

No. 688,454.

Patented Dec. 10, 1901.

A. L. WILSON.
CABLE TENSION DEVICE.

(Application filed Jan. 8, 1901.)

(No Model.)

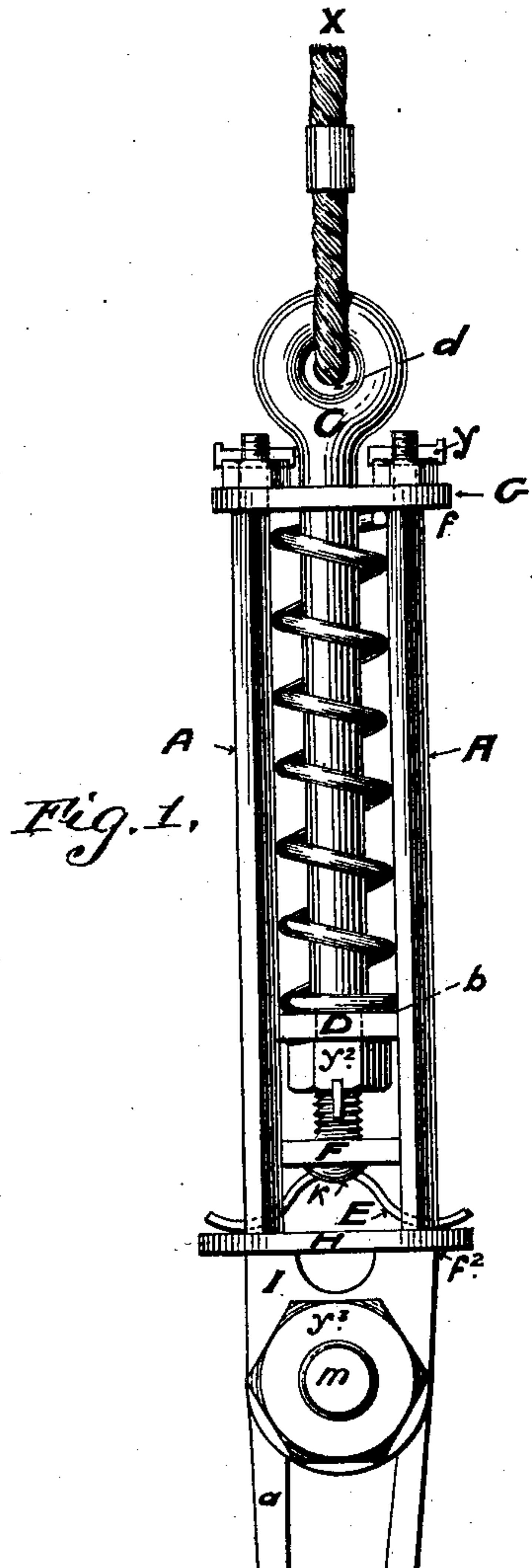


Fig. 1.

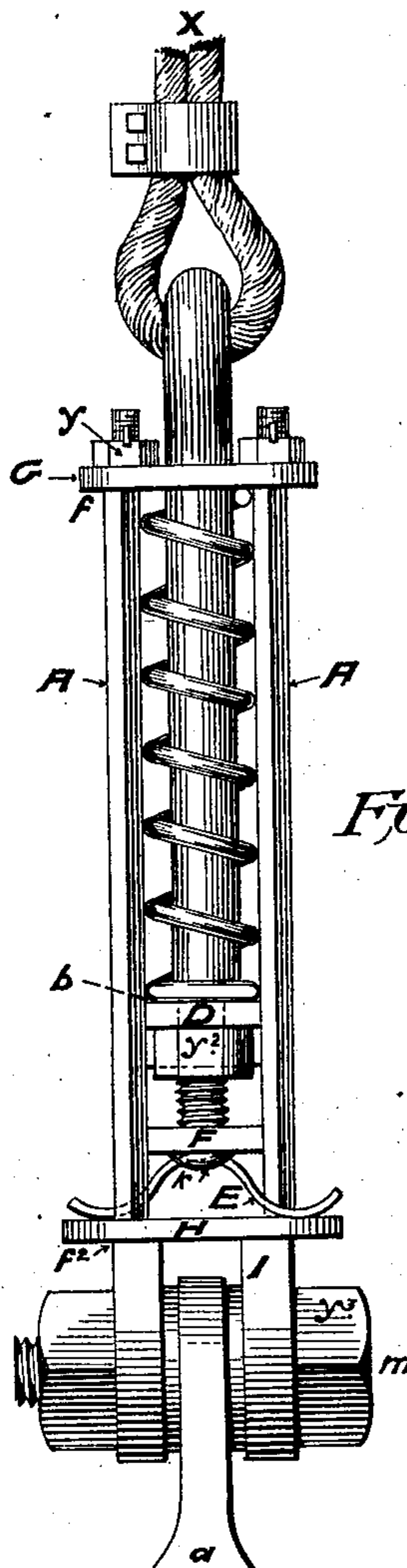


Fig. 2.

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UNITED STATES PATENT OFFICE.

ARTHUR L. WILSON, OF SEATTLE, WASHINGTON.

CABLE TENSION DEVICE.

SPECIFICATION forming part of Letters Patent No. 688,454, dated December 10, 1901.

Application filed January 8, 1901. Serial No. 42,569. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR L. WILSON, a citizen of the United States, residing at Seattle, in the county of King, and in the State of Washington, have invented a new and useful Cable Tension Device for Use on Wire Cables on Pile-Driver Hammers, of which the following is a specification.

