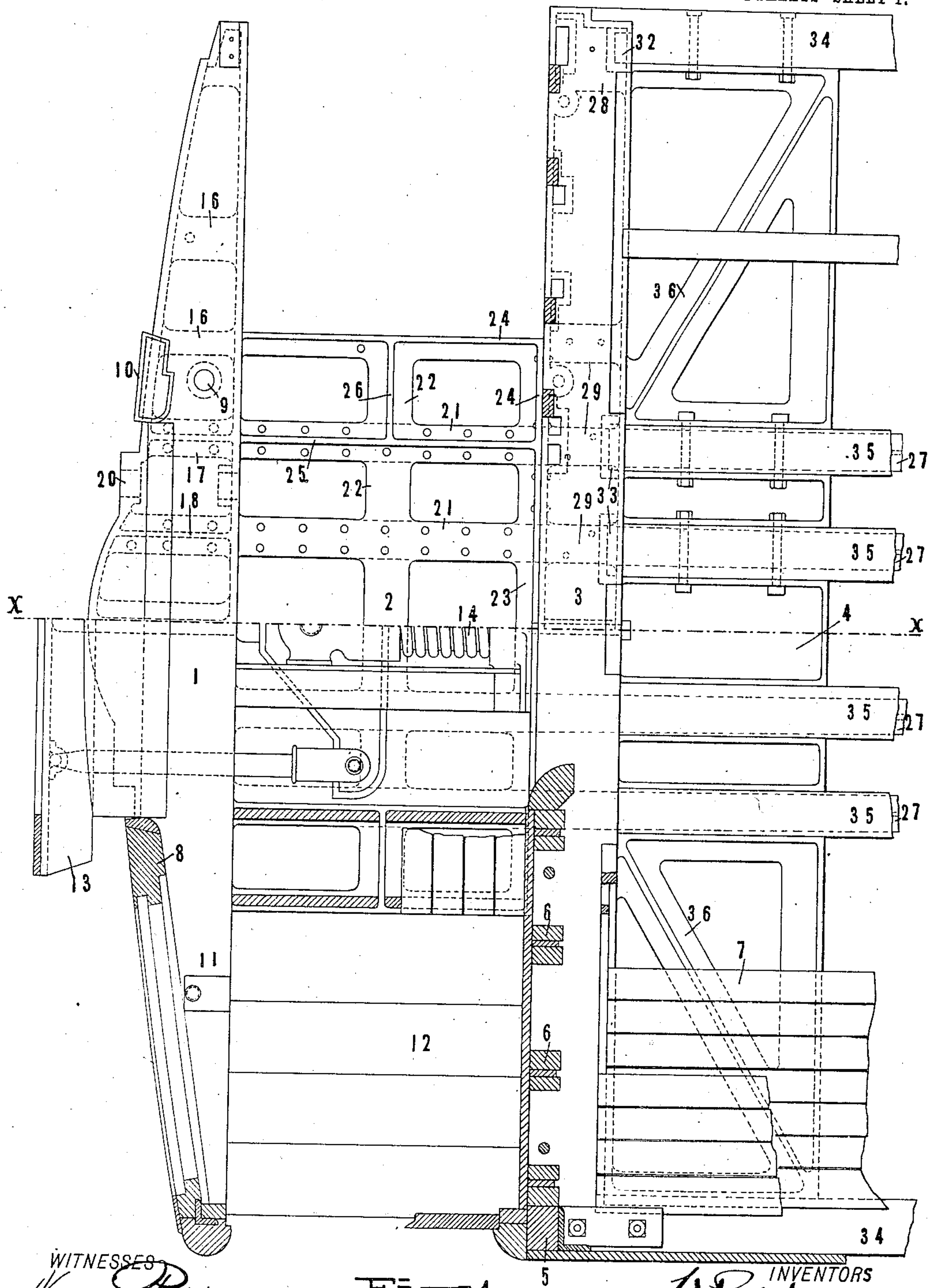


914,726.

