

(No Model.)

C. BAHLSEN.

KNOT OR PROJECTION IN HAULING ROPES.

No. 440,582.

Patented Nov. 11, 1890.

FIG. 1.

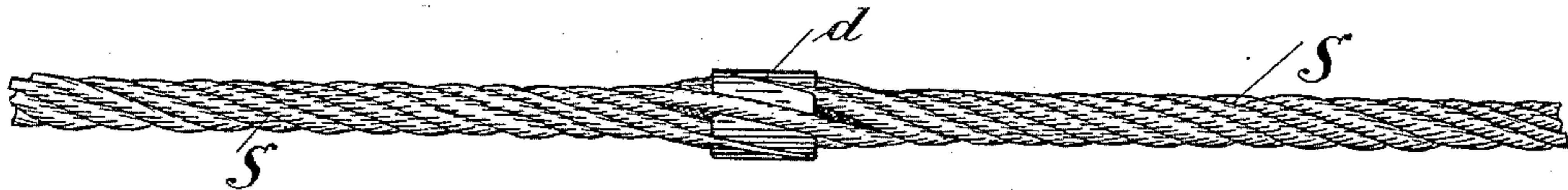


FIG. 2.

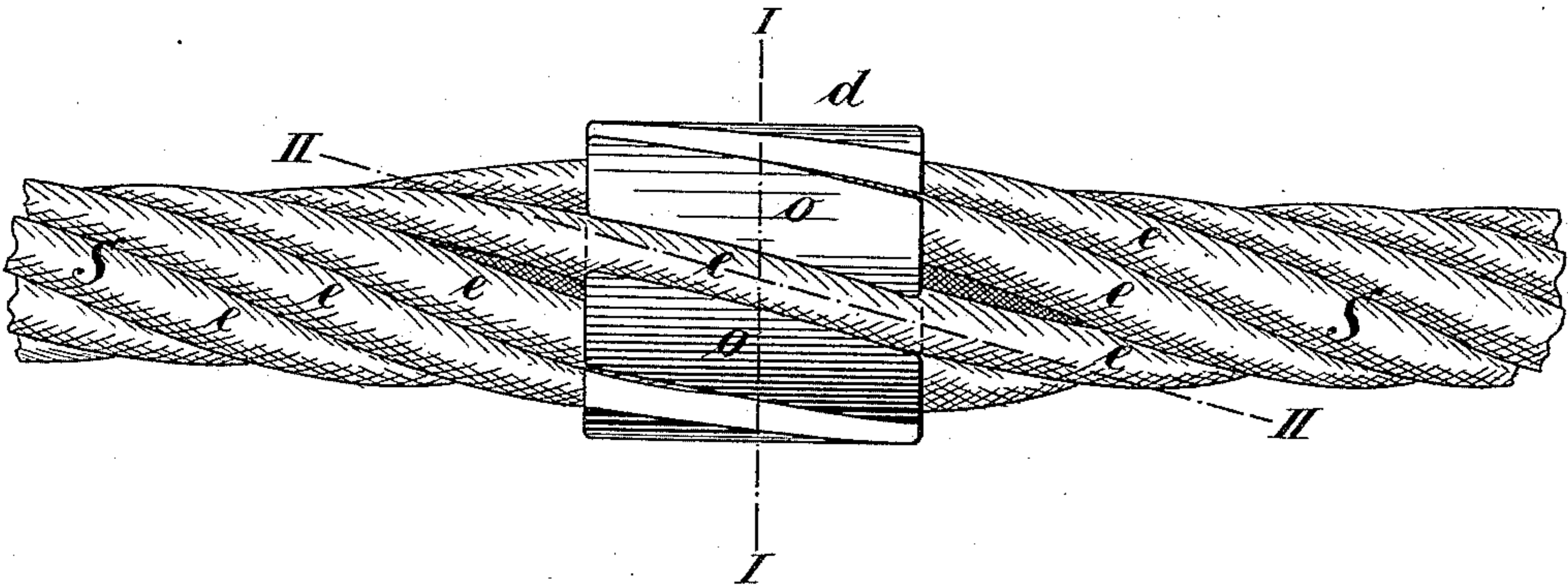


FIG. 3.

