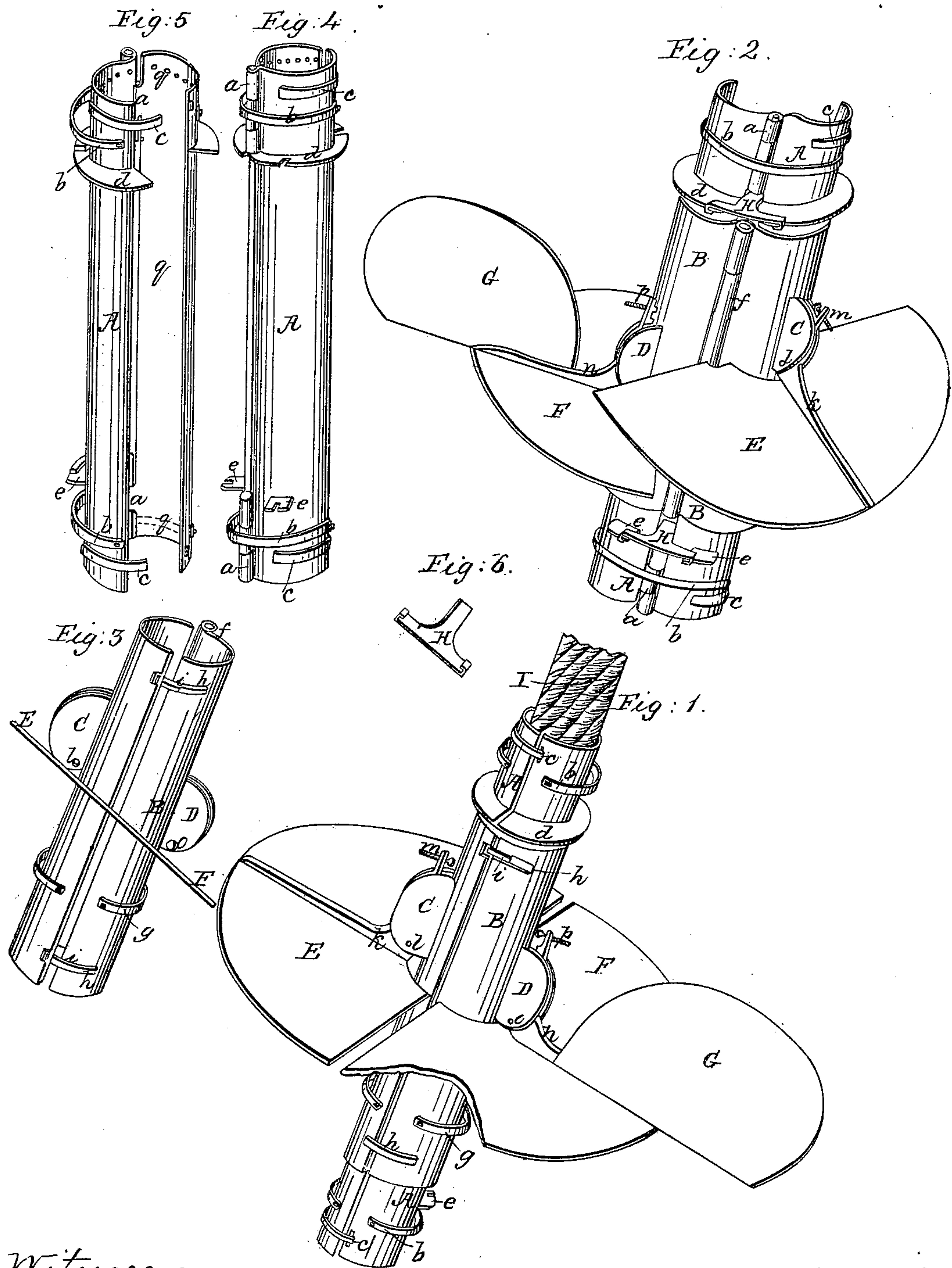


A. TURNEY, Jr.
Telegraph Cable.

No. 25,151.

Patented Aug. 16, 1859.



Witnesses
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IMPROVEMENT IN LAYING SUBMARINE TELEGRAPH-CABLES.

Specification forming part of Letters Patent No. 25,151, dated August 16, 1859.

To all whom it may concern:

Be it known that I, ANDREW TURNEY, Jr., of the town of Fairfield, in the county of Fairfield and State of Connecticut, have Invented a new and useful Apparatus to be Attached to Telegraph-Cables While Submerging Them; and I do hereby declare that the following is a full, clear, and exact description of the construction, character, and operation of the same, reference being had to the accompanying drawings, which make a part of this specification, in which—

Figure 1 is a perspective view of the whole apparatus as viewed obliquely from the end which is toward the vessel while this apparatus (with the cable) is descending to the water. Fig. 2 is a perspective view of the same turned over and the hollow cylinders opened ready to be attached to the cable. Fig. 3 is a perspective view of the outside hollow cylinder detached from the other parts. Fig. 4 is a perspective view of the inside hollow cylinder closed, as when it is attached to the cable. Fig. 5 is a perspective view of the inside hollow cylinder opened ready to be attached to the cable. Fig. 6 is a perspective view of the key used to hold the cylinders open, as shown at H, Fig. 2.

My improvement consists in attaching my apparatus to any desired part of the cable by inclosing the cable in the inside hollow cylinder when the cable becomes closely pressed in the cylinder, so as to prevent slipping, and in having the inside cylinder turn freely in the outside one, so as to accommodate itself to any twisting or untwisting of the cable without affecting the outside cylinder or its appendages, and in having two semicircular disks or flanges, which I place obliquely to the longitudinal line of the cylinders—say about seventy degrees—and using set-screws to adjust them to the exact angle desired.

