

(No Model.)

H. BAINES.
CAR FOR LIVE STOCK.

No. 401,678.

Patented Apr. 16, 1889.

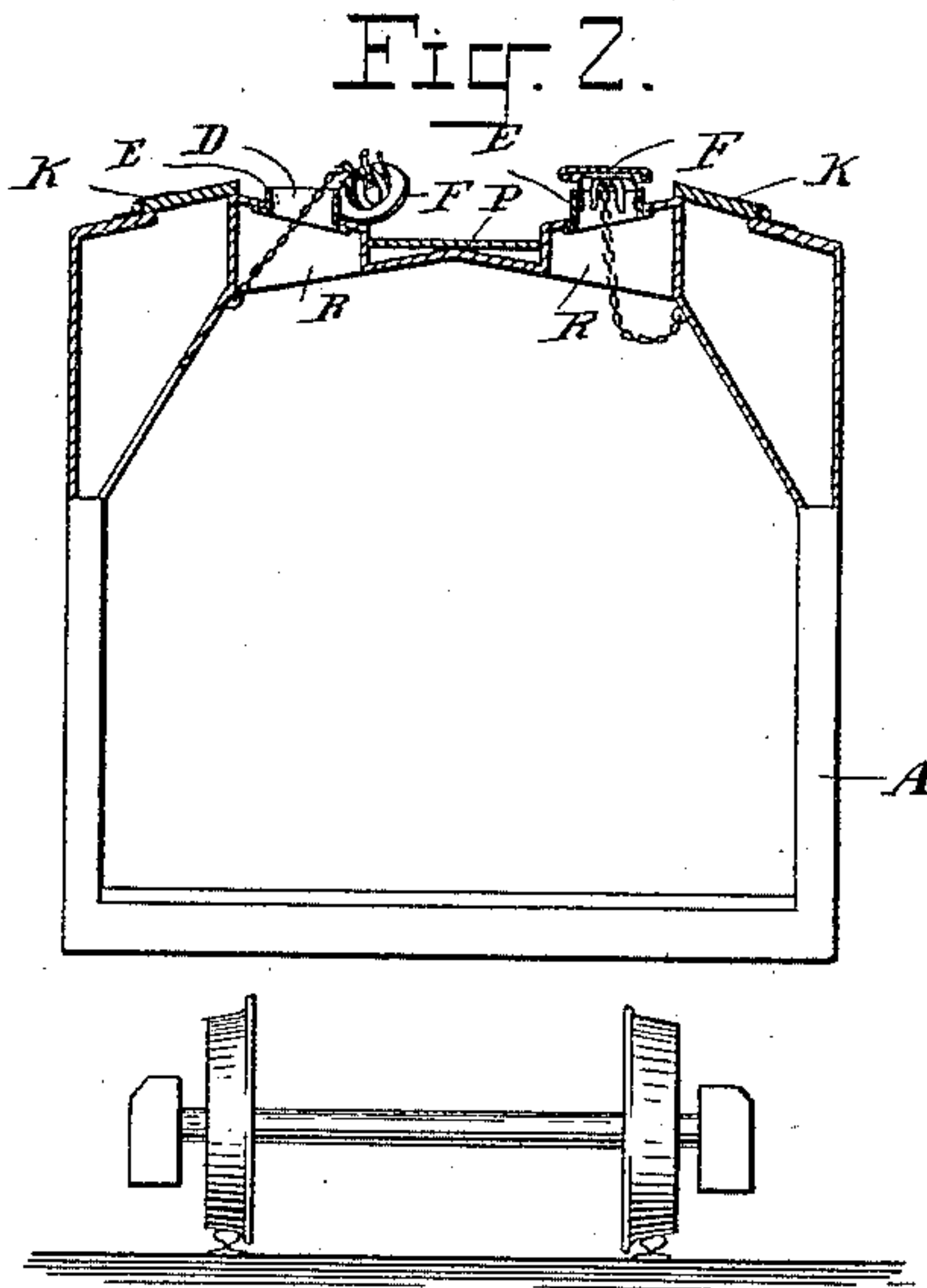
