G. Gilmour.

Cable Laying.

No. 22,948. Patented Feb. 15, 1859.

Fig. 4.

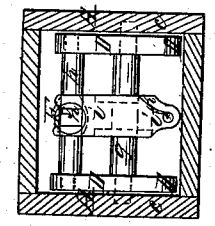


Fig. 3.

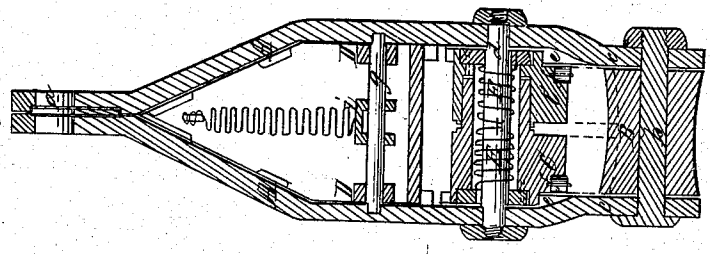


Fig. 2.

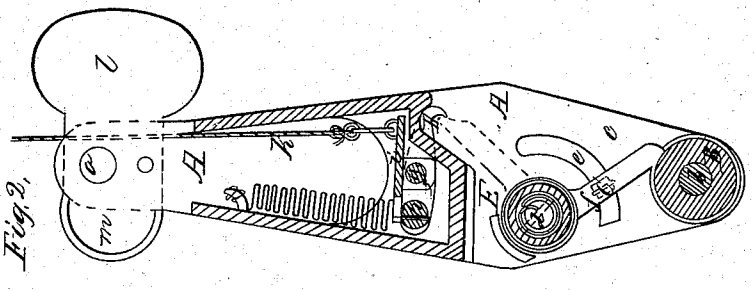
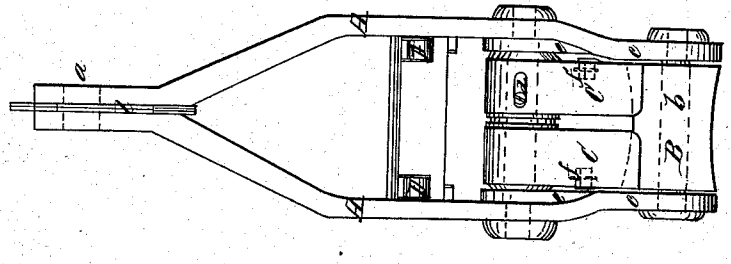


Fig. 1.



Witnesses,
Lawrence Lyon
F. P. Hale Jr

Inventor,
George Gilmour

UNITED STATES PATENT OFFICE.

GEORGE GILMOUR, OF CHELSEA, MASSACHUSETTS.

IMPROVEMENT IN SHACKLES FOR TELEGRAPH-CABLES, &c.

Specification forming part of Letters Patent No. **22,948**, dated February 15, 1859.

To all whom it may concern:

Be it known that I, GEORGE GILMOUR, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented a Telegraph-Cable or Rope Shackle; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1 is a top view of such shackle; Fig. 2, a longitudinal and vertical section of it. Fig. 3 is a longitudinal section of the jaws, their arbor, and spring. Fig. 4 is a transverse section taken so as to show the catches of the jaws.

My invention may be used as a means of saving a submarine telegraph-cable in case of its being ruptured while being laid in the sea; or such invention may be employed to save an anchor in case its cable should part; or it may be employed for other useful purposes.

In the drawings, A denotes the frame of the shackle, the same being supplied at one end with an eye, *a*, for suspending the apparatus from a rope. At or within the other end of the frame is a friction drum or roller, B, arranged in the frame and made to turn on an arbor or pin, *b*, connecting the two sides *c c* of the frame. At a suitable distance from this arbor *b* is another arbor or pin, *d*, which also extends through and connects the sides or parts *c c*, and serves to support one or two turning and sliding jaws or grippers, C C. These jaws turn on the shaft and from the roller B over to two lever-catches, D D, and vice versa. Furthermore, within the jaws, and encompassing the arbor or pin *d*, is a helical spring, E, formed of two helices of wire wound in one direction from the middle of the wire, the spring being so applied to the arbor and the jaws or grippers that when the jaws are drawn back toward the catches the spring shall be contracted and the jaws at the same time forced or moved laterally away from one another by it.

Against the inner surface of each side or part *c* of the frame A is a curved cam, *e*, so applied and arranged as to cause the jaw next to it to be forced toward the other jaw while the jaws are being moved toward the roller B. Each jaw may carry a small friction-roller, *f*, to work against the cam *e*.

Within the box or body of the frame A is another arbor, *g*, on which two lever-catches, D D, turn. The said catches are connected at their lower ends by a rod, *h*, to which and the frame A a smart spring is applied, the same being arranged as seen in Fig. 2. To an arm, *i*, extended up from the rod *h*, a rope, *k*, is attached and led through the frame A, as shown in Fig. 3. When the catches are thrown forward the upper arm of each should bring up against a stop or shoulder.

A wing or rudder, *l*, and a knife, *m*, may be attached or applied to the shackle, or arranged on it, as shown in the drawings, the wing serving to steer it while it is moved through the water. The knife is intended to cut and separate any sea-weed which might run down on the line connecting the shackle with a vessel.

If we suppose the shackle to be suspended in the sea by a rope from a buoy, and with its jaws held back by the catches, and a telegraph-cable to run through the shackle and rest on the roller B thereof, and if we also suppose a second line or rope to connect the shackle with the stern of a vessel which may be engaged in laying the telegraph-cable, and a rope to connect the buoy with the vessel, so that while the vessel may move along through the water it shall drag the buoy and the shackle after it, and cause the latter to slip or run on the cable, and, furthermore, if we suppose the tripping-line of the catches of the shackle to extend to the vessel, we shall have the apparatus or shackle in a condition to serve the cable, should the latter part or break anywhere between the shackle and the vessel. To accomplish this an attendant on board the vessel, immediately after the rupture occurs, (which will be known by the cessation of a proper action of the laying mechanism,) should pull on the tripping-line. This will disengage the catches from the jaws, so as to allow them to be thrown forward by the action of their spring. In passing forward toward the roller B they will be made to pass on opposite sides of the telegraphic cable, and close on and firmly grasp it so as to connect it to the buoy. At or about the time the attendant pulls on the tripping-line the other lines connecting the buoy and the shackle with the vessel should be cast off from the latter. Subsequently that part of the cable which is connected by the shackle to the buoy may be removed by raising it by the line connecting the shackle with the buoy.

I do not claim a chain shackle, such as I have

heretofore patented, as made with a spring-forked pawl or catch to operate with a friction-roller; but

What I claim is—

1. The telegraph-cable or rope shackle as constructed with one or more jaws and mechanism to operate the same, substantially as described.

2. Combining either the wing *l* or the knife *m*, or both, with the shackle, so as to operate therewith in manner and for the purpose or purposes as specified.

In testimony whereof I have hereunto set my signature.

GEORGE GILMOUR.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.