Feb. 3, 1942. L. S. LACHMAN 2,271,920

WEAR AND REINFORCING MEMBER FOR CONCRETE FLOORS

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Fig. 1

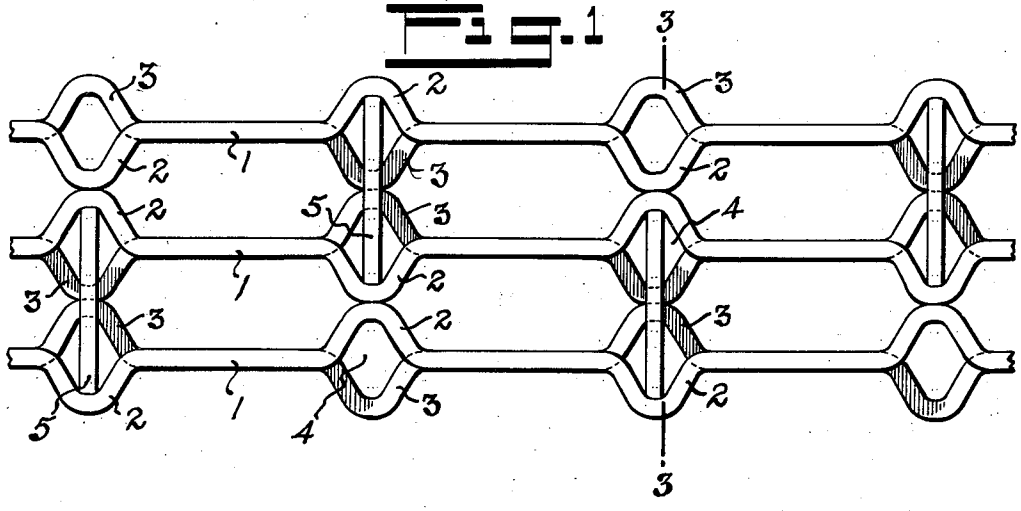



Fig. 2

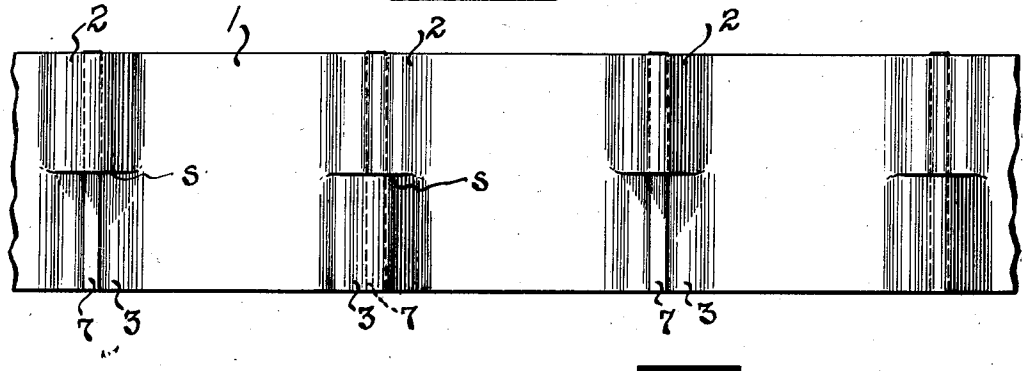



Fig. 4

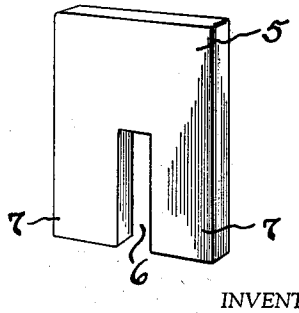
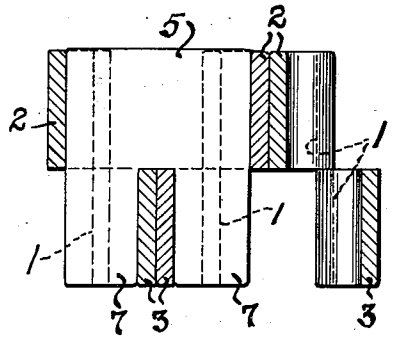