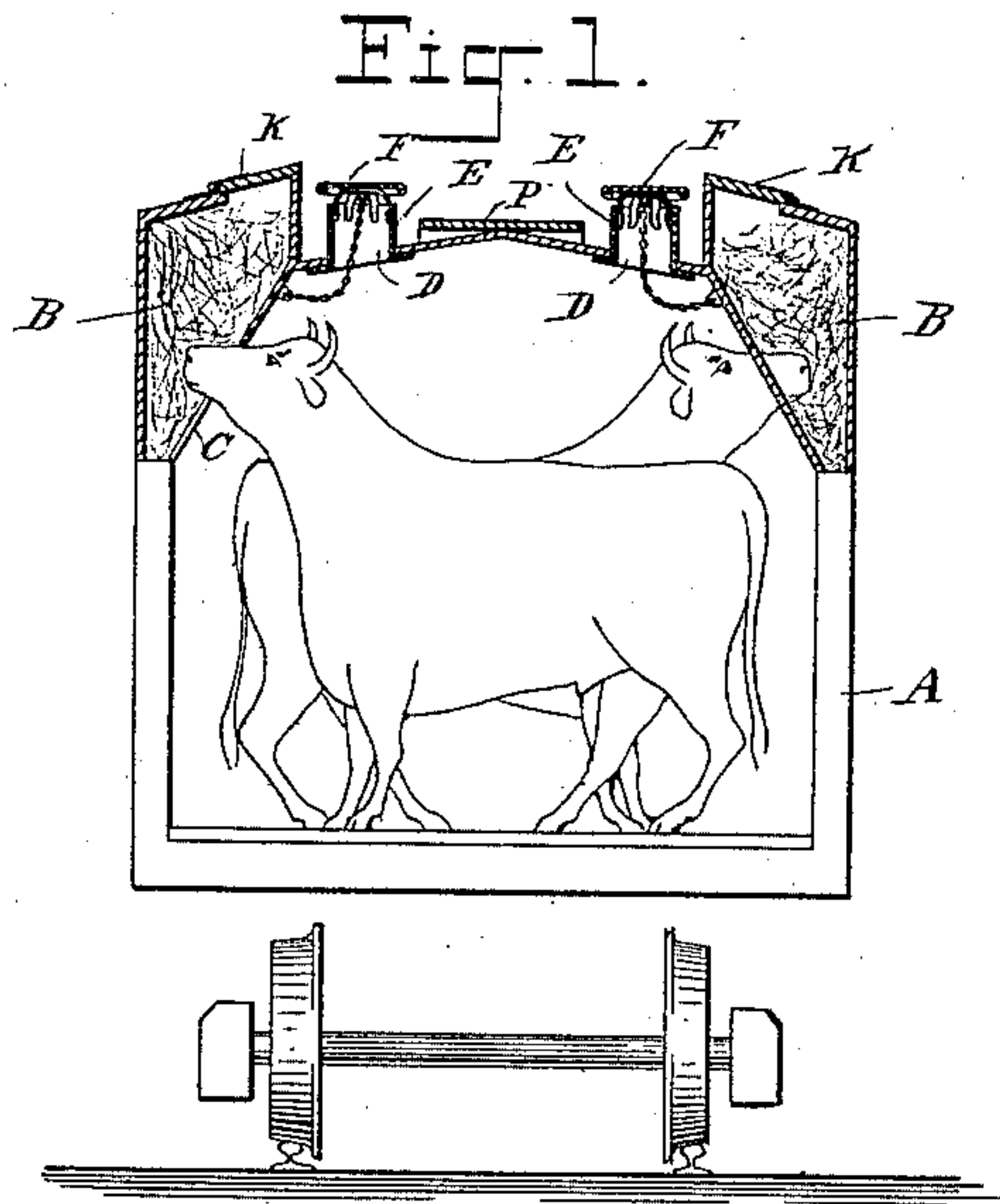
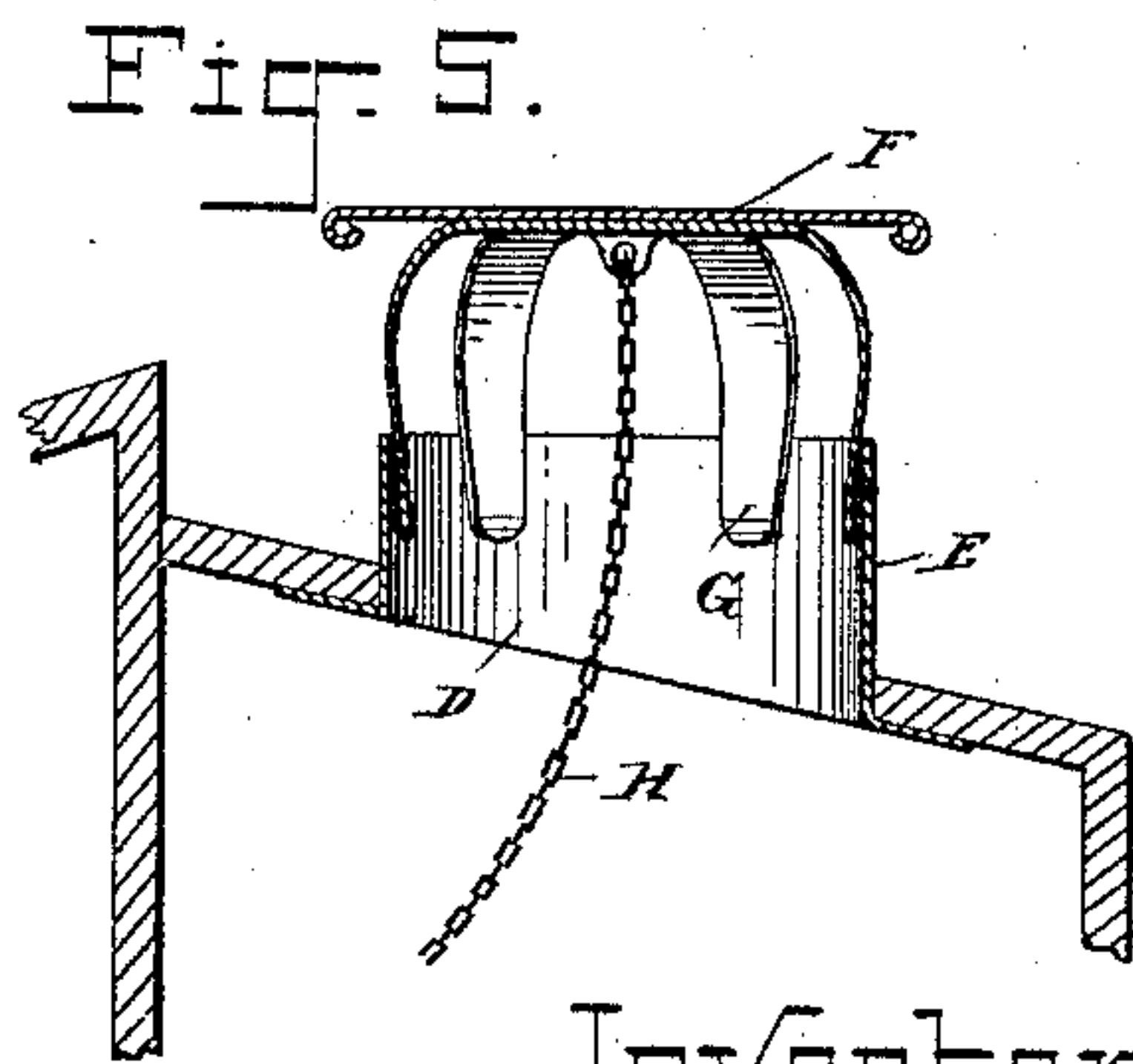
