H. F. WAITE.

AUTOMATIC CLAMP FOR BRACKET SUPPORTS.

APPLICATION FILED AUG. 10, 1920.

1,371,011. **Patented Mar. 8, 1921.**

Fig. 2.

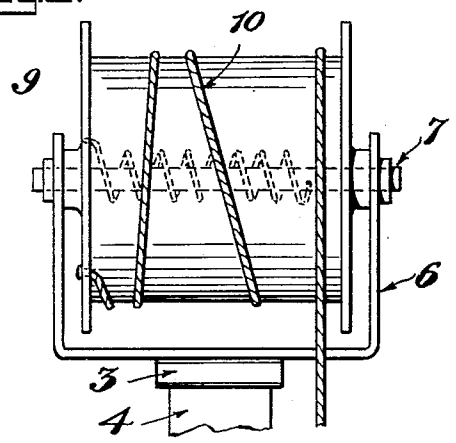


Fig. 1.

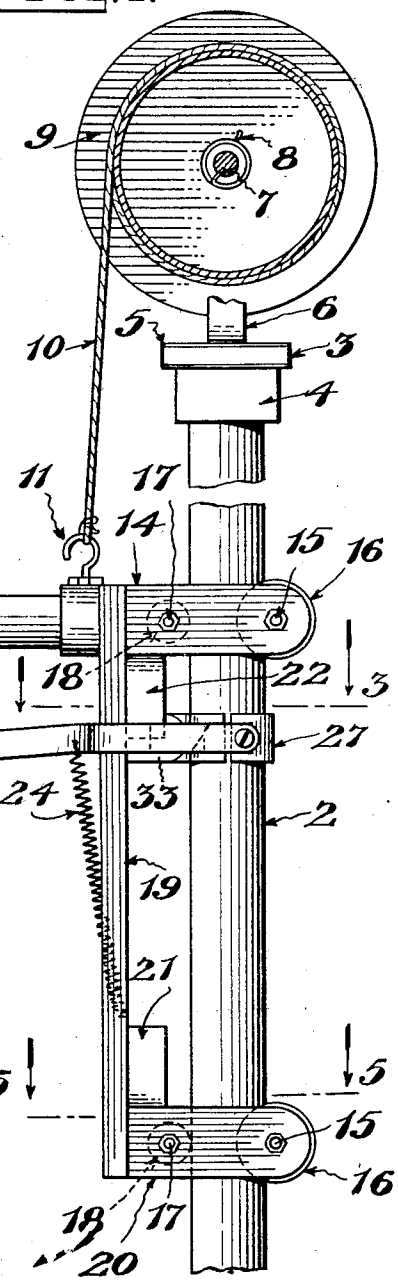


Fig. 3.

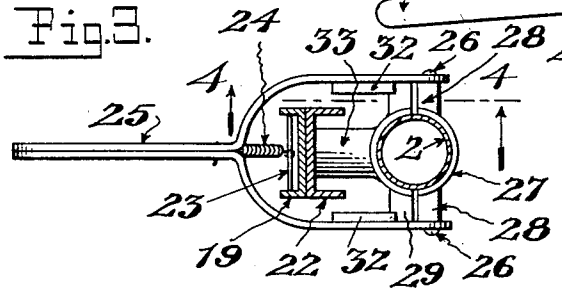


Fig. 4.

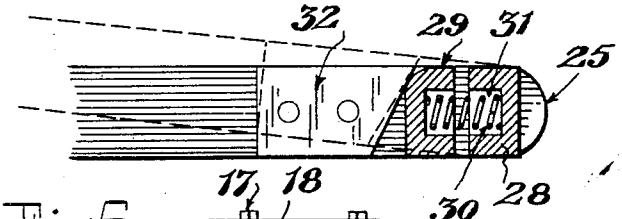
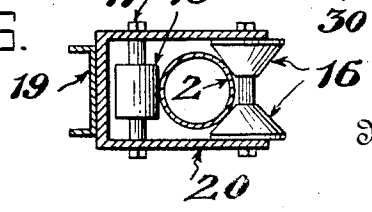


Fig. 5.



Inventor

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UNITED STATES PATENT OFFICE.

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AUTOMATIC CLAMP FOR BRACKET-SUPPORTS.

1,371,011. Specification of Letters Patent. Patented Mar. 8, 1921.

Application filed August 10, 1920. Serial No. 402,724.

To all whom it may concern:

Be it known that I, HARRY F. WAITE, a citizen of the United States, and a resident of the city of New York, county of Queens, and State of New York, have invented a new and useful Improvement in Automatic Clamps for Bracket-Supports, of which the following is a specification.

The object of my invention is to provide a bracket support which may be used for holding any suitable device, as an X-ray tube, at any desired level or in any desired direction from an upright on which the support is mounted. This object is accomplished by my invention, one embodiment of which is hereinafter more particularly set forth.