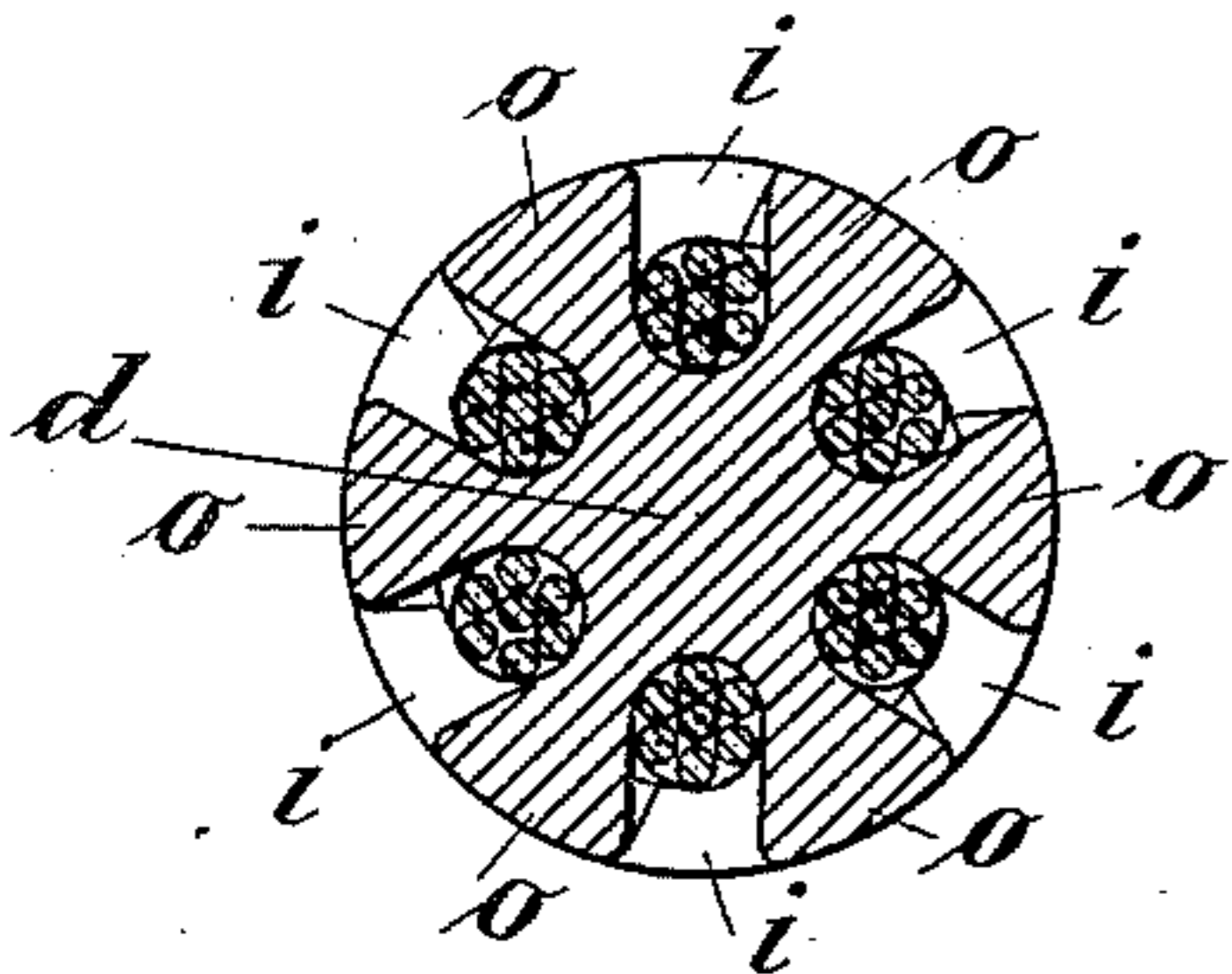


FIG. 4.