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END CONSTRUCTION FOR CARS.
APPLICATION FILED JAN. 29, 1908.

Patented Mar. 9, 1909.

4 SHEETS—SHEET 1.



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Fig. 1.

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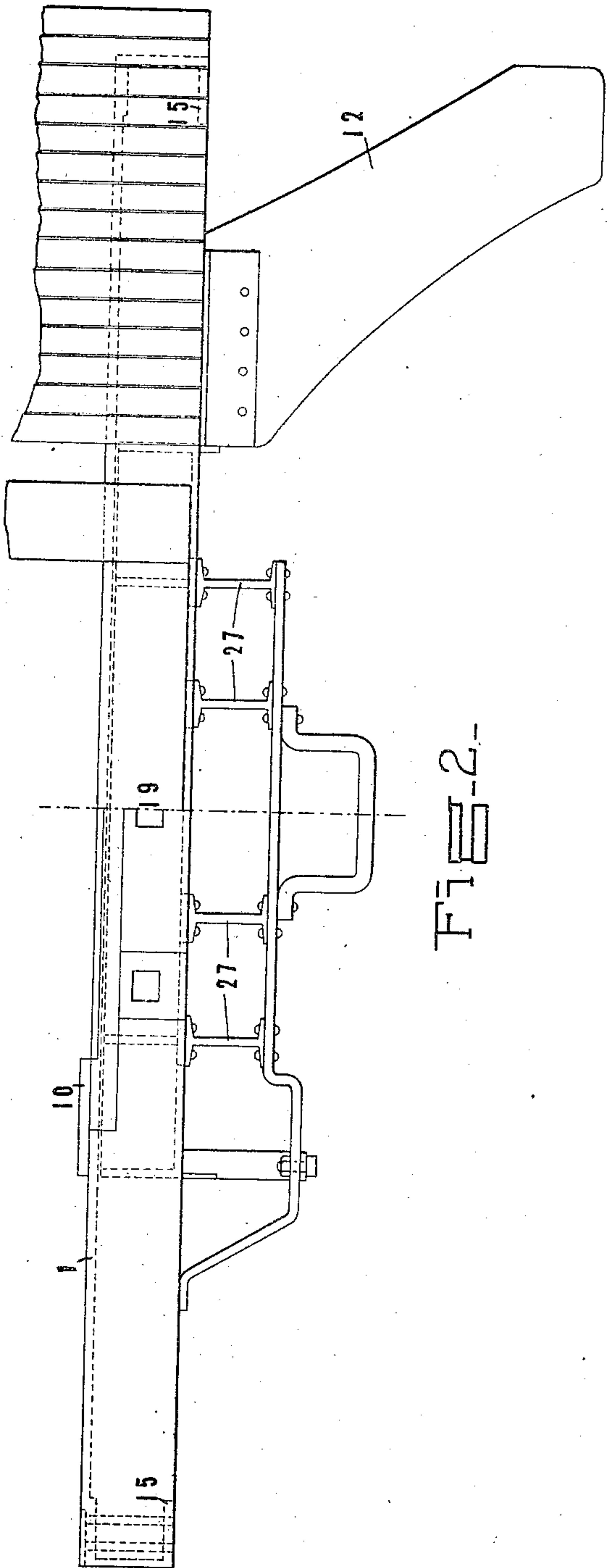


