H. C. STOUFFER.

BALE-TIES.

No. 190,641. Patented May 8, 1877.

fig. 1.

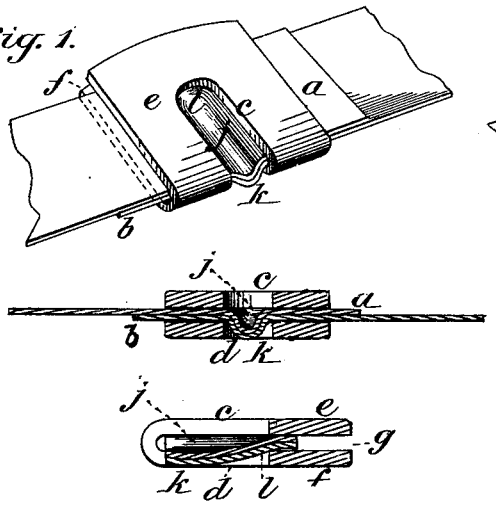


fig. 2.

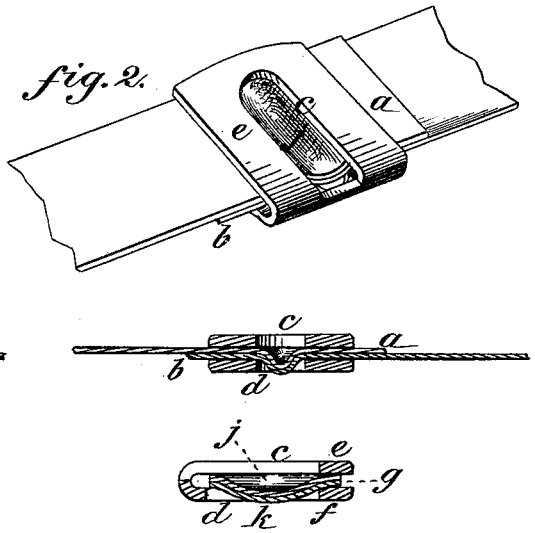


fig. 3.

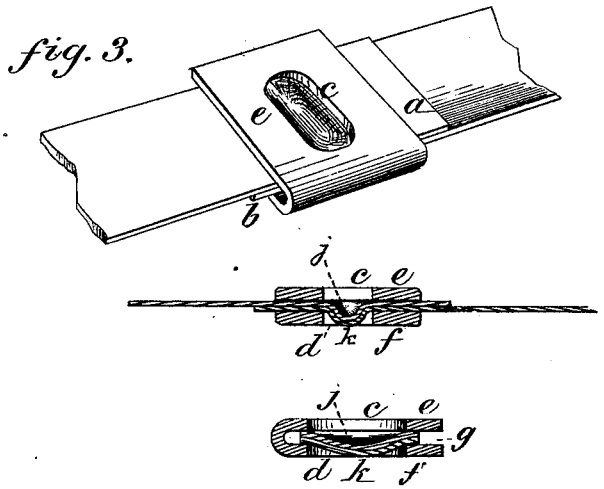


fig. 4.

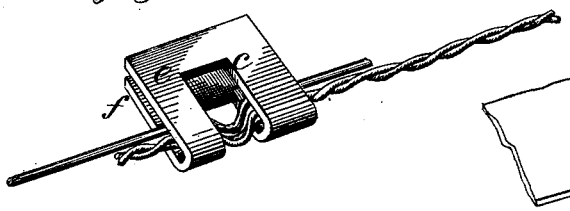
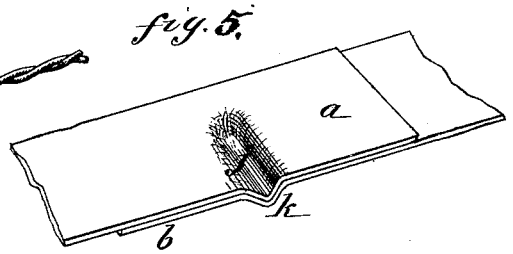


fig. 5.



Witnesses:

J. H. Wagner

Floyd Norris.

Inventor Hiram C. Stouffer

by Johnson & Johnson

Attys

UNITED STATES PATENT OFFICE.

HIRAM C. STOUFFER, OF CANFIELD, ASSIGNOR OF A PART OF HIS RIGHT TO CHANCY H. ANDREWS, LEMUEL T. FOSTER, AND UPSON A. ANDREWS, OF YOUNGSTOWN, OHIO.

IMPROVEMENT IN BALE-TIES.

Specification forming part of Letters Patent No. **190,641**, dated May 8, 1877; application filed April 21, 1877.

