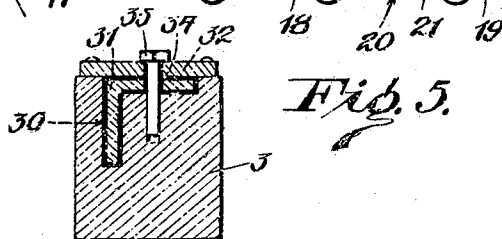
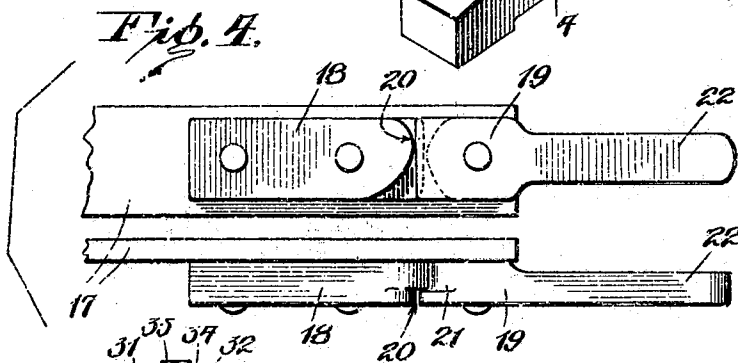
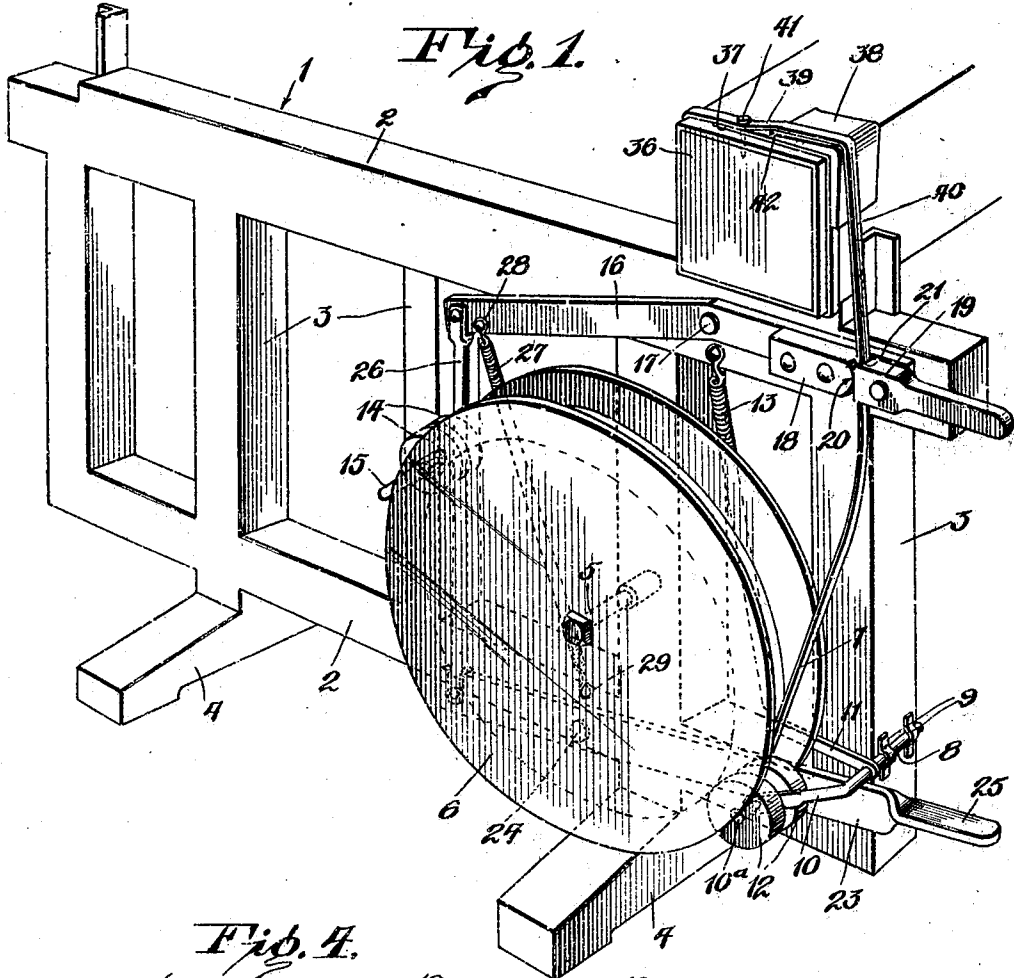


H. R. CAMPBELL.
BUNDLE BINDING DEVICE.
APPLICATION FILED MAR. 22, 1920.

1,369,219.

Patented Feb. 22, 1921.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 2.