Fig. 2-

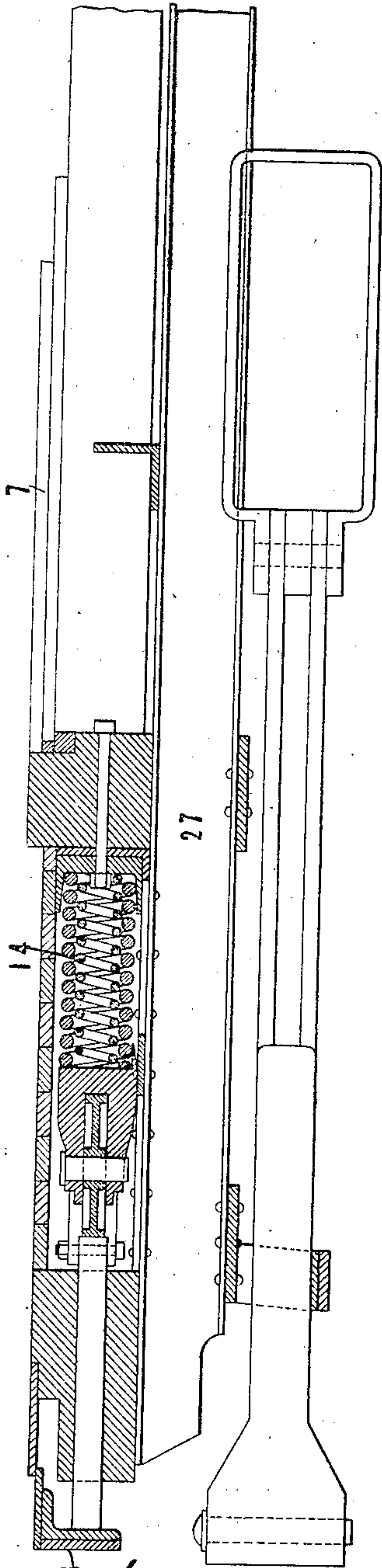


Fig. 3-

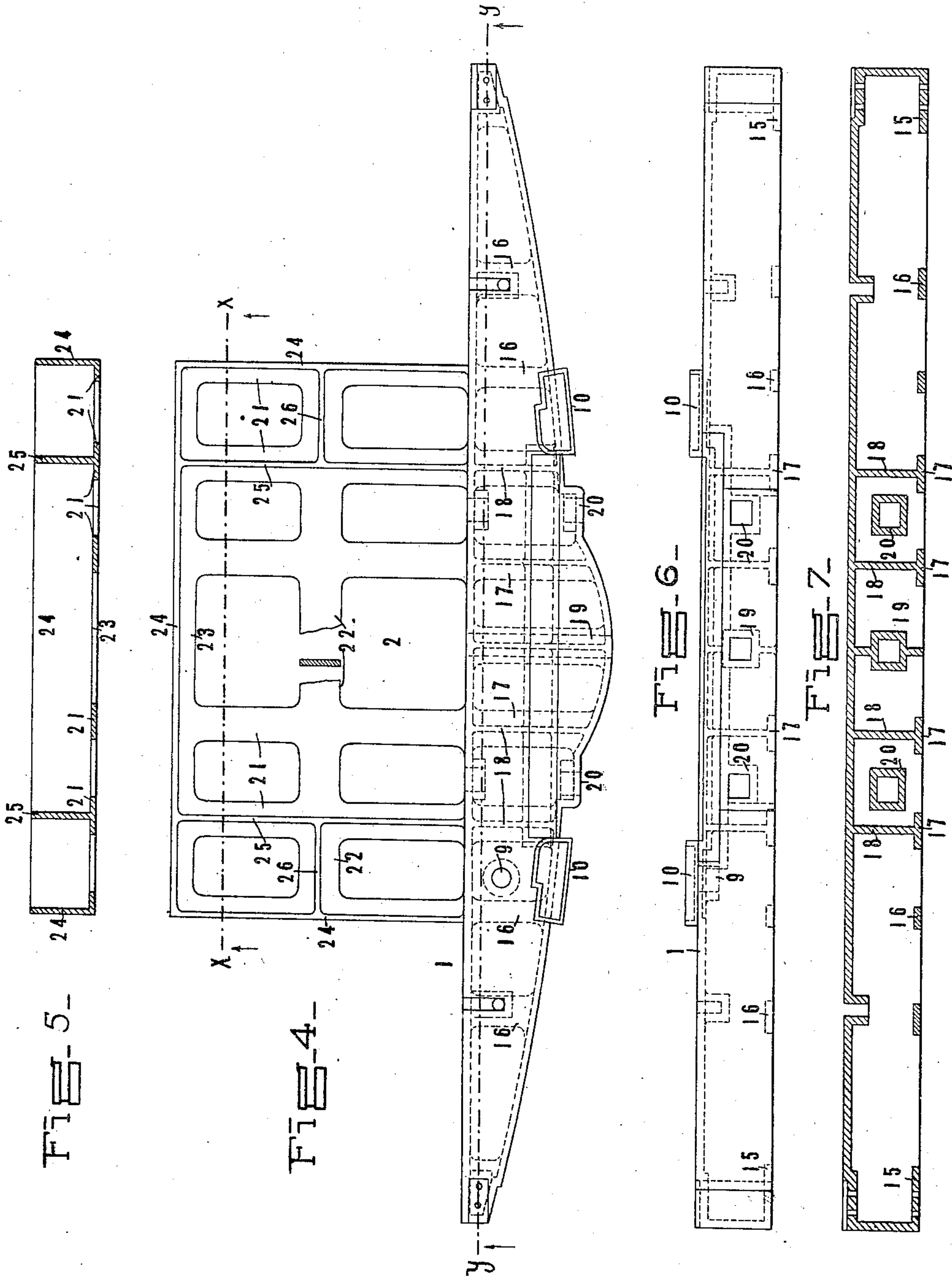