Fig. 3




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Fig. 5

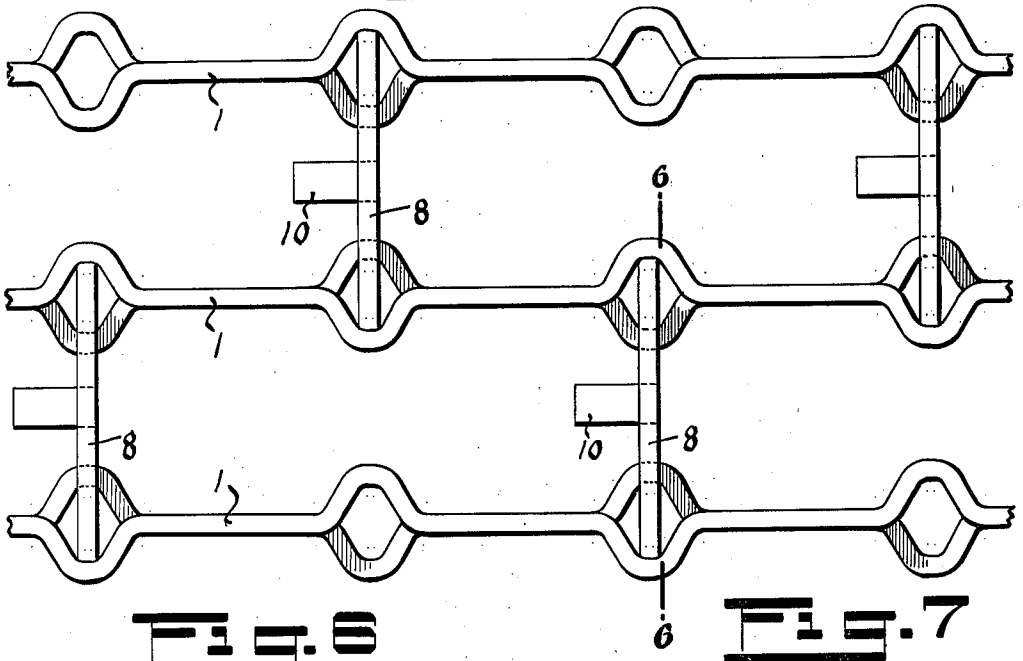



Fig. 6

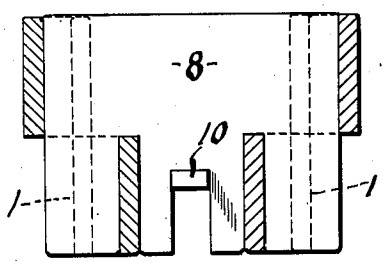



Fig. 7

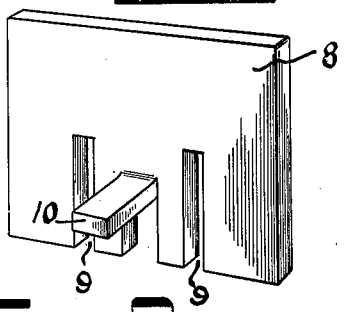



Fig. 8

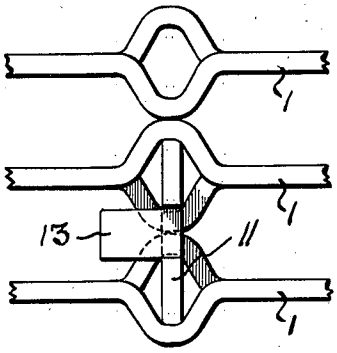
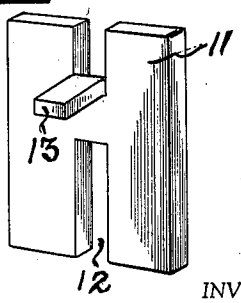



Fig. 9




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# UNITED STATES PATENT OFFICE

2,271,920

## WEAR AND REINFORCING MEMBER FOR CONCRETE FLOORS

Laurence S. Lachman, Forest Hills, N. Y.

Application January 10, 1940, Serial No. 313,153

2 Claims. (Cl. 94—30)

This invention is concerned with metallic structural members to be imbedded in concrete floors for the purpose of reinforcing them and particularly with the object of providing them with wear resistant surfaces.

The general object of the invention is the provision of a structural member of the above type to be imbedded in and flush with the surface of concrete floors to improve the wearing qualities thereof. In floors of this type in factories and similar places, where they are subject to heavy loads, it is desirable to provide some means to prevent undue wear of the surface of the flooring. The structural grill of this invention is preferably made of metal and is so imbedded in the concrete or similar flooring that the upper edges thereof are flush with the surface of the flooring, providing wearing surfaces which very greatly prolong the life of the flooring.

