

921,829.

Patented May 18, 1909.

3 SHEETS—SHEET 1.

FIG. 1

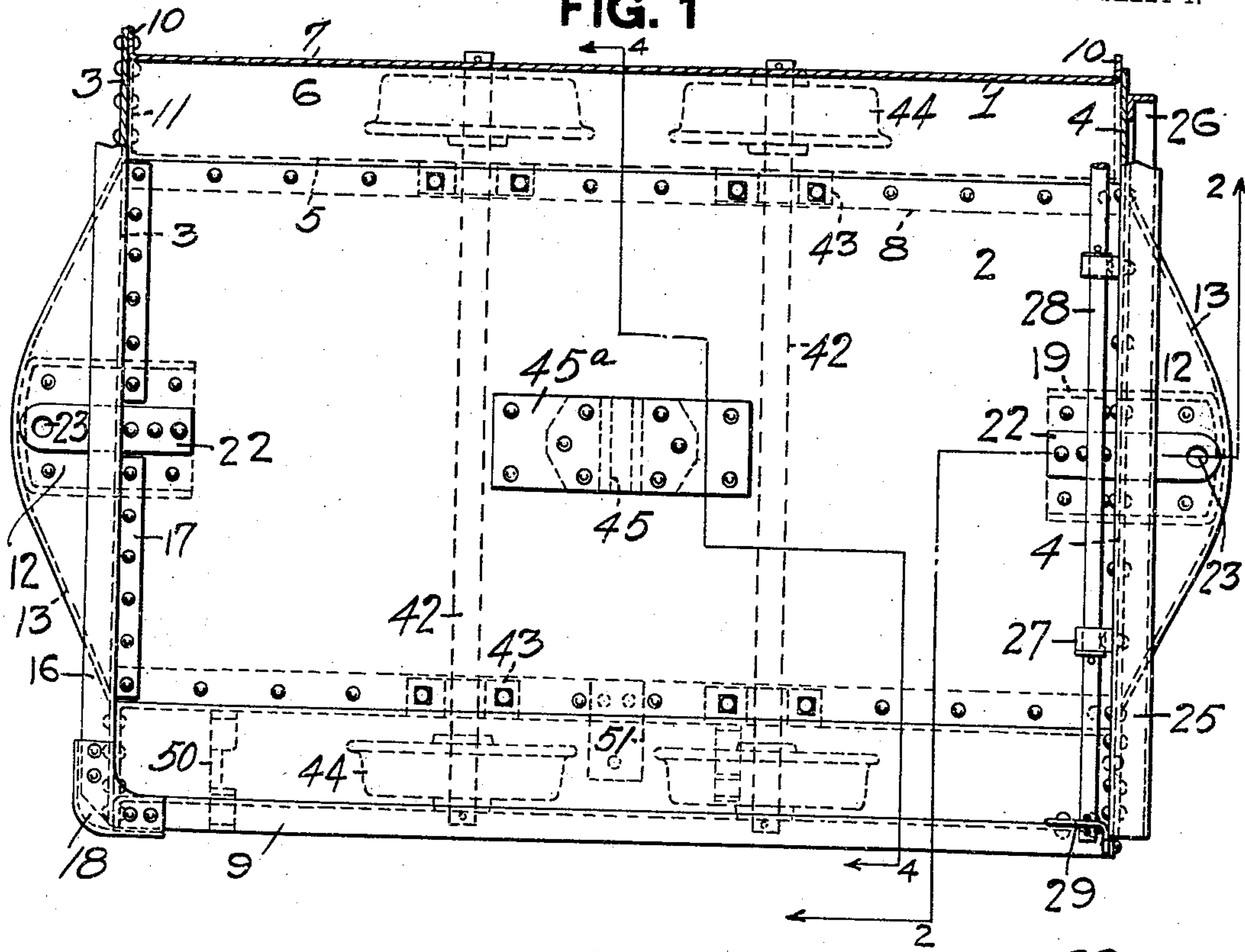
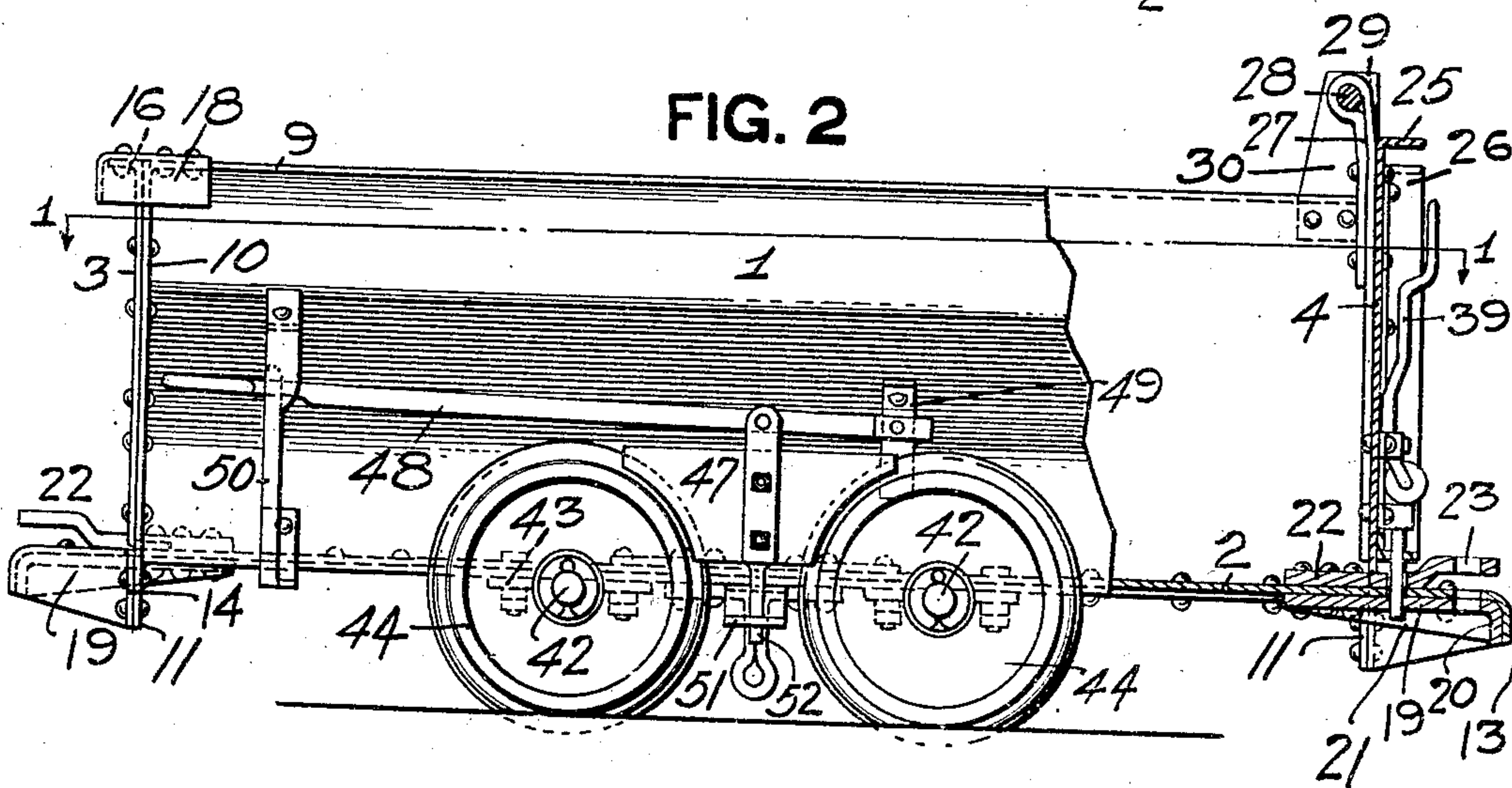