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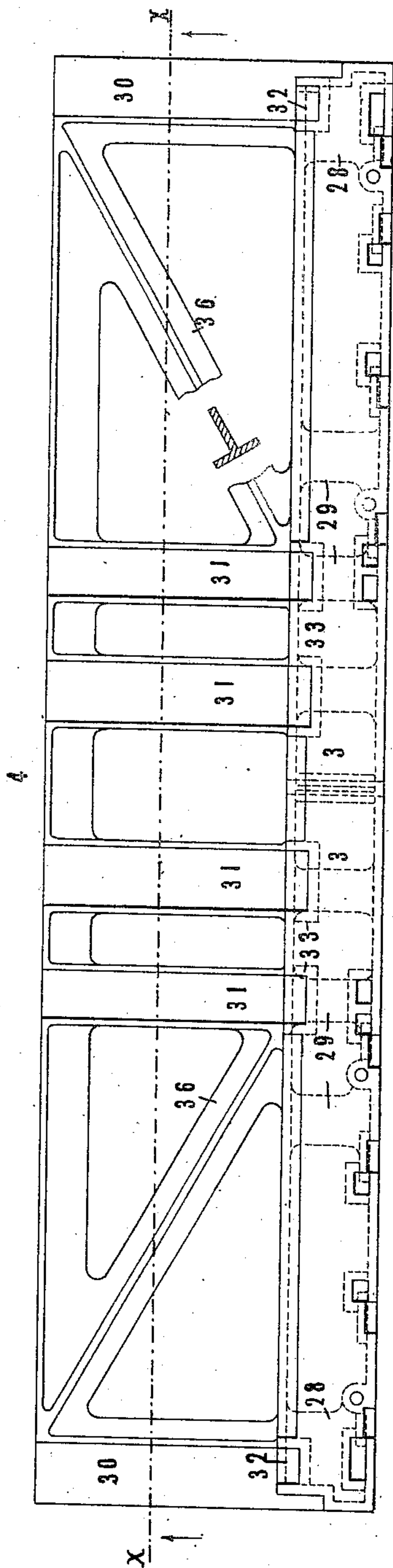


