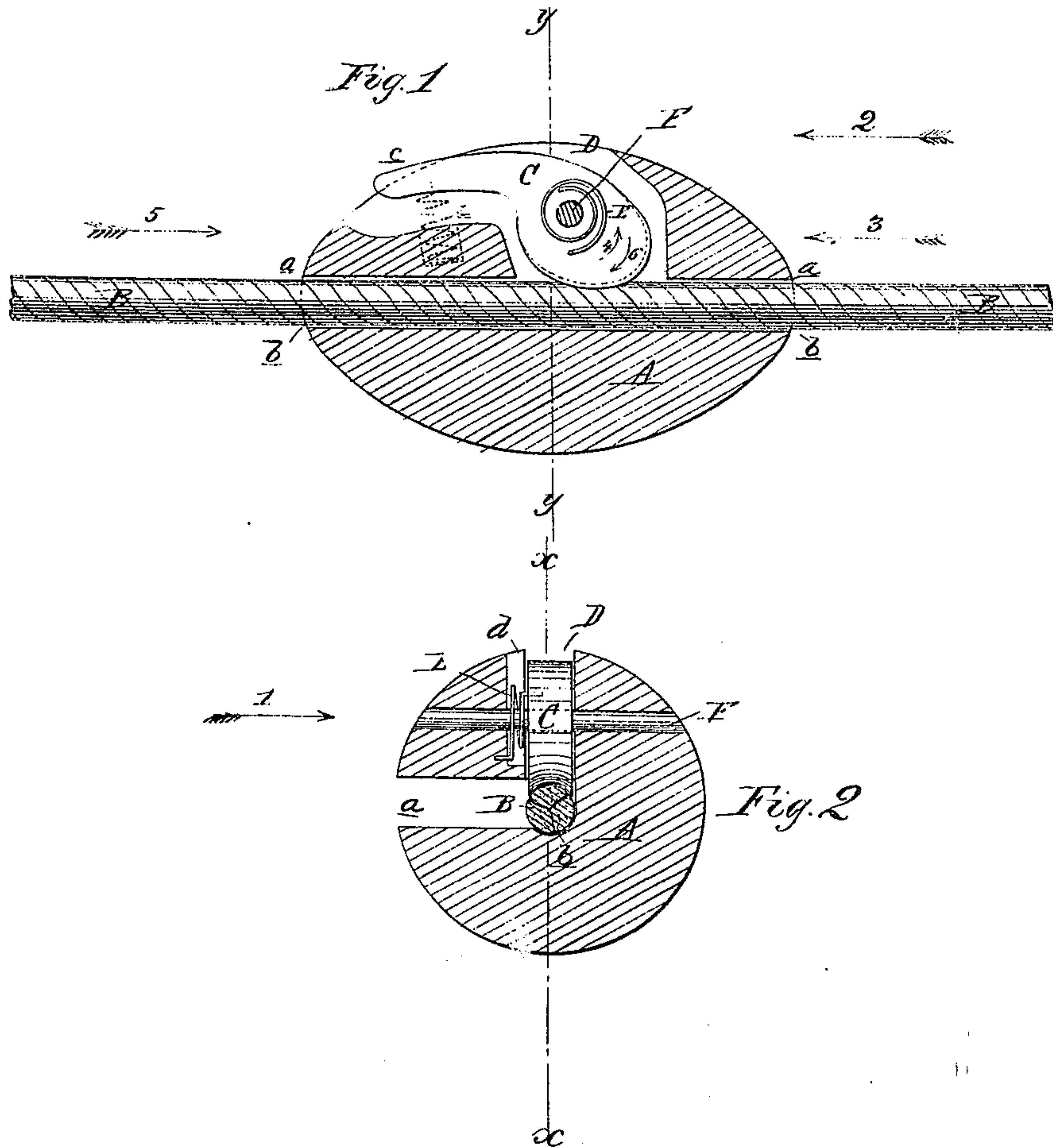


(No Model.)

C. N. WILCOX.  
LINE PULLER.

No. 434,691.

Patented Aug. 19, 1890.



Witnesses  
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# UNITED STATES PATENT OFFICE.

CURTIS N. WILCOX, OF BROOKLYN, NEW YORK.

## LINE-PULLER.

SPECIFICATION forming part of Letters Patent No. 434,691, dated August 19, 1890.

Application filed February 18, 1889. Serial No. 300,290. (No model.)

*To all whom it may concern:*

Be it known that I, CURTIS N. WILCOX, a citizen of the United States, and a resident of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Line-Pullers, of which the following is a specification.