FIG. 2



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MINE CAR.
APPLICATION FILED MAR. 14, 1908.

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3 SHEETS—SHEET 2.

FIG. 3

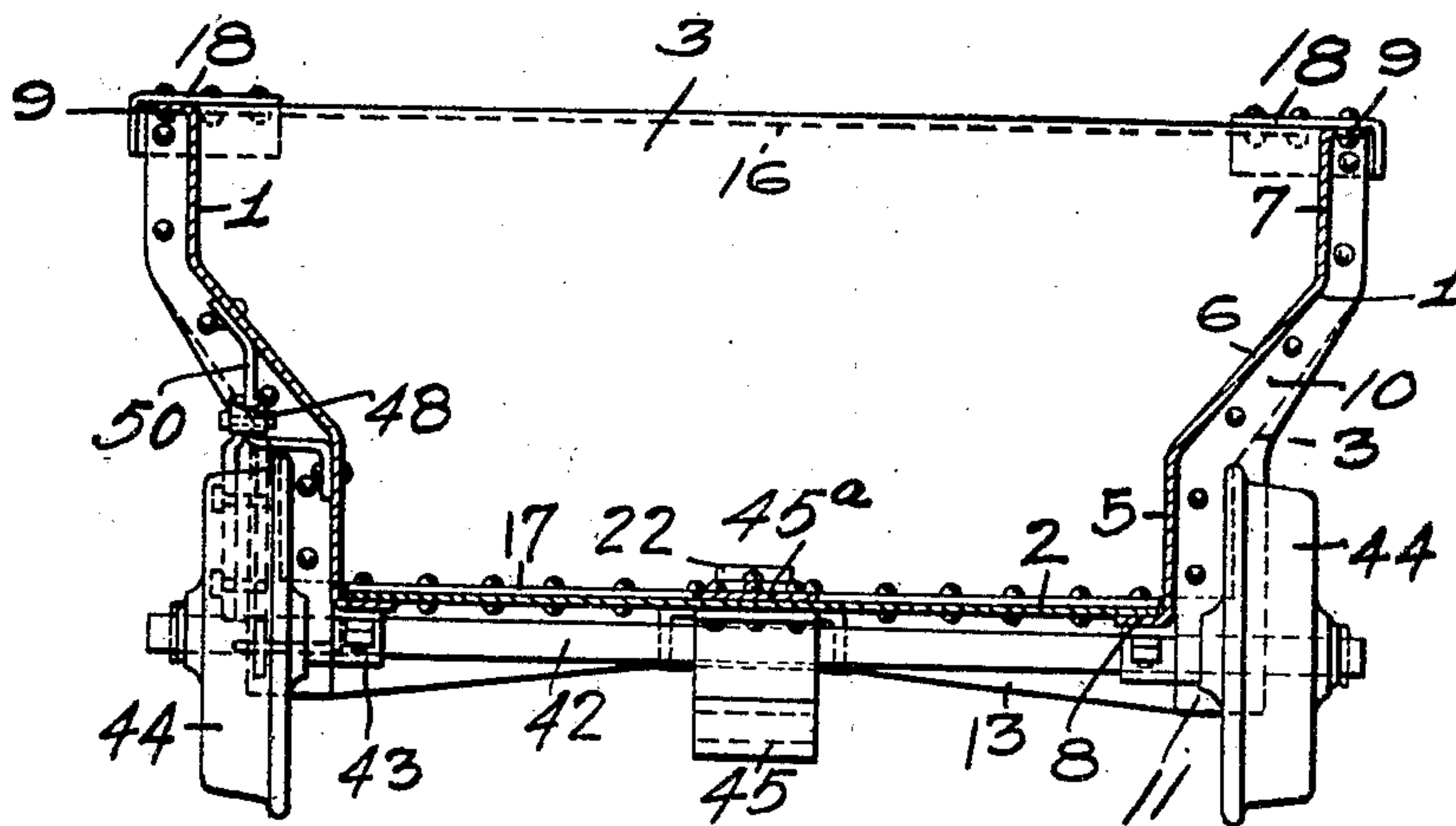
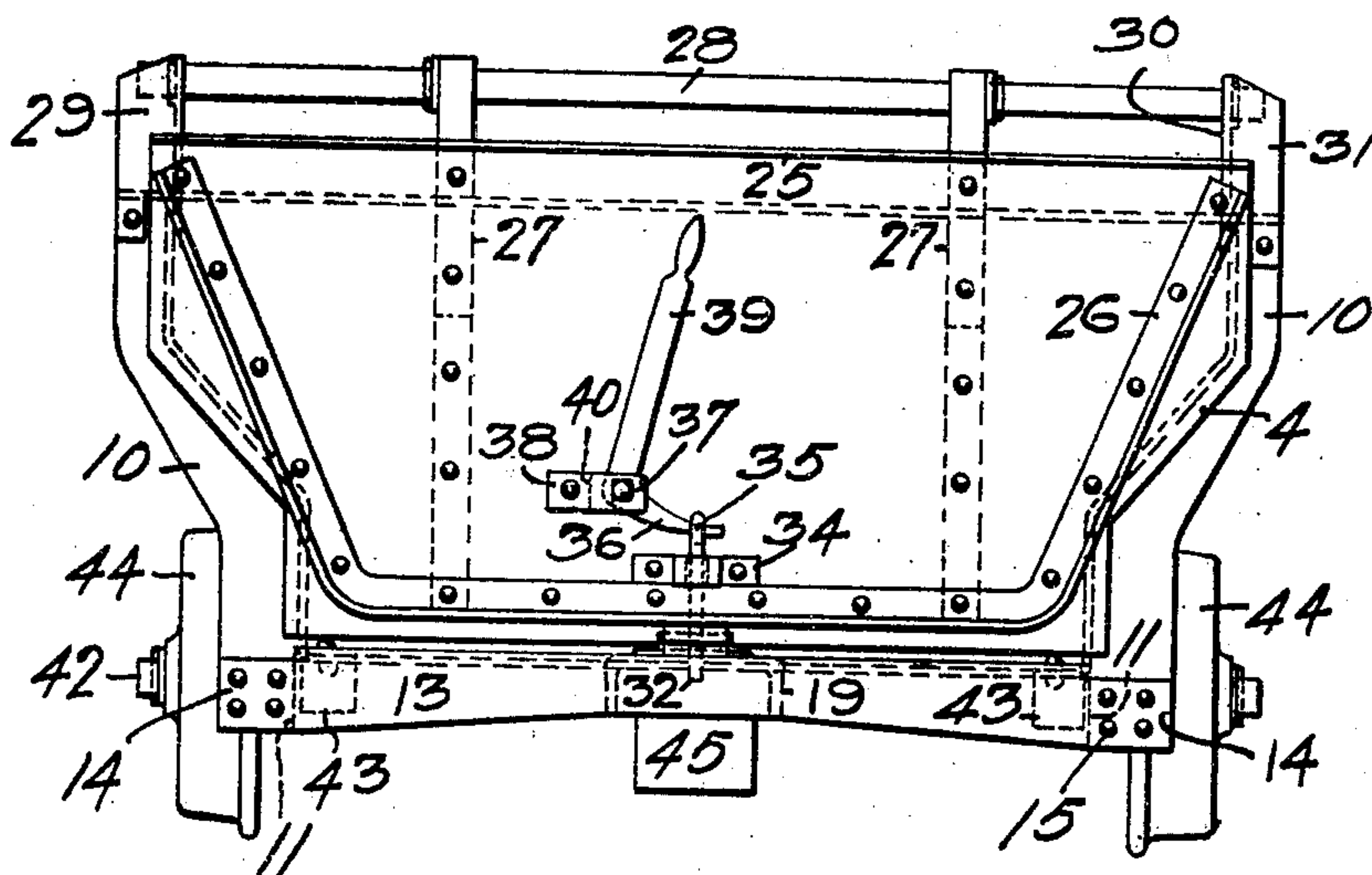


