

No. 706,542.

Patented Aug. 12, 1902.

F. J. FEWINGS.
CAR OR ENGINE REPLACER.

(Application filed Dec. 5, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

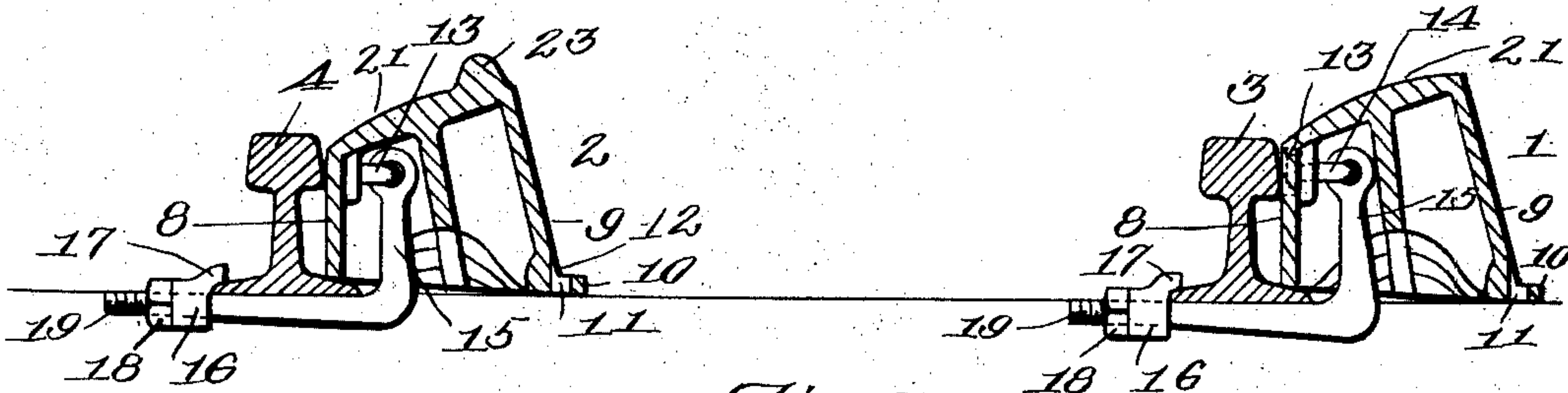
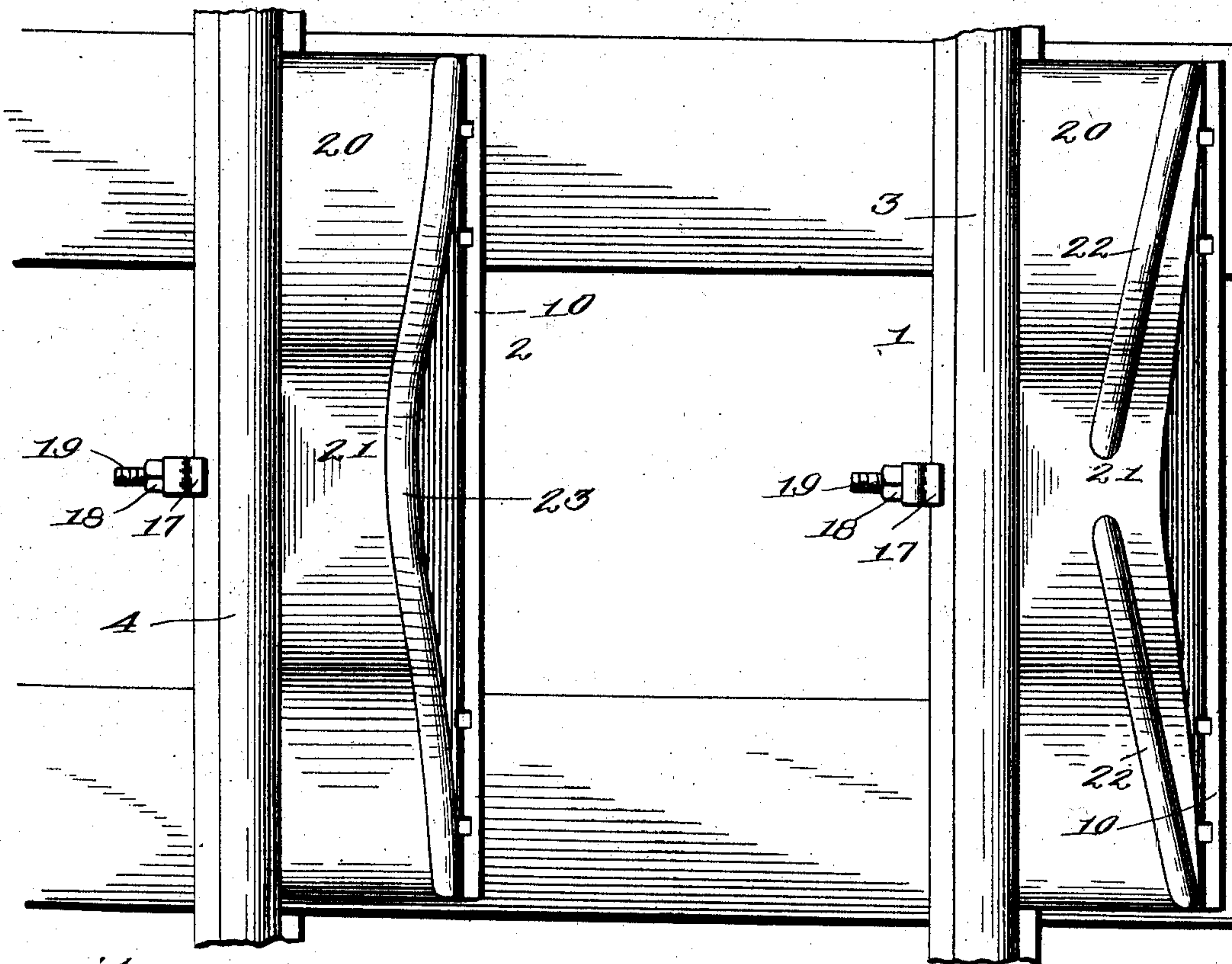


