(No Model.) 2 Sheets—Sheet 1.

K. L. GOCHT.

LOCKING DEVICE FOR SECURING WOOD, &c., TO IRON BEAMS.

No. 338,059. Patented Mar. 16, 1886.

Fig. II

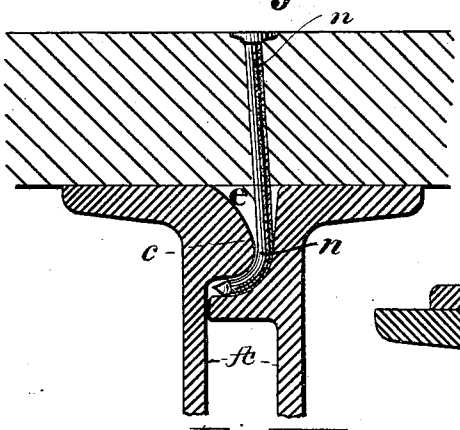


Fig. III

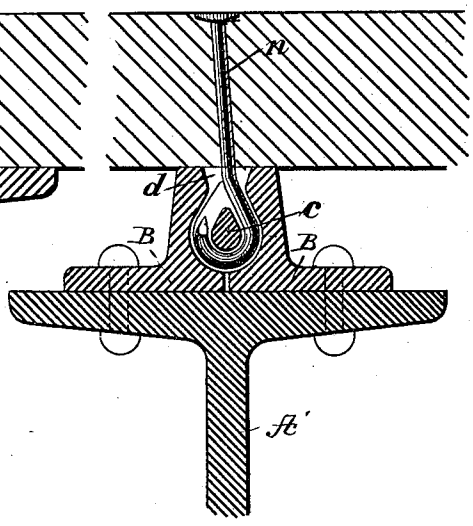


Fig. VIII.

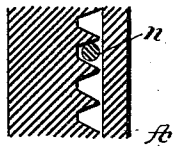


Fig. I

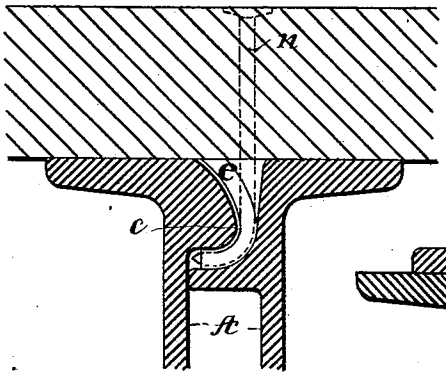


Fig. IV

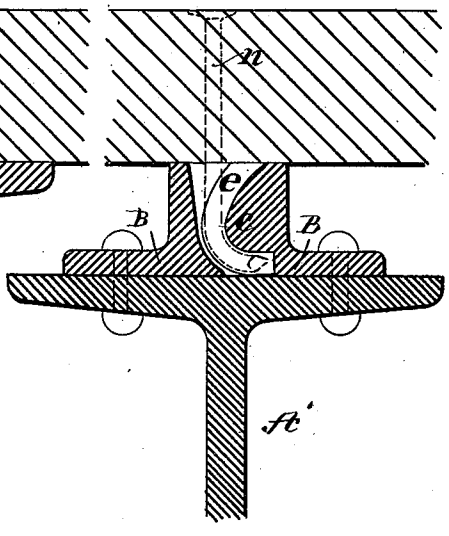
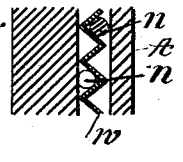


Fig. IX.