I make the inside hollow cylinder, A, Figs. 1, 2, 4, and 5, of sheet-iron or any other suitable material in two semi-cylindrical forms and secure the parts to each other by joints or hinges, as shown at *a a*, Figs. 4 and 5. This cylinder A, when opened, will be thrown together by springs, as shown at *b* and *b*, Figs. 1, 2, 4, and 5, and when closed will be securely retained in that position by the spring-catches *c*

and *c*, as seen in Fig. 1. Near the upper end of this hollow cylinder A, I fit a flange, as seen at *d*, against which the end of the outside cylinder may rest when forced against it by the water, and at the other end a similar flange, or two or more projections, as seen at *e* and *e*, Figs. 2 and 4, to prevent the outside cylinder from slipping off while handling the apparatus, &c., and to insure the immovableness of the cable in the cylinder A there will be points projecting inward, as shown at *g g*, which will slightly penetrate the cable.

I make the outside hollow cylinder, B, Figs. 1, 2, 3, of sheet-iron or any other suitable material, of two semi-cylindrical forms, and secure the parts together by joints or hinges, as shown at *f*, Figs. 2 and 3. This cylinder B is closed by the action of a spring, *g*, Figs. 1 and 3, and is secured thus closed by the action of spring-catches, (a part of one is seen at *h*, Fig. 1, and one in full at *h*, Fig. 3,) and the parts are kept in their relative positions by guide bars, as seen at *i* and *i*, Figs. 1 and 3. On each of the two opposite sides of this hollow cylinder B, I have a pair of lugs, as shown at C and D, Figs. 1, 2, and 3. Between the pair, at C, I fit an elbow-shaped lever, *k*, Figs. 1 and 2, which elbow-shaped lever is secured to and supports a semicircular disk or flange, E, Figs. 1 and 2, while it works on a fulcrum-pin at *l*, Figs. 1 and 2, and is adjusted by a set-screw, as *m*.

Between the lugs D, I fit an elbow-shaped lever, *n*, Figs. 1 and 2, which lever *n* is secured to and supports a semicircular disk or flange, F, and also to this lever *n* is attached a semi-elliptic disk or flange, G, which stands at right angles to the disk F and therefore parallel with the hollow cylinder. This lever *n* works on a fulcrum-pin at *o*, Figs. 1 and 2, and is adjusted by a set-screw, as shown at *p*.

The semicircular disk or flange E is to be set at an angle of about 70°, obliquely to the hollow cylinder, or about the angle indicated by the line E F, Fig. 3, and in the same direction toward the upper end, or toward the flange *d* on the cylinder A, and the flange F is set with the same or nearly the same obliquity toward the lower end of the hollow cylinders, essentially as represented in Figs. 1 and 3. These disks or flanges E, F, and G may be made of sheet-iron or any other suitable mate-

rial, and will be strengthened by braces (passing across and secured to them) to any extent which may be deemed or found necessary.

The levers *k* and *n* will be closely fitted in the lugs C and D, in order to hold the flanges E and F at the angle to which they are adjusted while the apparatus, after being attached to the cable, is passing to the water.

I put the hollow cylinder A into cylinder B, put on or attach all the springs and catches, as before described and represented in the drawings, and attach the disks E and F by fulcrum-pins at *l* and *o*, passing through holes in their elbow-shaped levers *k* and *n*, Figs. 1 and 2, and adjust the flanges to the angle desired, when the whole will appear substantially as represented in Fig. 1, and will be ready for use.

To attach my apparatus to the cable I open the cylinders, as represented in Fig. 2, and secure them open by the insertion of a slide or key or keys, as shown at H, Figs. 2 and 6. I then hold the apparatus over the cable, outside of the machinery for paying out the cable—the cylinders parallel with the cable. At any desired point I strike the apparatus down on the cable, when the keys or slides H will be thrown out by the pressure of the cable against their inner ends, and the cylinder will be instantly closed by the operation of the springs *b* and *g*, (of which any requisite number may be used,) and secured in that closed position by the spring-catches at *h*, Figs. 1 and 3, &c., (the cable as seen at I, Fig. 1,) and be ready to pass into the water as a permanent fixture of the cable, and any requisite or desired number of them may be attached during the process of paying out. When this apparatus reaches the water and falls somewhat horizontally upon it if the flange or disk F is not uppermost the disk G, by striking flatwise on the water, will be sustained by it, while the other part will turn un-

der the cable; and as the cylinder B revolves freely on the cylinder A the apparatus will immediately be brought to the position desired—that is, the outer arms of the two levers *k* and *n* will be in a vertical line, *k* being directly below *n*, except the variation from obliquity. As the apparatus will have a tendency to sink with the cylinder nearly horizontal the obliquity of the disks E and F will check the rapidity of the sinking of the cable, and will have a strong tendency to keep the cable straight and prevent festoons or kinking, as the tendency will be to continually draw or strain the submerged portion of the cable toward the vessel, thereby making a heavy strain on the cable on board the vessel unnecessary; and should it ever be required to draw in any portion of what has been paid out the disks or flanges E and F, having no resistance in that direction, will fall over to a position nearly parallel with the cylinders and therefore offer but little resistance.

What I claim as my invention, and desire to secure by Letters Patent, is—

The construction and use of an apparatus consisting of two hollow cylinders, A and B, with longitudinal joints or hinges, and two disks or flanges, E and F, set obliquely to the cylinders, and a guide or regulating-disk, G, to be attached to a telegraph-cable while the cable is being submerged, to check the rapidity of its sinking, and to afford a constant strain on it in the direction of the vessel which is paying out the cable, to avoid kinks or festoons, when the whole is constructed, arranged, and made to produce the result substantially as herein described.

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Witnesses:

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