The object of my invention is to provide a simple and convenient device for manipulating the pulling or hauling in of a rope or line without grasping and holding the latter directly by the hands, which not only requires a very fatiguing extra exertion of power to insure a tight grip, particularly when operating ropes of small diameter—such as clothes-lines and the like—but exposes the palm of the hand and fingers to hurtful abrasion by friction against the rope or line, and is especially severe in its effect when the line is wet, and more especially so when the line is wet and frozen.

In general terms, the invention consists in a block or clamp adapted to be held comfortably in one hand and while so held to be laterally slipped onto the line so as to encircle the latter, a cam or other friction pawl or stop being mounted in the said block to engage the line so as to clamp the latter firmly when pulling by the block, but yielding and releasing its hold and thereby allowing the block to be slid along upon the line when pushing it to reach for a new hold.

The invention will be hereinafter specifically described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 represents a longitudinal section of my line-puller in position for operation, the section being taken on the line  $x x$  of Fig. 2 and through the block only and seen in the direction of arrow 1. Fig. 2 is a cross-section of the same through the line  $y y$  of Fig. 1 and seen in the direction of arrow 2.

A designates the block, which may be spherical or of other shape suitable to be held conveniently, but is preferably made in the shape of a cylindrical spindle or an ellipsoid, as shown in the drawings. This is provided longitudinally with a slot  $a$  of sufficient width and depth to receive the line (designated by letter B) and lodge it in the axial plane of the ellipsoid at right angles to the slot  $a$ , where, preferably, a groove  $b$ , corre-

sponding to the curvature of the surface of the rope or line, is made for the rope to rest in. When in this position, the axis of the rope lies in the central plane of a cam or friction-pawl C, confined within a slot D and pivoted upon a pin F, passing partly or wholly through the block A at right angles to the slot D. The working-face of the cam C is grooved to partly encircle the rope, and thus bring a larger surface thereof in contact with the cam and avoid flattening the rope, as would be done if the cam-surface were flat. The cam C is provided with a lever or handle  $c$ , by depressing which it may be raised from contact with the rope B, the cam being normally held in contact with the rope by a spring E. This may be a flat spiral spring arranged to surround the pin F and lodged in a recess  $d$  in the side wall of the slot D, being fastened with one end to the block A and with the other to the cam C, as shown, or it may be a cylindrical, spiral, or other spring arranged in the block under the lever or handle  $c$  of the cam C, as shown in dotted lines in Fig. 1.

The operation of the invention is very simple. To apply the device, depress the lever  $c$  and introduce the rope B into the slot  $a$  until it rests underneath the cam C, remove the pressure from the lever  $c$ , and the spring E or  $e$ , tending to turn the cam in the direction indicated by arrow 6, will keep it normally in contact with the rope. To haul at the rope, pull the block A in direction of arrow 5, and the cam will grip the rope and clamp it firmly to move with the block. To move the block A forward in order to take a new hold, push it in direction of arrow 3 and the cam will turn against the resistance of the spring, or in the direction indicated by arrow 4, thus releasing its hold and allowing the block to simply slide on the rope or line. If desired to "pay out" the line from the hand, it is only necessary to press on the lever  $c$ , which will release the grip of the cam C, allowing the line to slide in the block A in the direction of arrow 3, and use the cam and lever as a brake for regulating the velocity of the sliding motion.

I lay no claim, broadly, to a cam or friction-pawl as a means of clamping a rope, such being old and shown, for instance, in Patent No. 111,843, where a corrugated cam-segment



is used as a means of belaying or fastening a rope to avoid the more tedious mode of tying it; but in all other respects the patent referred to is for an entirely different device intended for a different and independent purpose.

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

1. The combination, with the block having a longitudinal groove and an open ended slot *a* at right angles thereto and communicating therewith, of a locking-cam pivoted to said block within a recess therein on a pivot at right angles to the longitudinal slot, substantially as described.

2. The combination, with the block having a longitudinal central groove *b* and longitudinal slot *a*, leading at right angles therefrom and open at the periphery of the block, of the spring-actuated cam pivoted to said block within a recess therein on a transverse pivot, substantially as described.

3. The combination, with the oval-shaped

block having a central longitudinal groove *b* and longitudinal groove *a*, extending therefrom laterally, of a cam pivoted to said block on a transverse pivot, and a coiled spring surrounding said pivot with one end attached to the block and the other to the cam, substantially as described.

4. The combination, with the block having a longitudinal central groove *b* and slot *a*, extending therefrom laterally, and with slot *D*, of the cam pivoted in the slot *D* on a transverse pivot, and the spring within said slot around the pin with one end engaging the block and the other the cam, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 14th day of February, 1889.

CURTIS N. WILCOX.

Witnesses:

JEAN A. JOHNSON,  
A. W. ALMQVIST.