FIG. 4

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FIG. 5

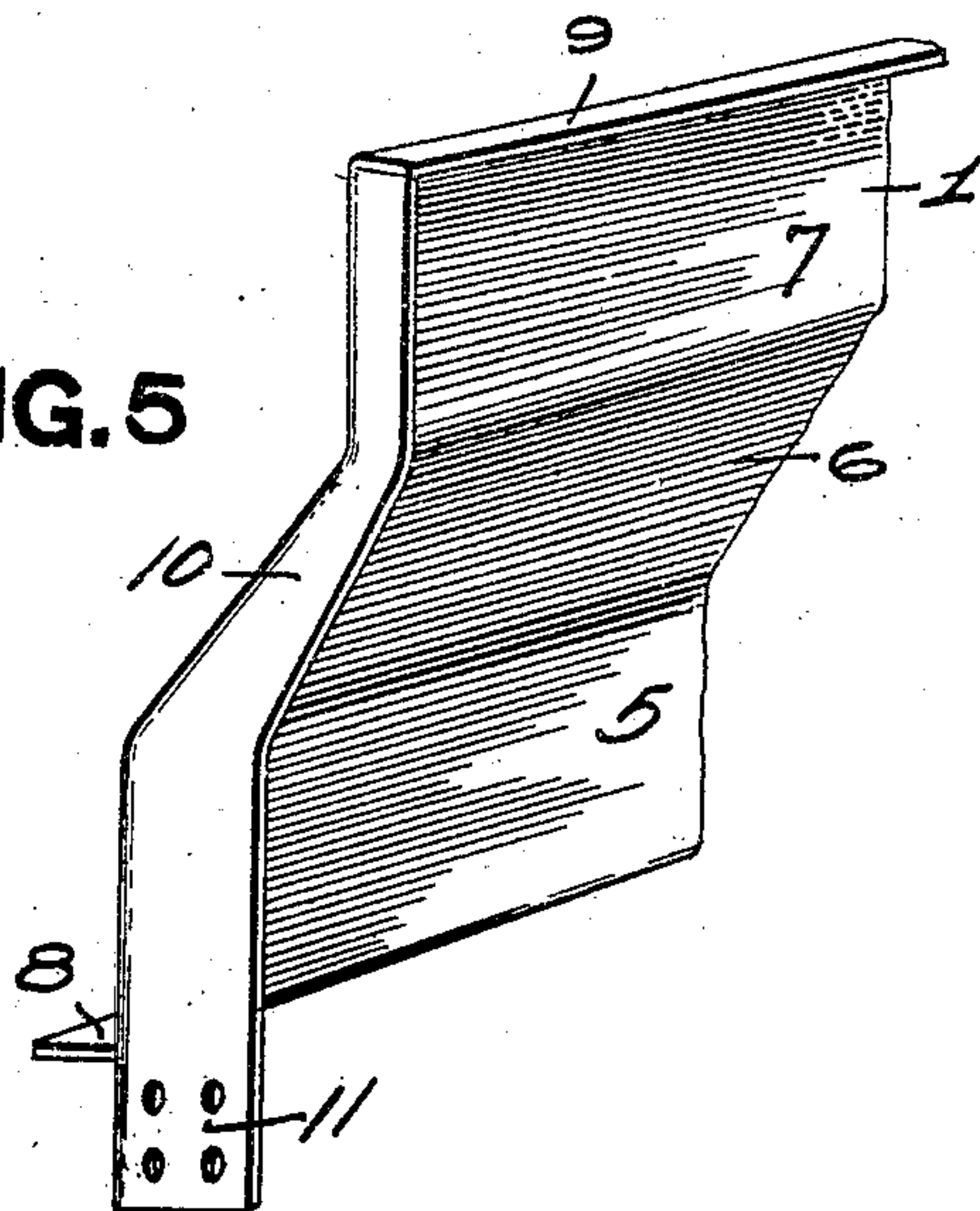


FIG. 6

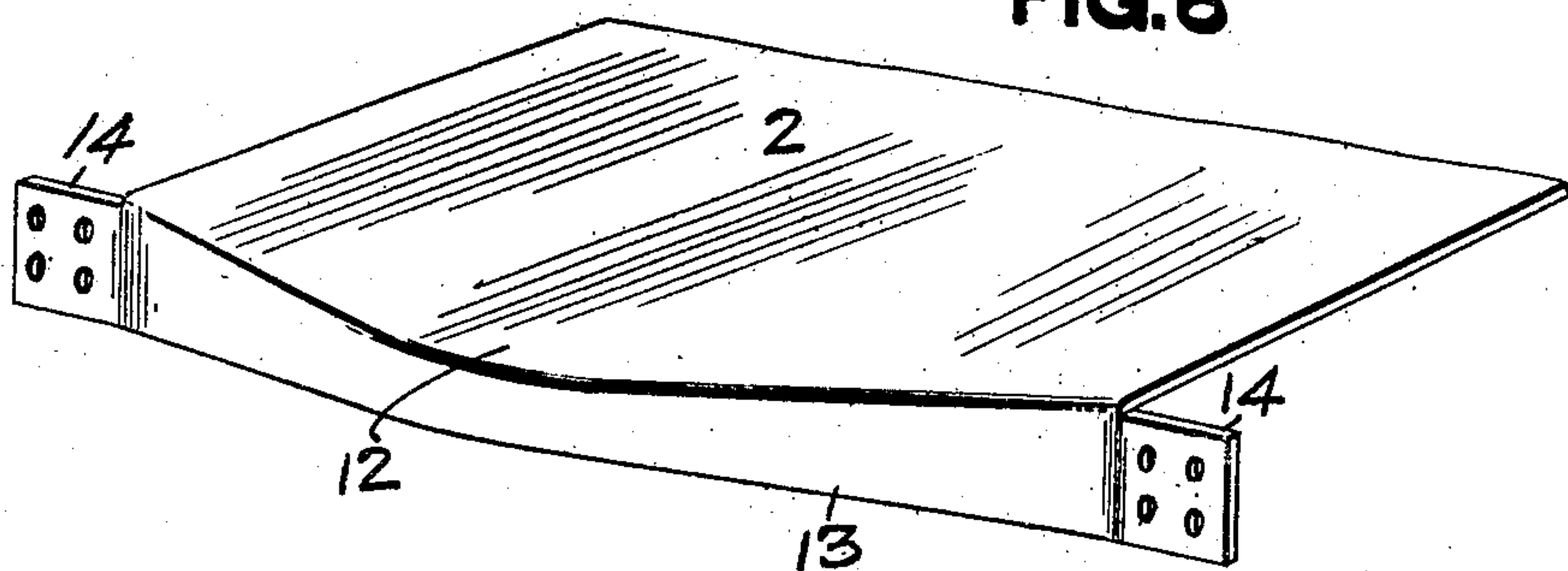
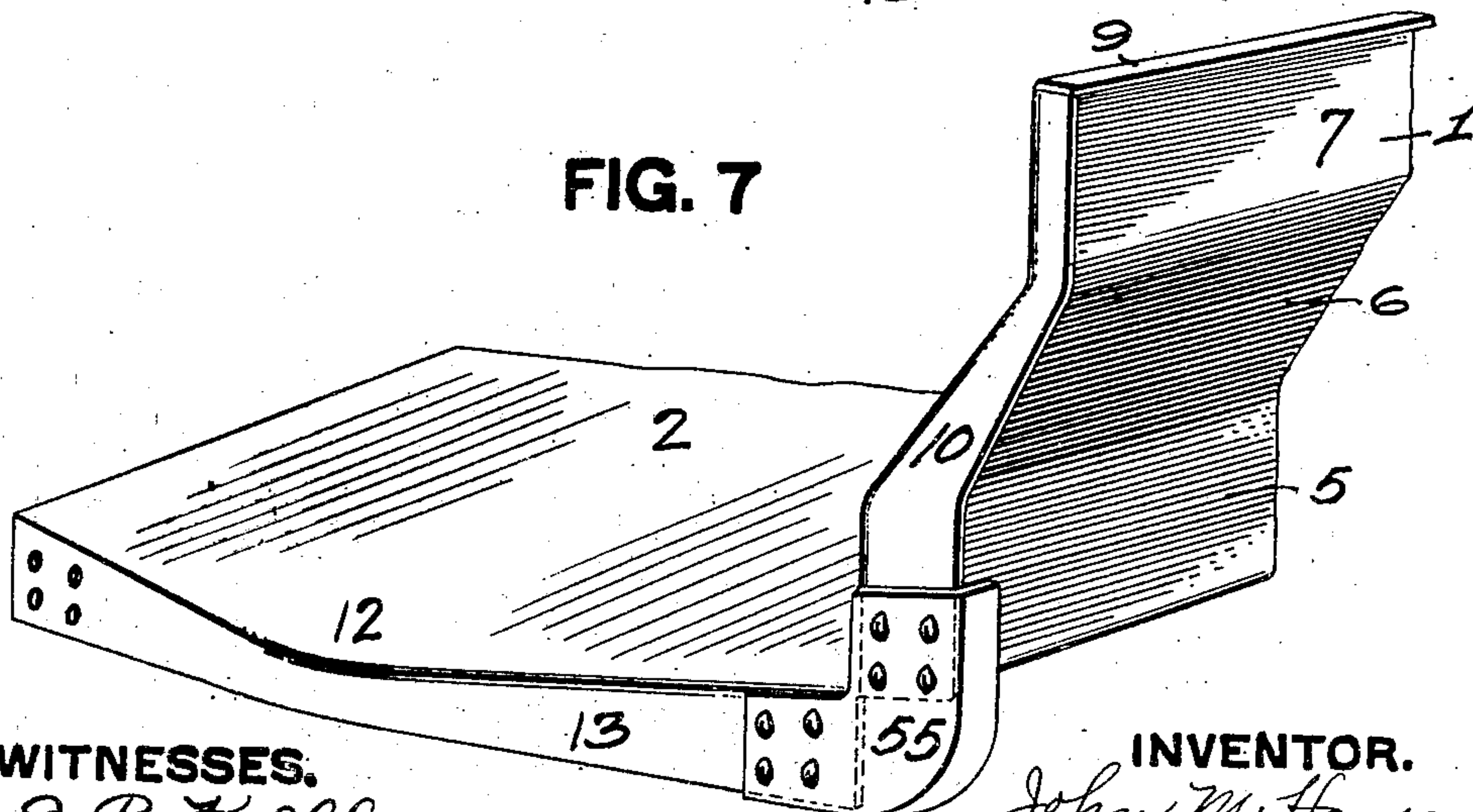


FIG. 7



WITNESSES.

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UNITED STATES PATENT OFFICE.

JOHN M. HANSEN, OF PITTSBURG, PENNSYLVANIA.

MINE-CAR.

No. 921,829.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed March 14, 1908. Serial No. 421,209.

To all whom it may concern:

Be it known that I, JOHN M. HANSEN, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Mine-Cars; and I do hereby declare the following to be a full, clear, and exact description thereof.

