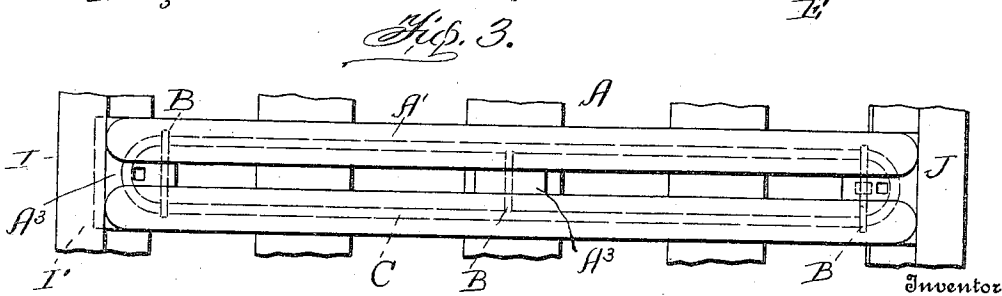
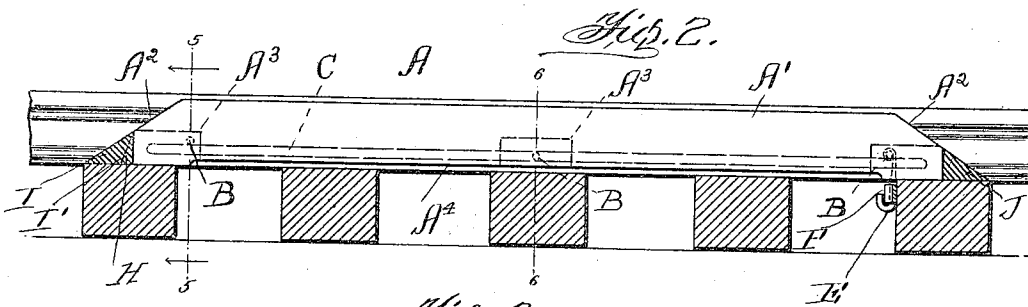
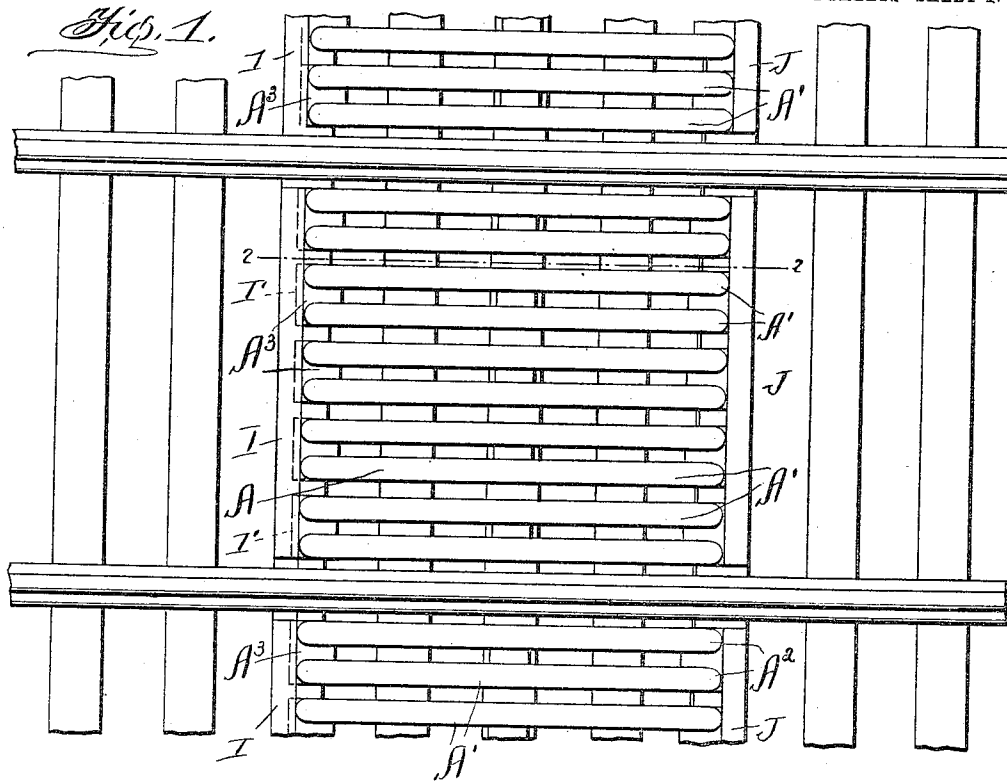


C. P. MURRAY.
 CONCRETE CATTLE GUARD.
 APPLICATION FILED APR. 13, 1909.

949,941.

Patented Feb. 22, 1910.