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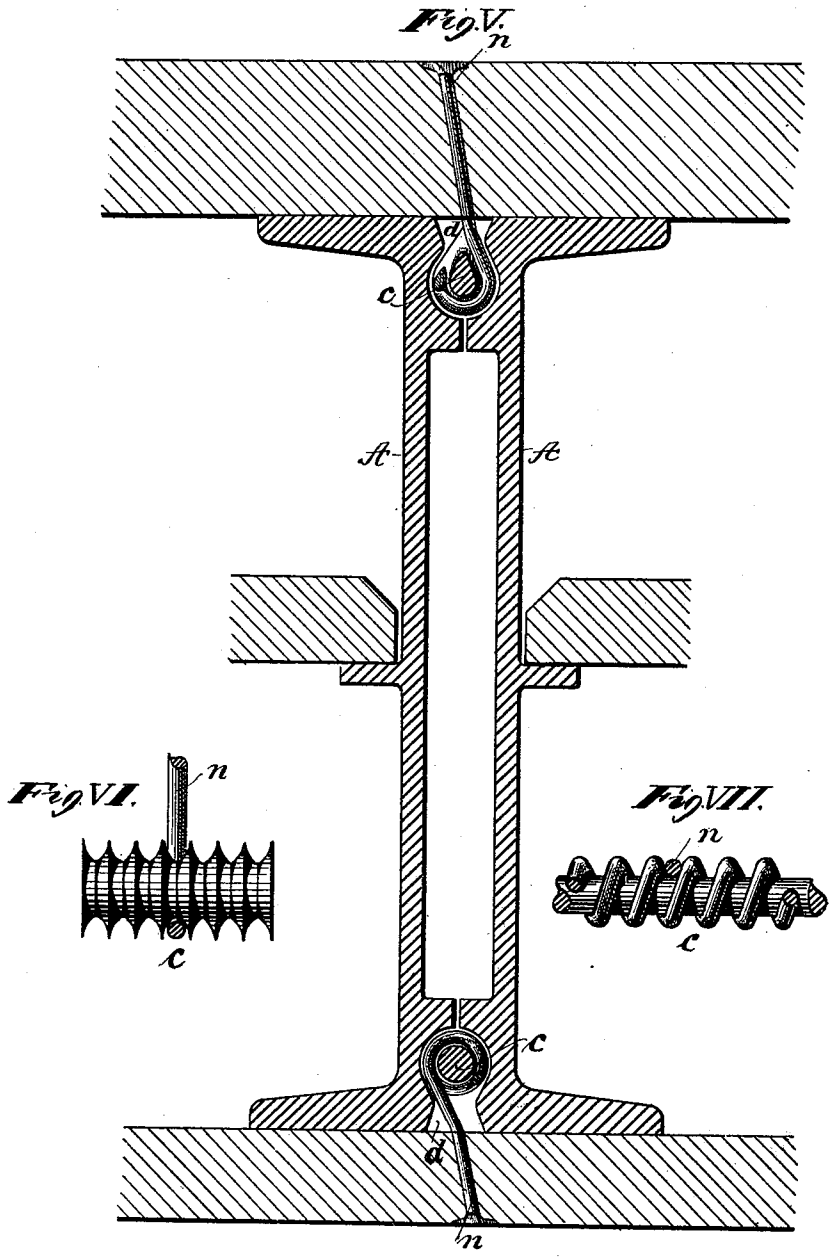
N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

K. L. GOCHT.

LOCKING DEVICE FOR SECURING WOOD, &c., TO IRON BEAMS.

No. 338,059. Patented Mar. 16, 1886.



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UNITED STATES PATENT OFFICE.

KARL LOUIS GOCHT, OF CHEMNITZ, SAXONY, GERMANY.

LOCKING DEVICE FOR SECURING WOOD, &c., TO IRON BEAMS.

SPECIFICATION forming part of Letters Patent No. 338,059, dated March 16, 1886.

Application filed December 8, 1885. Serial No. 185,045. (No model.) Patented in Belgium August 17, 1885, No. 69,795.

To all whom it may concern:

Be it known that I, KARL LOUIS GOCHT, of Chemnitz, in the Empire of Germany, have invented a new and useful Improvement in Locking Devices for Securing Wood or Metal Work to Iron Beams or Supports; and I hereby declare the following to be a full and clear description thereof.

The object of this invention is to provide means of securing wood-work or other material to iron beams or frame-work of any description—as, for instance, wooden flooring or partition-work in buildings to the iron beams or studding.

