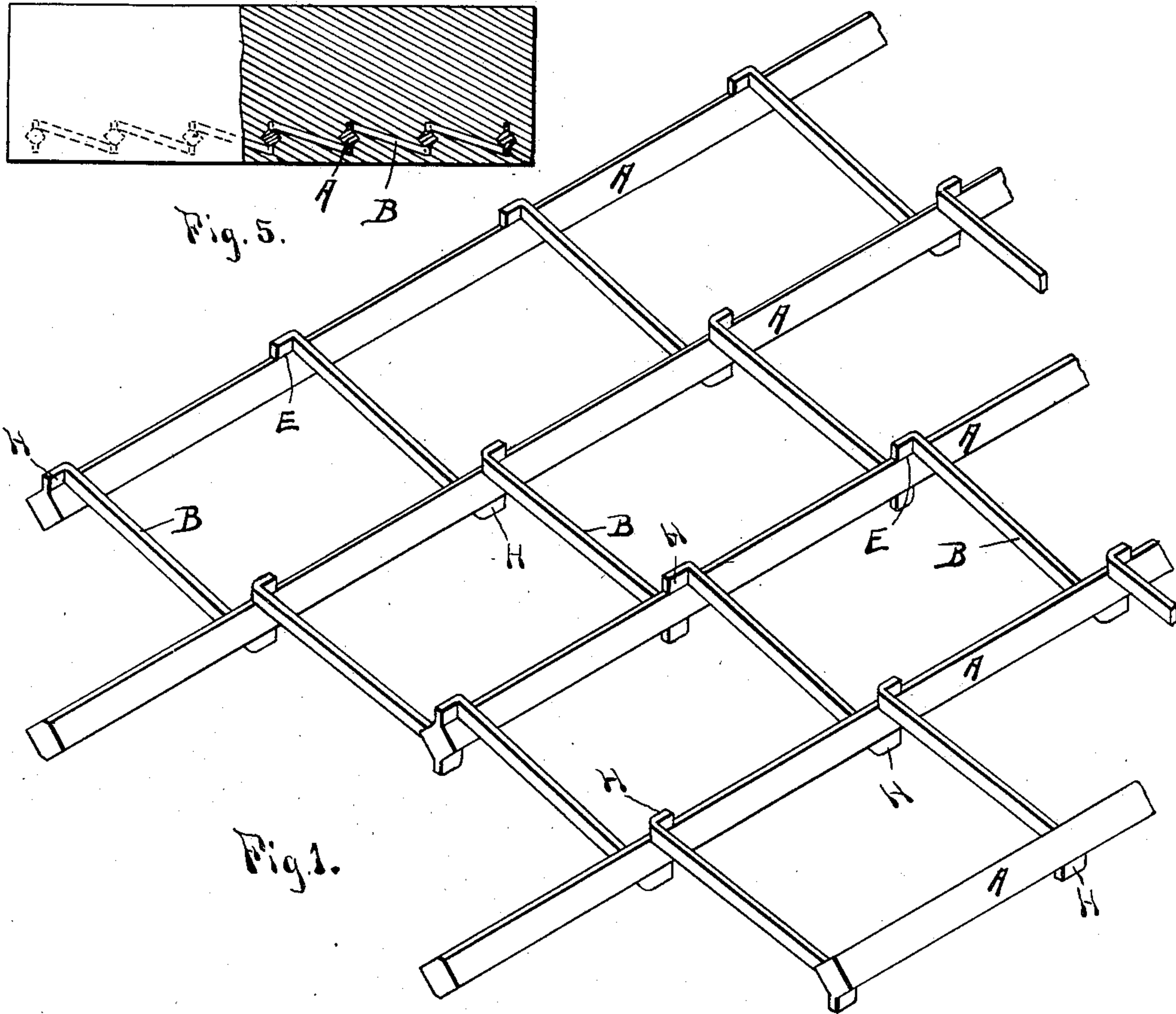
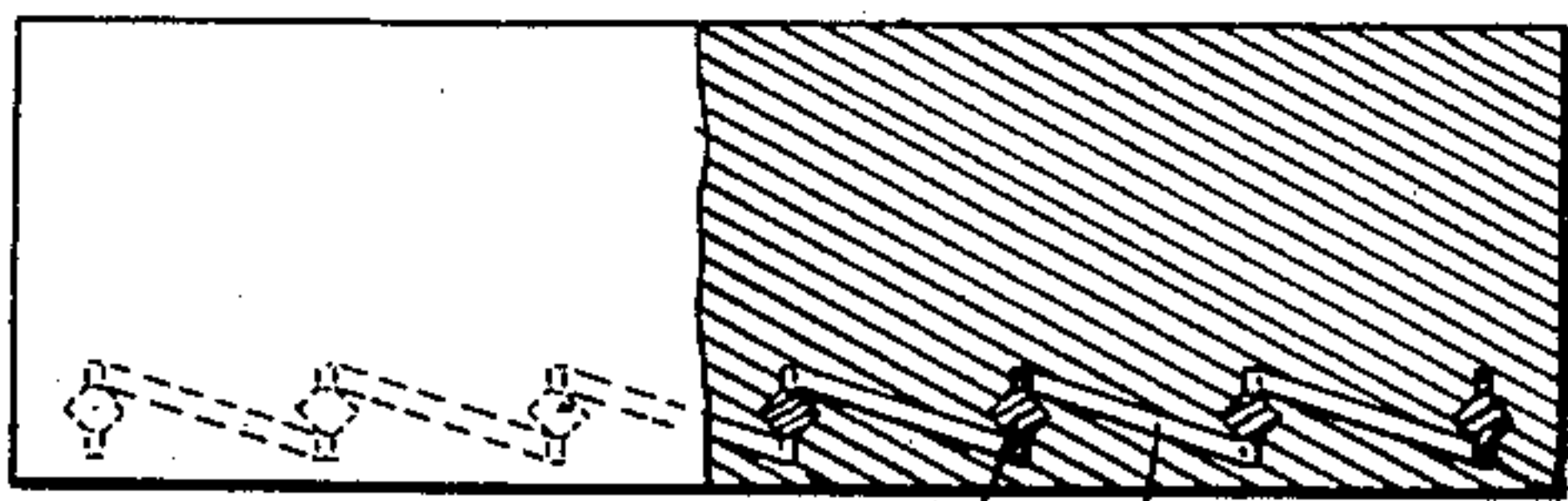