This invention relates to mine and similar cars, and more especially to the body portions thereof.

The object is to improve bodies of cars of the character specified in details hereinafter described and claimed, and particularly with a view of forming a light, strong body and one having a minimum number of parts and a minimum number of riveted joints.

In the accompanying drawings Figure 1 is in part a plan view and in part a horizontal section on the line 1—1, Fig. 2; Fig. 2 is in part a side view and in part a vertical longitudinal section on the line 2—2, Fig. 1; Fig. 3 is an end view; Fig. 4 is a transverse section on the line 4—4, Fig. 1; Fig. 5 is a perspective view of an end of the side plate; Fig. 6 is a similar view of a portion of the bottom plate; and Fig. 7 is a detailed view showing a modified corner section between the side and bottom plates.

The body of my improved car comprises two side plates 1, a bottom plate 2, end plate 3, and an end door 4. The side plates extend vertically from the edges of the bottom for a distance, as at 5, and then flare outwardly, as at 6, and have their upper portions vertical, as at 7, in order to permit the body to fit down in between the wheels and at the upper portion overhang the wheels to provide large capacity. These side plates have their lower edges flanged inwardly, as at 8, said flanges underlying the edges of the floor plate and being secured thereto by suitable means, such as the rivets shown. The upper edges of the side plates are flanged outwardly, as at 9, to give lateral stiffness, and the end flanges of said plates are also flanged outwardly to provide the vertical stiffeners 10. The latter preferably are wider at their lower ends than at their upper, as shown in Figs. 3 and 4, and project down somewhat below the floor plate, as at 11, this being effected by suitably cutting the blanks so that when bent to shape the downwardly projecting part is formed. The floor plate has the central portions of its ends projecting, as at 12, to form buffers. The end edges of

said plate are bent or flanged downwardly, as at 13, to form transverse stiffeners which are, in effect, end or buffer sills. These end flanges 13 are of increasing depth toward their ends, as shown in Fig. 3, and they extend sidewise beyond the edges of the body of the floor, as at 14, said projecting ends overlapping the downwardly projecting ends 11 of the vertical end flanges of the side plates and being directly secured thereto, as by means of rivets 15. This gives a very simple and strong connection at the lower corners of the body.

The fixed end plate 3 at its upper edge is flanged outwardly, as at 16, to stiffen the same and at its lower edge is flanged inwardly, as at 17, said flanges being riveted directly to the floor plate. The side edges of the end plate are riveted directly to the vertical end flanges 10 of the side plates. At the top corners flanged angle plates 18 are riveted to the out-turned top flanges 9 of the side plates and top flanges 16 of the end plate.

The projecting part 12 of the floor plate at both ends is stiffened centrally by a pressed buffer member 19 riveted to the lower face of the bottom plate and having a vertical transverse flange 20 bearing against the downwardly turned end flange 13 of the bottom plate, and longitudinal vertical flanges 21 at its edges. Riveted to the top face of the bottom plate at the longitudinal center of the car is a strap 22 which has its outer end bent upwardly, as shown in Fig. 2, in order to receive a coupling member between said end and the projecting part of the floor plate. The strap 22 is provided with a hole 23 and the floor plate and buffer member 19 are provided with a hole 24 in alinement with the hole 22 in order to receive the coupling pin, or other draft member.

The door 4 is formed of a flat plate cut to the shape of the end of the body and of a size to overlap the out-turned end flanges 10 of the side plates. The upper edge of the door is flanged outwardly, as at 25, to stiffen the same, and its side and bottom edges are stiffened by having riveted to its outer face the angle bar 26, although if desired this may be effected by other means. The door is provided with hinge straps 27 whose eyes are journaled on a transverse rod or shaft 28 mounted at its ends in bearing members 29 secured to the upper forward corners of the body. These bearing members are shown as

pressed plates of angle shape, having a leg 30 riveted to the inner face of a side plate and the other leg 31 riveted to the outer face of an end flange 10 of said side plate. The lower edge of the door is locked by means of a vertically sliding pin or bolt 32 adapted to enter holes punched through the strap 22 and floor plate, said bolt being guided in a hole through the horizontal flange or leg of the angle bar 26 and by a strap or keeper 34 riveted to the outer face of the door. At its upper end said pin is provided with an eye 35 which is engaged by one arm 36 of an angle lever pivoted at 37 in a bracket 38 secured to the outer face of the door and having its handle 39 projecting upwardly and inclined toward the central line of the door. The bracket 38 forms a shoulder 40 which prevents the handle 39 from being pulled too far in the unlocking movement, while the inclined position of the handle permits gravity to hold the pin in locking position.