The invention will be readily understood by reference to the accompanying drawings, of which—

Figures I and II represent constructions showing the application of my invention to iron beams especially designed to receive my improved fastening device for floor-boards. Figs. III and IV show my improved devices as applied to the ordinary I-beams by means of chambered locking-pieces attached thereto. Fig. V shows a sectional elevation of a specially-constructed beam with my improved locking device at both its top and bottom edges. Figs. VI and VII are detailed views of different forms of the locking-bar around which the nail is clinched. Figs. VIII and IX are details of the locking-pieces.

The iron beams or frame-pieces A, when designed especially or incidentally to receive my improved fastenings, are best made in two pieces, as shown in Figs. I, II, and V; but where the ordinary I-beams, T-beams, or chambered bars are used, a chambered locking-piece is attached to the iron beam or support A′, as in Figs. III and IV. In this latter case a chambered piece, B, made in either one or more sections is formed so as to receive the nail or attaching device, as hereinafter described, and it is attached to the beam or support A by suitable rivets, screws, or other devices.

In the case of the compound beams A, a recess, *e*, is formed between the two sections of the beam, into which the nail or fastening *n* is driven, as shown in the drawings, and where the chambered locking piece or pieces B are used, as in Figs. III and IV, a chamber, *d*, serves the same purpose as the recess *e* in the former case. A locking-lug, *c*, is made or formed on one side of the beam A, as in Figs. I, II, and IV, or in a semi-detached form, as shown in Figs. III and V. The lower or inner face of this locking-lug is preferably rounded, so as to readily permit the nail to bend around it, as hereinafter described. These locking-lugs may be made either with plain attaching-faces for the nails to impinge against, or they may be made with peripheral parallel grooves, as in Fig. VI, or with spiral peripheral grooves, as in Fig. VII, or in any other desired form or manner.

The flooring or other wood or metal work to be attached to iron supports in this manner is secured in place by metal nails *n*, as shown. These nails, being of malleable or flexible material, are driven through the parts to be secured, and down into the recess *e* or *d*, as the case may be, against the bottom of which said recess the nail strikes when driven in, thereby causing the nail to bend up around the locking-piece *c*, and thus forming a clinch at the bottom end of the nail, as shown in the drawings, and thus securely holding the parts together.

In order to prevent the nails from taking a wrong direction, instead of surrounding or embracing the locking-lug *c*, the said locking-lug is surrounded or its working-face provided with corrugations or flutings, as in Figs. VI, VII, and VIII, or a fluted or corrugated plate, *w*, is introduced into the recess for this purpose, as is shown in Fig. IX.

In case the recess-piece B consists of a single piece, the locking-lug *c* is put in endwise. If it is composed of several pieces, it is introduced before they are joined together. Before nailing I mark out on the piece that is to be fixed in place the positions of the locking-recesses *e* or *d*, and then when the nails are driven through at these positions they must enter the locking-recess *e* or *d*, as the case may be, and bend up around the locking-lug *c*, as described. In this manner the part to be fixed is firmly nailed upon the iron beam or support.

This method is of great importance for constructions of all kinds, and it offers this great advantage, that the boarding of floors, putting in of planks, the lining of reed, the plastering of ceilings, &c., may be done with nails, and in a simple and cheap manner where the

supports are of iron, and the different parts are securely fastened together, so that they cannot be separated without bending the nails straight in the act of drawing them out.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a structure having iron beams or supports, a locking device for holding nails or similar fastenings securely attached thereto, consisting of a recess formed in or on the iron support, and adapted to receive the nail or fastening and clinch it, and a locking-bar introduced into or formed in the clinching-recess for that purpose, substantially as shown and described.

2. A locking or fastening device for iron structures, consisting of a chambered part or recess for the nail, a locking-lug formed in or attached to the chambered part, and a flexible nail driven into the said recess and bent around its locking-lug, so as to clinch thereon and lock the parts together, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

K. L. GOCHT.

Witnesses:
HERON SCHÜLL,
LOUIS FRIEDRICH.