W. L. TOBEY.

ROPE LAYING MACHINE.

APPLICATION FILED MAR. 21, 1911.

1,078,010. Patented Nov. 11, 1913.

Fig. 1,

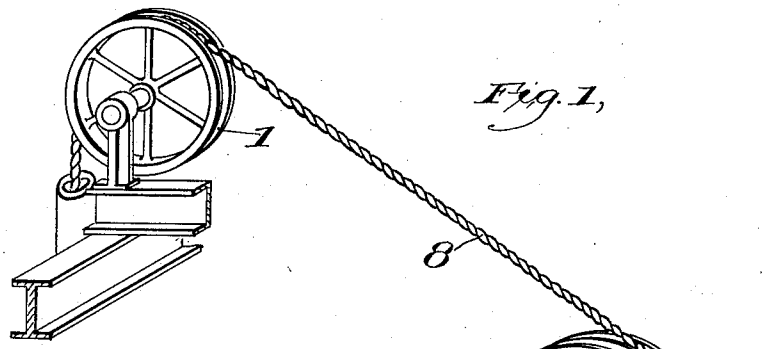
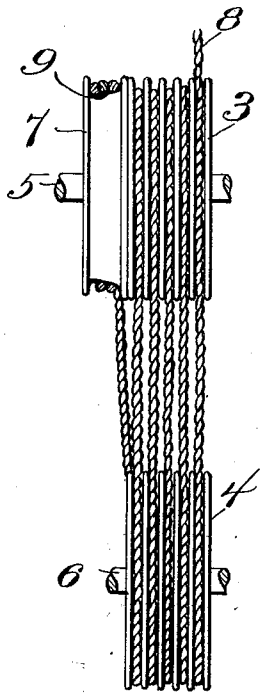
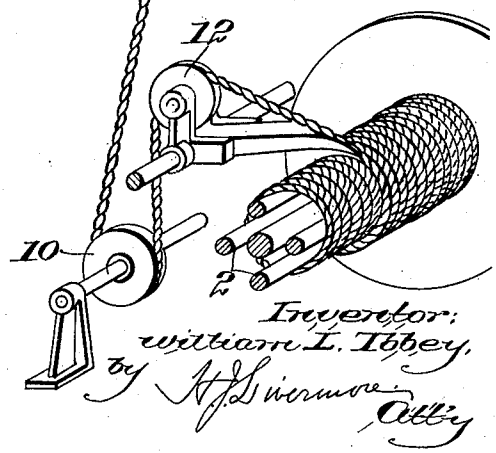


Fig. 2,





Witnesses:
Jas. J. Maloney.

Inventor:
William L. Tobey,
by H. J. Livermore
Atty

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM L. TOBEY, OF WINTHROP, MASSACHUSETTS.

ROPE-LAYING MACHINE.

1,078,010. Specification of Letters Patent. Patented Nov. 11, 1913.

Application filed March 21, 1911. Serial No. 615,941.

To all whom it may concern:

Be it known that I, WILLIAM L. TOBEY, a citizen of the United States, residing in Winthrop, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Rope-Laying Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The present invention relates to a rope laying machine and is embodied in an improved tension device which is located between the laying head where the rope is formed and the reel on which the finished rope is wound.

It is the purpose of the invention to maintain a substantially even tension on the rope at the laying head, so that the strands will be uniformly and evenly twisted together throughout the entire length.

In carrying out the invention, the machine is provided with a pair of multiple sheaves over which the rope is carried in a number of loops, and, in addition to the multiple sheaves, a capstan having a conical surface, between flanges, is arranged to travel with one set of the multiple sheaves and take the rope after it leaves the sheaves, the said rope being then carried from the capstan to the winding drum. By this expedient, the coils of rope on the capstan take a firm grip thereon, holding the tension between the laying head and the multiple sheaves, substantially uniform, without the necessity of putting a heavy tension strain on the winding drum which receives the rope.

Figure 1 is a diagram view, in perspective, showing the laying head of a rope laying machine, the tension device, and the receiving drum for the rope; and Fig. 2 is an elevation of the tension device alone.

The tension device embodying the invention, which is located between the pulley 1 over which the rope passes from the laying head and the receiving drum 2 upon which the finished rope is wound, consists of a pair of multiple sheaves 3 and 4 mounted on power driven shafts 5 and 6 combined with a capstan 7 adapted to travel with one of the sheaves, said capstan being herein shown as mounted on the shaft 5 with the sheave 3. The rope 8, as it comes from the laying head, is carried around all the sheaves 3 and 4, and from the last pulley portion of the sheave 4 is carried over the capstan 7 which has a tapered pulley surface 9 between side flanges, as best shown in Fig. 2. The rope is then wound several times around the capstan, starting at the point of largest diameter, and from the capstan is led over a light guide pulley 10 and guide pulley 12 to the winding drum 2 which is also power driven. The result is that the rope is gripped on the capstan 7, and as the capstan travels with the sheave 5 on which it is mounted, and, therefore, rotates at the same rate of speed as the multiple sheaves, the rope has no tendency to slip on the sheaves; and the tension between the sheaves and the laying head is evenly maintained. At the same time, it is unnecessary to maintain any severe tension pull upon the rope as it is wound on to the receiving drum 2, it being necessary only to keep the rope sufficiently taut to keep the capstan covered, so that the adjacent strands will bind thereon.

Claim.

In a rope laying machine, a tension device located between the laying head and the receiving drum for the finished rope, consisting of two multiple sheaves mounted on parallel axes to receive a plurality of coils of rope, each coil surrounding both sheaves, combined with a capstan connected and rotatable with one of said sheaves, said capstan having a tapered rope-receiving surface, to receive one or more coils of rope after the rope leaves the other sheave.

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

WILLIAM L. TOBEY.

Witnesses:

W. E. COVENEY,

JAS. J. MALONEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."