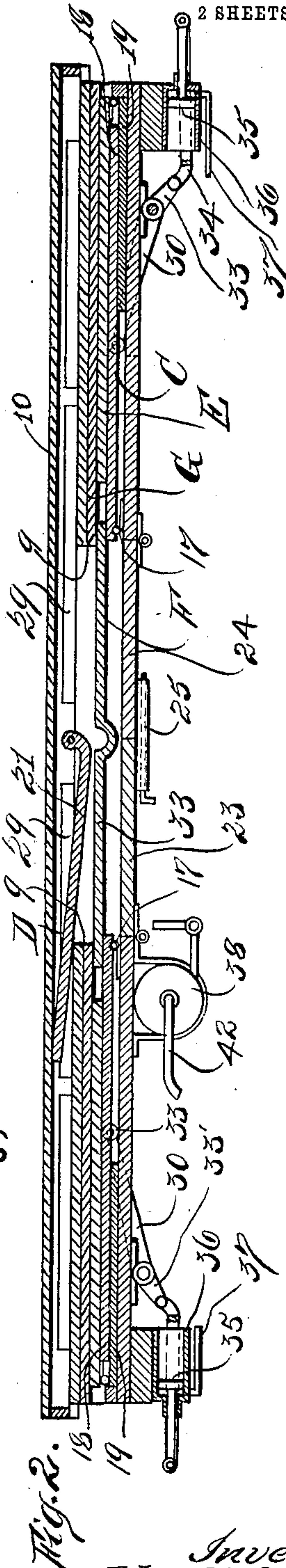
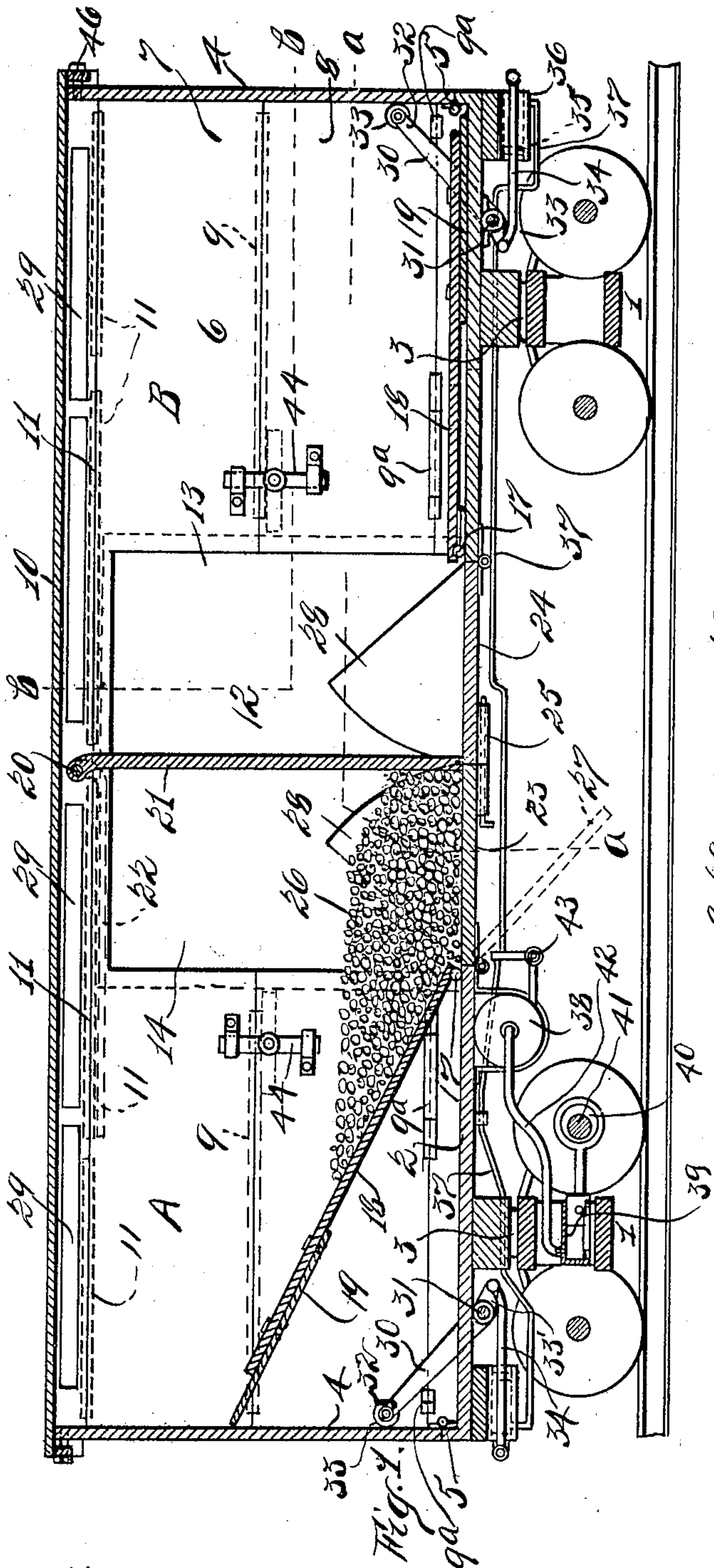