2 SHEETS—SHEET 1.



Witnesses

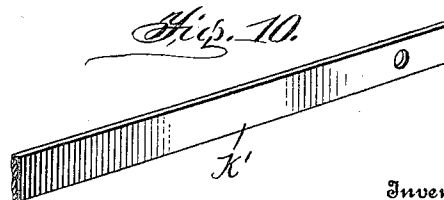
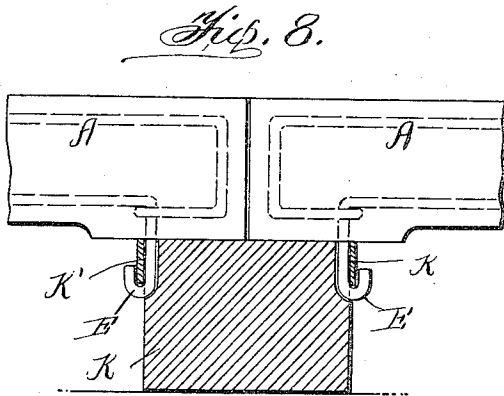
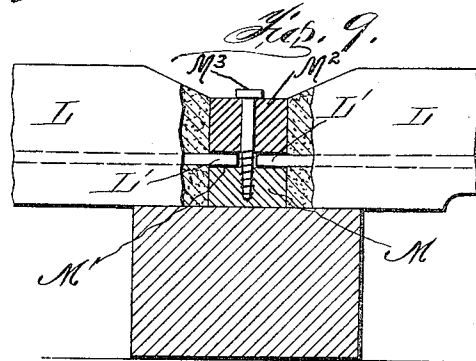
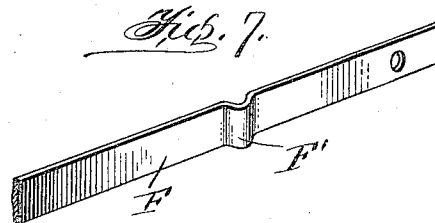
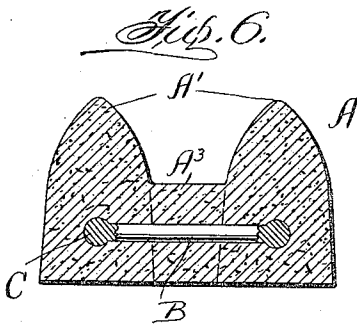
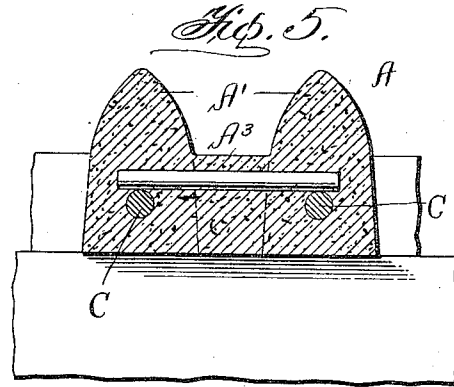
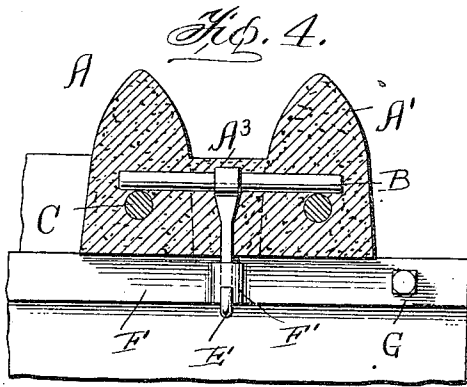
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949,941.

Patented Feb. 22, 1910.

2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES P. MURRAY, OF CEDAR RAPIDS, IOWA.

CONCRETE CATTLE-GUARD.

949,941.

Specification of Letters Patent. Patented Feb. 22, 1910.

Application filed April 13, 1909. Serial No. 489,633.

To all whom it may concern:

Be it known that I, CHARLES P. MURRAY, a citizen of the United States, residing at Cedar Rapids, in the county of Linn and State of Iowa, have invented a new and useful Improvement in Concrete Cattle-Guards, of which the following is a specification.

This invention relates to concrete cattle guards, and more particularly to reinforced cattle guards, the object being to provide a cattle guard which is composed of a plurality of sections adapted to be secured on the ties between and to each side of the rails in such a manner that they can be easily and quickly put in position or removed in order to allow the track to be repaired.

A still further object of my invention is to provide novel reinforcing members which are so embedded within the sections that the sections will be reinforced at the points where they are subject to the greatest strain.

A still further object of the invention is to provide each of the sections with a hook adapted to receive a rod which is secured to the adjacent tie.

Another object of the invention is to provide the sections with beveled ends so that all danger of anything dragging from a train becoming caught into the same is prevented.

