

W. DICKEL & F. EBENER.
 PROCESS OF MANUFACTURING LATTICE GIRDERS.
 APPLICATION FILED JULY 11, 1911.

1,047,766.

Patented Dec. 17, 1912.

FIG. 1

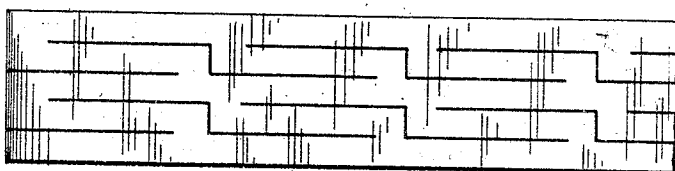


FIG. 2

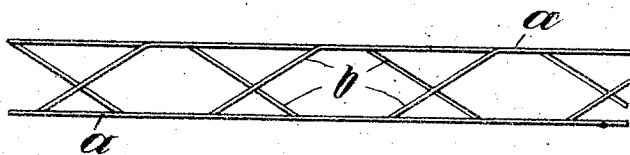


FIG. 3

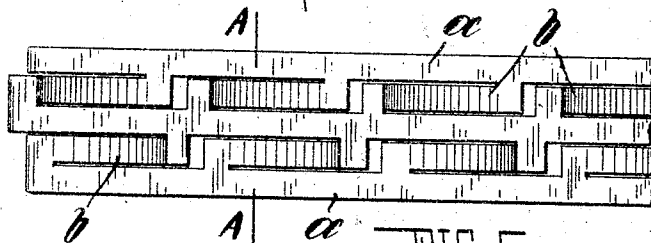
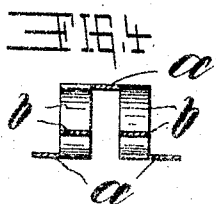
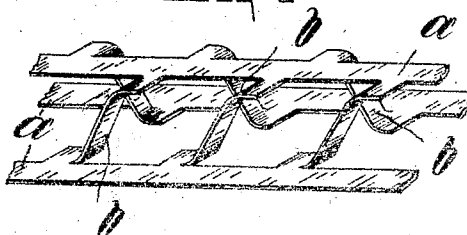


FIG. 5



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UNITED STATES PATENT OFFICE.

WILHELM DICKEL AND FRITZ EBENER, OF VOHWINKEL, NEAR ELBERFELD, GERMANY, ASSIGNORS TO FABRIK NIETLOSER GITTERTRÄGER AKTIEN-GESELLSCHAFT, OF DÜSSELDORF, GERMANY, A FIRM.

PROCESS OF MANUFACTURING LATTICE-GIRDERS.

1,047,766.

Specification of Letters Patent.

Patented Dec. 17, 1912.

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To all whom it may concern:

Be it known that we, WILHELM DICKEL and FRITZ EBENER, subjects of the King of Prussia, residing at Vohwinkel, near Elberfeld, in the Kingdom of Prussia and German Empire, have invented new and useful Improvements in Processes of Manufacturing Lattice-Girders, of which the following is a specification.

Our invention relates to improvements in a process of producing lattice girders from slitted sheet metal, metal plates, or the like, in the usual manner by expanding the slitted material so as to displace the longitudinal truss members connected to each other by connecting members.

Our process differs from those now in use in that the cuts or slits, for producing the longitudinal truss members and the members connecting and stiffening the same are made so as to extend symmetrically from the middle member, in parallel lines, but in opposite directions, so that the displacement of both the outer longitudinal members relative to the middle member can only be effected in opposite directions, and the connecting members between these outer longitudinal members will consequently also be bent in opposite directions, so as to be inclined oppositely to each other. The middle longitudinal member on this account is brought into another plane than the outer longitudinal members.

Lattice girders produced according to our improved method surpass all other lattice girders as regards economy of material and solidity. Moreover, the middle longitudinal member cannot be pressed back again into its old position even under heavy loads.

We will now describe our invention with reference to the accompanying drawing showing our new method of producing one form of lattice girder, and in which:—

Figure 1 shows an iron plate provided with double-angle slits or cuts. Fig. 2 is a side view of the expanded plate shown in Fig. 1. Fig. 3 is a plan view thereof. Fig. 4 is a cross section on the line A—A of Fig. 3 and Fig. 5 is a perspective view of part of the finished girder.

The material, such as sheet metal, metal plates or the like in which double-angle slits or cuts such as shown in Fig. 1, have been made is expanded as shown in Figs. 2, 4 and 5. This expansion can be effected in various ways. In the expanded condition, continuous longitudinal members *a* are formed running parallel to each other and situated in different planes. These longitudinal members *a* are connected by members *b* formed by the cuts or slits. The connecting members *b* between two adjacent longitudinal members extend in opposite direction to the connecting members between the next two adjacent longitudinal members, thus imparting to all the longitudinal members a very great capacity to resist pressure, so that deformation of the lattice work is practically impossible.

The material employed for producing these lattice girders can of course be of any desired shape and section or thickness, and lattice girders made according to our invention can be divided into any number of short pieces, without thereby lessening the said capacity of resistance of the longitudinal members, and their connecting members.

We claim as our invention

Process of manufacturing lattice girders from sheet metal, metal plates or the like, consisting in first making double angle slits extending in parallel straight lines in opposite directions, so as to produce continuous longitudinal truss members and bracing members connecting said truss-members and then displacing by a single expanding operation the alternate longitudinal truss members, so as to force them into substantially parallel planes, while, at the same time, causing said bracing members to assume oppositely inclined positions.

In testimony whereof we, WILHELM DICKEL and FRITZ EBENER, have signed our names to this specification in the presence of two subscribing witnesses.

WILHELM DICKEL. [L. S.]
FRITZ EBENER. [L. S.]

Witnesses:

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ALFRED HENKEL.