(No Model.)

W. H. WINSLOW.

GRILL WORK.

No. 471,161. Patented Mar. 22, 1892.

Fig. 1.

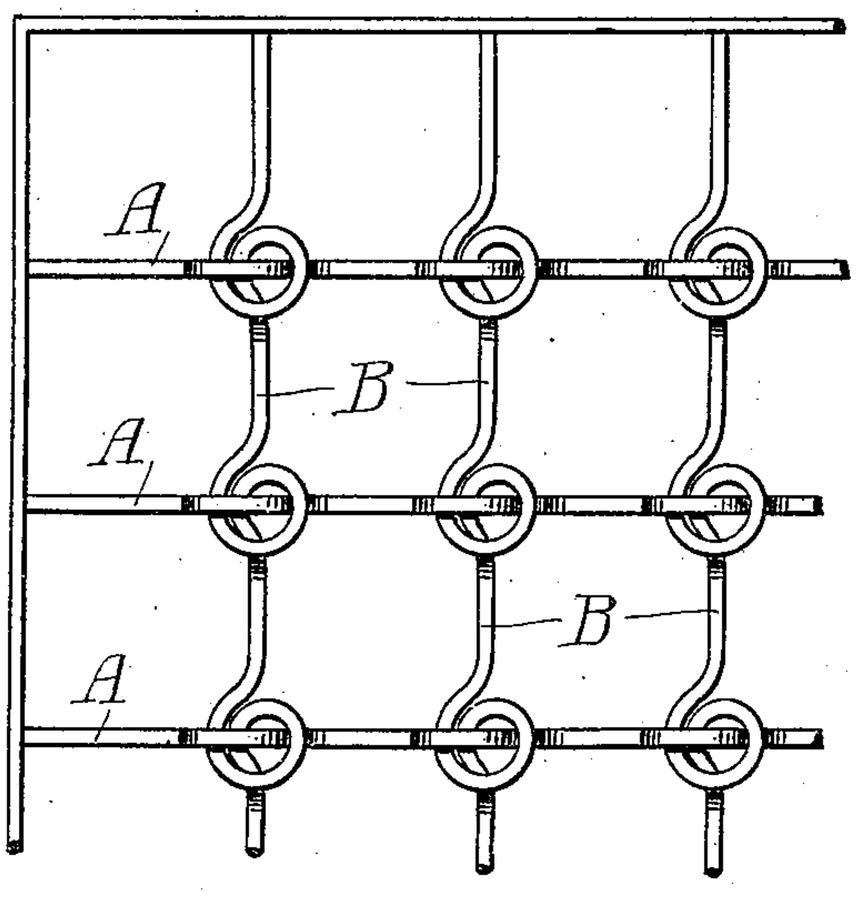


Fig. 6.

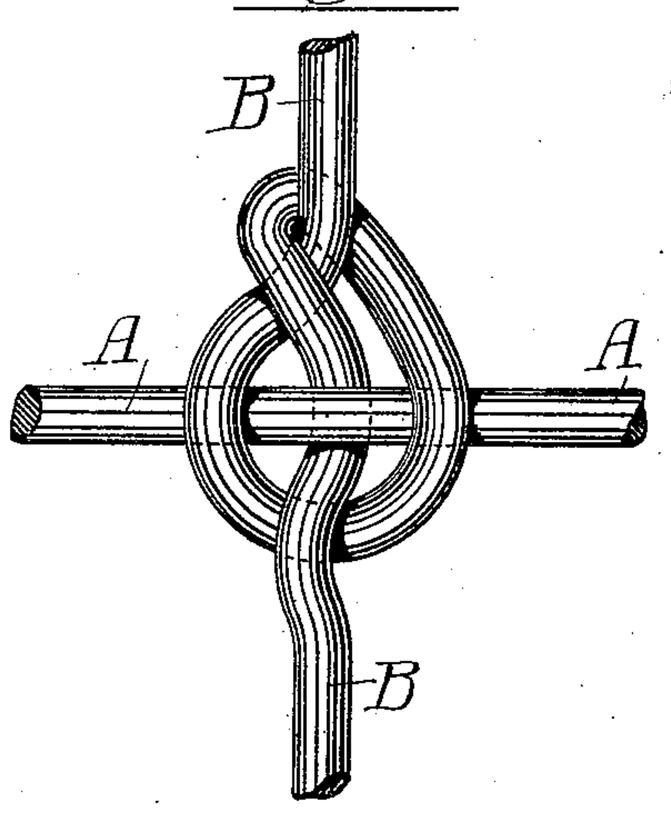


Fig. 2.

Fig. 3.

Fig. 4.

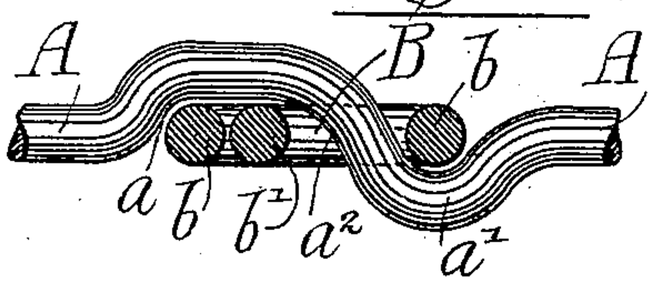
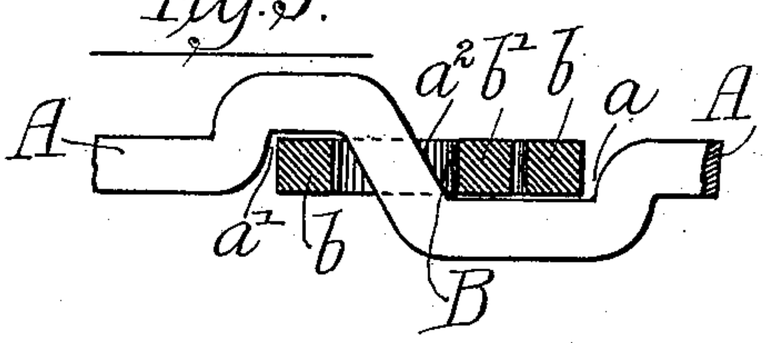


Fig. 5.