Fig. 2.



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2 Sheets—Sheet 2.

Fig. 3.

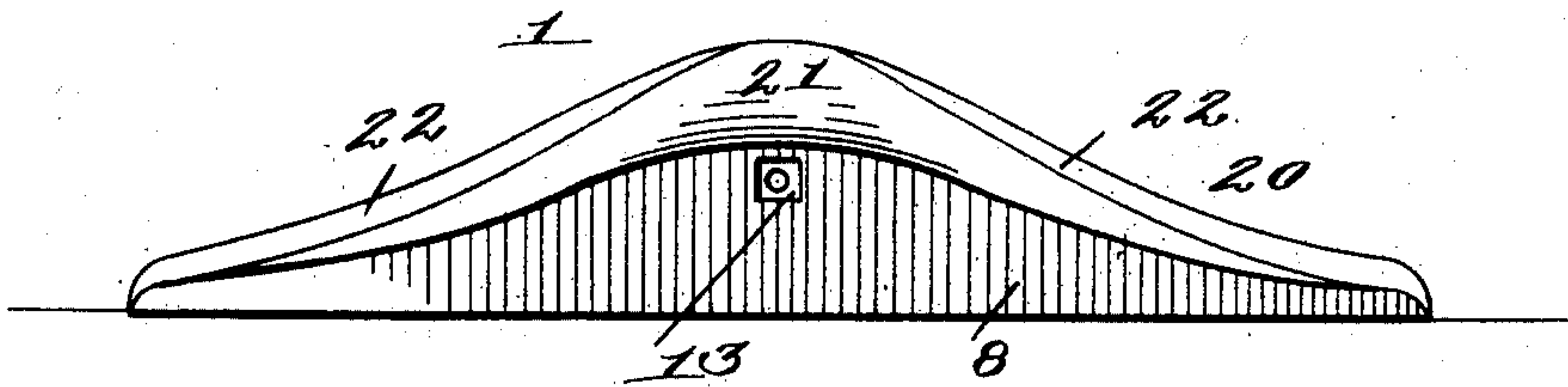


Fig. 4.