J. T. APGAR.
 CONVERTIBLE RAILROAD CAR.
 APPLICATION FILED OCT. 1, 1908.

909,860.

Patented Jan. 19, 1909.

2 SHEETS—SHEET 1.



Witnesses:
 C. A. Jarvis
 Charles Schlivinski.

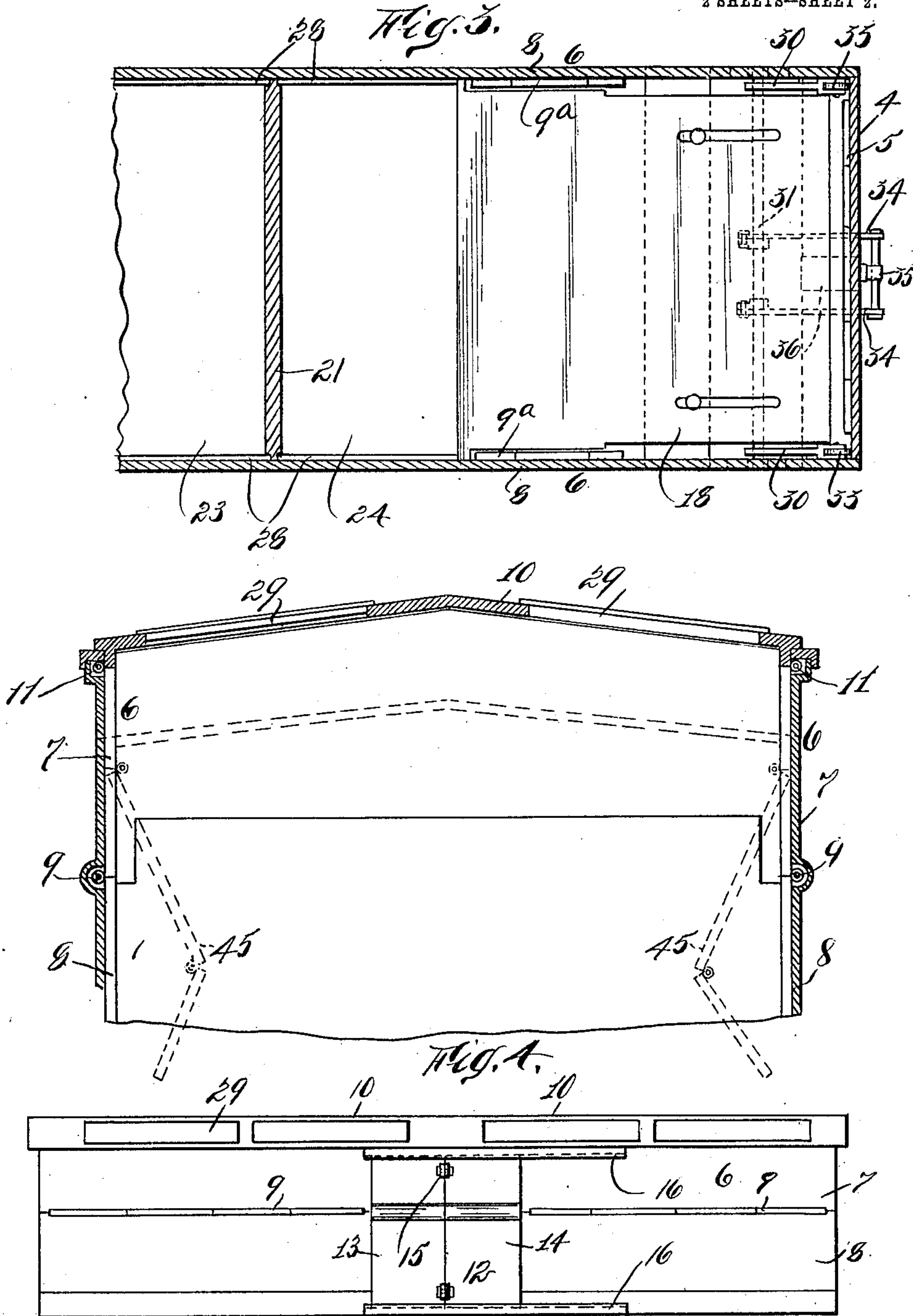
Inventor:
 John T. Apgar
 By *Wm. B. Black*
 Attorney.