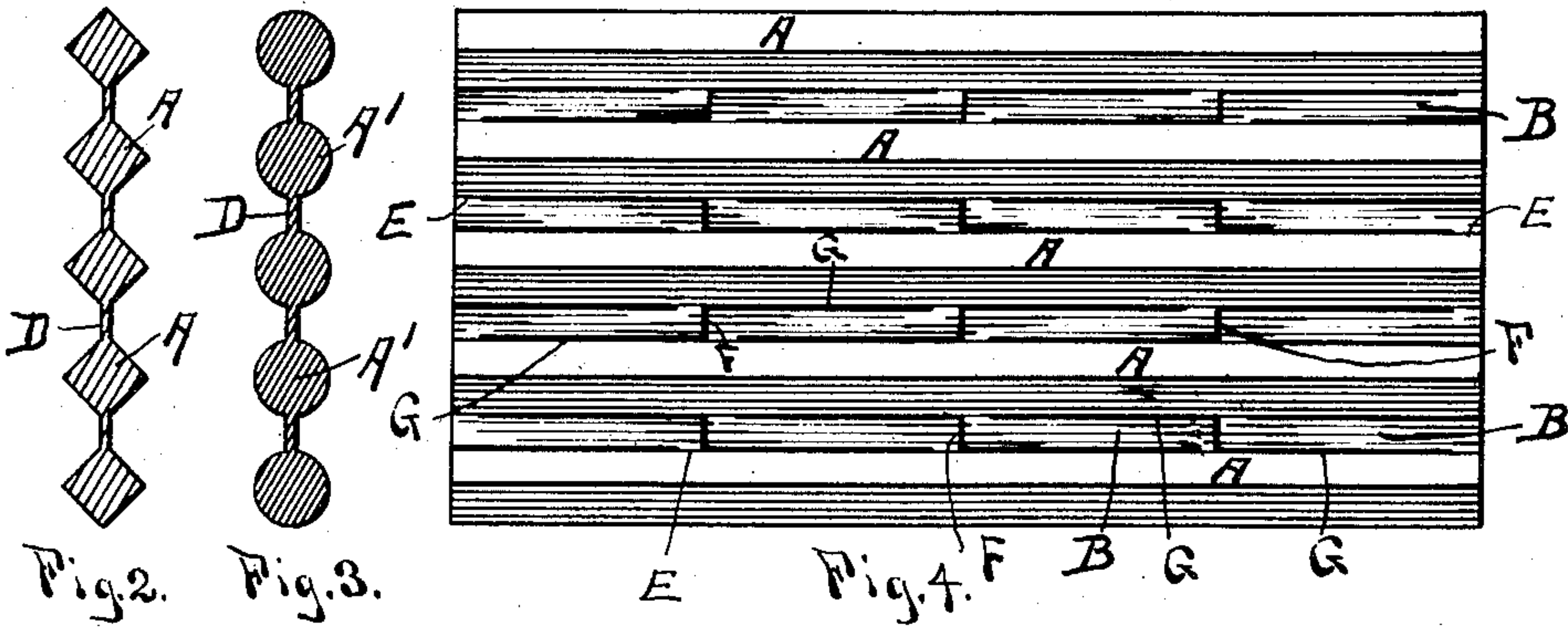


