

No. 893,473.

PATENTED JULY 14, 1908.

D. FRIES.
BAR JOINT.

APPLICATION FILED APR. 22, 1907.

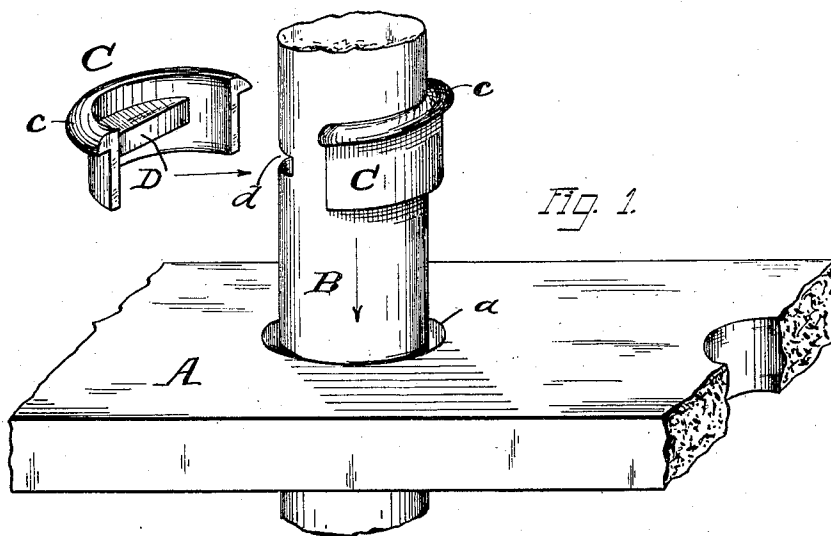


Fig. 1.

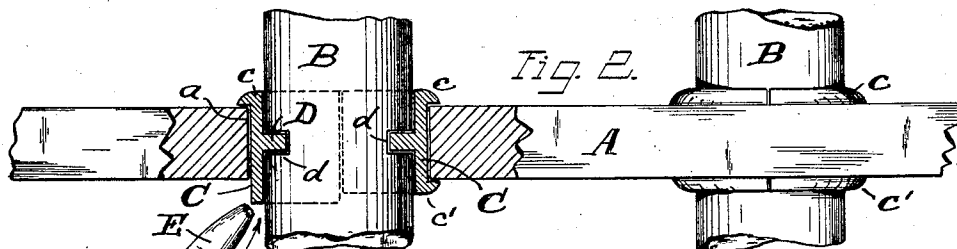


Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

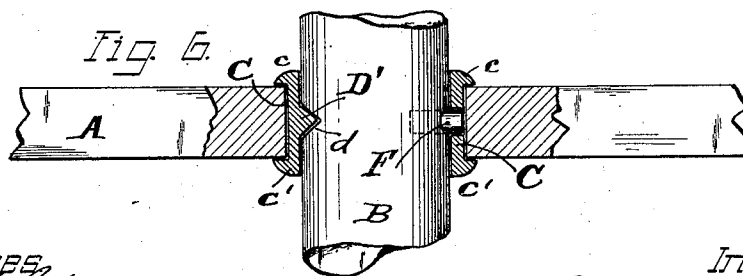
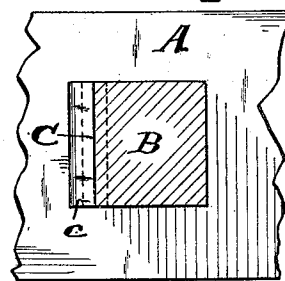
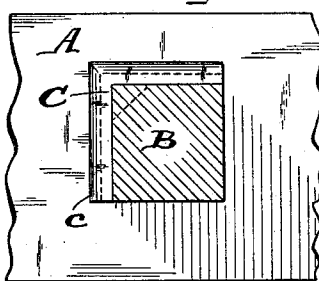
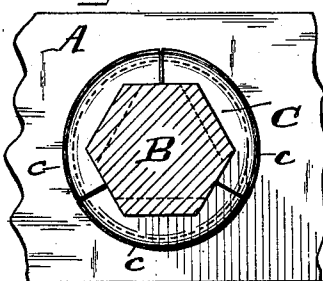


Fig. 6.

Witnesses,
R. C. Stewart
W. A. Stewart

Inventor,
Daniel Fries
by C. Spengel atty.

UNITED STATES PATENT OFFICE.

DANIEL FRIES, OF COVINGTON, KENTUCKY, ASSIGNOR TO STEWART JAIL WORKS COMPANY,
OF COVINGTON, KENTUCKY, A CORPORATION OF KENTUCKY.

BAR-JOINT.

No. 893,473.

Specification of Letters Patent.

Patented July 14, 1908.

Application filed April 22, 1907. Serial No. 369,484.

To all whom it may concern:

Be it known that I, DANIEL FRIES, a citizen of the United States, and residing at Covington, Kenton county, State of Kentucky, have invented a certain new and useful Bar-Joint; and I do declare the following to be a clear, full, and exact description of the invention, attention being called to the accompanying drawing, with the reference characters marked thereon, which forms also a part of this specification.