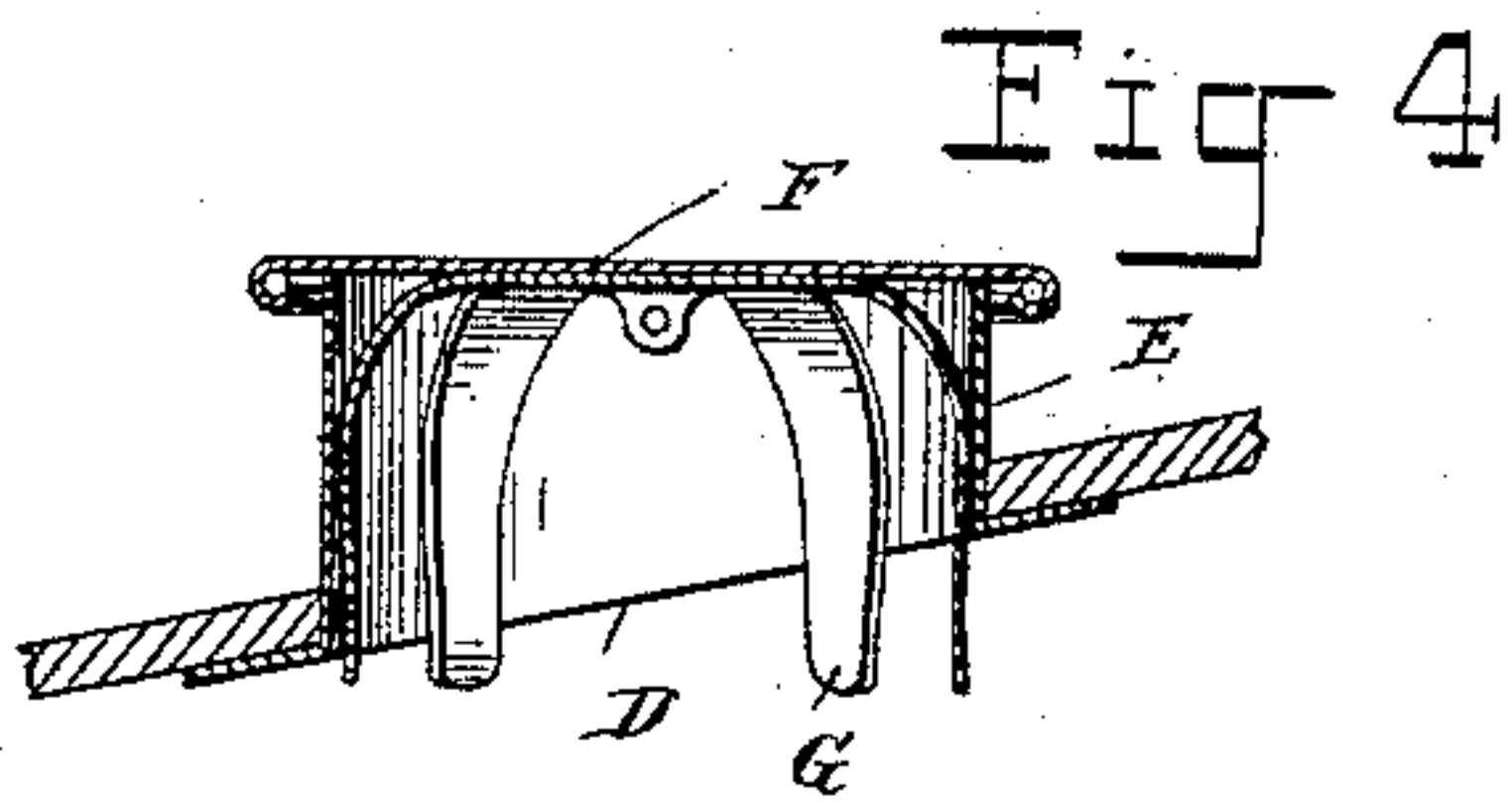
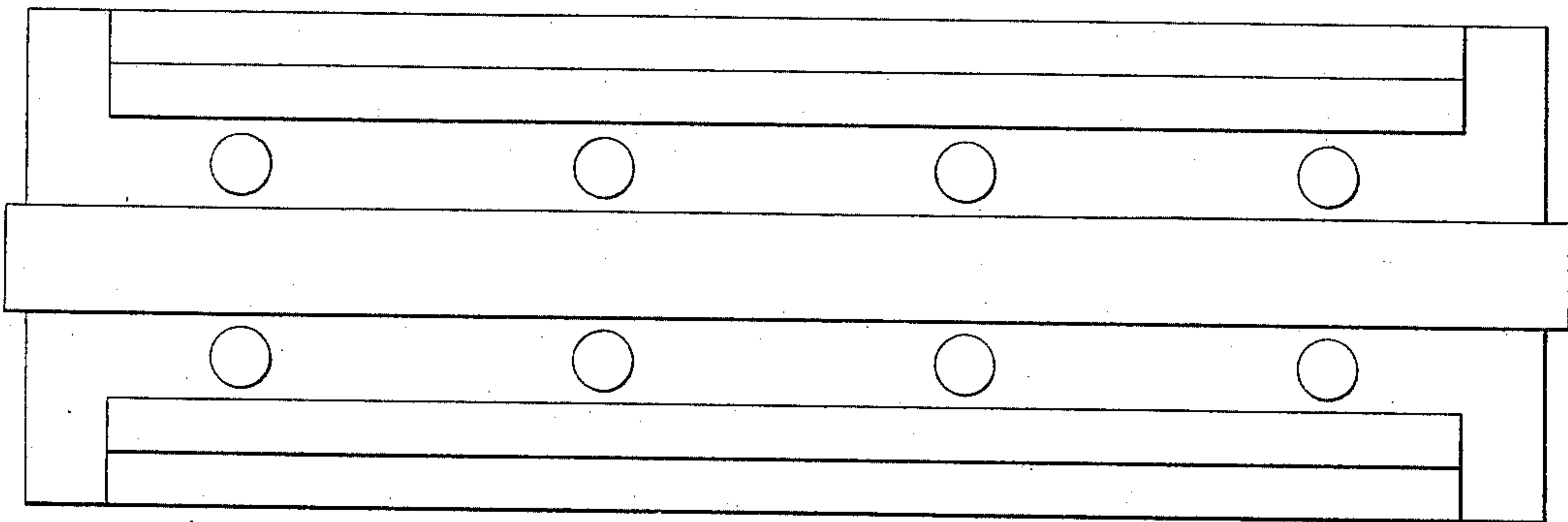


