E. C. GLARDON.

JOINT BINDER

APPLICATION FILED AUG. 9, 1920.

1,425,470.

Patented Aug. 8, 1922.

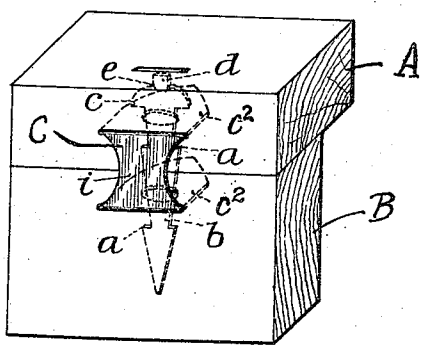


Fig. 8.

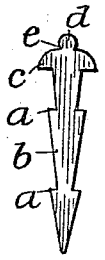


Fig. 1.

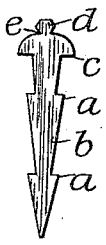


Fig. 2.



Fig. 3.



Fig. 4.

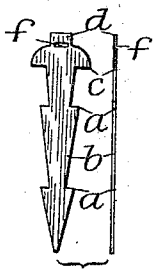


Fig. 5.

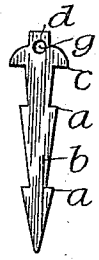


Fig. 6.

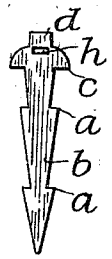


Fig. 7.

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UNITED STATES PATENT OFFICE.

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JOINT BINDER.

1,425,470. Specification of Letters Patent. Patented Aug. 8, 1922.

Application filed August 9, 1920. Serial No. 402,490.

To all whom it may concern:

Be it known that I, EDOUARD CHARLES GLARDON, a citizen of the Swiss Republic, and resident of No. 8/14 Speersort, Hamburg, in the Republic of Germany, have invented a new and useful Improvement Connected with Joint Binders, of which the following is a specification.

The present invention relates to improvements connected with joint binders, such as are used for binding together wooden planks, boards and the like and especially for securing the lids or covers on chests and boxes to safeguard the contents of the latter against pilfering and fraudulent access being had thereto. More particularly the invention relates to that known class of joint binders, which consists of a U-shaped safety clamp, the perforated shanks of which are to be driven into the two parts to be secured together, and of a flat barbed nail which is driven into the said two parts and through the perforations of the shanks until its head is countersunk in one of those parts, to prevent the clamp from being withdrawn without leaving evidence that it had been tampered with.

The flat nails hithertofore used in connection with joint binders of the class referred to do not afford a reliable protection against the withdrawal of the clamps, for the reason that it is possible by means of special pliers or forceps to withdraw the nail, thus liberating the clamp and enabling same to be withdrawn and to be reinserted without noticeable traces.

The arrangement of barbs at the two lateral edges of the flat nails, which were provided for preventing the withdrawal of the nail, has not proven effectual in practice. In spite of these barbs it has been possible to extract the nails by means of special pliers or forceps and in consequence to withdraw the clamp and to open the box without noticeable traces.

In order to obtain a reliable protection against fraudulent opening of the boxes it is absolutely necessary to safeguard the nails of the clamps against withdrawal.

According to the present invention the withdrawal of the nails from the clamps is effectually prevented by providing the nail at its head with an extension, which is weakened at its base. The weakening of the extension is carried so far, that the extension is severed or torn off from the head of the nail if an attempt is made to extract the nail. On the other hand the weakened extension at the head portion of the nail is strong enough to receive the blows of the hammer or other instrument used for driving home the nail.

In the annexed drawing are shown, by way of example several modes of carrying into practice this invention.

Figures 1 to 4 show in front elevation a flat barbed nail having an extension at its head portion, said extension being weakened at its base by lateral incisions whereby the diameter is materially reduced.

Figures 5 to 7 show in front elevation a flat barbed nail having an extension at its head portion, said extension being weakened at its base by means of a notch or perforation.

Figure 8 is a detail perspective view of a portion of a box and its lid with one of the U-shaped clamps and one of the nails in position.

Referring first to Figure 8, A designates the cover of a box and B the body of the box. The cover is secured to the body by means of U-shaped clamps C (only one of which is shown) having a cross-head *i* and legs or shanks c^2 provided with slots. In use, the clamps C are driven into the body of the box and cover and one of the nails *b* is driven through the cover A, shanks c^2 and into the body B of the box.