For a more detailed description of my invention reference is to be had to the accompanying drawings forming a part hereof in which—

Figure 1 is a side elevation partially in section of my improved device.

Fig. 2 is a side elevation of a drum which is provided with a spring so as to serve as a counterbalance.

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1 looking in the direction of the arrows.

Fig. 4 is sectional view taken on the line 4—4 of Fig. 3 looking in the direction of the arrows.

Fig. 5 is a sectional view taken on the line 5—5 of Fig. 1 looking in the direction of the arrows.

Throughout the various views of the drawings, similar reference characters designate similar parts.

My improved automatic clamp 1 is mounted on a spindle 2 which at its top is provided with a ball bearing 3 with its lower end 4 fixed to the upright 2 and with its upper end 5 made free to turn on the balls, not shown, resting on the lower part 4. The upper part 5 carries a U bracket 6 with upwardly extending arms which are connected near their top by a spindle 7 which is fixed therein. This spindle 7 carries a coil spring 8 which surrounds the same and is fixed thereto at one end and at its other end it is fixed to a flanged drum 9 which turns freely on the spindle 7. This drum 9 carries a cord 10 in the conventional manner and the lower end of this cord 10 is secured to a hook 11 on an arm 12 that is connected to the upright 2 by connections which will be described below. The cord 10 is wound in relation to the spring 8 so that as the cord 10 is unwound the spring 8 is wound and as the spring is unwound the cord is wound so that under all the conditions of service the spring 8 acts as a counterbalance to the arm 12 and its connected parts.

The free end of the arm 12 is provided with a clamping means 13 which may be secured to any device, as desired, for which the bracket is designed and the other end is provided with a fork 14, the free ends of which are united by a spindle 15 which carries two beveled rollers 16 and the inner end of this fork 14 carries a second spindle 17 on which is a suitable roller 18, as shown in dotted lines in Fig. 1. The end of the fork 14 which is next the bar 12 is provided with a downwardly extending channel iron 19, which, at its lower end, is fixed to a fork 20 and braced by a short bar 21. A corresponding bar 22 is also used to connect the upper end of the channel 19 with the fork 14 so that the forks 14 and 20 are connected to the channel bar 19 with a very rigid connection.

The fork 20 is almost identical with the fork 14 and is provided with the same rollers and spindles, which for convenience, are given the same reference characters as those which apply to the corresponding parts in the fork 14.

It will be noted that in the embodiment of my invention herein shown, the channel bar 19 has its flanges extending away from the spindle 2 and about a quarter of the way up from the bottom it is provided with a pin 23 to which is secured one end of a coil spring 24 and to the upper end of this spring is secured a handle 25 with separated ends which are pivoted at 26 to a split bushing 27 which is slidably mounted on the spindle 2 and split so as to form two parts 28 and 29, the part 28 carrying the pivots 26. The parts 28 and 29 are provided with coil springs 30 in suitable sockets 31, one spring being adjacent to each pivot 26, and these springs tend to separate the parts 28 and 29 and would do so if the cams 32 on the arms of the lever 25 did not prevent. These cams engage projections on the part 29 and tend to compress the spring 30 as engaged The spring 24 is much more powerful than the springs 30 so that under normal conditions these springs 30 are compressed and the parts 28 and 29 brought together with

the resulting clamping action which ensues. The part 29 is rigidly connected to the channel 19 and the block 22, which is also a channel iron, by a lug 33 so that when the parts 28 and 29 are brought together as above described, the channel 19 and all its connected parts are rigidly held and yet the clamp may be readily released by elevating the lever 25 against the spring 24 and thus through the action of the counterbalancing spring 8, the clamping device 1 may be readily raised or lowered on the spindle or swung on this spindle in any direction.

While I have shown and described one embodiment of my invention it is obvious that it is not restricted thereto but that it is broad enough to cover all structures that come within the scope of the annexed claims.

What I claim is:

1. A device of the class described, a vertically disposed spindle, a pair of forks with rollers mounted therein, means for holding said forks in rigid relation to each other, a clamp having two parts, springs adapted to separate said parts, a lever with cams adapted to bring said parts together and a spring stronger than the springs separating the clamp which is adapted to actuate the lever and cause it to force the two parts of the clamps toward each other.

2. A device of the class described, a vertically disposed spindle, a pair of forks with rollers mounted therein, means for holding said forks in rigid relation to each other, a clamp having two parts, springs adapted to separate said parts, a lever with cams adapted to bring said parts together and a spring stronger than the springs separating the clamp which is adapted to actuate the lever and cause it to force the two parts of the clamps toward each other and means for counterbalancing the weight of the forks and connected parts which move with them.

Signed at the city, county and State of New York, this 6 day of August, 1920.

HARRY F. WAITE.