The object of my invention is to give a springing movement to wire rope or cable used on steam pile-drivers and hoisting apparatus, where wire rope or cable is found too unyielding for rapid work.

To this end my invention comprises, generally stated, a tension-spring resting between two plates around a heavy bolt or rod which fills the center or core of said spring (thus keeping the coils of said spring in proper position when compressed) inside a square wrought-metal frame, which is held together by two plates, the lower one of which rests loosely on the shoulder or seat formed by the base of said frame. The upper plate rests on shouldered or seated posts or rods and is secured by means of keyed nuts. A movable or sliding plate rests inside said frame, to which is secured, by means of a keyed nut or bur, the cable bolt or rod, to which is fastened the rope or cable. The lower part of said frame is secured to the hammer or tools on which it is to be used by a bolt which passes through the clevis-plate forming the base of said frame and the eye or clevis or hammer-head, as the case may be. As the strain is applied the spring is compressed, and as it is released the cable-bolt is thrown back with considerable force toward the lower plate, on which rests a spring and rubber block to receive the recoil of said bolt or rod.

The particular improvements comprising my invention will be hereinafter more particularly set forth and claimed.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 shows a full-length and side view of my cable tension device. Fig. 2 shows front quarter of same.

Like letters of reference indicate like parts in each figure.

The frame of the cable tension device is made of wrought metal of as high strength as practicable. The posts or rods A, which set diagonally to the square of the frame, are made round and threaded at the upper end to form the shoulder or seat on which rests the square plate G. The lower ends of said rods are welded to the clevis-plate I at the base of the said frame which forms the shoulder or seat f^2 , on which rests the square plate H, which has a square hole in each corner diagonally to the square of said plate, through which pass the square rods A, allowing said plate to rest on the seat f^2 , thus holding the lower part of the frame together. The square plate G is provided with round holes in each corner, through which are inserted the upper ends of the rods A, and the said plate is jammed down on the seat f and secured from loosening by means of the keyed nuts y . The bolt or rod C, having the eye or loop d in the upper end, to which is fastened the cable x , (by means of splice or clamps, preferably clamps,) passes through a hole in the center of the plate G and through the center or core of the spring B. The lower end of said bolt or rod is threaded and cut enough smaller to form the seat b . The square plate D, which rests inside the frame square with the rod A and diagonally to the square of the frame, is provided with a hole in the center, through which the threaded end of the rod or bolt C is passed and is jammed against the seat by means of the keyed nut y^2 . The spring B is made of suitable strength and tension, according to the use to which it is applied, and rests between the plates G and D inside the frame, which forms a guide for the plate D, which moves up and down in said frame as the spring is compressed and relaxed.

On the plate H rests the flat arched spring E, to which is fastened the rubber block F by means of the rivet K, said spring H being provided with a square slot in each end of sufficient size to admit the posts or rods A, and with end play enough to allow said spring to be sprung down without striking the rods A, which pass through said holes in the spring F at opposite corners of said frame. I design this spring and rubber block to protect the plate H from the recoil of the bolt C, caused by the releasing of the spring B. I

deem this spring and rubber block sufficient for all general purposes, as on the ordinary drop-hammers of medium weights, or for hoisting purposes in general, when a small
 5 cable tension device with a light spring is desired, a rubber block of sufficient thickness and large enough to fit closely inside the frame on the plate H will be all that is required; but in cases where the cable tension
 10 device is designed for extra heavy work, using the spring B of extraordinary tension, as would be used on steam-hammers of great weight or specially-heavy drop-hammers, I would prefer to use a short spiral spring of
 15 the proper tension in the place of the arched spring E. Said spring should be of sufficient diameter to rest loosely inside the frame on the plate H. On the top of said spring should rest an iron plate of sufficient thickness and
 20 strength, the exact duplicate of plate H, with the rod A passing through said plate in the same manner as through the plate H, loosely enough to allow said plate to move up and down on the rods A. To said plate should
 25 be fastened the rubber block F in the same manner as on the spring E.

The clevis-plate I, which forms the base of the frame, extends far enough below the plate H to admit the eye or clevis of the hammer between said plates. The bolt *m*, having
 30 a head at one end and thread on the other, passes through the hammer-clevis *a* and the clevis-plate I, securing the cable tension device to the hammer by means of the nut *y*³.
 35 Should the clevis or eye of the hammer fail to fill the space between the clevis-plate I, said space should be filled with washers. I should prefer to dispense with the eye or

clevis and attach the cable tension device to the hammer-head *j* in the same manner as to
 40 the clevis *a*.

My improved cable tension device is efficient for the purposes intended and has special advantages in pile-driving with wire ropes or cable in providing for the same
 45 the spring necessary for rapid work, though it may be employed to advantage also in many other uses on wire cable. It is also simple in construction and adapted to heavy strains and can be easily and quickly taken
 50 apart and put together when repairs are necessary or a spring of different tension is required.

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

1. In a cable tension device the square frame having the plate H resting on the seat
 60 *f*² of the clevis-plate I and the plate G secured with keyed nuts *y* to the square frame-posts A, setting diagonally to the square of the frame forming a guide for the plate D, substantially as and for the purpose set forth.

2. In a cable tension device the combination of the recoil-spring E resting on the
 65 plate H, the rubber block F fastened to the spring E by means of the rivet K substantially as and for the purposes set forth.

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

ARTHUR L. WILSON.

Witnesses:

GEO. LADD MUNN,
 FLAVIUS J. GEORGE.