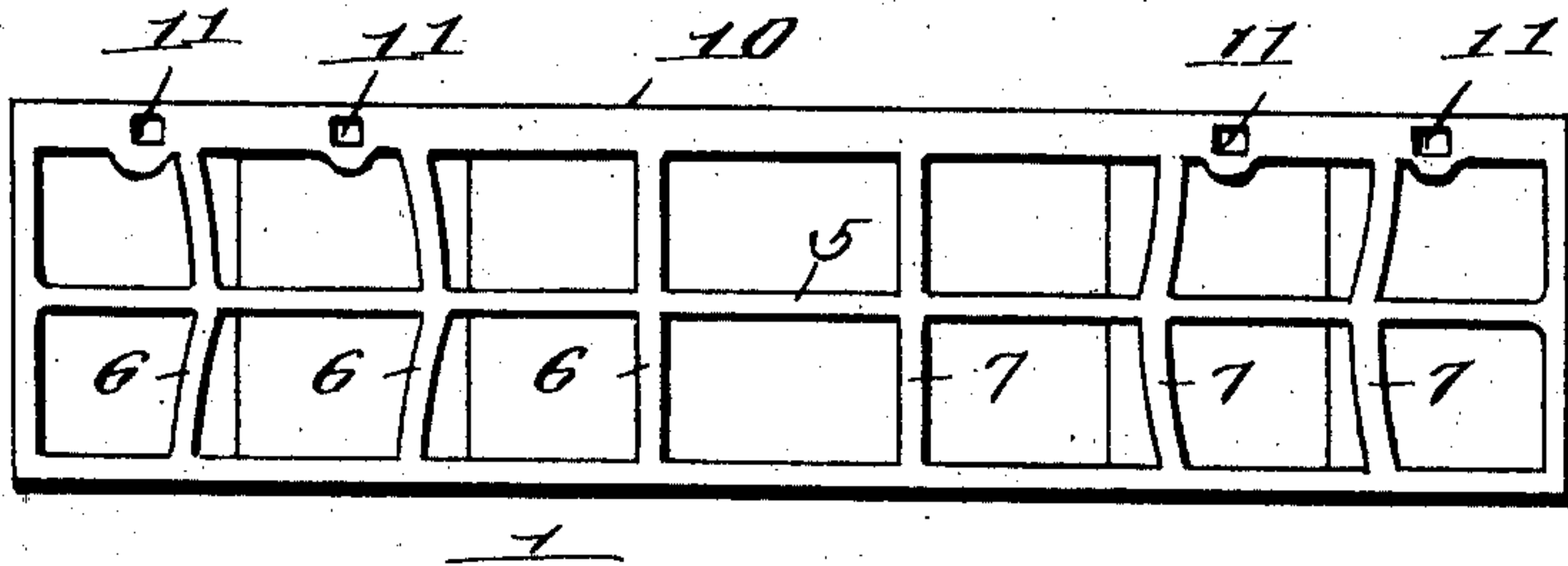


Fig. 5.