To all whom it may concern:

Be it known that I, HIRAM C. STOUFFER, of Canfield, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Bale-Ties, which improvements are fully set forth in the following specification and accompanying drawings.

I have produced a simple, effective, and easily-fastened buckle for uniting the lapped ends of hoops for bales of cotton and the like. I use a lapped plate-buckle having coincident openings or eyes in its broadest lapped sides, whereby to fasten it to the lapped ends of the hoop. The outer or face opening is to admit the tool in contact with the face of the hoop, by which to crimp or bulge the lapped ends, and the under opening is to receive such crimp or bulge in making the fastening. The design is to fasten the buckle when adjusted upon the hoop, and, by force applied through the outer coincident opening directly upon the flat sides of the lapped hoop, bulge the metal into the eye in a manner to secure the lapped ends and lock the buckle so that it cannot work or be taken off sidewise, the bulge forming the lock in the eye, as well as a strong fastening.

The crimp or bulge is made by any suitable means adapted to enter the outer coincident opening or eye, and press upon the flat side of the lapped hoop to bulge it into the under opening; but I have designed a tool for this purpose which forms the subject of a separate patent. In using a buckle open at one side, the bulge in the hoop projecting into the lower coincident opening or eye forms a lock, and prevents the buckle from working or being drawn off sidewise.

The buckle is applied to the bale when the latter is under pressure in the press, and a simple force applied through the outer coincident opening upon the outer flat side of the enveloped hoop puts the fastening-bulge into the lower opening.

There is no difficult work required to bend the separate ends of the hoop into, through, and over the buckle, or to fasten the hoop ends by a crimp made by driving a buckle having a crimp-forming ridge sidewise over the lapped ends, so as to form the bulge as the buckle is driven home, and by the movement of the buckle or of the hoop.

Referring to the drawings, Figure 1 represents views, in perspective and sections, of the lapped ends of a hoop fastened by my invention; Figs. 2 and 3, similar views of slight modifications of the same; Fig. 4, the buckle and a wire hoop, and Fig. 5 the lapped ends of the hoop with the bulge as made through the buckle-opening.

The buckle is a metal plate with a slot to receive the lapped ends *a b* of the hoop, or the ends of a wire hoop, and has coincident openings *c d* in its flat sides. The opening *c* in the outer flat side *e* is to receive a tool of any suitable construction, and allow of its being forced upon the outer face of the hoop, or across the wire ends, to project the metal, with a bulge into the under coincident opening *d*, as shown in the several figures. The coincident openings may extend to the closed side of the buckle and be open thereat, as shown in Fig. 1, or the outer opening only may extend to the closed side, as shown in Fig. 2; or, as in Fig. 3, these openings *c* and *d* may be closed at both ends, the result being the same; but I prefer the plan first stated, because it affords greater facility for the action of the tool which fastens the hoop. The outer coincident opening serves as the means for holding the buckle in place upon the hoop with the tool while it is forcing down the bulge, and it also serves to hold the tool in place during the operation of making such bulge through the opening.

By this method of bulging the metal of the lapped hoop ends after they are inserted into the slot of the buckle, the outer and under laps *j* and *k* will extend into one of the coincident openings, and the end *l* or ends of the back of the bulge will form a lock with the closed end of the buckle, and prevent it from working off or being drawn off the hoop sidewise when the buckle is open at one side.

The lapped ends of the hoop may be inserted at the open side of the buckle, or the ends of the buckle may be closed and the hoop or wire ends inserted into the open ends

of the buckle-slot. In either case the bulge is made while the lapped ends are in place, and by force applied through one of the coincident openings, the essential feature of my invention being the coincident buckle-openings as a means for getting at the flat side, or across the lapped ends of the hoop, to make the fastening-bulge therein and force it into the space in the buckle-side while it is adjusted upon the hoop. In Fig. 4 this result is obtained with a wire hoop.

The slot in the buckle admits the lapped band or wire hoop freely, and the coincident openings are only wide enough to allow the bulge to be made sufficiently deep to be effective.

In using a wire hoop the ends are not lapped one upon the other, but are side by side, and have a deep bulge made therein analogous to the lapped ends.

I claim—

1. A buckle for bale-ties, having coincident openings in its lapped sides, for use as described.

2. A buckle for bale-ties, having coincident openings in its lapped sides, in combination with the bulge made in the lapped ends of the hoop, in the manner set forth.

3. An open-side enveloping-buckle, having coincident openings, the end or ends of one of which forms a sidewise lock with the bulge, whereby said buckle is prevented from working or being drawn off sidewise.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

HIRAM C. STOUFFER.

Witnesses:

A. E. H. JOHNSON,

J. W. HAMILTON JOHNSON.