The body is mounted upon the usual axles 42 secured to the bottom of the body by connecting pieces 43, and at their outer ends bear the wheels 44, as is usual. Secured to the bottom of the body is a bracket 45 for connection to cable hauls when hauling the cars up an incline, said bracket being riveted to the bottom plate and the latter being provided on the inside with a strengthening plate 45 through which said rivets pass. A suitable brake block 47 is provided, this being operated by a lever 48 pivoted on a strap bracket 49 secured to the car sides and having the operating end guided by a strap 50 also secured to the car sides. A bracket 51 projecting from the bottom is provided with an opening for the lower end 52 of the strap which secures the block to the lever, and serves as a guide for the block. The brake, however, may be of any desired construction.

The main portion of the body is composed of only five pieces, namely, the two side walls, the bottom, the fixed end wall, and the door. The side plates are flanged on all four edges, the bottom flanges providing a connection with the floor, the top flange forming a longitudinal stiffener and the end flanges forming vertical stiffeners, or stakes, and also serving as a convenient means for the attachment of the fixed end plate and the ends of the transverse stiffeners of the floor, namely, the down-turned end flanges 13. This provides a body formed of a minimum number of parts and with a minimum number of riveted or other joints. Obviously, of course, the vertical flanges 10 might be replaced by sections of angle bars riveted to the side plates, and similarly the end flanges 13 of the bottom plate might be replaced by pieces of angle bar.

Fig. 7 shows a modification wherein the vertical end flanges 10 of the side plates do not extend below the bottom, and the ver-

tical flange 13 of the bottom plate does not extend beyond the sides, the connection between these parts being formed by a flanged angle member 55, riveted to the lower ends of the vertical end flange 10 of the side plate and the down-turned end flange 13 of the bottom plate. This form of connection provides two riveted joints at each corner instead of a single riveted joint, as in the preferred form, but it has the advantage of requiring less waste in cutting the side and bottom plates.

What I claim is:

1. A car body having side and bottom plates, the side plates being provided at their lower edges with inwardly projecting flanges which are secured to the bottom plate and having their end edges bent outwardly to form vertical stiffeners.

2. A car body having side and bottom plates, the side plates being provided at their lower edges with inwardly projecting flanges which are secured to the bottom plate and having their end edges bent outwardly to form vertical stiffeners, and an end plate secured to the end flanges of the side plates.

3. A car body having side and bottom plates, vertical stiffeners at the ends of the side plates extending outwardly therefrom, transverse stiffeners on the ends of the bottom plate, and means connecting said vertical and transverse stiffeners.

4. A car body having side and bottom plates, vertical stiffeners at the ends of the side plates projecting below the bottom, and transverse stiffeners on the ends of the bottom plate extending beyond the side edges thereof and secured directly to the lower projecting ends of the vertical stiffeners.

5. A car body having side and bottom plates suitably secured together, the side plates having their ends flanged to form vertical stiffeners extending below their lower edges, and transverse stiffeners for the bottom plates extending beyond the side edges thereof and secured directly to the lower ends of the vertical flanges of the side plates.

6. A car body having side and bottom plates suitably secured together, and vertical stiffeners at the ends of the side plates and projecting below their lower edges, the bottom plate having its ends flanged to form horizontal transverse stiffeners extending beyond the side edges thereof and secured directly to the lower ends of the vertical stiffeners of the side plates.

7. A car body having side and bottom plates suitably secured together, the side plates having their ends flanged outwardly to form vertical stiffeners, the bottom plate having its ends flanged to form horizontal transverse stiffeners, and means connecting said vertical and horizontal stiffeners.

8. A car body having side and bottom plates suitably secured together, the side plates having their ends flanged to form ver-

tical stiffeners extending below the lower edges thereof, and the bottom plate having its ends flanged to form horizontal transverse stiffeners extending beyond the side edges thereof and secured to the lower ends of the vertical stiffeners.

9. A car having a body open at one end, an end door hinged to said body and adapted to open upwardly and outwardly, a vertically sliding locking bolt carried by said door and arranged to engage the bottom of the body,

and an angle lever having one arm connected to the bolt and its free handle arm extending upwardly and arranged to maintain said bolt in its locked position by gravity.

In testimony whereof, I the said JOHN M. HANSEN have hereunto set my hand.

JOHN M. HANSEN.

Witnesses:

ROBERT C. TOTTEN.
J. R. KELLER.