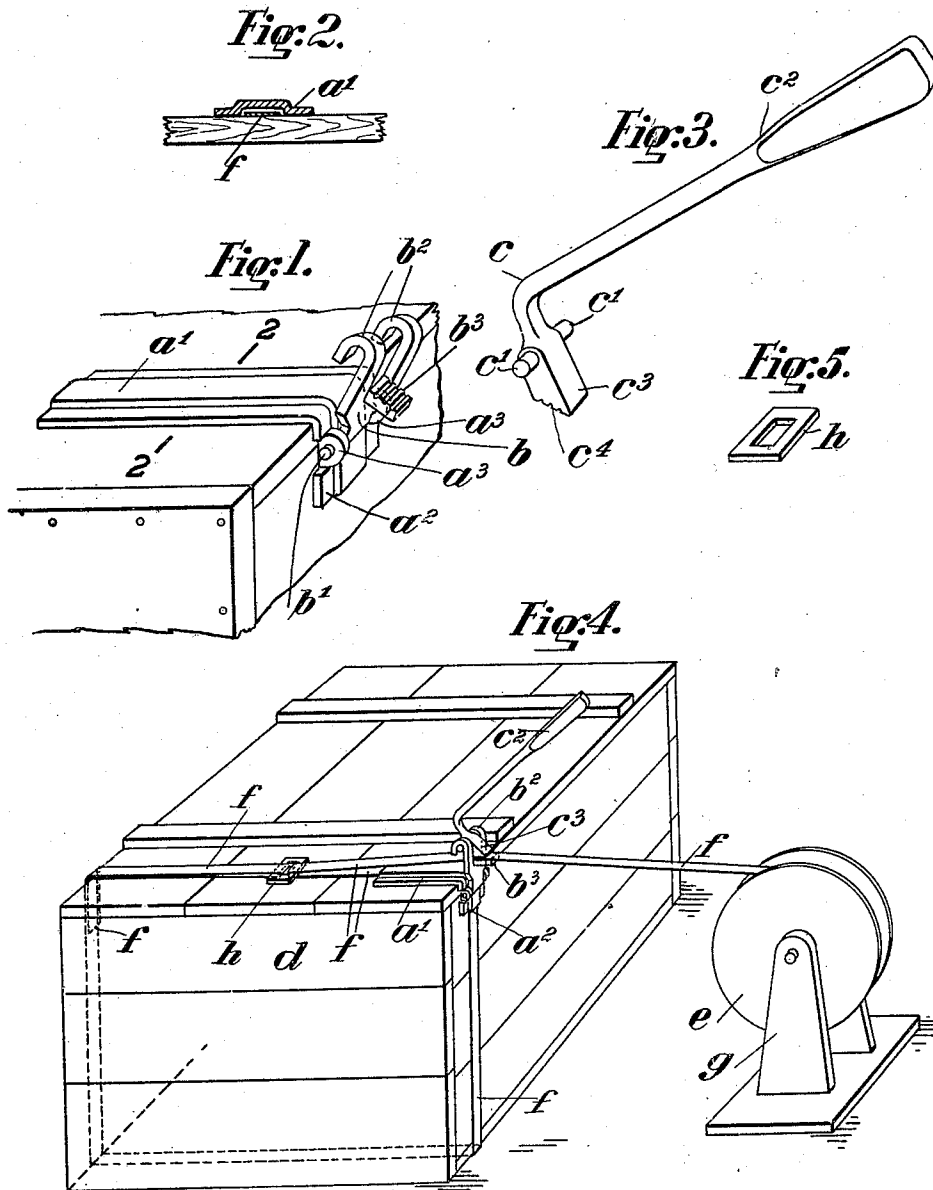


F. C. REINBOTH.
 DEVICE FOR TENSIONING THE IRON BANDS OF BOXES.
 APPLICATION FILED DEC. 1, 1920.

1,428,060.

Patented Sept. 5, 1922.



Inventor.
 Friedrich Carl Reinboth
 By *[Signature]* atty.

UNITED STATES PATENT OFFICE.

FRIEDRICH CARL REINBOTH, OF BERLIN, GERMANY.

DEVICE FOR TENSIONING THE IRON BANDS OF BOXES.

Application filed December 1, 1920. Serial No. 427,644.

To all whom it may concern:

Be it known that I, FRIEDRICH CARL REINBOTH, residing at Berlin, Germany, have invented new and useful Improvements in Devices for Tensioning the Iron Bands of Boxes, of which the following is a specification.

My invention relates in general to devices for making up packages more especially packing cases. It relates more particularly to a device for tensioning the strap iron bandages embracing a packing case. My invention enables a quick and sure tightening of the iron bands to be accomplished without the iron strip being previously severed from its reel. The novel device enables all operations to be quickly carried out and permits of the strip being pulled very tight.