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Fig. 5.

Inventor:
 John T. Apgar
 By *Wm. V. Vessel*
 his Attorney.

UNITED STATES PATENT OFFICE.

JOHN T. APGAR, OF NEW YORK, N. Y.

CONVERTIBLE RAILROAD-CAR.

No. 909,860.

Specification of Letters Patent.

Patented Jan. 19, 1909.

Application filed October 1, 1908. Serial No. 455,717.

To all whom it may concern:

Be it known that I, JOHN T. APGAR, a citizen of the United States, residing at New York city, Manhattan borough, county and State of New York, have invented certain new and useful Improvements in Convertible Railroad-Cars, of which the following is a clear, full, and exact description.

This invention relates to a convertible railway car, the object being to provide a car that can be used as an inclosed freight car, adapted to carry perishable freight, the said car being also adapted for conversion into a flat, or gondola car, or a combination freight and coal car.

To adapt my improved car for the above mentioned purposes, I preferably form the upper portion of the car in such a manner as to enable the said upper portion to be folded, or knocked down, against the bottom or sustaining frame of the car. To manipulate the said foldable sections, I employ a power device operated, preferably by compressed air, the said air being compressed by an air-pump, operated by one of the axles of the car.

My improved car will be very useful for the reason that when used as a combination car, a suitable partition being employed to divide the car, perishable freight can be carried in one end of the car, and coal or any other similar freight can be carried in the other compartment of the car.

To use my improved car as a coal car, I have provided a false bottom which can be inclined in order to facilitate the discharge of the coal.

I will now proceed to describe my invention, the novel features of which I will finally claim, reference being had to the accompanying drawings, wherein—

Figure 1 represents a longitudinal central section of my improved freight car, arranged to carry perishable freight in one end thereof; Fig. 2 represents a longitudinal central section of my improved car, shown folded or knocked down to form a flat car, the running gear being omitted; Fig. 3 is a sectional plan view of one end of my improved car, the section being taken on a line *a—a* in Fig. 1; Fig. 4 is an enlarged fragmentary vertical sectional end view taken on a line *b—b* in Fig. 1; and Fig. 5 is a side elevation on a reduced scale of my improved car, the running gear being omitted.

