March 24, 1936. A. B. TAYLOR 2,035,351

IMPROVEMENT IN BALE TIES

Filed Nov. 21, 1934

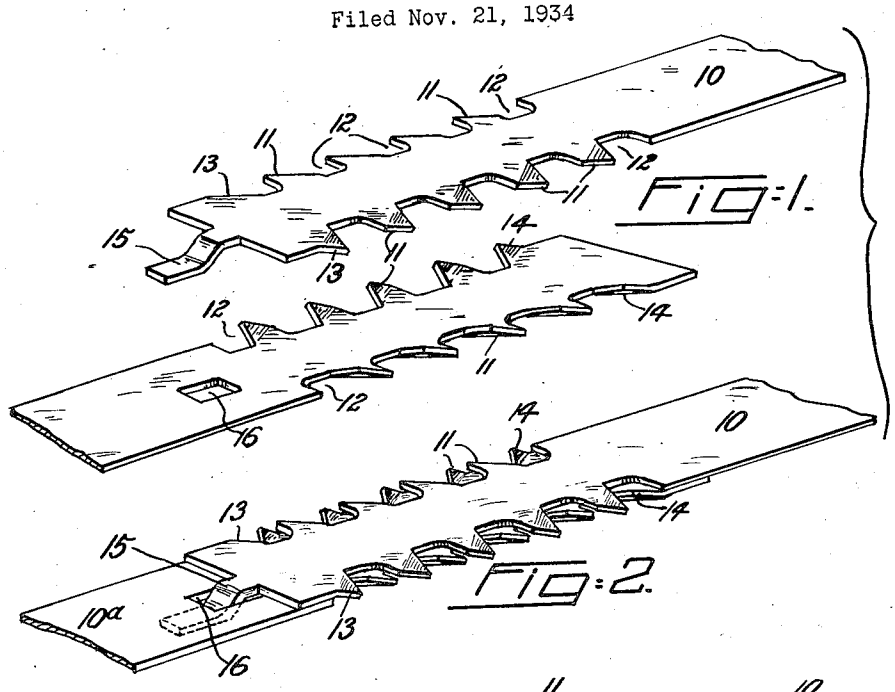


Fig. 1.

Fig. 2.



Fig. 3.

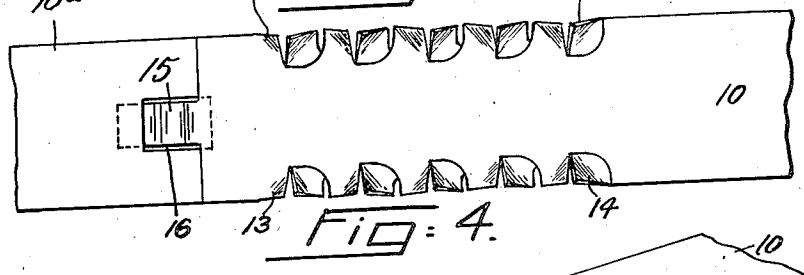


Fig. 4.

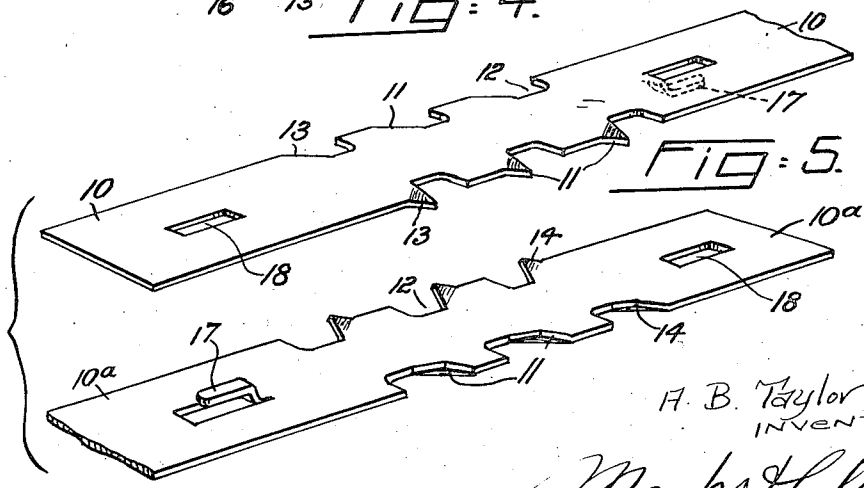


Fig. 5.

A. B. Taylor
INVENTOR

By: Marks & Clerk
Attys.

Patented Mar. 24, 1936 2,035,351

UNITED STATES PATENT OFFICE

2,035,351

IMPROVEMENT IN BALE TIES

Arthur Bernard Taylor, Pennant Hills, New South Wales, Australia

Application November 21, 1934, Serial No. 754,128
In Australia August 29, 1934

1 Claim. (Cl. 24—20)

The object of the present invention is to form bale-ties of metal bands provided at their ends with locking means so that when a band is placed around a bale the ends of the band will mutually engage and be held in locked relation by the expansion of the bale when the latter is released from the pressure of the press.