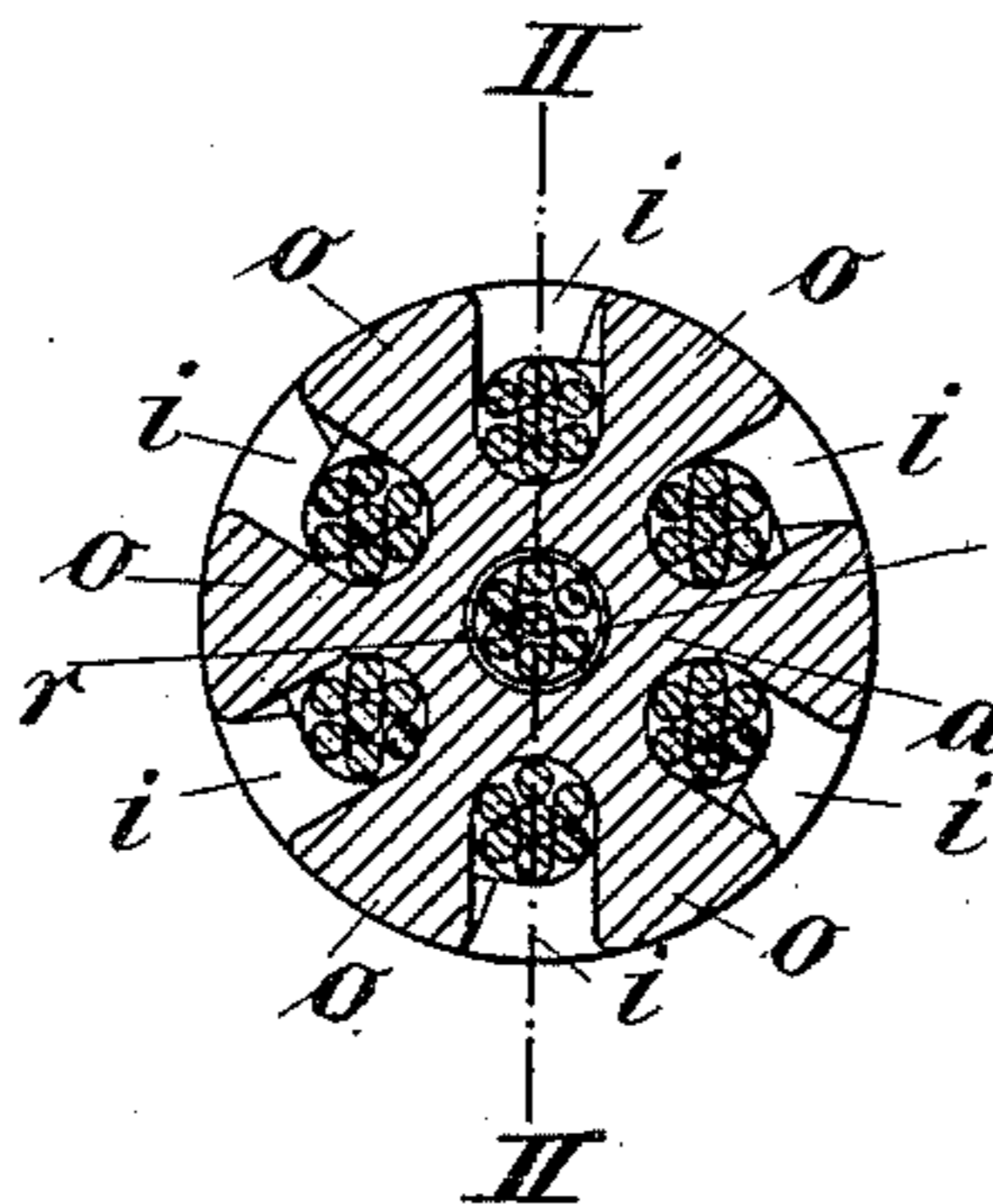