This invention relates to means for connecting two bars at an angle and where one of them passes through and occupies a perforation in the other. Bars are connected in this manner in jail and fence-work, where upright members or bars are connected to and held by longitudinal members or rails.

The invention consists of the particular means and construction as described and claimed hereinafter and as illustrated in the accompanying drawing, in which:—

Figure 1, shows in perspective view all parts involved in the construction of this joint. Fig. 2, in elevation with parts in section shows the joint partly and also entirely completed. Figs. 3, 4, and 5, in top-views, partly in section, show modified constructions of forming the joint. Fig. 6, in a view similar to Fig. 2, illustrates two other modifications.

A and B, designate the two bars to be connected to each other at an angle, one passing through and occupying a perforation in the other. A, in this case is shown as a flat bar or rail provided with a perforation *a*, to admit the other bar B, which is round, there being usually a number of these latter. The connection is substantially obtained by using one or more intermediate members C, which occupy a position in opening *a*, and between the two bars where they are to be connected, the opening being sufficiently enlarged so as to also admit these members and which latter engage each one of the two bars thereby connecting them.

Figs. 1 and 2, illustrate the preferred form of constructing the joint. The connecting medium here used consists of a collar which is in two sections and fitted to closely surround bar B.

Opening *a*, is enlarged to receive both bar and collar as shown in Fig. 2, the opening being also closely fitted to the outside of the collar. The height of this latter is in excess

of the thickness of bar A, so that it projects on both sides of the same. At one of its edges the collar is provided with a flange *c*, of sufficient projection to overlap and engage bar A, around the edge of the opening therein as best shown in Fig. 2. On its concave or inner side each section of the collar is provided with a key D, fitted to occupy a corresponding notch *d*, in the side of bar B. Keys D, and notches *d*, are so arranged that when these collar-sections are placed side-wise against bar B, and with the keys in their notches, the collar will be complete, that is the ends of its sections will come together and their lower and upper edges and flanges *c*, will be positioned in annular alinement. Both bar B, and the intermediate connecting members C, are now passed into opening *a*, until flange *c*, comes to a seat against the upper side of bar A, as best shown in Fig. 2. As before stated, the height of this intermediate connecting member C, is such that it projects beyond opening *a*, on the lower side of bar A. The connection is now completed by applying to this projecting edge a suitable implement E, (Fig. 2), which may be a peening or calking tool and whereby this edge is hammered down and turned over the lower edge of opening *a*, forming thereat an additional flange *c'*, as shown in Figs. 2 and 6, the operation being substantially a riveting action.

In Figs. 3, 4, and 5, the application of this joint is shown in cases where the inserted bar B, is otherwise than round. In Fig. 3, connecting member C, is shown in three sections. In Figs. 4, and 5, a one-part connecting member C, is shown. In Fig. 4, the notch is shown in one of the corners of bar B, and member C, engages two sides of the same. In Fig. 5, one side of bar B, only is engaged, opening *a*, in each case being shaped accordingly. In all cases the inner side of connecting member C, is suitably fitted against that portion of bar B, with which it is in contact. Its outer side is fitted to correspond to the opening in bar A. Such a condition is shown in Fig. 3, when the inner side of member C, is not parallel to the outer side. From this it follows that in case of a round bar for instance as shown in Fig. 1, the outside of member C, need not necessarily be parallel or concentric with its inside and it might be of polygonal or any other shape, opening *a*, being of course correspondingly shaped.

In Fig. 6, at D', the shape of the key is somewhat modified, and at the other side the manner of engagement between bar B, and member C, is reversed, the projecting part or key D, which may be in form of a pin F, being on bar B, and is received by a corresponding opening in member C.

Flanges *c* and *c'* may also be partly or entirely countersunk that is formed within opening *a*, this latter being sufficiently enlarged at its edges. Nor is it necessary that in either case flanges *c*, *c'*, be continuous projections all around the edges of the collar and particularly at the lower edge, it may be sufficient in many cases, as in piece-work for instance, to turn only a limited part of the edge over.

In conclusion attention is called to the fact that in all cases the connecting member engages each bar positively and in a manner to prevent either bar from moving lengthwise at the point of engagement while at the same time the connecting member is positively held against movement by each one of the bars.

Having described my invention, I claim as new:

1. In a joint for connecting bars, the combination of one bar which is perforated, another bar which occupies the opening in this perforated bar, said opening being larger

than the bar therein, and an intermediate connecting member fitted to occupy the space between the two bars and provided with projections whereby it is adapted to engage each of said bars.

2. In a joint for connecting bars, the combination of one bar and a connecting member therefor, one having a projection and the other a corresponding recess to receive this projection, and another bar which has an opening adapted to receive both the bar first mentioned and the connecting member which latter engages also the second bar in a positive manner and so as to prevent movement of either at the point of engagement.

3. In a joint for connecting bars, the combination of one bar being notched in its side, another bar which is perforated, and a sectional collar fitted to closely surround the notched bar and provided with projections adapted to occupy the notches therein and also having flanges to engage the perforated bar when both the notched bar and the collar occupy the opening in this latter bar.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

DANIEL FRIES.

Witnesses:

C. SPENGEL,
T. LE BEAU.