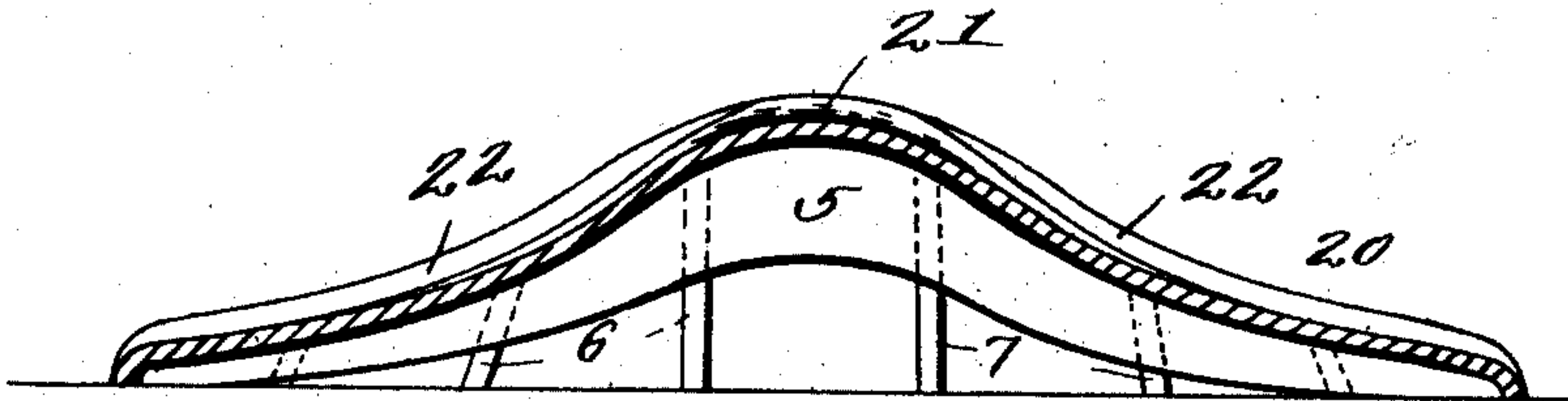
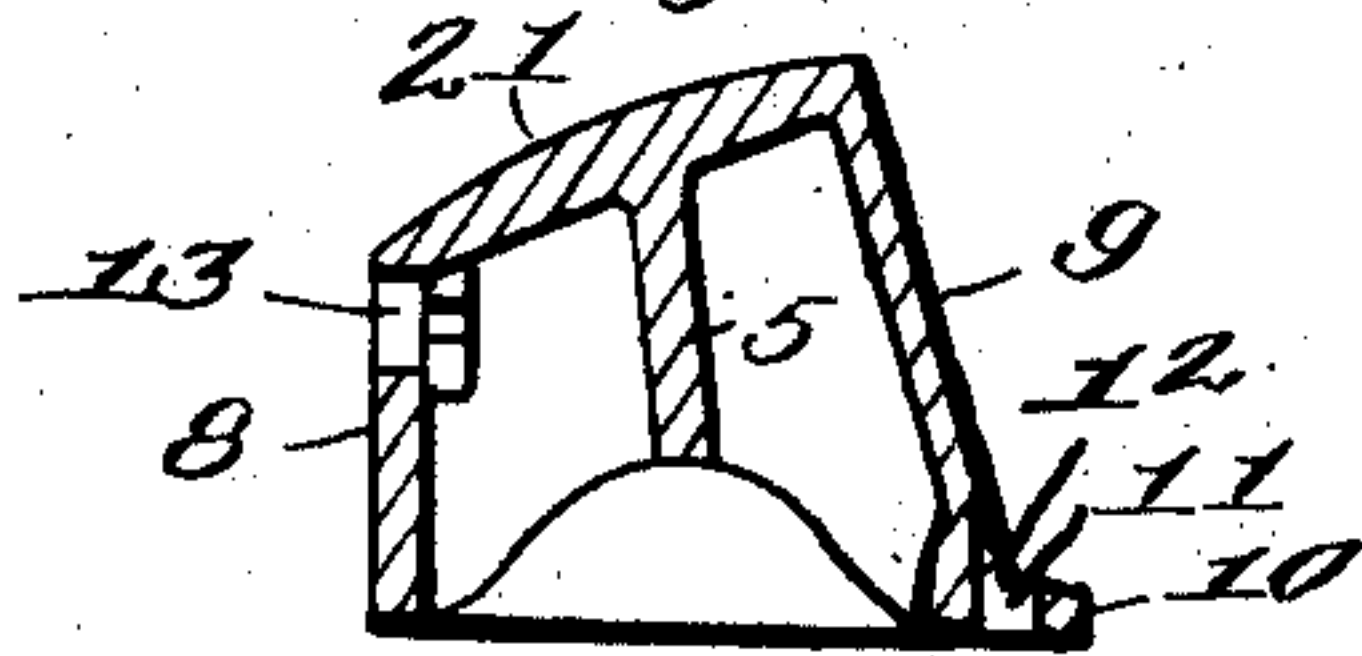


Fig. 6.



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UNITED STATES PATENT OFFICE.

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CAR OR ENGINE REPLACER.

SPECIFICATION forming part of Letters Patent No. 706,542, dated August 12, 1902.

Application filed December 5, 1901. Serial No. 84,802. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK J. FEWINGS, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented new and useful Improvements in Car or Engine Replacers, of which the following is a specification.

This invention relates to certain new and useful improvements in car and engine replacers.

The invention aims to construct a car and engine replacer consisting of an outer and an inner replacing-block which are so constructed as to prevent the car or engine wheels from slipping backwardly and, furthermore, less liable to turn over or jump out of place when struck by the car or engine wheels, and which will also lower the wheels gradually toward and upon the rails without allowing the wheels to slide down in a lateral direction and land with a sudden jar upon the rails.

The invention further aims to construct a pair of replacing-blocks which shall be extremely simple in their construction, strong, durable, efficient in their operation, and comparatively inexpensive to manufacture; and to this end the invention consists in constructing the replacing-blocks with their upper face upon a compound curve extending from one end of the blocks upwardly to the center and then downwardly toward the opposite end of the blocks, forming thereby at the center of the blocks a ridge of convex curvature transversely as well as longitudinally, said ridge being slightly higher at one edge than at its opposite edge and curving downwardly from the said higher edge to the said lower edge; further, providing upon the upper face of the outer replacing-block a pair of diagonally-extending ribs of concave curvature longitudinally and which terminate at their upper ends in said ridge of the outer replacing-block, and, further, providing the inner replacing-block at its inner edge with a rib extending from end to end thereof and of concavo-convex curvature.