This invention resides substantially in the combination, construction, arrangement and relative location of parts, all in accordance with this disclosure.

In the accompanying drawings:

Figure 1 is a top plan view of one form of grill embodying the features of this invention;

Figure 2 is a side elevational view thereof;

Figure 3 is a cross-sectional view taken on the line 3—3 of Figure 1;

Figure 4 is a perspective view of one of the key or locking members;

Figure 5 is a view similar to Figure 1 of a modified structure in accordance with this invention;

Figure 6 is a cross-sectional view taken on the line 6—6 of Figure 5;

Figure 7 is a perspective view of the form of key used with this structure;

Figure 8 is a top plan view of a portion of a modified structure; and

Figure 9 is a perspective view of the key used in the structure of Figure 8.

As illustrated in Figures 1 to 4, inclusive, the first form of the invention, it consists of a series of longitudinal metal bars or heavy strips 1, preferably of steel. These bars are provided at spaced intervals along a medial line with a series of slits S, Figure 2. The metal above and below these slits is pressed out or deformed in opposite directions to provide loops 2 and 3. It will be clear from Figures 1 and 2 that the loops of the upper and lower rows project alternately in opposite directions. At any one point the loops of the two rows likewise project in opposite directions and are vertically aligned to form, in plan view, the closed spaces 4. The keys or locking members 5 consist of short pieces of metal strip which are slotted inwardly from one edge to about the center, as indicated at 6, to form a pair of parallel legs 7. A plurality of bars 1 are positioned side by side, as illustrated in Figure 1, and the keys 5 are positioned at each pair of adjacent loops so that their legs 7 lie in the closed spaces 4. The parts are preferably proportioned so that the keys 5 form a drive fit, thereby uniting the bars into a unitary structure. As is clear from the figures, the top edges of the keys are substantially flush with the top edges of the strips 1.

A grill thus formed when in use is placed upon the foundation of a concrete floor and the upper layers are then poured so that they terminate flush with the upper edges of the bars 1 and the keys 5. When the concrete sets, the grill is securely locked therein and with the upper edges of the bars and keys forms a continuous surface.

In the arrangement of Figures 5 to 7, inclusive, the structure is modified so as to space the bars 1 a greater distance than in the case of the arrangement of Figure 1. The bars and their loops are the same as the previous arrangement, but in this case the keys 8 are provided with two slots 9 forming three legs, the central one of which lies between the pair of opposed loops with which it is associated. Thus the central leg acts as a spacing member to hold the bars 1 further apart. In order to ensure further against the keys 8 becoming loose, the central leg may be provided with a turned-out lug 10 which becomes imbedded in the concrete and aids in not only locking the keys in the concrete but the bars.

The arrangement of Figures 8 and 9 is a direct modification of the arrangement of Figure 1 and varies therefrom only in that the key 11 corresponding to the key 5, in addition to the slot 12 to form the lower legs, is provided with a turned-out lug 13 which performs the same function as the lug 10 of the previous arrangement, namely, to lock the key in the concrete.

From the above disclosure it will be apparent to those skilled in the art that the several forms of the invention herein illustrated to give an indication of the scope of the invention are by no means all the forms which the invention may take. I do not, therefore, desire to be strictly limited to the disclosure as thus given but rather to the scope of the claims granted me.

What I claim is:

1. In a grill for reinforcing a concrete flooring

and providing a wearing surface therefor, the combination including a plurality of bars lying in parallel relation, each bar having slits positioned therein, and having the metal of the bar above and below said slits pressed out to form two rows of loops, the adjacent loops in each row extending in opposite directions and the loops of one row being vertically aligned with the loops of the other row, thereby forming closed spaces, the closed spaces of the adjacent bars being aligned, and key members having legs lying in said closed spaces to lock the bars together.

2. In a grill for reinforcing a concrete flooring and providing a wearing surface therefor, the combination including a plurality of bars lying in parallel relation, each bar having slits positioned therein, and having the metal of the bar above and below said slits pressed out to form two rows of loops, the adjacent loops in each row extending in opposite directions and the loops of one row being vertically aligned with the loops of the other row, thereby forming closed spaces, the closed spaces of the adjacent bars being aligned, and key members having legs lying in said closed spaces to lock the bars together, said key members having lugs to lock the keys in the concrete.

LAURENCE S. LACHMAN.