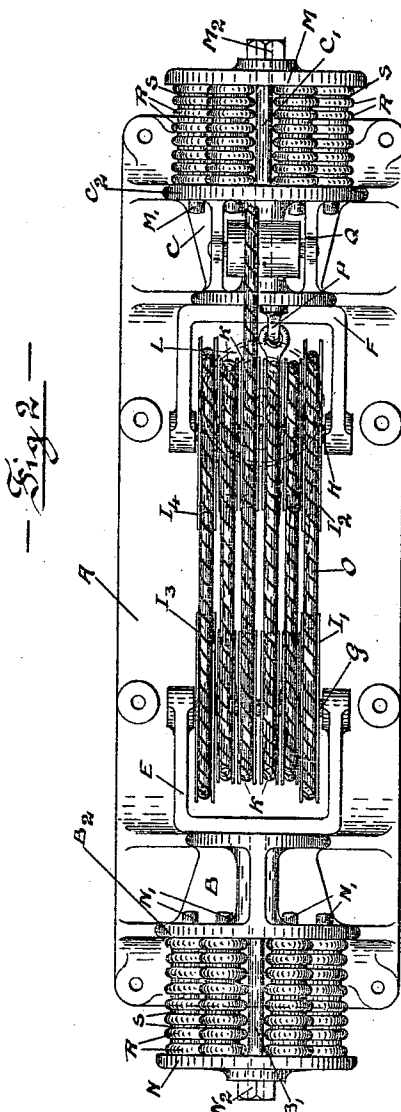
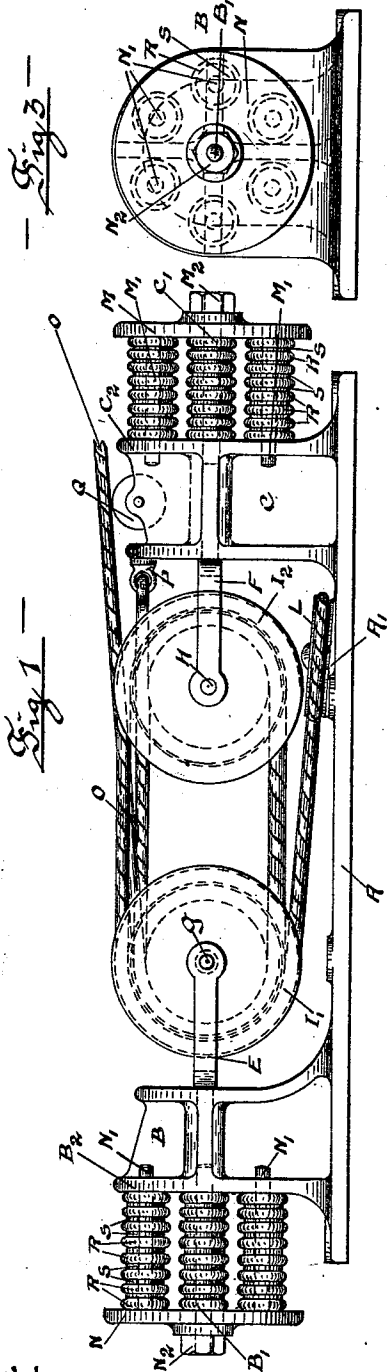


(No Model.)

L. W. SHELDON.
CABLE BUFFER.

No. 546,788.

Patented Sept. 24, 1895.



Witnesses

Henry Ding
Arch. Beckm.

Inventor
Lewis W. Sheldon

by his Attorneys
Freschow & Co.

UNITED STATES PATENT OFFICE.

LEWIS W. SHELDON, OF BLOOMFIELD, NEW JERSEY.

CABLE-BUFFER.

SPECIFICATION forming part of Letters Patent No. 546,788, dated September 24, 1895.

Application filed February 14, 1895. Serial No. 538,337. (No model.)

To all whom it may concern:

Be it known that I, LEWIS W. SHELDON, a citizen of the United States, residing at Bloomfield, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Cable-Buffers; 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 is an improved mechanical means in the present system of towing vessels, and is furthermore applicable to the life-saving apparatus now in use, as well as to transfer merchandise at sea, more especially in a heavy swell, and can finally be utilized in warping vessels in docks or harbors, or can in fact be applied where any great strain is exerted on a hawser, cable, or rope to relieve such strain. All the above-mentioned different tasks have a serious objectionable feature, that of the snapping of hawser or rope under the unavoidable strain which they are subject to, so that the performance of such work is very often unsatisfactory, not to say wholly impossible. It is to surmount these difficulties and to furnish what I deem an improvement in the devices for taking up the tension or strain which the hawser or cable is subject to under such circumstances that I present this, my strain-accumulator or tension device, which I consider a more simple, effective, and practical and less costly mechanism than any hitherto-known constructed or patented mechanism of the same class. It can be placed on any dock or on any vessel, and, being built compactly, does not take up much room and will be no inconvenience even on vessels where space is economized as strictly as it of a necessity must be. In the accompanying drawings, where like letters of reference indicate corresponding parts in the different views, Figure 1 presents a side view of my tension device; Fig 2, a top view of Fig. 1, and Fig. 3 an end view of one of the frames or supports B cast on the end of the bed-plate.

