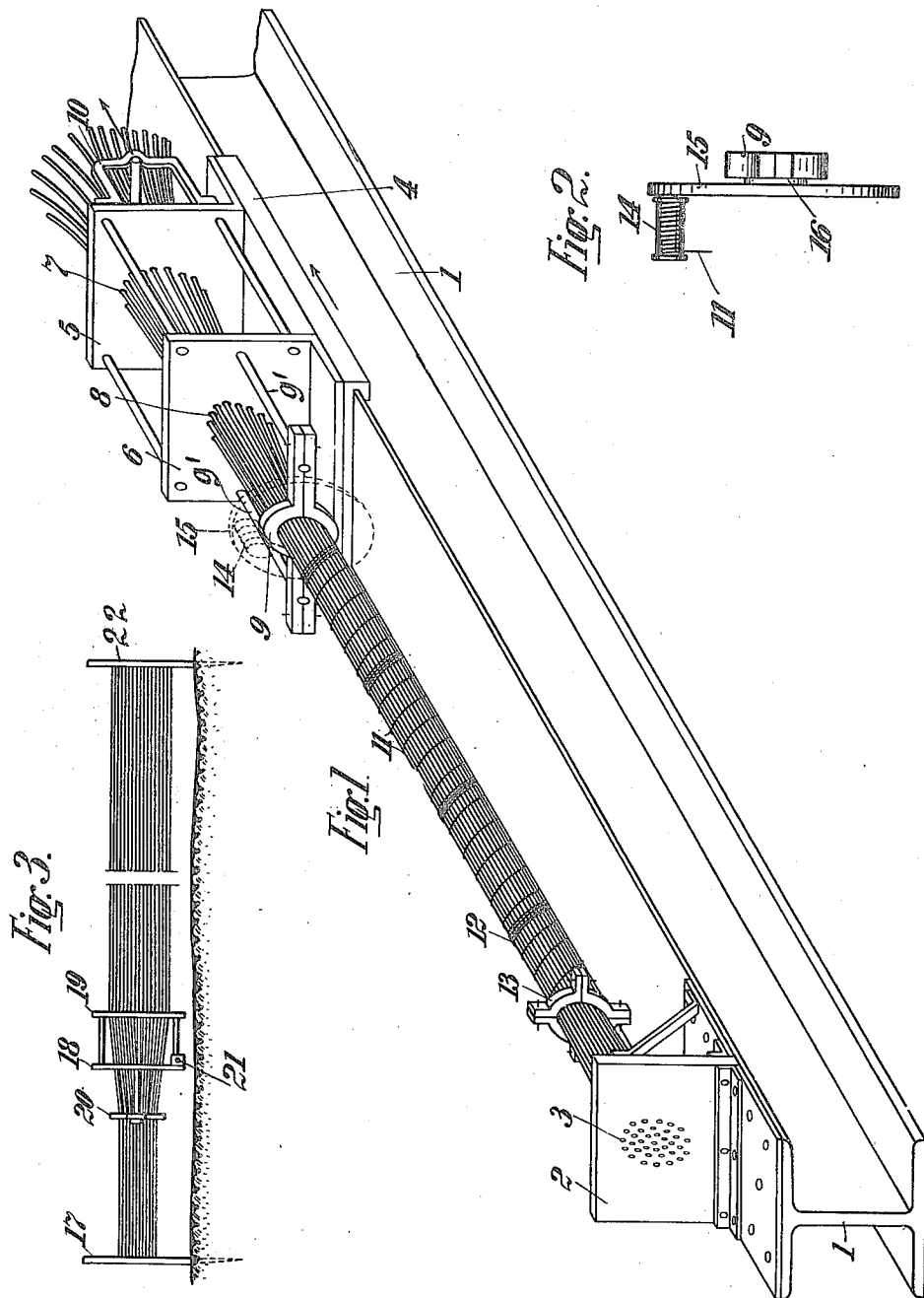


F. BRÄCKERBOHM.
 APPARATUS FOR MAKING CABLES.
 APPLICATION FILED JULY 22, 1913.

1,157,500.

Patented Oct. 19, 1915.



WITNESSES:

John C. Sanders
 Albert F. Newman

INVENTOR:

Franz Bräckerbohm
 BY The Wallace White

ATTY

UNITED STATES PATENT OFFICE.

FRANZ BRÄCKERBOHM, OF WILHELMSRUH, NEAR REINICKENDORF-BERLIN, GERMANY.

APPARATUS FOR MAKING CABLES.

1,157,500.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANZ BRÄCKERBOHM, subject of the German Emperor, residing at Wilhelmsruh, near Reinickendorf-Berlin, Germany, have invented new and useful Improvements in Apparatus for Making Cables, of which the following is a specification.

The invention relates to apparatus for making cables which comprises parallel wires and can be employed in the construction of suspension bridges, and, particularly, for supporting masts for aërials in wireless telegraphy stations.