A constructional form of my invention is illustrated in the drawing in which—

Fig. 1 is a perspective view of the device which is placed above the iron band on a corner of the case or box,

Fig. 2 is a cross section of Fig. 1 on the line 2—2,

Fig. 3 is a perspective view of a lever adapted to be used in conjunction with the device of Fig. 1 for tensioning the band,

Fig. 4 is a perspective view of a packing case and of the tensioning device in operation, and

Fig. 5 is a perspective view of an eye or buckle used for banding the case.

The part a^1, a^2 , shown in Fig. 1 consists of strap iron, such as wrought iron, and has the form of a squarely bent angle piece of a Ω -shaped or shallow channel cross section as shown in Fig. 2. Bent up at right angles from the limb a^2 are two lateral lugs a^3 each of which has a pivot hole. A member b is arranged to be swung back and forth on two pivots b^1 in the said pivot holes. The upper end of the rocking member b is bent in the form of two hooks b^2 with an outwardly projecting tongue b^3 between them, the upper surface of the said tongue being roughened or provided with small transverse furrows. c is a wrought iron double armed lever adapted to be rocked on pivots c^1 . The long arm c^2 of the lever serves as a handle and the short arm c^3 has an oblique bottom surface c^4 which is rough or furnished with small furrows.

The device is used in the manner shown in Fig. 4. Placed in the neighbourhood of

the case d to be strapped is a reel e of strap-iron f the reel being revolvably mounted in a frame g . The free end f' of the strap-iron is first pushed from above through a rectangular oblong link h , then passed round the case in the manner shown in Fig. 4, then passed from above round the second limb of the link h and finally laid under the strap in the manner shown in Fig. 4. The wrought iron angle piece or base a of the device shown in Fig. 1 is then placed on one corner of the case in a position in which its groove or channel on its under face (see Fig. 2) registers with the strap-iron f so that the strap-iron is not clamped fast. The section of strap that lies between the reel e and the link h is then placed between the hooks b^2 and laid on the tongue b^3 . Then the pivots c^1 of the detachable lever c are inserted in the hooks or loops b^2 and the lever c is turned downwards so as to cause its surface c^4 to press the strap f down onto the tongue b^3 with increasing force. When the downward motion of the lever is continued the member b is rocked outwards on its pivots b^1 and the strap f which is crimped and firmly held between the surfaces c^4 and b^3 is then pulled through the link h towards the reel e , i. e. the slack of the band round the case is taken up. When the lever is rocked upwards the strap is released and the clamping device c^4 . b^3 will, on a renewed downward motion of the lever c^1 , seize the strap at a point which is nearer to the link than the first point where it was seized. The great leverage results in a strong pull being exerted on the strap iron. If the lever is near its uppermost position when it is rocked to and fro the length of strap-iron that is pulled through the link at each oscillation will be equal to the movement of the surface b^3 in the direction of the strap. But if the lever with the member b are turned down into a lower position before they are rocked to and fro for the purpose of tightening the band, a toggle lever action, in addition to the ordinary leverage, will occur. The lengths of strap pulled through the link at each oscillation will then be much shorter and the strength of pull will be correspondingly greater. Hence, when the operation of tightening the band is commenced the lever is kept in a raised position, and at the finish the lever is turned down into a lower position.

The fixing of the strap-iron in the connecting link *h* is accomplished by any known method. When this has been done the strap leading to the reel is severed and device is then ready for renewed use.

I claim:

1. In an implement for banding cases with strap iron, the combination of an angular base plate to seat on the corner of a case and a rocking member pivoted to said plate, including a gripping element; of a readily removable hand lever having pivots at each side thereof seated in the rocking member the end of said lever co-operating with said gripping element to grip the strap between them with increasing pressure as the lever is pulled.

2. In an implement for banding cases with strap iron the combination with an angular base plate having a channel on its under face and a rocking member having a pair of open hooks with a gripping element between them; of an angular hand lever having pivots laterally projecting therefrom, said pivots detachably seated in the hooks, the end of said lever co-operating with said gripping element to grip the strap between

them with increasing pressure as the handle is pulled.

3. In an implement for banding cases with strap iron, the combination with an angular base and a rocking member having a gripping element mounted on said base; of a handle whose end co-operates with element to grip the strap between them and thereby form a toggle lever for pulling the strap.

4. In an implement for banding cases with strap iron, the combination with an angular base and a rocking gripping member on said base provided with a serrated gripping face; of a handle pivoted between its ends, one end of said handle having a serrated face co-acting with the serration on the gripping member, said handle and gripping members co-operating to form a toggle gripping the strap between the co-acting serrated faces.

In testimony whereof I have signed this specification in the presence of two witnesses.

FRIEDRICH CARL REINBOTH.

Witnesses:

AFRED STIER,
LUDWIG LILSIFF.