A. J. PRATTINGER.

LINE CLUTCH.

APPLICATION FILED OCT. 17, 1916.

1,273,922. Patented July 30, 1918.

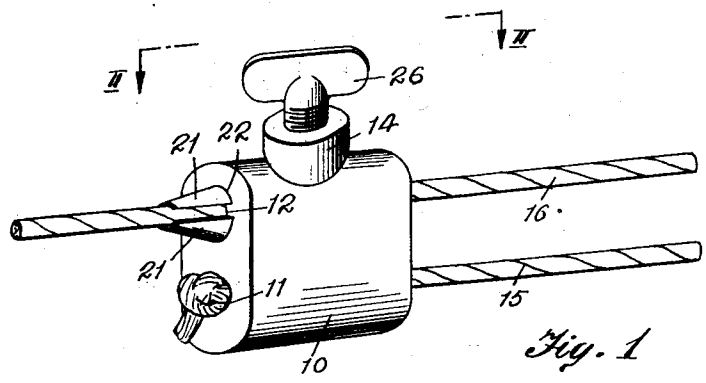


Fig. 1

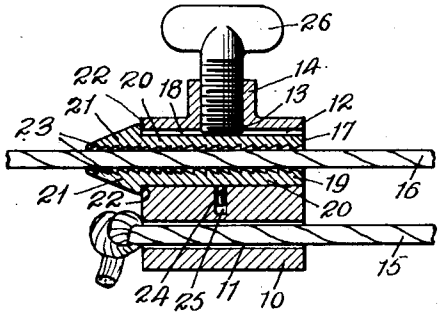


Fig. 2

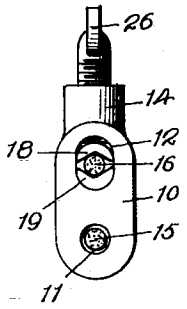


Fig. 3

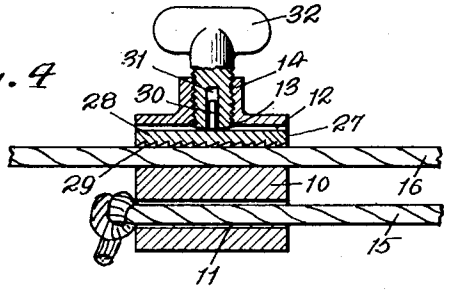


Fig. 4

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LINE-CLUTCH.

1,273,922. Specification of Letters Patent. Patented July 30, 1918.

Application filed October 17, 1916. Serial No. 126,183.

To all whom it may concern:

Be it known that I, ALEXANDER J. PRATTINGER, a citizen of the United States, and a resident of New York, county and State of New York, have invented a certain new and useful Improvement in Line-Clutches, of which the following is a full, clear, and exact specification.

This invention relates more particularly to a class of devices adapted to be used in conjunction with lines, ropes and the like.

My invention has for its object primarily to provide a clutch, or coupling device designed to be employed for permitting cables, lines, ropes and the like to be detachably connected whereby the slack of the line may be taken-up and held taut against accidental movement when desired. The invention consists essentially of a body member adapted to be fixed to a line, and the body member has a passage for removable reception of a second line. In the passage of the body is a clamping element, and this clamping element is adjustable in the passage for releasably engaging the second line so as to be held against accidental movement.

Another object of the invention is to provide means to permit the clamping element to be manually adjusted; and still another object of the invention is to provide means whereby the clamping element will be prevented from displacement with the body as well as serving to cause the movement of the clamping element to be accurately guided.

A practical embodiment of the invention is represented in the accompanying drawing forming a part of this specification in which similar characters of reference indicate corresponding parts in all the views, and will then be pointed out in the claims at the end of the description.

In the drawing, Figure 1 is a perspective view showing one form of line clutch embodying my invention.

Fig. 2 is a longitudinal vertical section taken on the line II—II of Fig. 1.

Fig. 3 is an end view of the device, and

Fig. 4 is a section taken vertically through a modified form of the device.

The device, or line clutch has a body member 10 which is preferably in the form of a block of metal of substantially the shape of a cube, though the body may be of any other desired shape as well as being of any suitable size. Through the lower part of the block, or body member 10 is a longitudinally disposed passage 11, and through the upper part of the block is a second longitudinally disposed passage 12 which is in spaced parallel arrangement relative to the first passage. Communicating with the passage 12 and extending through the top of the block is an opening 13 which communicates with the threaded passage of a boss, or annular flange 14 provided on the top of the block. The passage 11 is provided for reception of a rope, or line, or cable, as 15, to permit the block to be fixed thereon, while the passage 12 is provided for allowing another part of the same rope, or line, or cable, or to allow a second rope, or line, or cable, as 16, to be held by the block, as will be hereafter more fully explained.