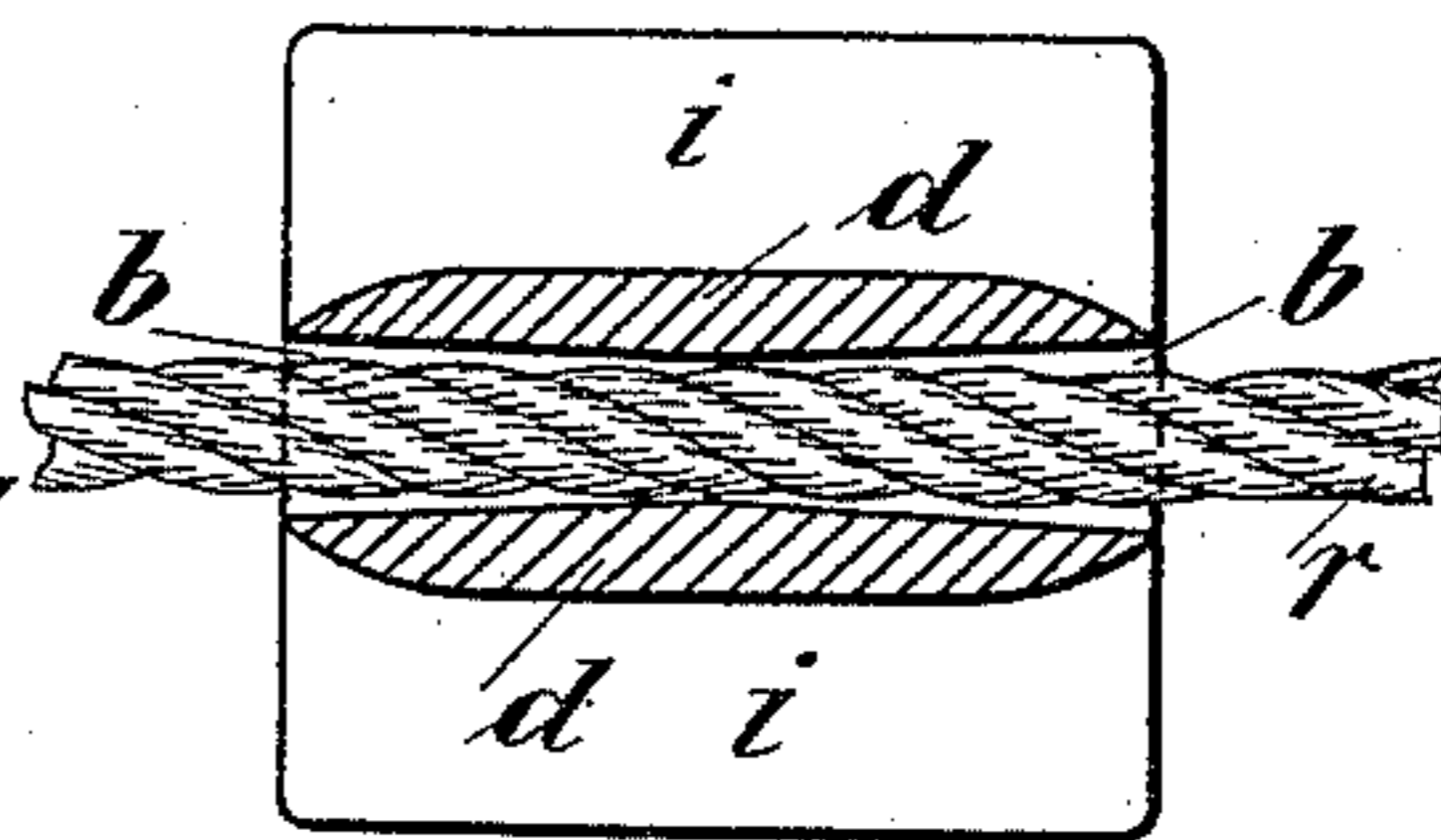


