fig. 1.

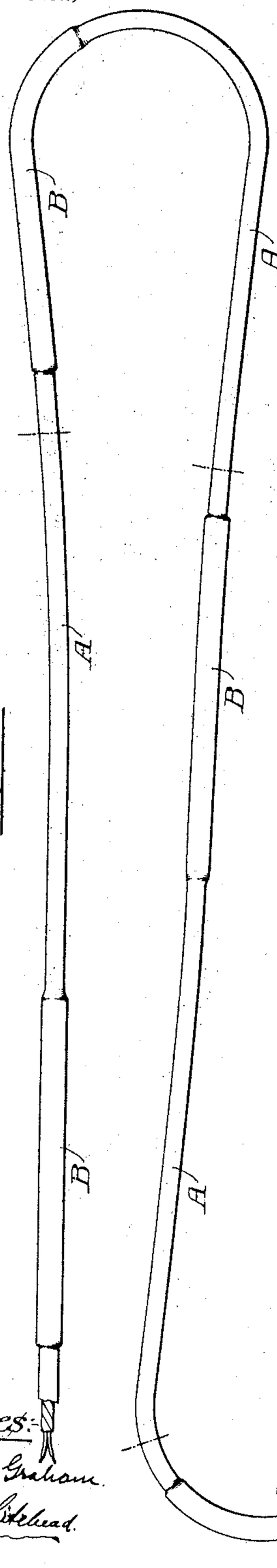

Fig. 5.

Fig. 2.

Fig. 3.

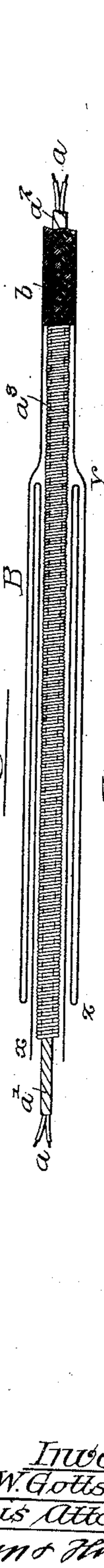

Fig. 4.

Witnesses:
Frank L. A. Graham.
Louis M. Hollstead.

Inventor:
John W. Gottschalk.
by his Attorneys:
Howson & Howson

UNITED STATES PATENT OFFICE.

JOHN W. GOTTSCHALK, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO ALFRED F. MOORE, OF SAME PLACE.

FLEXIBLE ELECTRICAL CONDUCTOR.

SPECIFICATION forming part of Letters Patent No. 623,006, dated April 11, 1899.

Application filed February 8, 1899. Serial No. 704,914. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. GOTTSCHALK, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Flexible Electrical Conductors, of which the following is a specification.

The main object of my invention is to braid the conducting-wires of flexible electric conductors having enlarged portions in continuous lengths; and a further object is to form the enlargements by continuous braiding, as fully described hereinafter, reference being had to the accompanying drawings, in which—

Figure 1 is a view showing a length of braided cord illustrating my invention. Fig. 2 is an enlarged view of a portion of the cord. Fig. 3 is a longitudinal section of Fig. 2, showing the three-ply braiding. Fig. 4 is a view of a finished length of cord, and Fig. 5 is a view of a cord having three-ply sections at each end.

While my invention is especially designed for use in connection with a switchboard of a central telephone-station, where a cord is handled by the operator, it will be understood that the invention can be applied to other conductors as well.

The conducting-cord A has in the present instance two wires *a a*. These wires are each covered, and the braiding is so formed on the cord as to provide a portion having a single-ply braid and having at one or both ends an enlarged portion B, made, preferably, by heavy braiding.

It will be understood in cords for use in central-station switchboards that the wires have tips or plugs at one end and a tip at the other end and that the operator grasps the cord to force the plug or tip into its socket. Consequently there is more or less wear upon the portion grasped, and in order to provide for this the braid is increased in thickness at the point B. The cord heretofore made has been braided with two-ply braid on this portion, but the braiding had to be done in single lengths. Consequently the operation was tedious and expensive.

By my invention I am enabled to braid the cord in continuous lengths and make three-ply braiding at the portion B and single-ply on the balance of the cord.

In the length of the cord the three-ply braiding alternates with the single braiding, as shown in Fig. 1. I take the long lengths of wire *a a*, wrap them with the covering a^2, and inclose them with a flexible wire case a^3. I then braid the covering *b* over the wires from *x*, Fig. 3, to a point *y*, then reverse the braiding, returning to the point *z*, and then reverse again, braiding forward over the two-ply braiding and single wire to the point *y* of the next section, then reverse the braiding to a point *z*, and then forward again, and so on continuously, making a cord having three-ply braiding alternating with single-ply braiding. Thus I provide a handhold for the operator heavily braided, while the main body of the cord has a single-ply braiding.

After the conductor is braided it is cut in lengths, as shown in Fig. 4, and provided with suitable tips or plugs, or it may be cut as shown in Fig. 5 when two enlargements are desired.

I claim as my invention—

1. A braided conducting-cord made in continuous lengths, having enlargements at intervals formed by increasing the thickness of the covering, substantially as described.

2. A braided conducting-cord made in continuous lengths, having heavily-braided portions alternating with light-braided portions, substantially as described.

3. A continuous conducting-cord, adapted to be cut in lengths, said cord having single-ply braiding alternating with three-ply braiding, substantially as described.

4. A conducting-cord having a continuous braided covering, commencing at one end braided on the cord a given distance, and then braided in the reverse direction over the former braiding, and reversed again so as to make three plies, and continuing to braid over the balance of the cord in single ply, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN W. GOTTSCHALK.

Witnesses:
WILL. A. BARR,
JOS. H. KLEIN.