The invention further resides in providing the replacer-blocks with suitable strengthening and fastening means to be hereinafter more specifically described, illustrated in the accompanying drawings, and particularly pointed out in the claims hereunto appended.

In describing the invention in detail reference is had to the accompanying drawings, wherein like reference-numerals indicate corresponding parts throughout the several views, and in which—

Figure 1 is a transverse section of a railway-track, showing the replacing-blocks in position. Fig. 2 is a plan view thereof. Fig. 3 is a side elevation of one of the blocks. Fig. 4 is a bottom plan of one of the blocks. Fig. 5 is a longitudinal section, and Fig. 6 a transverse section, of one of the blocks.

Referring to the drawings by reference-numerals, 1 denotes the outer replacing-block, and 2 the inner replacing-block. The former is adapted to be arranged at the outside of and abut against the rail 3 and is of such height at both sides thereof to suitably extend above the said rail 3, and the latter is adapted to be arranged at the inside of and abut against the rail 4 and is of such height as to suitably extend at one side above the rail and at its opposite side below the tread of the rail 4. The function of constructing the blocks of the height referred to above will be hereinafter described in the operation of replacing a car or engine.

Each of the blocks 1 2 is constructed, preferably, of cast-steel and of shell formation, with an open bottom, and each is provided interiorly with a pair of centrally-arranged transversely-extending vertical web-braces 5 and a pair of web-braces 6 7 at each side of the web-braces 5, the braces 6 7 extending at an angle to the vertical brace 5 and arranged a suitable distance apart. Constructing and arranging the web-braces in the manner set forth will strengthen the blocks to such an extent that it would almost make the breaking thereof impossible.

One side of the blocks 1 2 extends in a vertical manner, as at 8, and the opposite side extends upwardly and inwardly at an inclination, as at 9. The reference-numeral 10 denotes an outwardly-extending flange integral with the bottom of the side 9 of each of the blocks and has formed therein a series of openings 11, registering with a series of recesses formed by the depressed portions 12, arranged in the sides 9 of each of the blocks. The recesses and openings are adapted to receive spikes or other suitable fastening means,

which engage in the sleepers of the tracks for securing the blocks thereto when in operative position.

The sides 8 of each of the blocks 1 2—that is, the side which abuts against the rails—is provided centrally, near the top thereof, with a countersunk opening 13, in which is mounted the head of a hooked bolt 14, the latter extending into its respective block. The inner end of each of the hook-bolts 13 is connected to an eyebolt 15 in the form of an L-shaped connecting-arm, the vertical member of which is arranged within the respective block therefor and the horizontal member of which extends below the base of the rail and is connected thereto by means of the sleeve 16, carried by the said horizontal member of the connecting-arm. The sleeve 16 is provided with a clamping-offset 17, which engages the base of the rail and is held in engagement therewith by means of a binding-nut 18, mounted on the screw-threaded end 19 of the horizontal member of the connecting-arm. The eyebolt or connecting-arm 15 and clamping-sleeve 16 retain the blocks rigidly in position against the rail, at the top thereof, which is the point of greatest strain when the blocks are used for replacing a car or engine. The eyebolt or connecting-arm is so constructed and arranged that the same when released from the rail can be turned back and will lie entirely within its respective block. The arm is released by unscrewing the nut 18, so that the clamping-sleeve 16 can be brought out of engagement with the base of the rail.

The upper face 20 of the blocks 1 2 is formed upon a compound curve extending from one end of the block upwardly to the center and then downwardly toward the opposite end of the block, forming thereby at the center of the block a ridge 21 of convex curvature transversely as well as longitudinally, this ridge extending from side to side of the block and so constructed as to curve downwardly from one edge of the block to the other. This downward curvature is caused by the sides 8 of the block being lower than the sides 9. Constructing the upper face of the blocks in the manner set forth, when either the car or engine mounts onto the reverse curve, which forms a pocket in the upper face of the block, near each end thereof, it will tend to hold the block in position much better than the ordinary inclined curve generally employed. Furthermore, the reverse curve, or rather pocket formed by the reverse curve, will materially assist to prevent the car or engine from slipping backward when riding upon the blocks.