A primary object of the invention is to obviate the difficulties attaching heretofore to the manufacture of such cables comprising parallel wires. To this end, the individual wires are firmly held at the one end a small distance apart arranged corresponding to their position in the finished cable, and are then gradually pressed together by means of one or more suitable plates or disks and a clamp and united to form a close bundle of wires; this bundle is then bound together by a spirally wound wire and this wire, in turn, is bound by another wire wound at suitable distances apart. Such cables comprising parallel wires can be readily and accurately made with the aid of this device.

Two illustrative embodiments of my invention are represented by way of example in the accompanying drawing, wherein:—

Figures 1 and 2 show a mechanical device, Fig. 1 being a perspective view, while Fig. 2 shows a detail in side elevation; Fig. 3 shows a hand or manual apparatus which can be readily made and employed at the place of erection of the cable.

Referring firstly to Figs. 1 and 2, a plate 2 is suitably mounted vertically on one end of a long bed 1 preferably consisting of figured iron. This end plate contains holes corresponding in number to the number of wires requisite for making the cable and arranged at as small a distance apart as possible in a position corresponding to that of the wires in the finished cable. The wires wound from spools, drums or the like, not shown, are placed through these holes and preferably held therein by their ends 3 projecting out of the plate being upset.

Slidable on the bed 1 is a slide 4 which is moved, when at work, in the direction of the arrow away from the plate 2 either

automatically by means of a rope or rack gearing attached to the handle 10, or by hand. This slide 4 carries two vertical guide plates 5 and 6 having holes 7 and 8, respectively, through which pass the wires to be united to form the cable. The holes 7 and 8 correspond in number and arrangement with those in the end plate 2, but the distance apart of the holes 7 in the plate 5 is greater than that of the holes 8 in the plate 6; consequently, the wires sliding through the guide plates 5 and 6 run together in the form of cone and tend to lie closely one on another.

Mounted on the plate 6 by means of rods 9' is a clamp 9 having a slightly conical bore or aperture; the inside diameter of this bore at the outlet end thereof corresponds to the theoretically determined diameter of the cable when all the individual wires run close beside one another, and the bore is preferably provided with grooves in which the outside wires are guided.

The wires united by the clamp 9 into a cable are bound with a spirally wound binding wire in order that they may permanently remain in their position. The binding wire 11 preferably runs with a certain tension from a reel 14 arranged free to rotate about a pivot 16 carrying the hand wheel 15 (Fig. 2) and able to be braked in suitable manner. The hand wheel 15 is free to move on the clamp 9 and, when the cable is being made, is rotated by hand or mechanically.

The binding wire 11 is bound at suitable distances by turns of wire 12 in order to limit loosening of the cable wires to a short distance should the binding wire 11 rupture.

Near the end plate 2 is placed about the cable a shackle 13 behind which the wires must be spread apart in order to enable them to be fastened in this plate. After the cable is finished it will be cut off in immediate proximity to the shackle 13 between the latter and the clamp 9.

Without departing from the scope of the invention the hereindescribed apparatus may be modified in various respects; *e. g.* instead of the two described guide plates 5 and 6 more of them or only one may be used; in the latter case the holes will be bored correspondingly slantwise relatively to one another.

The apparatus shown in Fig. 3 is considerably simpler than that described above with reference to Figs. 1 and 2, and enables

just as accurate working. The individual wires, fixed at one end in the plate 17 fastened in the ground, pass through the holes in the guide plates 18 and 19 and are attached at their other end by means of wire-stretchers, not shown, to a vertical wall 22 or the like rammed into the ground. These plates 18 and 19 and the clamp 20 attached thereto can be moved by means of a rope, for example, away from the plate 17; the correct position of the guide plates is assured by the arrangement of a lever 21 which must be held suitably horizontal by a workman.

15 I claim:—

1. In apparatus for making cables comprising parallel wires, the combination of an end plate having wire-receiving holes corresponding in number to the wires of the cable, and a movable guide member including relatively spaced plates connected rigidly together and having wire-receiving holes therein corresponding in number to the holes of the end plate, the holes in the guide plate more remote from the said end plate being spaced farther apart than those in the companion guide plate.

2. In apparatus for making cables comprising parallel wires, the combination of an end plate having wire-receiving holes corresponding in number to the wires of the cable, a movable guide member including relatively spaced plates connected rigidly to-

gether and having wire-receiving holes therein corresponding in number to the holes of the end plate, the holes in the guide plate more remote from the said end plate being spaced farther apart than those in the companion guide plate, and a restricting wire clamp carried by the guide member at the end of the same adjacent to the said end plate.

3. In apparatus for making cables comprising parallel wires, the combination of a longitudinal bed, an end plate having holes corresponding in number to the number of wires to form a cable vertically mounted on one end of the bed, and a slide slidable along the bed, said slide comprising two parallel, spaced, rigidly connected guide plates arranged transversely of the bed and each having holes corresponding in number to the number of wires to form a cable, a clamp fixed on the guide plate nearest said end plate and between said plates, the holes in the guide plate more remote from said clamp being arranged farther apart than those in the guide plate nearer to the clamp.

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

FRANZ BRÄCKERBOHM.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.