Fig. 8-

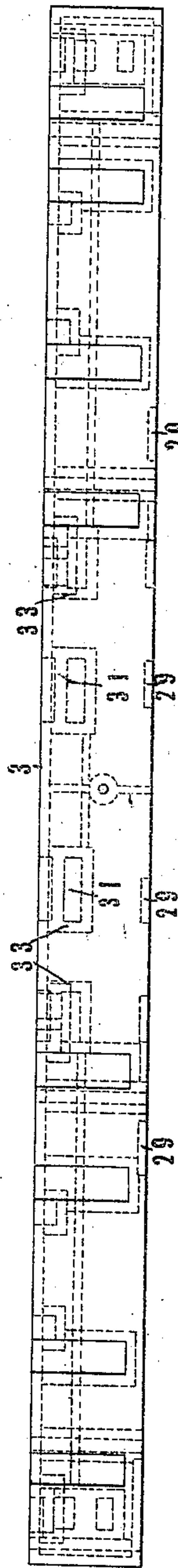


Fig. 9-



Fig. 10-

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UNITED STATES PATENT OFFICE.

BARTHOLOMEW JULIEN AND WILLIAM POINT, OF OMAHA, NEBRASKA.

END CONSTRUCTION FOR CARS.

No. 914,726.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed January 29, 1908. Serial No. 413,275.

To all whom it may concern:

Be it known that we, BARTHOLOMEW JULIEN and WILLIAM POINT, citizens of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in End Construction for Cars, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to the construction of railway cars, and with regard to the more specific features thereof to the construction of car platforms and the portions of the car adjacent thereto.

One of the objects thereof is to provide a rigid, light and strong end construction for cars.

Another object is to provide a construction of the above type which can be readily taken apart and assembled.

Another object is to provide a construction of the above type of such compact form as not to interfere with the most efficient disposal of draft gear and other accessories, and of such character as to act as a unit in resisting severe stress.

Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the construction hereinafter set forth, and the scope of the application of which will be indicated in the following claims.

In the accompanying drawings, wherein is shown one of various possible embodiments of this invention, Figure 1 is a plan thereof, in one-half of which is shown the relation of draft gear and other accessories thereto. Fig. 2 is a view of the parts shown in Fig. 1, certain elements being omitted in order to render the construction more clear. Fig. 3 is a sectional view taken along the line $x-x$ of Fig. 1. Fig. 4 is a plan of a buffer beam with an extension formed thereon. Fig. 5 is a sectional view taken along the line $x-x$ of Fig. 4. Fig. 6 is an end view of the parts shown in Fig. 4. Fig. 7 is a sectional view taken along the line $y-y$ of Fig. 4. Fig. 8 is a plan of an end sill of a car with an extension

formed thereon. Fig. 9 is an end view of the parts shown in Fig. 8. Fig. 10 is a sectional view taken along the line $x-x$ of Fig. 8.

Similar reference characters refer to similar parts throughout the several views of the drawings.

In order to render clearer certain features of this invention, it may here be noted that the strength and rigidity of the end construction of cars is of vital importance, as it is at this point that any impact or shock to which the car is exposed is first applied. If any stress is met by the car end, considered as a whole, and thus uniformly transmitted throughout the body, there is a relatively small likelihood of the car body failing to withstand the same. If it be attempted, however, to impart this highly desirable strength and rigidity to the end of the car, it is found that the draft gear and other accessories, which, with the heavy rolling stock and high speeds now in vogue must be of efficient construction and disposed at precisely the proper points, take up so much space and otherwise interfere so with the disposition of the frame elements that difficulties are found in achieving the end in view. It may also be noted that it is of a high degree of importance that the construction be such as to permit this portion of the car to be taken apart, as for renewal or repair of parts, without the consumption of an undue amount of time and labor, or the expense of tearing out the woodwork. There is thus presented the problem of utilizing the space left by the accessories in building up a strong, rigid, and yet readily disassembled frame structure for supporting the platform and forming the end of the car. The solution of this problem is among the dominant aims of this invention.