Fig. 3.



Witnesses
John F. Nelson.
George E. Bruce.

Inventor
Hugh Baines
By *Knight Bros*
Attorneys

UNITED STATES PATENT OFFICE.

HUGH BAINES, OF BROOKLYN, NEW YORK.

CAR FOR LIVE STOCK.

SPECIFICATION forming part of Letters Patent No. 401,678, dated April 16, 1889.

Application filed May 12, 1888. Serial No. 273,724. (No model.)

To all whom it may concern:

Be it known that I, HUGH BAINES, a subject of the Queen of Great Britain, residing at Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Cars of all Kinds Having in or on Them Racks Carrying Hay or Coarse Food for Live Stock, of which the following is a specification.

10 This invention relates to improvements on the cattle-cars shown, described, and claimed in United States Letters Patent No. 268,677, granted to James Howard and myself December 5, 1882. This previous patent describes
15 a longitudinal opening, N, as shown in Fig. 2 of the drawings of said patent, and the specification refers to it as a free space through which the drover can get a sight of the cattle from the roof of the car. This construction
20 has been employed for a number of years with more or less success; but it has certain drawbacks which my present invention is designed to avoid, one of the main drawbacks being that the lid which covers the longitudinal opening,
25 being normally down or in a closed position, will confine the heated air directly under it, so that when the drover or shipper lifts it for the purpose of looking into the car and observing the condition of the cattle the heated
30 air will rush out, thereby rendering it very unpleasant and causing too sudden a draft in the interior of the car. Although some ventilation was thus obtained for the car, it was not sufficiently steady and regular, and another object of my invention is to provide for
35 an even system of ventilation which will keep the air at the requisite temperature in ordinary weather, and also prevent an accumulation of hot air within the car in warm weather,
40 thus avoiding the danger of suffocating the cattle by reason of the air in the interior of the car becoming too hot.

My present observers and combined ventilators are provided with caps fitting adjustably over the top of the exhaust-flues, said caps
45 being adapted to be gradually lowered as the weather becomes more inclement, and to be entirely closed in cold weather, if desired. During most of the year, however, they will
50 form permanent ventilators, and I will so term them, although, as above stated, they

may be closed, if desired. This system of ventilation, therefore, is a great improvement over that shown, described, and claimed in the former United States Letters Patent above
55 referred to, inasmuch as the former device would cease to be a ventilator as soon as the lid was closed down.

Previous to the employment of the present construction I have used wire-gauze of various-sized meshes, which I have placed in different localities in the roof of the car, and especially in connection with the sides of the
60 hay-rack above the roof of the car, for the purpose of giving ventilation; but this construction has several serious drawbacks, and is much inferior to the device which I now use and which I have substituted therefor.
65 One drawback to the wire-gauze was that where the meshes were made small they would afford insufficient ventilation, and they were liable to become stopped by the cinders from the locomotive, thus rendering them useless,
70 and where they were of a larger size the cinders would enter the hay-rack and make the hay unfit to eat or else fall into the interior of the car in considerable quantities.

My present invention overcomes these drawbacks; and it consists in a stock-car constructed with an elevated hay-rack in the
80 roof, elevated ventilation-ducts contiguous thereto, and removable caps to protect said ducts and permit observation of the interior, as hereinafter described and claimed.