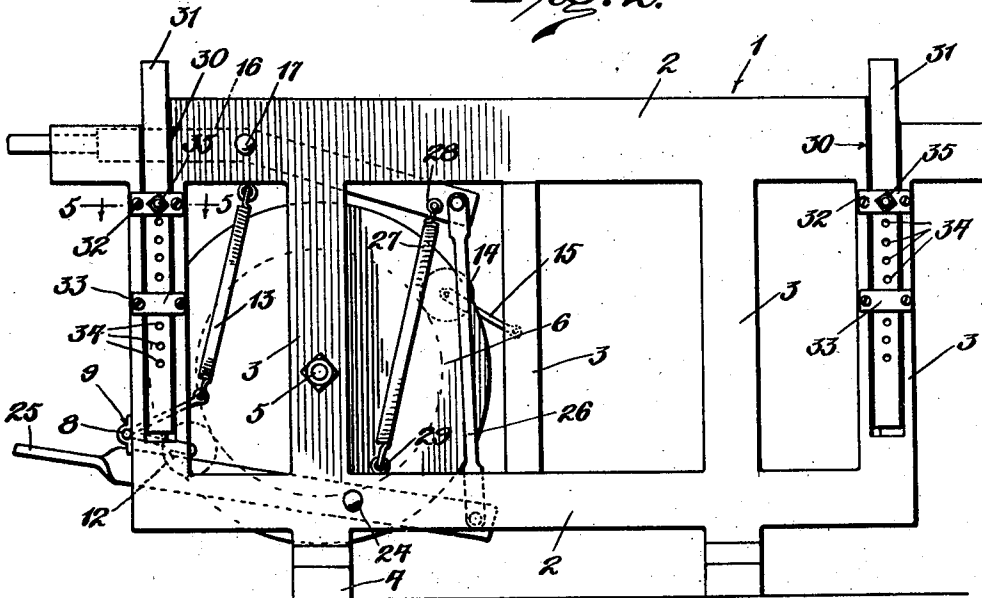


Fig. 3.

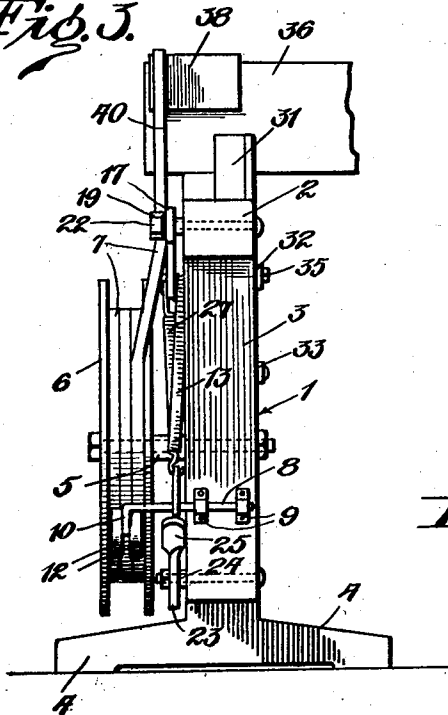


Fig. 6.

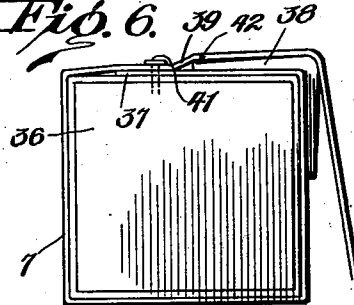
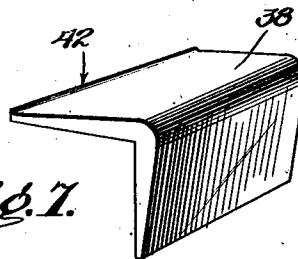


Fig. 7.



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UNITED STATES PATENT OFFICE.

HARRY ROBERT CAMPBELL, OF SEATTLE, WASHINGTON.

BUNDLE-BINDING DEVICE.

1,369,219.

Specification of Letters Patent.

Patented Feb. 22, 1921.

Application filed March 22, 1920. Serial No. 367,909.

To all whom it may concern:

Be it known that I, HARRY ROBERT CAMPBELL, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Bundle-Binding Devices, of which the following is a specification.

This invention relates to a device for applying and tightening banding iron on boxes, etc.

In applying banding iron to boxes, crates, and similar articles, it has heretofore been customary to nail the banding iron to the box as it is applied around the box. In applying the banding iron this way it is very hard to get sufficient tension to hold the bands tight; which is very desirable, as the bands are primarily used to prevent the boards of the boxes from being torn off from rough handling.

It is an object of this invention to enable the bands to be applied completely around the box and tensioned before being nailed.

Another object of the invention is to construct a device so that the free end of the banding iron is held in position by another portion of the iron under tension.

The invention also comprehends improvements in the details of construction and operation which will be particularly pointed out in the specification and claims.