Referring now to the drawings, 1 indicates in a general way the trucks of my improved car, which may be of the ordinary construction, while 2 indicates the platform of the car, which is pivotally connected, in the usual manner, to the trucks 1, as at 3.

To carry out the object of my invention, I pivotally connect the end members 4 to the platform 2, as at 5. The sides 6 of the car being composed of members 7 and 8, which are pivotally connected as at 9, 9^a. To avoid chances of leakage, I prefer to make the top of the car an integral structure, the said top being pivotally connected to the members 7 of the sides 6, as at 11. The sides 6 are provided with a door 12, which comprises two sections 13 and 14 which are bolted together, as at 15, Fig. 5, when the said car is in use as a box-car. The object of making the door 12 sectional is to make the door easy to handle, when I desire to form a flat car. When the car is to be made into a flat car, the sections 13 and 14, which form the door 12, are separated and stored away beneath the top 10, as shown at F in Fig. 2. The sides 6 are provided with guideways 16, which are adapted to receive and slidably retain the door 12 in position, when the car is in the form of a box-car. For this purpose the doors 12 are manipulated in the usual manner.

To the platform 2 of the car I pivotally secure, as at 17, the false bottoms 18, the said bottoms being provided with slidable extensions 19, for a purpose to be hereinafter described.

To the top 10 of the car, I pivotally secure, as at 20, a foldable partition 21, which, when the car is used as a box-car, can be held up adjacent to the top of the car, as shown by dotted lines 22 in Fig. 1. To form a combination car said partition 21 can be let down to divide the car in half as shown by full lines in Fig. 1.

To adapt the car for the ready discharge of coal, for instance, I provide the trap doors 23 and 24, which, when in their normal position are held up in parallelism with the platform 2 of the car, by a series of bolts, one of which is indicated by 25, Fig. 1.

Referring to Fig. 1, which shows the car in the form of a combination car, it will be seen that the false bottom 18 in the left end of the car is inclined, the extension 19 of said bottom being extended to meet the adjacent end 4 of the car, the partition 21

being let down to divide the car into compartments A and B. In this instance, the compartment A is supposed to be provided with coal, indicated by 26, the trap-door 23 of said compartment being held up in alignment with the platform 2. Should I desire to discharge the coal from the compartment A, I lower the door 23 to a position shown by the dotted lines 27, whereby the coal will fall out of the compartment A. The doors 23, as well as the door 24, are provided with sides 28, whereby the said doors and sides constitute a chute. While the compartment B is shown in condition to receive freight, other than coal, it will be understood that the false bottom 18 therein may be inclined, the same as the bottom 18 of the compartment A, whereby the said compartment B is adapted to retain coal, also. When the car is in condition to be used as a coal car only, the partition 21 will be raised to the dotted line position, and both false bottoms 18 elevated, or inclined. In order to charge the car with coal, I provide the top 10 with trap doors 29, (see Fig. 5), which can be taken off thereby producing an opening through which the coal can pass. To produce a flat car, the bottoms 18 are lowered to a position indicated by C, Fig. 2, and the partition 21 held up adjacent the top of the car, as shown at D, in said Fig. 2. The ends 4 are then pushed inwardly and allowed to lie upon the false bottoms 18, as indicated by E, Fig. 2.

Referring again to Fig. 1, it will be seen that adjacent each end of the platform 2, I pivotally mount levers 30, which are carried by shafts 31, the ends 32 of said levers being provided with a roller 33, which rests against the inner surface of the ends 4 of the car. The said levers 30 are provided with short arms 33', which are connected by a link 34, to a piston 35, which is adapted to work in a cylinder 36. Each cylinder 36 has a pipe connection 37, with an air supply tank 38, the said tank being connected to an air pump 39, operated by an eccentric 40 on the axle 41 of the car. A flexible pipe 42 connects the tank 38 and pump 39. The pipe line 37 is opened or closed by a valve 43. When the ends 4 are forced inwardly, the levers 30 will also be forced inwardly, and, when the ends 4 are all the way down, the said levers will assume a position, as shown in Fig. 2.