FIG. 5.



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KNOT OR PROJECTION IN HAULING-ROPES.

SPECIFICATION forming part of Letters Patent No. 440,582, dated November 11, 1890.

Application filed September 16, 1890. Serial No. 365,194. (No model.) Patented in Germany September 9, 1887, No. 45,313; in France November 14, 1887, No. 186,965; in Belgium November 14, 1887, No. 79,533; in Austria-Hungary February 11, 1888, No. 35,434 and No. 231; in Italy June 30, 1888, XXII, 23,320, XLVII, 322, and in Spain June 30, 1888, No. 8,085.

To all whom it may concern:

Be it known that I, CARL BAHLSEN, engineer, a subject of the King of Prussia, residing at Garrucha, in the Kingdom of Spain, have invented certain new and useful Improvements relating to Knots or Projections in Hauling-Ropes of Ropeways; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to knots or projections in hauling-ropes of ropeways. Hauling-ropes for ropeways are frequently provided with a re-enforce in the form of a knot at the points where a connection is to be established between them and the vehicle, which knot enables the latter to be attached by means of its grip and carried away by the rope. Heretofore these knots have been variously arranged and fixed to the rope. In most cases this is effected by the use of a part made in the form of a collar or sleeve, which is placed round the rope and secured on the latter by soldering or the like. This method presents the defect that the rope is liable to be injured and that wires are breaking in the interior of the collar without being noticed, thus causing the breaking of the rope with serious accidents.

Now the present invention is characterized by the fact that the collars or sleeves are altogether dispensed with, and that the part inserted in the rope is of such a form that it replaces the said sleeve. For this purpose the aforesaid part, which for convenience sake is hereinafter termed a "knot," consists of a cylindrical body provided on its periphery with helical grooves, wherein the strands of the rope are laid after the latter at the point where the knot is to be placed has been untwisted as far as required and after a piece of the core of the rope has been removed. In order to further increase the safety of the connection of the knot with the hauling-rope,

this knot can be provided with a central bore, into which a suitable length of strand is inserted, the strand being then entwined with the hauling-rope after a suitable length of the core has been removed. This length of strand is held in its place by the pressure transmitted through the strands of the rope in the traction of the latter.

In the accompanying drawings, Figure 1 illustrates part of a hauling-rope S provided with the above-mentioned knot *d*. Fig. 2 shows to an enlarged scale the part of the rope which receives the knot. Fig. 3 shows a transverse section on the line I I, Fig. 2. Fig. 4 represents a similar transverse section through a knot provided with a central bore and a length of strand. Fig. 5 shows a longitudinal section of the same knot on the line II II, Figs. 2 and 4, part of the said length of strand being fixed to the knot.

The knot *d* consists of a cylindrical body whose diameter is somewhat greater than that of the hauling-rope S. Upon its periphery this knot is provided with helical grooves *i*, Figs. 3 and 4, the number and inclination of which correspond to those of the strands *e* of the hauling-rope. These grooves *i* are of such a depth that when the strands *e* are inserted the ribs *o* between the said grooves will protrude from the strands. In order to secure the knot to a hauling-rope the latter is untwisted, so that the strands *e* will be separated from each other sufficiently far for enabling the knot to be placed inside the rope. At the point where the knot is to be inserted the central core of the rope is removed, whereupon the knot is put in the rope and the latter is twisted again, so that the strands will enter the grooves *i*. The ribs *o* will then protrude far enough from the strands for effecting the connection of the hauling-rope with the grip or coupling device of the vehicle, so that a special sleeve will be superfluous. Under those circumstances the friction between the strands and the surface of the grooves *i* will keep the knot firmly in its place.

In order to hold the knot in its place with greater certainty, it can be provided, as shown in Figs. 4 and 5, with a central bore *b*, wherein

a strand r of suitable length—for example, two or three feet—is secured. This strand may extend from the knot either in one direction or in both directions, as represented in Fig. 5. The connection of the length of strand r with the knot d is obtained by solder, rivets, screws, or any other suitable means. This knot is placed in the rope in a similar manner as above described, but a greater length of the core is removed from the rope proportionately to the length of the strand r . When the strands e are twisted again after the introduction of the knot, they exert a pressure upon the length of strand r extending through the bore of the knot, which pressure is increased when the rope is pulled. This arrangement presents the special advantage of enabling the hauling-rope to be readily examined on all sides, as the strands e , instead of being covered by any sleeves, are visible in the grooves i .

Having now described my invention, what I claim is—

1. A knot for hauling-ropes of ropeways, consisting of a body to be placed in the rope, which body is preferably made of cylindrical form and so provided with helical grooves i for receiving the strands e of the hauling-ropes that the ribs o between the grooves protrude beyond the said strands, substantially as described.

2. A knot for hauling-ropes of ropeways, consisting of a body d , having grooves i for the strands e of the hauling-rope, and provided with a central strand r , which is firmly connected with the said body d and entwined with the hauling-rope, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CARL BAHLESEN.

Witnesses:

F. STARCKE,
ROGELIV FORTORA.