In order to detachably connect the lines by releasably holding the second line to the block, in the passage 12 of this block is an adjustable clamping element, as 17. The clamping element 17, as shown in Figs. 1, 2, 3, may be composed of two complemental jaws, as 18 and 19, both of which are preferably similar in formations as well as being of similar sizes. Each of the jaws 18 and 19 has a stem portion 20 which may be approximately the same length as the length of the passage 12 of the block, and the combined dimension, or diameter peripherally of these stems are considerably less than the combined dimension, or diameter of the passage 12 of the block so as to provide a suitably large passageway between the jaws when spaced apart as well as allowing considerable space for adjustment of the jaws toward and from each other. On one of the corresponding ends of the stem portion 20 of each of the jaws 18 and 19 is an enlarged part, or head, as 21, and each of these heads is preferably substantially semi-conical in shape to provide a protruding flange, or stop 22 at one end of each stem for engaging the block 10 to prevent the jaws from tending to be forced out of the passage 12 when the strain or pull on the jaws of the clamping element is in a direction toward the ends of the stem portions of the jaws opposite to the heads. The opposed faces of the stems as well as the heads of the jaws of the clamping element may be concaved, and these concaved faces are provided with transverse teeth, as 23, for engaging the line when disposed therebetween, and extending from the central part of the jaw 19 is a pin

24 which is movably disposed in a recess 25 provided in the lower part of the wall of the passage 12 of the block, this pin being somewhat shorter than the length of the recess to serve as a guide for movement of this jaw as well as serving to hold the jaw in the block 10.

Serving as means to permit the clamping element 17 to be manually adjusted for releasably holding the second line, in the threaded passage of the boss 14 of the block 10 is a set screw 26 having its stem of a length so that when the screw is rotated accordingly its free end will engage the jaw 18 to force this jaw toward the jaw 19 for clamping the line to the device.

Fig. 4 illustrates a similar form of the device, excepting that the clamping element 27 is somewhat different in construction from the clamping element 17. The clamping element 27 consists of a single jaw 28 adjustably disposed in the passage 12 of the block 10, and this jaw is preferably in the form of a curved, or partially circular bar of approximately one-half or less than the diameter of the passage. The length of the jaw 28 may be similar to the length of the passage 12 of the block, and the underside of this jaw is transversely serrated, or toothed, as at 29. Protruding upwardly from the central part of the top of the jaw 28 is a pin 30 which is movably disposed in a recess 31 provided in the free end of a set screw 32 of a like form as the set screw 26, and the screw 32 is threaded in the boss 14 so that when accordingly rotated it will contact with the jaw for moving the jaw downwardly in the passage 12 of the block, or body member 10.

When the clutch is employed for releasably holding two parts of a single line, or rope, or when used to detachably connect two separate lines, or ropes, one of the lines is disposed through the passage 11 of the block 10, and this line is held to the block against displacement by tying a knot, as 33, therein, or the line may be held by any other suitable means. Following the moving apart of the jaws 18 and 19 of the clamping element 17, or after the jaw 28 of the clamping element 27 is moved to the top of the passage 12 of the block, the second line is directed through this passage so as to be arranged between the jaws 18 and 19, or under the jaw 27. By then rotating the set screw of the device inwardly of the block the screw will engage the clamping element for adjusting it so as to tightly engage the line which in turn will be releasably held against movement, and by manipulating the device accordingly all slack in a line may be readily taken-up, or two lines, or cables may be easily coupled together.

In the foregoing description, I have embodied the preferred form of my invention, but I do not wish to be understood as limiting myself thereto, as I am aware that modifications may be made therein without departing from the principle, or sacrificing any of the advantages of this invention, therefore I reserve to myself the right to make such changes as fairly fall within the scope thereof.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. The combination with a block with a passage for fixing a line therein, the said block having a second passage for reception of a second line, and having a communicating threaded opening angularly disposed relative to the second passage, of two toothed bars adjustable toward and from each other transversely of the second passage, a pin protruding from one of the bars into the threaded opening, and a set screw in the threaded opening for adjusting one of the bars toward the other bar, and said screw having a recess in which the pin of the bar is movably disposed.

2. The combination with a block adapted to be fixed to a line, the said body having a passage for reception of a second line, and having communicating threaded opening angularly disposed relative to the passage, of two complemental toothed jaws adjustable toward and from each other transversely of the passage and each jaw having on one of its corresponding ends a head protruding exteriorly of the block to prevent the jaws from being forced out of the passage of the block in a direction opposite to the heads, and a set screw in the threaded opening for permitting one of the jaws to be adjusted toward the second jaw.

This specification signed and witnessed this 16th day of October A. D. 1916.

ALEXANDER J. PRATTINGER.

Witnesses:
J. A. SCHILLER,
S. SLATER.

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