

March 12, 1929.

A. J. GERRARD ET AL

1,705,087

WIRE PACKAGE BINDER

Original Filed April 5, 1920

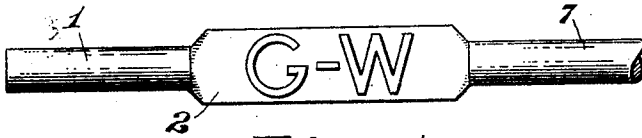


Fig. 1

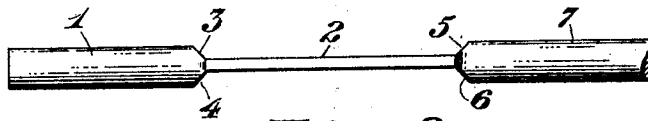


Fig. 2



Fig. 3

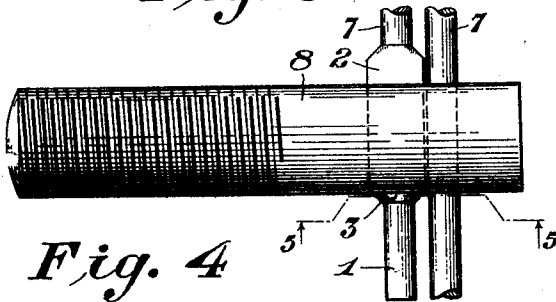


Fig. 4

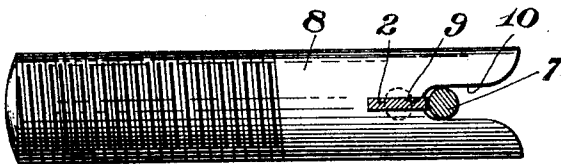


Fig. 5

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UNITED STATES PATENT OFFICE.

ALEC J. GERRARD AND PARVIN WRIGHT, OF CHICAGO, ILLINOIS, ASSIGNORS, BY
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WIRE PACKAGE BINDER.

Original application filed April 5, 1920, Serial No. 371,368. Divided and this application filed October 21,
1922. Serial No. 596,121.

This invention relates to tie wires for banding boxes and other packages, and has for its object to provide a wire of this character which will be simple in construction and especially adapted for use in wire tying and tensioning machines now in common use.

With these objects in view, the invention consists in the novel construction of the wire ends, all as will be more fully hereinafter disclosed and particularly pointed out in the claims.

This application constitutes a division of our earlier application #371,368, filed April 5, 1920, and entitled "Wire twisting machines".

Referring to the accompanying drawings forming a part of this specification, in which like numerals designate like parts in all the views:

Figure 1 is an enlarged plan view of the deformed end of a tie wire made in accordance with this invention;

Figure 2 is a side elevational view of the parts shown in Figure 1;

Figure 3 illustrates a length of the tie wire having the deformed end shown in Figures 1 and 2;

Figure 4 is a plan view of a holding post with which the machine of our said former application is equipped, and illustrates how the deformed end of the tie wire is accommodated in said post, as well as a bight of said wire; and

Figure 5 is a side elevational view taken on the line 5—5 of Figure 3, looking in the direction of the arrows.

As is well known there are at present in common use small hand operated machines for holding deformed ends of tie wires and for receiving the bights of said wires after they have been wrapped around a box or package, and these said machines have means for first putting a tension on the wires and then twisting two bights of the same together into a knot, after which the wires are severed and the operation completed. The advantage of these said tie wires are well recognized and need not be repeated here.

Referring to the accompanying drawings, 1 indicates the extreme end of a tie wire, and 2 a flattened or deformed portion of said wire, the flattening or swaging action forming the

shoulders 3 and 4 on the end portion 1, and the shoulders 5 and 6 on the bight portion 7 of said wire.

The machines employing said wires are provided with holding posts such as 8 or similar devices, which posts are provided with slots 9 having dimensions slightly larger than the cross section of the flattened portions 2 of said wires, so that said flattened portions 2 may be readily slipped into said slots 9, whereupon the shoulders 3 and 4 of said flattened portion will take against the edges of the slots 9 when strain is brought upon the bight 7, of the wire, in order to put the wire under tension.