The flat nail *b* is provided with barbs *a* and with a head *c* in the usual manner. At the top portion of the head *c* is arranged an extension *d*, destined for receiving the blows of the hammer or other instrument used in driving home the nail through the shanks of the U-shaped safety clamp.

To render impossible the withdrawal of the nail the extension *d* is weakened at its base, so that said extension is severed or torn off from the head *c* in the attempt of extracting the nail by means of special pliers or forceps.

According to Figures 1 to 4 this weakening of the extension *d* is effected by laterally reducing same at its base. This reduction in diameter can be obtained by incisions or excisions which form a neck *e* at the base of the extension.

According to Figure 5 the weakening of the extension *d* at its base is effected by a notch *f* provided on one or on both surfaces of the flat nail.

According to Figures 6 and 7 the weakening of the extension *d* at its base is effected by means of perforations. To that end in Figure 6 a round hole *g*, in Figure 7 a transversally directed slot or square hole *h* is provided.

It has been ascertained in practice that the weakening of the extension *d* at its base does not disturb or prevent the driving home of the nail by means of a hammer or other suitable instrument. The binding force which holds the nail in the wood, supplemented by the action of the barbs *a* offers such a resistance to the extraction of the nail, that the pliers or forceps used tear off the extension rather than withdrawing the nail.

I wish it to be distinctly understood that I do not limit my invention to the several shapes and forms of the head extensions of the nail shown in the drawing, it being obvious that various modifications in the shapes and forms of the head extensions and in the weakening of the latter at the base can be carried out without departing from the scope and spirit of my invention.

What I do claim as my invention and desire to secure by Letters Patent is:

1. In a joint binder the combination with a U-shaped clamp, the two shanks of which are perforated and adapted to enter the two members to be secured together, of a nail adapted to be driven into the said two members and through the perforation of the shanks, an extension provided at the head portion of the nail for receiving the blows of a hammer or other instrument used in driving home the nail, said extension being weakened at its base, substantially as described and for the purpose set forth.

2. In a joint binder the combination with a U-shaped clamp, the two shanks of which are perforated and adapted to enter the two members to be secured together, of a flat nail adapted to be driven into the said two members and through the perforation of the shanks, an extension provided at the head portion of the nail for receiving the blows of a hammer or other instrument used in driving home the nail, said extension being weakened at its base, substantially as described and for the purpose set forth.

3. In a joint binder the combination with a U-shaped clamp, the two shanks of which are perforated and adapted to enter the two members to be secured together, of a flat barbed nail adapted to be driven into the said two members and through the perforation of the shanks, an extension provided at the head portion of the nail for receiving the blows of a hammer or other instrument used in driving home the nail, said extension beng weakened at its base, substantially as described and for the purpose set forth.

4. In a joint binder the combination with a U-shaped clamp, the two shanks of which are perforated and adapted to enter the two members to be secured together, of a nail adapted to be driven into the said two members and through the perforation of the shanks, an extension provided at the head portion of the nail for receiving the blows of a hammer or other instrument used in driving home the nail, said extension being weakened at its base by laterally reducing same in diameter, substantially as described and for the purpose set forth.

5. In a joint binder the combination with a U-shaped clamp, the two shanks of which are perforated and adapted to enter the two members to be secured together, of a nail adapted to be driven into the said two members and through the perforation of the shanks, an extension provided at the head portion of the nail for receiving the blows of a hammer or other instrument used in driving home the nail, said extension being weakened at its base, by notches on a surface of the nail, substantially as described and for the purpose set forth.

6. In a joint binder the combination with a U-shaped clamp, the two shanks of which are perforated and adapted to enter the two members to be secured together, of a nail adapted to be driven into the said two members and through the perforation of the shanks, an extension provided at the head portion of the nail for receiving the blows of a hammer or other instrument used in driving home the nail, said extension being weakened at its base by an aperture, substantially as described and for the purpose set forth.

In witness whereof I have hereunto signed my name this 17th day of July 1920, in the presence of two subscribing witnesses.

EDOUARD CHARLES GLARDON.

Witnesses:

EUGENE HANSADEN,

HERMANN TULEC.