Sept. 30, 1930. A. HART 1,776,903

ELECTRIC CONDUCTOR

Filed June 7, 1928

FIG. 1.

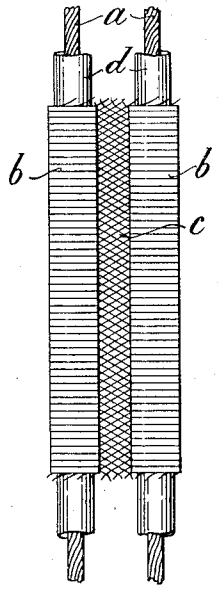


FIG. 2.

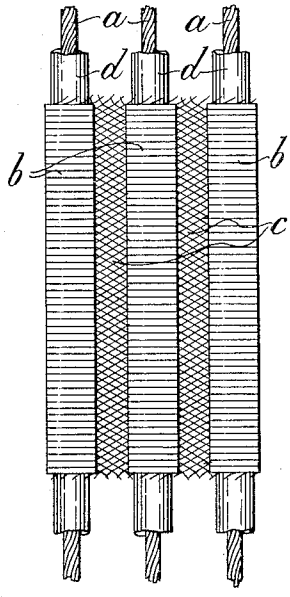
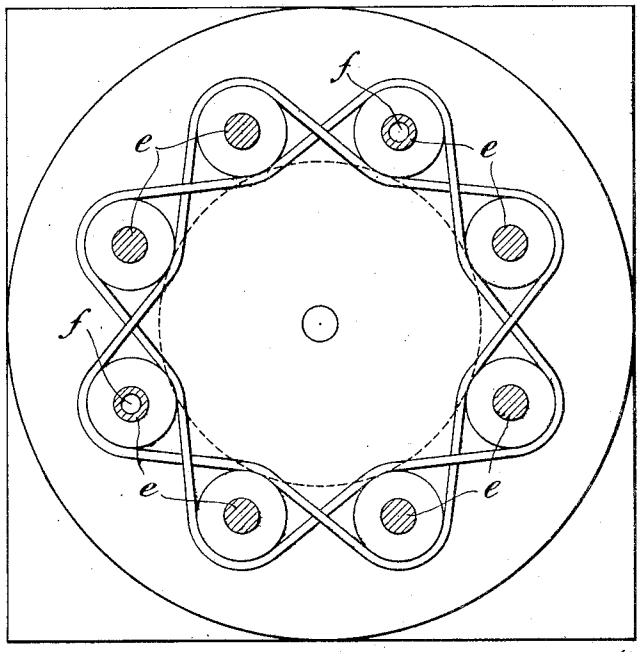


FIG. 3.



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Patented Sept. 30, 1930 1,776,903

UNITED STATES PATENT OFFICE

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ELECTRIC CONDUCTOR

Application filed June 7, 1928, Serial No. 283,710, and in Great Britain June 9, 1927.

This invention relates to electric conductors of the kind in which a plurality of parallel wires, with or without separate insulated coverings, are connected together by a common sheathing.

According to this invention, in the manufacture of electric conductors of the kind above referred to, there is employed substantially a standard braiding machine but so modified by adapting two or more of the gear spindles thereof to take the feed of the desired number of wires to be braided and connected together so as to afford an interconnecting braided web or webs between the wires.

In order that the present invention may be clearly understood and more readily carried into effect, it is hereinafter described with reference to the accompanying drawings, in which:—

Figure 1 is an enlarged side elevation of a portion of a pair of electric conductors braided and connected in accordance with the invention.

Figure 2 is a similar view illustrating three conductors braided and connected in accordance with the invention, and

Figure 3 is a diagrammatic sectional plan view intended to represent the adaptation to the present invention of a standard eight gear spindle braiding machine of the kind in which two sets of bobbin carriers are caused to travel along intersecting raceways in a clockwise and anti-clockwise direction so as to ensure the two sets of threads crossing and interlacing with one another.

Referring to the drawings *a* denotes the wires, of which there may be two (Fig. 1) three (Fig. 2), or more, the said wires being woven or connected together in spaced relationship to each other by an outer braid or covering *b* which is arranged so as to form a sheath or covering for the wires and an interconnecting web *c* or webs *c*, *c* between the wires. The wires *a* may be stranded as shown or solid according to the use for which they are intended and they may also as shown each be covered with rubber or other insulating material *d* before they are connected together by the braiding or outer covering *b*, *c*. For the braiding operation a standard braiding machine such as that indicated diagrammatically in Fig. 3 may be employed provided it is suitably modified as for instance by adapting it to take the feed of the two, three or more wires to be connected and to arrange them in relation to the machine so as to provide the plaited or woven portion *c* between the wires *a* and the encircling portions of spiral coils *b* around the said wires. The principal modification illustrated in Fig. 3 consists in providing two or more of the gear spindles *e* of the machine with hollow bores *f* through which the wires *a*, *a* pass to the take off roll, instead of being as in the ordinary way arranged centrally of the machine. Thus in operation where a conductor passes through a gear spindle the whole of the bobbins travelling in one direction form the outer covering on that conductor and also on every conductor passing through alternate spindles and form a webbing between each conductor by the crossing of the bobbins travelling in the opposite direction as in common braiding. The positions selected for the hollow bores may be varied, as will be apparent to those skilled in the art of braiding to give different patterns or colouring of the braiding so as to suitably distinguish the several conductors.

The strands of the braid may be of any desired colour or of one or more colours so as to give the finished article a pleasing appearance or so as to enable the separate wires to be readily distinguishable from each other.

Wire so manufactured may be conveniently used for all purposes where twisted flexible wire has heretofore been employed as well as for domestic use where wires have to be secured to or around the walls of a house, fixing in the latter case being effected by small nails or the like passed through the intermediate plaited portion of the covering.

The covering itself may be of cotton, silk or any other material.

What I claim is:—

1. An electric conductor including conducting wires, a braided sheath for each wire, and an integral braided web between and uniting the braided sheaths, said web serving to space the braided sheaths apart.

2. An electric conductor including conducting wires, an independent braided covering for each of the wires, and a connecting braided web section between and uniting the braided coverings, said web section being of sufficient width to serve for the reception of a fastening means to hold the conducting wires in place.

In testimony whereof I have hereunto signed my name.

ALBERT HART.