The upper face of the outer block 1 is provided with a pair of ribs 22 of concave curvature longitudinally and each of which extends diagonally from the outer corner at each end of the block 1 toward the ridge 21 and terminates at its upper end in the said ridge

at a point adjacent to a transverse and longitudinal line of the center thereof. The upper face of the inner replacing-block 2 at its inner edge is provided throughout its length with a rib 23, of convexo-concave curvature longitudinally. This rib 23 extends from one corner of one end of the block 2 diagonally upward toward the center of the inner edge and then downwardly to the corner at the opposite end of the block 2, or, in other words, the rib 23 extends substantially in the same manner as the pair of ribs 22. The pair of ribs 22 are adapted to aid the rib 23 on the inside replacer and divide the strain on the wheel-flanges between the two wheels instead of leaving all the strain on the rib 23, as would be the case without the employment of the pair of ribs 22, and this construction is especially adapted for the heavy class of equipment now coming into general use. Furthermore, constructing and arranging the pair of ribs 22 in the manner set forth will prevent the wheels from ever mounting them, as the curve will gradually force the wheel to one side, and at the same time the weight will be distributed by the ball of the wheel resting on the ribs.

From the foregoing description it will be apparent that when the blocks are placed against the rails and the wheels are advanced upon them as soon as the wheels approach the ridge of the blocks the inwardly and downwardly extending curvature thereof will cause the wheels to slide over and upon the rails, the ribs 22 and 23 materially assisting in causing the wheels as they mount the blocks to move toward the rails.

It is thought the many advantages of my improved replacing-block can be readily understood from the foregoing description, taken in connection with the accompanying drawings, and it will also be noted that minor changes may be made in the details of construction without departing from the general spirit of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A car or engine replacer comprising an inner and an outer replacing-block, each having its upper face from end to end formed upon a reverse compound curve gradually rising to and from the center of the upper face of each of the said blocks and forming thereby a ridge of convex curvature transversely and longitudinally.

2. A car or engine replacer comprising an inner and an outer replacing-block and each having its upper face formed with a ridge of convex curvature transversely and longitudinally, said ridge extending from one side of the block to the other, a pair of diagonally-extending ribs of concave curvature longitudinally integral with the upper face of said outer block, said ribs terminating at their upper end in said ridge, and a diagonally-

extending rib of concavo-convex curvature longitudinally integral with the upper face of said inner block.

3. A car or engine replacer comprising an inner and an outer replacing-block, each of which having the upper face curved in contour, a pair of ribs of concave curvature longitudinally integral with the upper face of said outer block, and a rib of concavo-convex curvature longitudinally integral with the upper face of the inner block.

4. A car or engine replacer comprising an inner and an outer replacing-block, both of which have their upper face formed upon a reverse compound curve, a pair of diagonally-extending ribs integral with the upper face of said outer block, and a rib integral with the upper face of said inner block.

5. In a car or engine replacer, an outer replacing-block having its upper face formed on a compound curve rising from each end to the center forming thereby a ridge of convex curvature transversely and longitudinally, and a pair of ribs integral with the upper face of said block and each extending from one corner of one end of the block and terminating in said ridge.

6. In a car or engine replacer, an outer replacing-block having its upper face formed upon a reverse compound curve, and a pair of ribs of concave curvature longitudinally integral with the upper face of said block and each extending from one corner of one end of the block diagonally toward the center thereof.

7. In a car or engine replacer, a hollow replacing-block having its upper face formed upon a reverse compound curve, a vertical web-brace arranged within said block, and a pair of inclined web-braces arranged within said block at each side of said vertically-extending web-brace.

8. In a car or engine replacer, a hollow re-

placing-block having a countersunk opening in one side thereof, a vertical web-brace arranged within the said block, a pair of inclined web-braces arranged within said block at each side of the said vertical web-brace, a hook-bolt extending in the said block in the said opening, an L-shaped connecting-arm attached to said bolt, and means carried by the said arm for connecting the same to a rail thereby securing the block in position.

9. In a car or engine replacer, a hollow replacing-block having one side formed with depressed portions and its opposite sides with an opening, a flange integral with the said side having depressed portions and provided with openings registering with the recesses formed by the said depressed portions, a vertical web-brace arranged within said block, a pair of inclined web-braces arranged within said block at each side of said vertical web-brace, a bolt extending in the said block through the said opening, an L-shaped connecting-arm connected to said bolt, and means carried by the said arm for connecting the block to a rail.

10. In a car or engine replacer, a replacing-block, having its upper face of reverse compound curvature rising from both ends to the center.

11. In a car or engine replacer, an inner replacing-block having its upper face of reverse compound curvature rising from both ends toward the center, and a rib of convexo-concave curvature longitudinally integral with the upper face of said block.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FREDERICK J. FEWINGS.

Witnesses:

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EDWARD H. WINDOM.