No. 794,412.

PATENTED JULY 11, 1905.

J. KAHN.
EXPANDED METAL.
APPLICATION FILED MAR. 8, 1905.



Witnesses
Geo. L. Brown

By his Attorney

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JULIUS KAHN, OF DETROIT, MICHIGAN.

EXPANDED METAL.

SPECIFICATION forming part of Letters Patent No. 794,412, dated July 11, 1905.

Application filed March 8, 1905. Serial No. 248,972.

To all whom it may concern:

Be it known that I, JULIUS KAHN, a citizen of the United States, and a resident of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Expanded Metal and the Process of Making the Same, of which the following is a specification.

This invention relates to metal webbing, usually known as "expanded" metal, and the process of manufacturing the same; and the objects of my improvements are to provide a webbing wherein the longitudinal members that are to withstand the tensional stresses are straight and of comparatively large diameter, while the connecting tie members are small, to provide a webbing of this kind that shall be adapted to withstand large tensional stresses without variation in form, and to provide a process of forming expanded metal of this kind that shall be simple and comparatively inexpensive.

My improved webbing is illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of my improved expanded metal. Fig. 2 and Fig. 3 are cross-sectional views of rolled bars from which the expanded webbing is formed. Fig. 4 is a plan view of a short bar after the shearing has been done. Fig. 5 is an end view of a concrete slab with my improved expanded-metal webbing embedded therein, part of the concrete being broken away.

Similar reference characters refer to like parts throughout the several views.

In Fig. 1 I have shown an embodiment of my invention which consists of a series of parallel bars or rods A, connected by the tie members B, integral therewith. While the rods A are shown substantially square, they may be of any other desired cross-section.

The process of forming the webbing is as follows: Metal bars, preferably of steel, grooved by means of rolls to form parallel rods A or A', connected by thin webs D, (see Figs. 2 and 3,) are passed through revolving shears, which cut through the webs D on zig-zag lines, as shown in Fig. 4, leaving a series of connecting tie-rods B, which are attached to the longitudinal rods A at E. Cuts F extend across at right angles to the rods A at regular intervals, and from their ends longi-

tudinal cuts G extend in opposite directions. The length of the cuts G is such as to leave the tie members attached to the rods A at E. The upper rod A is then lifted up from the plane passing through the bar, which causes the rod to swing to the left, Fig. 4. The tie members bend at the point of connection with the rods A, the portions of the web D not sheared from the rods forming projections H, to which the tie members connect. The next rod is then lifted, causing it to swing to the right. The other rods are similarly treated, forming a structure such as shown in Fig. 1. This separating may be done by means of stepped rolls.

The finished product may be used for fences, but is especially adapted for use as the tension members of combined metal and concrete construction, such as floor and sidewalk slabs, partitions, and wherever else such work may be employed. A metal-concrete slab of this character is shown in Fig. 5. As the tensional stress on such construction is usually along known lines, the tension members being placed in these lines, this style of expanded metal is peculiarly adapted for such purpose, as the rods A may be made of any desired size, and very light tie members will serve to keep them in position. The lower projections H may, if desired, be placed directly upon the false work for the concrete-metal construction, holding the rods A well up in the plastic material, and so saving the expense and trouble of supporting the rods while the concrete is being rammed. These projections and tie members also serve to give the rods A a firm hold on the concrete of such construction by preventing the rods A from moving longitudinally in the plastic material when under great stress.

Having now explained my improvements, what I claim as my invention, and desire to secure by Letters Patent, is—

1. The process of forming expanded metal, comprising the rolling out of a bar in the form of parallel rods connected by thin webs, shearing the webs to form ties connected at their ends to the parallel rods, and then separating the rods by moving them laterally from each other.

2. The process for forming expanded metal,

comprising the rolling out of a bar in the form of parallel rods connected by thin webs, shearing the webs to form ties connected at their ends to the parallel rods and on lines symmetrically arranged on opposite sides of the rods and then separating the rods by moving them laterally from each other.

3. A web of expanded metal, comprising parallel rods and ties connecting the same, the rods and ties being integral.

4. A web of expanded metal, comprising parallel substantially square rods, and ties connecting the same, the rods and ties being integral.

5. A web of expanded metal, comprising parallel rods having projections extending therefrom on the upper and lower sides thereof, ties extending from the upper projections of one to the lower projections of the next adjacent rod, all the ties being in parallel planes.

6. A web of expanded metal, comprising

parallel rods having projections extending from the upper and lower sides thereof, ties extending from the upper projections of one to the lower projections of the next adjacent rod, the ties being of less width and thickness than the rods.

7. A web of expanded metal, comprising parallel rods having projections extending from the upper and lower sides thereof, ties extending from the upper projections of one to the lower projections of the next adjacent rod, the ties between adjacent rods being in the same plane, and all the ties being in parallel planes.

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

JULIUS KAHN.

Witnesses:

EDWARD N. PAGELSEN,
ANNA M. GREGORY.