Other objects of the invention are to provide a locking means that will not unduly increase the cost of the metal bands, that is simple in its application and is efficient in use.

Other objects are to provide a fastening that will not require any tools or separate parts in its practical application as is the case with many other inventions that have been previously invented.

Briefly the invention consists in the formation of a plurality of rectangular teeth on each side of and at each end of a metal band and bending each tooth so that when they are placed one upon the other and tension placed upon the band the teeth will engage and the ends of the band be thereby securely fastened together. In order to hold the ends in contact with one another, more particularly whilst the band is being secured around a bale prior to the release of pressure by the press in which the wool is being pressed the end of the band that lies uppermost is provided with a tongue that engages with a slot suitably positioned in the other end of the band, but this tongue and slot also serve as a safeguard against the risk of the extremity of the outermost end catching in an object and being forcibly pulled away from the other end and thereby causing the disengagement of the teeth. The risk of such a happening is very small however because the intense pressure exerted by the wool confined within the band causes such tension on the latter that the shearing strain thereby placed upon the teeth causes them to bite into one another and thus become locked.

The invention will be fully understood from the following detailed description wherein reference will be made to the accompanying drawing in which:—

Figure 1 is a perspective view of a metal band constructed according to this invention the two ends having been brought together so that they lie one above the other, the central portion of the band having been cut away to conserve space.

Figure 2 is a similar view to Figure 1 but the tongue in the uppermost end has been inserted in the slot in the underneath end and the ends moved by a pulling apart motion so that the teeth on one end have been brought into engagement with the teeth on the other end.

Figure 3 is a side view of Figure 2.

Figure 4 is a plan view of Figure 2.

Figure 5 is a perspective view similar to Figure 1 but in this case both ends of the band are provided with a tongue and slot.

The portions lying between the two ends of the metal bands shown in each figure of the drawing have been broken away to conserve space.

According to this invention each side of each end 10—10a of a metal band is provided with a plurality of preferably equally spaced rectangular teeth 11 with an intervening space 12, preferably of the same width as the teeth, between each tooth and at each end of each row of teeth. The depth of the teeth will be such that a corner of each tooth may be bent or set sufficiently to enable the teeth on one end of the band to engage with the teeth formed upon the other end of the band. The corners that are bent or set are those that lie nearest in the direction in which the respective ends are drawn by tension previously referred to herein, those on the overlying end being bent downwardly to engage with the upturned corners of the underlying end. Whilst it is not absolutely essential it is preferred to utilize all available corners because each additional pair of engaging corners gives additional strength. For this reason the end corners 13 and 14 nearest to the extremity of each end of the band are also bent in conformity with corresponding teeth, that is to say the corners 13 on the end 10 are bent downwardly and the corners 14 on the end 10a are bent upwardly.

When a band has been placed around a bale under compression in readiness to be fastened it is necessary that the ends of the band be kept close together or in actual contact with one another so that when tension is placed upon the respective ends caused by the expanding bale as it is relieved of pressure and they start to move apart the teeth on one end will engage with the teeth on the other end as soon as they come into alignment. For this purpose the overlying end 10 is provided with a tongue 15 that is adapted to engage with a slot 16 formed in the underlying end 10a of the metal band. The tongue 15 will be set downwardly to enable it to remain in engagement when the end 10 is lying flat upon the end 10a and its length will be such that it will remain in engagement when the teeth on the respective ends have engaged.

It may be considered necessary to provide an

additional tongue and slot as shown at Figure 5 and in such a case each end 10 and 10a of the band will be provided with a tongue 17 and slot 18. These tongues and slots will be positioned so that when the ends are so placed that the teeth and spaces on one end are in register with the teeth and spaces on the other end the tongue 17 and slot 18 on one end will be in register with the slot 18 and tongue 17 respectively on the other end. In this position the ends will be pressed together whilst tension is created so that the tongues 17 slide into engagement with their respective slots 18 simultaneously with the engagement of the teeth.

I claim:

A bale-tie comprising a metallic band having a slot in one end part and a tongue offset from the other end part, said tongue being adapted to enter the slot to engage the slotted end part to lock together said end parts in overlapping relation, said band having a series of teeth projecting from both longitudinal edges of each end part of the band with the teeth interspaced with recesses, said end parts of the band in their locked overlapping relation being such that the teeth of one end part register with the recesses of the other end part, each of the teeth of one series having a bent part projecting into the opposite registering recess so that the edge of each bent part engages the edge of the contiguous tooth of the opposite series of teeth, whereby the tension imparted to the band by the expansion of the enclosed bale tends to force the edges of the bent portions of one series of teeth into biting contact with the edges of the contiguous teeth of the other series of teeth.

ARTHUR BERNARD TAYLOR.