WITNESSES:—

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GRILL-WORK.

SPECIFICATION forming part of Letters Patent No. 471,161, dated March 22, 1892.

Application filed June 10, 1891. Serial No. 395,812. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. WINSLOW, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Grill-Work; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to that class of metallic fabric employed around the shafts of elevators as a guard and known as "grill-work," although frequently employed for other purposes—as, for example, in desk and office fixtures, light iron fencing, elevator-cars, and the like.

The invention relates to that class of grill-work wherein a plurality of longitudinal rods, wires, or bars are crossed by a plurality of transversely-arranged rods, wires, or bars, so as to form sections of various sizes and shapes. In some classes of work it has been customary to secure all or a portion of these rods at their points of intersection by means of bolts or rivets. This method of uniting the crossing rods is expensive and does not give the work a finished appearance. In other cases it has been found convenient to simply indent or bend one or both of the crossing rods or wires at the points of intersection, thus forming shoulders on one or both of the bars, which tend to prevent displacement of the one with respect to the other. The said shoulders, however, do not have this effect in practice, for obviously unless the said bars are secured at all the points of intersection the movement of one rod or bar upon the other is only thereby restrained in one direction and there is no restraint upon any movement of one of the rods in the other direction or bodily in a direction at right angles with the general plane of the entire grill-work.

The object of the present invention is to avoid these difficulties by so interlocking one of the rods or bars with the other as to prevent movement of either rod with respect to the other either longitudinally, transversely, or bodily, while at the same time avoiding the use of rivets or other locking devices at the points of intersection, and to thus present a neat, simple, cheap, and durable structure.

In carrying out this invention various methods may be employed; but I have only seen fit to illustrate three of the same, as many other forms embodying the invention will obviously occur to the mind of the skilled mechanic.

In the drawings I have illustrated in Figure 1 a plan view of a portion of a structure embodying my invention, wherein the bars which form the meshes of the grill-work are shown substantially at right angles with each other, so as to form squares. It is obvious that the rods or bars may cross each other in other directions or positions than as herein shown, and thus form meshes or sections of irregular shapes. In Figs. 2 and 3 I have shown in enlarged views the particular kind of interlocking connection shown in Fig. 1, Fig. 2 illustrating the use of a rod and Fig. 3 illustrating the use of a bar. Fig. 4 is a sectional view on the line 4 4 of Fig. 2. Fig. 5 is a sectional view on the line 5 5 of Fig. 3. Fig. 6 is an enlarged view of a modified form of interlocking connection.

In the drawings, let A represent the longitudinal rods, of which I have shown but three, although any desired number may be employed. These rods are bended at suitable intervals to form recesses on opposite sides of the rod, as shown at *a a'*.

B B are transverse rods, which are to be so curled, wrapped, or bended in any desired shape or kind of bend or loop upon and around the rods or bars A at the points of intersection as to lie snugly within the curves or bends *a a'* and be firmly secured to said bars thereby. In this instance the bar B is first bended outward at *b* to fit into the recess or bend *a* and is then carried over the bar A to recess *a'*. A second bend *b'* in the bar B is then made and is passed into the position illustrated between the bend *b* and the part a^2 of the rod A, which latter is intermediate of the recesses *a a'*. A third bend b^2 is then made in the bar B to form a recess, in which the bended part *b* rests. It will be observed that the bends *a a'* b^2 are so made as to leave the portions *b b'* of the bar B in the same

plane with the unbended portions of the bars A and B, as clearly shown in Figs. 4 and 5. It will also be noted that when the form of twisting or curling of the rod B around the rod A that is illustrated in Figs. 2 and 3 is employed neither rod can have a longitudinal movement with respect to the other, nor a transverse movement with respect to the other, nor yet a bodily movement away from the other. In making this form of connection I may use either round, square, or flat rods or bars, as shown, and I prefer in practice to bend or loop the rods B about the rods A when both are cold; but this is not material.

In the modified construction illustrated in Fig. 6 it will be noted that the rod A may be either straight and unbended or bended, as desired. It is shown in the drawings as straight. The locking or looping bar or rod B is tied in and around the rod A and a loop or bend in the rod B to form a familiar form of knot, and thus prevent movement of one rod with respect to the other. Various forms of knot or loop may be employed, those shown in the drawings being given as illustrations, as hereinbefore stated, in which the interlocking of the crossing rods is secured without the use of bolts or rivets. The metal may be and generally will be treated, after the several rods are secured together in any desirable manner, by plating or the like.

What I claim is—

1. As a new article of manufacture, a metallic fabric composed of a plurality of longitudinally-arranged bars or rods and a plurality of transversely-arranged rods or bars, said rods or bars being securely locked at their points of intersection by looping either of said rods about the other, substantially as described.

2. As a new article of manufacture, a metallic fabric composed of a plurality of interwoven rods or bars, one set of rods or bars being slightly bended at the points of intersection and the other set of rods or bars being locked in position by being looped around the first-mentioned set of bars with the loops engaging the bends therein, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

WILLIAM H. WINSLOW.

Witnesses:

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