Said posts 8 are further provided with an enlarged slot 10 whose dimensions are somewhat larger than the diameter of a bight 7 of the wire, so that after the flattened portion 2 of the wire is inserted in the slot 9, the wire may be readily passed through the twisting mechanism of the machine, the wire then wrapped around the package, its bight 7 brought into the enlarged slot 10 in a position parallel to the flattened portion 2, and said bight also passed through the twisting mechanism of the machine, parallel to the portion previously passed into said mechanism. The bight 7 is next put under tension by a suitable device with which the machine is equipped, the two parallel portions of the bight in the twisting mechanism are next twisted together, and the remaining portion of the bight 7 is severed, all as is disclosed in our said copending application above, and as is well known to the users of the machines on the market.

These wires are conveniently put up in packages and shipped to said users.

It will now be clear that the flattened portion 2 and the shoulders 3, 4, 5 and 6 constitute a recessed and shouldered portion of the wire adjacent to an end 1, thereof. It will further be clear that the shoulders 3 and 4 constitute an abutment to prevent end wise movement of the binder when put under tension by the twisting machine. It will further be clear that the flattened portion 2 of the wire is deflected horizontally out of the vertical plane of the wire and that the flattening of the wire produces a recess and an abutment to serve with a coating

abutment formed by the slot 9 on the post 8 to prevent endwise slipping of the binder when the latter is placed under tension. The shoulders 3 and 4 are offset above and below the horizontal median line or plane of the wire, and the end 1 extends freely beyond said shoulders.

It will further be clear that the shoulders 3 and 4 are separated from the shoulders 5 and 6 by an intervening space occupied by the flattened portion 2 of the wire.

It is obvious that those skilled in the art may vary the details of the construction, as well as the arrangement of the coacting parts of the deformed end, without departing from the spirit of the invention, and therefore it is not desired to be limited to the above disclosure except as may be required by the claims.

What is claimed is:

1. A wire package binder recessed and shouldered adjacent an end and producing an abutment to prevent endwise movement of the binder when put under tension.

2. As a new article, a wire package binder preformed to produce a recess and an abutment to prevent endwise slipping of the binder when put under tension.

3. As a new article, a wire package binder having a portion adjacent an end deflected out of the plane of the wire and producing a recess and an abutment to serve with a coacting abutment to prevent endwise slipping of the binder when the latter is placed under tension.

4. A wire package binder formed intermediate its ends with an abutting shoulder, the portion of the wire forming said shoulder being offset from the median line of the wire

with the end of the wire extended freely beyond said shoulder.

5. A wire package binder recessed adjacent an end portion and producing a shoulder adapted to resist slipping when tension is applied thereto.

6. A package binder comprising a length of wire deflected adjacent an end portion thereof and producing a shoulder adapted to resist slipping when tension is applied thereto, one end portion of the wire extending freely for an appreciable distance beyond said shoulder.

7. A wire package binder deflected at a point adjacent an end portion and provided with a plurality of shoulders separated by an intervening space, said shoulders operating to prevent slipping when tension is applied to the wire.

8. A tie wire adapted for use in wire tying machines and provided with a deformed end disposed between holding shoulders, substantially as described.

9. A tie wire adapted for use in wire tying machines and provided with a deformed end comprising a flattened portion and a holding shoulder, substantially as described.

10. A tie wire adapted for use in wire tying machines and provided with a deformed end portion of a less thickness than the main body of the wire, substantially as described.

11. A tie wire adapted for use in wire tying machines and provided with deformed ends each deformed and being bounded by shoulders, substantially as described.

In testimony whereof we affix our signatures.

ALEC J. GERRARD.
PARVIN WRIGHT.

CERTIFICATE OF CORRECTION.

Patent No. 1,705,087.

Granted March 12, 1929, to

ALEC J. GERRARD ET AL.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, line 22, claim 1, for the word "and" first occurrence, read "an"; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 9th day of April, A. D. 1929.

(Seal)

M. J. Moore,
Acting Commissioner of Patents.