Referring now to Fig. 1 of the drawings, there is shown a buffer beam 1, hereinafter described in detail, and provided with the integral extension 2 abutting against and secured to the end sill 3 of the car. The latter member is provided with an integral extension 4 which, together with the end sill proper, forms pockets within which the longitudinal sills of the car are disposed. It may here be noted that by the term "pocket" as used throughout this description and the following claims, is meant such a conformation as is adapted to receive another member

and extend about two or more faces as, for example, one side and the bottom or two opposite sides of the same. It may also be noted that the term "longitudinal sills" is used broadly throughout as descriptive of any sills of the car body extending in a direction longitudinal thereof. Upon the end sill 3 are mounted the corner posts 5, end posts 6 and floor furring 7, the same being held in suitable pockets, and upon buffer beam 1 is mounted in a similar manner the vestibule end post 8, and this beam is so formed as by the opening 9, post shoe 10 and lock pocket 11, as to adapt it for the mounting of the vestibule diaphragm, the trap door, brake and other accessories. Also mounted between the end sill 3 and buffer beam 1, and secured to the extension 2, are steps 12 of well known construction. Buffer 13 with spring 14 are positioned for most efficient action, and the side and center buffer stems guided as hereinafter described.

Referring now to Figs. 4 and 7 of the drawings, the buffer beam 1 is shown of hollow metallic construction, preferably of a general inverted channel conformation, being substantially open at the bottom as indicated in the latter figure. The bottom, however, is inclosed for a short distance at each end as at 15 for the purpose of better tying down the posts mounted thereon, and is also provided with ties 16 and 17 for a purpose hereinafter described. The latter ties are connected with the upper portion of the beam as by vertical webs 18, and there are also formed integral with the beam the guides 19 and 20, respectively adapted to receive the center and side stems of the buffer. Cast integral with the buffer beam is the extension 2 above referred to, which comprises the longitudinal members 21 connected by cross portions 22 and 23. This extension is flanged at its edges as at 24, and is also provided with stiffening webs 25 and 26. Flange 24 is riveted to the end sill 3 as shown in Fig. 1 and the portions 21, as well as the ties of the buffer beam, are riveted to the platform sills 27 of I cross section resting beneath the same. These platform sills, moreover, pass beneath the car body as shown in Fig. 3, and are riveted in position beneath the end sill and the center sills thereof.

As best shown in Figs. 8 and 9 of the drawings, the end sill 3 is of hollow metallic construction, being substantially open at the bottom, although closed for a short distance at each end as 28 and provided with integral cross ties 29. With this sill is cast the extension 4 which forms pockets 30 and 31 registering with the pockets 32 and 33 in the end sill and adapted to receive respectively the side sills 34 and center sills 35 of the car body. This extension, which is of a T and angle cross section to provide a maximum of lightness and rigidity, has formed therein the

diagonal braces 36 extending from the end of pockets 31 outwardly toward the pockets 30, as shown in the drawings.

The action of the above described embodiment of this invention is substantially as follows: The parts are readily assembled as shown in Fig. 1 of the drawings, and the draft rigging and other accessories compactly disposed and held securely in position for most efficient action. The parts moreover may be readily taken apart by the removal of a few rivets, and yet when assembled are so disposed with relation one to another as to act virtually as a unit in resisting all stress imposed thereon. The end construction, moreover, is rigidly interlocked with the main elements of the floor frame, and all shocks applied to the buffer beam are uniformly diffused throughout the entire car.

It will thus be seen that there is provided a construction in which the objects of this invention are achieved, and the above enumerated advantages are among others present. The construction is simple, cheap and light, and yet strong and stiff and well adapted to resist the hardest practical use.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense. It is also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention, which, as a matter of language, might be said to fall therebetween.

Having described our invention what we claim as new and desire to secure by Letters Patents is:—

1. In car construction, in combination, a hollow metallic buffer beam having cast integral therewith a guide extending from the front to the rear wall thereof, and a buffer provided with a stem adapted to enter said guide.