I next take off the door sections 13 and 14, and place them as shown at F, Fig. 2. To fold the sides 6 and top 10 carried thereby, the locks 44, which are designed to brace the said sides 6, when a box-car is formed, are thrown to a position indicated by dotted lines, whereby the sides 6 may be forced inwardly, as shown by dotted lines 45, Fig. 4, and finally caused to lie upon the ends 4, as shown at G, Fig. 2. As the top 10, of the car is pivotally secured to the members 7, of

the said side 6, the said top will descend when the side members 7 and 8 are folded.

As the car travels, air will be compressed in the tank 38 by means of the pump 39, and the pressure of the said air can be regulated by any well known means. The object of compressing the air in the tank 38 is to provide power to operate, or unfold, the foldable members which constitute the upper portion of my improved car. The compressed air in the tank 38 forces the pistons 35 in the cylinders 36 inwardly, when the valve 43 in the pipe line 37 is open.

Supposing the car to be in the form as shown in Fig. 2, or flat, and I desire to form a box-car. To unfold, or elevate the ends 4, sides 6, and top 10, I open the valve 43, which allows air to pass into the cylinders 36, whereby the pistons 35 are forced inwardly. The inward movement of the pistons 35 raises the levers 30, whereby the ends 4 which are contacted by the roller 32, are raised. As the sides 6 rest upon the said ends 4, they also will be carried upwardly together with the top 10. As the said ends 4 rise, the members 8 of the side 6 will rise also, and carry the top 10 upwardly, and as the top 10 rises, the upper members 7 will unfold in the manner of a toggle and when the ends 7 have assumed a vertical position the members 7 and 8 of the sides 6 will be completely unfolded and form a substantially flat surface. When the ends 4 have assumed their vertical position the said ends and top 10 are bolted together, as at 46, Fig. 1. The whole upper structure of the car is held in an unfolded position by the said ends 4.

Suitable means will be provided to make the joints of the foldable members water tight, said means may comprise rubber gaskets or other well known means. Certain details of construction which have not been described are thought to be fully illustrated. The false bottoms 18 may be varied as to inclination by means of the extensions 19.

It will be of course understood that when the car is used for coal only both doors 23 and 24 will be lowered to form a chute to discharge the coal.

Having now described my invention, what I claim and desire to secure by Letters Patent is:

1. In a railway car, a platform, foldable end members and side members carried thereby, and a power device adapted to actuate said members.

2. In a railway car, a platform, end members pivotally secured thereto, side members also pivotally secured thereto, said members being adapted to fold against said platform, whereby a flat-car is produced, and a power device adapted to actuate said members.

3. In a railway car, a platform, end members pivotally secured thereto, side members

also pivotally secured thereto, a top pivotally secured to said side members, all of said members being adapted to fold against said platform, whereby a flat-car is produced,
5 and a power device adapted to actuate said members.

4. In a railway car, a platform, foldable end members carried thereby, foldable side members, comprising a plurality of foldable
10 sections also carried by said platform, and a power device adapted to actuate said sections.

5. In combination with a railway car body, comprising a plurality of foldable sections, a pneumatic power device adapted to
15 actuate said sections.

6. A railway car body comprising end members, side members and a top, a foldable partition adapted to divide said body into

compartments, each of said compartments 20 being provided with a false bottom adapted for inclination independently of each other, and a trap-door adjacent each of said false bottoms.

7. In combination with a railway car, 25 comprising a platform, foldable end members carried thereby, foldable side members also carried thereby, and a top carried by said side members, a pneumatic device, operated by the running gear of said car, 30 adapted to actuate said foldable members.

Signed at New York city, N. Y., this 25th day of September, 1908.

JOHN T. APGAR.

Witnesses:

EDWARD A. JARVIS,
ABRAM SHLIVEK.