

1,004,773.

Patented Oct. 3, 1911.

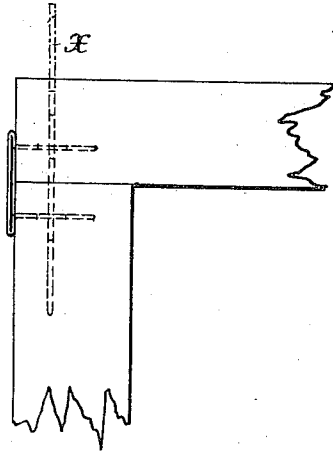


Fig. 1.

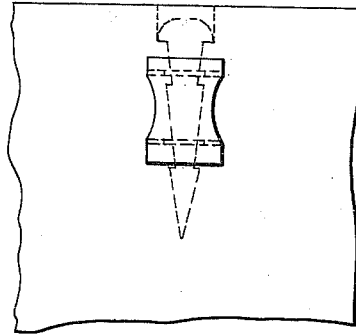


Fig. 2.

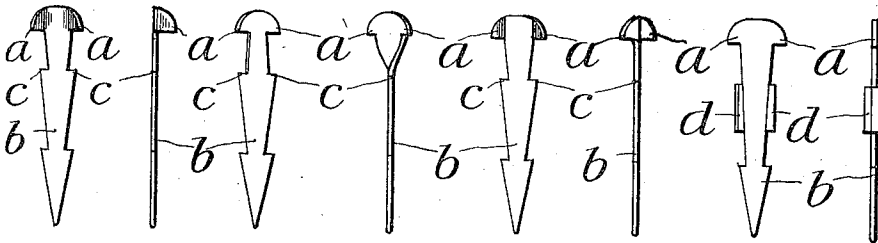


Fig. 3. Fig. 4. Fig. 6. Fig. 7. Fig. 9. Fig. 10. Fig. 12. Fig. 13.

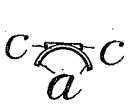


Fig. 5.

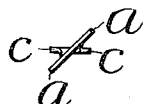


Fig. 8.

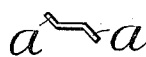


Fig. 11.



Fig. 14.

Witnesses
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UNITED STATES PATENT OFFICE.

EDOUARD CHARLES GLARDON, OF HAMBURG, GERMANY.

JOINT-BINDER.

1,004,773.

Specification of Letters Patent.

Patented Oct. 3, 1911.

Application filed August 13, 1909. Serial No. 512,753.

To all whom it may concern:

Be it known that I, EDOUARD CHARLES GLARDON, a citizen of the Swiss Republic, and resident of Nos. 13-15 Gerhofstrasse, Hamburg, in the Empire of Germany, have invented new Improvements 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 special object of this invention is to render more efficient, serviceable and durable in operation the flat barbed nails for joint binders of the kind referred to.

With these ends in view the invention consists in the novel combination arrangement and adaptation of parts, all as more fully hereinafter explained, shown in the accompanying drawings and then specifically set out in the appended claim.

In the drawings Figure 1 shows a joint binder of the nature described in its application for connecting the lid with the body of a box, Fig. 2 is a front elevation of the joint binder as seen from the left of Fig. 1, Figs. 3, 4 and 5 are, respectively, a plan view, a side elevation and a top elevation of the improved barbed nail for use with the joint binder shown in Figs. 1 and 2, Figs. 6, 7 and 8 are, respectively, a plan view, a side elevation and a top elevation of a modified construction of the barbed nail, Figs. 9, 10 and 11 are, respectively, a plan view, a side elevation and a top elevation of another modified construction of the barbed nail, Figs. 12, 13 and 14 are, respectively, a plan view, a side elevation and a top eleva-

tion of still another modified construction of the barbed nail.

The flat barbed nails hitherto used in connection with joint binders, such as are shown in Figs. 1 and 2, do not afford an absolute protection against the withdrawal of the clamps, for the reason that it is possible by means of a flat chisel or a similar instrument, indicated by the reference letter *x* in Fig. 1, to drive the nail entirely through both shanks of the clamp, thus liberating the latter and enabling same to be withdrawn and reinserted without noticeable traces. The heads of these flat barbed nails are, it is true, provided with lateral extensions or wings having abrupt downwardly-presented shoulders which come to bear on the edge bordering the holes in the shanks of the clamp, but the ordinary wedge-shaped barbs on the shaft of the nail elongate the said holes when the nail is driven through them thereby reducing the resistance offered by the shanks to the penetration of the winged head of the nail and to that extent facilitating the release of the clamp in view of the fact, that the wings are situated in a common plane with the barbs and can therefore very readily follow in their wake. To obviate this drawback according to the present invention the lateral wings or head extensions and the barbs are situated in respectively different planes so that when the nail is driven home the shoulder of the wings will not register with the elongations produced in the shanks by the barbs but will bear on portions of the upper shank not previously affected by the barbs and consequently thereby effectively prevent the nail from being driven through the shanks. To this end the nail may be constructed in various ways, a few examples of carrying into practice the invention being shown in Figs. 3 to 14 inclusive.

In the construction shown in Figs. 3 to 5 the head extensions or wings *a* are bent toward the same flat side of the nail, so that they adopt an angular position relatively to the nail shaft *b* and barbs *c* which latter are situated in a common plane with the said shaft.

In the construction shown in Figs. 6 to 8 the head portion of the nail with the lateral extensions *a* is twisted around its longitudinal axis from the first set of barbs *c* upward, so that the head extensions *a* point at

an angle of 45°, or approximately so, in regard to the barbs *c*.

In the construction shown in Figs. 9 to 11 the head extensions *a* are bent out of the plane of the barbs *c* in respectively opposite directions, so that the two extensions point angularly from respectively opposite sides of the shaft.

In the constructions shown in Figs. 12 to 14 a set of special barbs are provided, consisting of lateral extensions *d* at a distance below the head extensions *a* of the nail, said barbs, instead of the head extensions *a*, being turned either in the same or in opposite directions so as to point angularly in regard to the shaft of the nail *b*. The contrast in the planes of the barb extensions *d* and the head extensions *a* produces the effect stated in the preamble to the description of the several figures and prevents the nail from being driven entirely through both shanks of the clamp.

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

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 perforations of the shanks, the longitudinal axis of the nail throughout its entire length being in the same plane, barbs on respectively opposite edges of the nail, those on one edge being symmetrical with those on the other edge, a head extending in relatively opposite directions from respectively opposite edges of the shaft of the nail and abrupt downwardly-presented shoulders on the head, the head and barbs being relatively deflected so that the extensions or wings of the head do not lie in the same plane as do all the barbs.

In witness whereof I have hereunto signed my name this 28th day of July, 1909, in the presence of two subscribing witnesses.

EDOUARD CHARLES GLARDON.

Witnesses:

ERNEST H. L. MUMMENHOFF,
OTTO W. HELLMRICH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."