With these various objects in view, my invention consists in the novel features of construction, arrangement and combination of parts hereinafter described, pointed out in the claims and shown in the accompanying drawings, in which,

Figure 1 is a top plan view showing the block sections in position on a railroad track. Fig. 2 is a section taken on the line 2—2 of Fig. 1. Fig. 3 is a top plan view of one of the sections showing the reinforcing members in dotted lines. Fig. 4 is a detail section. Fig. 5 is a section taken on the line 5—5 of Fig. 2. Fig. 6 is a section taken on the line 6—6 of Fig. 2. Fig. 7 is a detail perspective view of the locking bar. Fig. 8 is a detail view showing a modified form of fastening member. Fig. 9 is another modification especially adapted to be used when the sections come together in the center. Fig. 10 is a detail perspective view of a modified form of locking bar.

In carrying out my improved invention, I employ a plurality of sections A comprising oblong blocks having longitudinal ribs A¹ provided with beveled ends A² for the pur-

pose hereinafter fully described. The blocks are formed thicker at the ends and the center as clearly shown at A³ in which are embedded cross bars B which are connected to a link C embedded within the block which extends around the block under the ribs as clearly shown. The central portion of the block is cut away as clearly shown at A⁴ so that when placed on a pair of ties D the intermediate ties will be below the plane of the bottom of the block. Connected to one of the reinforcing bars B is a hook E adapted to be secured in the offset portion F' of the bar F which is provided with offset portions corresponding in number to the number of block sections used and is secured to the side of the tie by screws G as will be hereinafter fully described. The other end of each of the blocks is provided with beveled portions H adapted to fit in beveled notches I' of a beveled block I which is secured on the face of the tie so that after the block is forced up against the same, it will be impossible for the block to move vertically. Secured against the other end of the block is a beveled face block J which prevents the block sections from moving longitudinally. Openings A⁵ are formed in the ends of the block sections through which spikes or screws can be inserted for securing the blocks in position on the ties if desired.

In placing the block section in position on the track, the beveled end is forced into the beveled notch of the block secured to the tie first and the other end forced against the block at the other end and it will be seen that when the sections are in this position, it will be impossible for the blocks to move longitudinally. After the required number of blocks have been placed in this position, the bar with the offset portions is placed over the hooks and screws passed through the same so as to securely fasten the bar to the tie which securely locks the sections on the ties and when it is desired to remove the guard sections, it is only necessary to loosen the screws holding the bar and the blocks can be readily lifted off of the ties.

In the modification shown in Fig. 8, I provide the tie K with notches to receive the hook members of the block sections so that the offset portions of the locking bar K' can be dispensed with. In this modification the reinforcing member is formed double instead of single and is formed from a single

bar which is first bent to form a ring and then bent to the proper shape to fit the locking member and passed through the ring out of the bottom of the member and is bent to form a hook which is secured in position as clearly shown. By this arrangement the reinforcing member will be held firmly within the section and at the same time the section will be reinforced in such a manner that all danger of it giving away is prevented.

In the modification shown in Fig. 9 I provide a guard especially adapted to be used where two or more tracks are close together in order to fill the space between the same and in this case I provide block sections L having outwardly projecting reinforcing members L' which are adapted to fit in notches M' formed in a strip M which is secured upon the top of the tie and after the reinforcing members have been placed in position I place a strip M² over the same and secure the same to the strip M by screws M³ so as to hold the same firmly in position.

From the foregoing description it will be seen that I have provided a cattle guard which is composed of a plurality of concrete blocks having reinforcing members embedded therein in such a manner that the blocks will be strengthened at the points where they are subject to the greatest strain so that all danger of the blocks becoming broken is prevented. It will also be seen that the reinforcing members are provided with hooks adapted to be connected to a bar for locking the blocks in position on the ties. While I have shown and described the block sections secured to the tie in this manner it is of course understood that they can be secured to the tie by screws or spikes as after the blocks have been placed in position it will take very little to hold the same from moving but I have found by experimenting

that a block secured in position as set forth will be held in such a manner that it can be easily and quickly detached when desired.

What I claim is:—

1. A cattle guard comprising a plurality of concrete blocks having longitudinal upstanding ribs provided with beveled ends, one end of each being further beveled to co-act with a block secured on a tie and the other end of said blocks being provided with a hook for securing it to an adjacent tie.

2. A cattle guard comprising a plurality of reinforced concrete blocks having longitudinal upstanding ribs, one end of each block being provided with a beveled face co-acting with the beveled face of a block secured upon the tie and the other end being provided with a straight end co-acting with the straight face of a block secured upon another tie.

3. A concrete cattle guard composed of a plurality of duplicate sections, each section being provided with upstanding spaced ribs having beveled ends, one end of each section being beveled and the other end being straight and blocks of wood secured on ties adjacent said ends, for the purpose set forth.

4. A concrete cattle guard comprising a plurality of duplicate sections, each section being provided with a beveled end, a block of wood secured upon one of the supporting ties adapted to engage said beveled end, a block secured to an adjacent tie engaging the other end of said section, a bar adapted to be secured to said last named tie and a hook on the section to co-act with said bar, for the purpose described.

CHARLES P. MURRAY.

Witnesses:

F. A. SMITH,
BERTHA FISHER.