Referring to the accompanying drawings, 85 which form a part of this specification, Figure 1 is a transverse section of a cattle-car with the Howard and Baines fire-proof hay or food rack and my improved combined ventilator and observation aperture. Fig. 2 is a
90 similar view of a modification. In this form I have combined with the ventilating-exhausts and observation-apertures suitable air-chambers in which the heated and vitiated air is received before it leaves the car by way of
95 the exhausts. Fig. 3 is a plan view of the top of a car, showing my invention applied. Figs. 4 and 5 are detail views, on an enlarged scale, showing the cap or cover of the ventilator in different positions.

100 In the drawings, A represents the car-body, and B the hay or food rack, preferably made

fire-proof, as described in the former patent above referred to, with openings at C, whereby the cattle or stock may obtain easy access to the said food-racks.

5 D represents openings through the roof of the car, and within these openings are set the vertical exhaust flues or shafts E, which extend upwardly to any desired distance. These vertical shafts are provided with removable
10 caps or covers F, which caps or covers are provided with elastic spring pieces or fingers G, (shown enlarged in Fig. 5,) which spring-fingers are adapted to be inserted within the vertical shafts or exhaust-flues and to retain
15 the horizontal caps or covers F at any desired height relatively to the flues E. By this means the draft which travels upwardly through the exhaust-flues may be regulated by the adjustable cap aforesaid through the medium of the
20 spring pieces or fingers; or the cap may be placed in its lowest position, as shown in Fig. 4, thereby entirely closing the ventilator-shaft and shutting off the upward movement of the air within the interior of the car. A chain or
25 strap, H, fastens the cap F to any suitable portion of the car-body frame, and prevents the cap from being mislaid or stolen. It does not, however, prevent the cap from being removed, and the shipper or drover may, from
30 his position on the plank path or walk P, located centrally on the exterior of the car-roof, easily operate the device, and by removing the cap obtain a view of the interior of the car, and thus observe through the aperture made the condition of the stock or cattle
35 at any time and with equal facility, whether the car is at rest or in motion.

Heretofore it has been necessary in the transportation of cattle to stop the trains for
40 the observation of the cattle within the car, inasmuch as no suitable provision has been employed for inspecting the cattle while the trains have been moving. In my present arrangement the interior can be easily inspected
45 while the train is in motion, as before stated, and when the train stops at coaling or watering stations any stock that is lying down can be easily raised in a very short space of time. By the employment of this
50 device and carefully following the proper instructions several hours have been actually saved in the transportation of cattle-trains between Chicago and New York.

In the patent hereinbefore referred to there
55 is shown and described a hinged door or cover at K. (See Fig. 1 of the drawings in the present case.) This door is for the pur-

pose of exposing a portion of the upper part of the hay or food rack, thereby giving an opportunity for refilling the same at any desired point, and which I may yet use if in some instances it is found desirable. 60

By combining the ventilating device with the means of observation I produce a thoroughly economical and trustworthy means of
65 accomplishing the desired ends and facilitate the operation and workings of cattle-cars, as has been practically demonstrated in several instances. The improved means of regulating the amount of ventilation according to
70 the season also forms a desirable feature and one which is now demanded as an absolute necessity in the transportation of cattle.

In Fig. 2 I show a pair of longitudinal air-chambers, R, extending along on both sides
75 of the car and immediately above the roof, and from these chambers open out the vertical shafts or exhaust-flues E. The longitudinal air-chambers give additional air-spaces and are found very desirable. 80

The ventilators which I have shown and described will, when the car is in motion, create a very strong upward current in the several shafts, thus keeping the car free from foul air at all times. They will also serve as a
85 suitable means of ventilation when the car is at rest.

It will be seen that the shipper, in going from one end of the car to the other and inspecting the contents thereof through the ap-
90 ertures E, would expose himself somewhat to the danger of falling off the car were it not for the racks B, which extend longitudinally along both sides of the car and above the roof, and which also constitute guards for the safety
95 of the shipper when stooping over to look through the apertures. This arrangement of the centrally-located walk, with the apertures contiguous thereto and on both sides thereof, with the guards outside of the apertures, form
100 a desirable combination in this respect.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

A cattle-car constructed, as described, with
105 elevated hay-rack in the roof, elevated ventilation-ducts contiguous thereto, and movable caps to protect said ducts and permit observation of the interior through the same, as explained.

HUGH BAINES.

Witnesses:

HERBERT KNIGHT,
HARRY E. KNIGHT.