In the drawings:

Figure 1 is a perspective view of the device.

Fig. 2 is a side elevation.

Fig. 3 is an end elevation.

Fig. 4 is a detail view of the band locking members.

Fig. 5 is a section on line 5—5 of Fig. 2.

Fig. 6 is a detail view of a box with banding iron secured around it.

Fig. 7 is a detail perspective of the angle plate.

1 indicates the frame of the device which is formed with horizontal portions 2 and vertical portions 3, and supported on feet 4.

A shaft 5, carried by one of the vertical portions 3, rotatably supports a spool 6, spaced from the frame. The spool 6 carries banding iron 7 thereon, for binding boxes. A member 8 is pivotally mounted at 9 and has arms 10 and 11 thereon; the arm 10 carries a shaft 10^a on which a series of rollers 12 are mounted, and the arm 11 has

one end of a spring 13 engaged therewith. The other end of the spring is fastened to the frame and exerts a tension on the member 8 to keep the rollers 12 in engagement with the banding iron 7 to prevent the banding iron from becoming loose on the spool. Another series of rollers 14 are mounted on a similar member 15 carried by the frame at the opposite side of the spool for the same purpose.

A lever 16 is pivotally mounted at 17 to the horizontal portion 2, the portions to either side of the pivot are slightly out of alinement, the shorter end having a block 18 secured thereto, and a cam member 19 pivoted thereon to cooperate with the block, for gripping the banding iron 7. The block has the face adjacent the cam member rounded and shouldered as indicated at 20, and the cam member 19 is shouldered to coact with the shouldered portion of the block as indicated at 21. A handle 22 is provided for operating the cam member.

A foot lever 23 is pivoted to the frame at 24, the longer end thereof is formed with a foot engaging portion 25, and the shorter end is connected to the longer end of lever 16, by a link 26. A spring 27 is fastened to the lever 16 at 28 and to the horizontal portion 2 of the frame at 29 for keeping the free ends of both levers normally in raised position.

The vertical portions 3 of the frame are recessed at 30, to slidably receive angle irons 31, which form stops for boxes as is obvious. The angle irons are held in place by pieces 32 and 33 secured to the frame and are provided with a series of openings 34. The pieces 32 have pins 35 movably mounted therein, which are adapted to be inserted through the holes 34, for adjusting the position of the angle irons.

A box 36 to be banded with the banding iron is placed on the horizontal portion 2 of the frame and against the angle iron 31 as shown. The end 37 of the banding iron 7, is carried around the top of the box, down around the bottom, and up the opposite side to the top again, the spool being rotated to unwind a portion of the iron for this purpose. The end is placed against the top of the box, and an angle plate 38 is placed over the corner of the box and the end 37 of the banding iron as shown. The portion 39 of the banding iron is placed

over the end 37 and the angle plate 38. The portion 40 of the banding iron leading back to the spool, is gripped between the block 18 and the cam member 19, and firmly held by said members. Pressure is applied to the foot lever to force the free end downwardly which also forces the free end of lever 16 downwardly, and creates a tension on the banding iron around the box. When the desired tension has been applied to tightly hold the banding iron around the box, a nail 41 is driven through the portion 39 and the end 37 of the banding iron into the box, to hold the iron around the box. A blow is struck against the banding iron over the cutting edge 42 of the angle plate 38, to sever the iron. The banding iron is now tightly and securely placed around the box, and the box is removed from the frame, and the band may be further nailed to insure its holding power.

The tension applied to the portion 40 of the banding iron pulls down on the angle plate 38 and thereby locks the end 37 under the plate.

What I claim is:

1. In a device of the character described the combination of a frame, a spool rotatably mounted thereon, banding iron carried by the spool, roller members carried by the frame, and engaging the banding iron on the spool, a lever pivotally mounted on the frame, a spring fastened to the lever and

the frame for normally retaining the lever in one position, a block and a cam member carried by the lever, a foot lever pivotally mounted on the frame, a link connecting the lever and foot lever, angle irons adjustably mounted in the frame and an angle plate, whereby the end of the banding iron is held against the top of a box by the angle plate, the iron passing around the box over the angle plate and held between the cam member and block, so that a downward pressure on the foot lever will operate the lever to cause the banding iron around the box to be tightened.

2. A band tightening device, including a frame, a spool rotatably mounted thereon, banding iron carried by the spool, levers pivotally mounted on the frame, a link connecting one end of each lever, one lever having band gripping members thereon, stop members slidably mounted in the frame and an angle plate whereby the banding iron is passed around a box, the angle plate holding the end against the box and the band gripping members hold the banding iron so that the levers may be operated to exert a tension on the banding iron around the box.

In testimony whereof I affix my signature in the presence of two witnesses.

HARRY ROBERT CAMPBELL.

Witnesses:

SUZANNE V. McLAUGHLIN,
OSCAR J. HANSON.