2. In car construction, in combination, a hollow metallic buffer beam of substantially channel cross-section open at the bottom and having cast integral therewith a guide extending from the front to the rear wall thereof, and a buffer provided with a stem adapted to fit said guide.

3. In car construction, in combination, a hollow metallic buffer beam substantially open at the bottom and provided with portions extending across the bottom and connecting the side portions one with another, and platform sills to which said bottom portions of said buffer beam are secured.

4. In car construction, in combination,

platform sills, a hollow metallic buffer beam substantially open at the bottom and having portions extending across the bottom and provided with webs connecting said bottom portions and the side portions of the beam, and means securing said bottom portions to said platform sills.

5. In car construction, in combination, a buffer provided with a stem, platform sills, and a hollow metallic buffer beam over said sills having cast integral therewith a guide for said buffer stem and bottom portions resting upon and secured to said platform sills.

6. In car construction, in combination, platform sills, and a hollow metallic end sill positioned above said platform sills and substantially open at the bottom and having integral portions extending across the bottom and secured to said platform sills.

7. In car construction, in combination, platform sills, and a hollow metallic end sill positioned above said platform sills and having pockets formed therein adapted to receive longitudinal sills of the car and having integral portions at the bottom thereof secured to said platform sills.

8. In car construction, a hollow metallic end sill of substantially channel cross-section substantially open at the bottom and having pockets formed adjacent each end for the side sills of the car and closed at its bottom adjacent said pockets.

9. In car construction, in combination, platform sills, and a hollow metallic end sill positioned above said platform sills substantially open at the bottom and having pockets formed therein for the center and side sills of the car, said end sill being closed at the bottom at each end adjacent each pocket for said side sills and having integral portions at the bottom connected with said platform sills.

10. In car construction, in combination, side and center sills, and a metallic frame having pockets formed therein adapted to receive and hold in position said side and center sills, said frame comprising diagonal members extending from the center sill pockets toward each of said side sill pockets.

11. In car construction, in combination, platform sills, and a hollow metallic buffer beam positioned above said platform sills and having formed integral therewith an extension stretching toward and substantially abutting against the end sill of the car,

said buffer beam and extension each having portions extending substantially parallel to said platform sills and secured thereto.

12. In car construction, in combination, a hollow metallic member adapted to act as a buffer beam, a hollow metallic member adapted to act as an end sill and having pockets adapted to receive longitudinal sills of the car, a metallic extension formed integral with one of said members and secured to the other, and platform sills extending beneath said buffer beam, extension and end sill and secured thereto.

13. In car construction, a hollow metallic end sill having formed integral therewith an extension provided with pockets adapted to receive the side and center sills of the car and comprising integral diagonal members extending from the center sill pockets toward each of said side sill pockets.

14. In car construction, a hollow metallic end sill substantially open at the bottom and having portions extending across the bottom, an extension formed integral with said end sill and provided with pockets adapted to receive longitudinal sills of the car, and platform sills extending beneath and secured to said bottom portions of said end sill and to said extension.

15. In car construction, in combination, a hollow metallic buffer beam having formed integral therewith an extension stretching toward the car and a hollow metallic end sill to which said extension is secured and having formed integral therewith an extension provided with pockets adapted to receive the longitudinal sills of the car.

16. In car construction, in combination, a hollow metallic buffer beam having formed integral therewith an extension stretching toward the center of the car, a hollow metallic end sill against which said extension abuts and to which it is secured and having formed integral therewith an extension provided with pockets adapted to receive the longitudinal sills of the car, and platform sills extending beneath and secured to said buffer beam, end sill and extensions.

In testimony whereof we affix our signatures, in the presence of two witnesses.

BARTHOLOMEW JULIEN.
WILLIAM POINT

Witnesses:

H. P. VAN ARSDALE,
N. F. HARIMAN.