A is a bed-plate having at each end an up-

right frame or support B and C. Passing through the centers of these are two cross-heads E and F, each supporting between their respective arm rods G and H, which carry, in this instance, six loose sheaves apiece, which number can be varied to suit the length of hawser utilized, or, in other words, the circumstances of the case. Of said sheaves the two outside ones in each cross-head (marked I¹ I² I³ I⁴) are larger in diameter than the inside sheaves in order to enable the hawser or cable to pass around an idler-sheave L, pivoted on a raised incline A' on the bed-plate, same idler-sheave L pivoted on this incline, in order to catch the hawser or cable uncoiling from the large sheave I' more readily. Projecting from cross-heads E and F, respectively, are the two rods B' and C', and supported on these are two disks M and N, each having six rods M' and N' fastened in them, said rods passing through holes in flanges B² and C² of frames B and C, the admission of the said rods into these holes being necessitated by disks M and N being forced, respectively, toward flanges B² and C², when cable or hawser is in play. Disks M and N are secured to the ends of rods B' and C' by nuts M² and N², screwed on the screw-cut ends of these. Lying around the rods M' and N' are a fitting number of rings R, manufactured from some flexible yielding material—rubber or cork, for instance—alternating with rings S, made of brass, preferably, or any other metal or material hard enough to preserve the elasticity of the flexible rings R that are to take up the strain on cable when pull is exerted on same as it lies coiled around the sheaves, drawing these toward each other.

The hawser or cable O has one end fastened to the frame or support C by ring-stud P, and after coiling around the sheaves after the manner indicated on the drawings, has its other end passed over a loose drum Q, resting in bearings formed by two ribs on frame C to the vessel with which it is maneuvering or to any other object in connection with which it may be working. The object in this mechanism and the method by which it is attained is this, that by having these two sets of sheaves in juxtaposition opposite each other lying between the two points where power is applied—viz., ring-stud P and object at the

other end of rope O—and by interposing, respectively, between frame B and disk N and frame C and disk M, the rings R, made of flexible elastic material, a certain amount of elasticity or spring will be given to the cable or hawser during a steady pull, and as it can be readily seen that the sheaves being interposed between the two powers applied will naturally move toward each other, which they will be able to do by reason of their being attached to cross-heads, and said cross-heads having the disks M and N secured to their ends will draw these toward each other, but with a springy elastic movement, by reason of the flexible rings being interposed between disks and flanges on frames, and when pull ceases on rope or any sudden jerk should occur they will take up such strain and the main thing will thus be avoided—viz., the fatal effects of a sudden lurch on the part of vessels and consequent strain on the hawser or cable, which in such cases almost invariably snaps, but which in my device, as above described, is taken up by the flexible buffer-rings, and the strain, instead of being local and putting a certain part of the hawser or cable to the severest test, is spread throughout the whole cable or hawser and absorbed by every single fiber in it.

Having thus described my invention, what I claim as new and an improvement on any hitherto-known device is—

1. In a cable buffer of the character set forth, two frames, located at each end of a

bed-plate, in combination with twelve or any practical number of sheaves, cross-heads supporting such sheaves and passing through the center of frames, disks attached at the ends of cross-heads, having each six or any practical number of rods carrying rings made of any flexible yielding material, suitable under the circumstances, each ring alternating with a ring made of metal preferably brass, for the purposes as set forth all substantially as described.

2. In a cable buffer of the character set forth, a double set of sheaves made up of any appropriate number, in combination with means for supporting same, a series of rings, made of any suitable flexible, yielding material, alternating with a series of metal rings supported on appropriately fixed rods, said rings lying in compression between disks fixed on ends of cross-heads and frames said compression occasioned by a rope one end of which is fixed to one end of frames or supports and reeved around sheaves the other end being attached to the object in process of being maneuvered with, for the purposes as set forth all substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 2d day of February, 1895.

LEWIS W. SHELDON.

Witnesses:

C. I. SHIRLEY,
AXEL BEEKEN.