

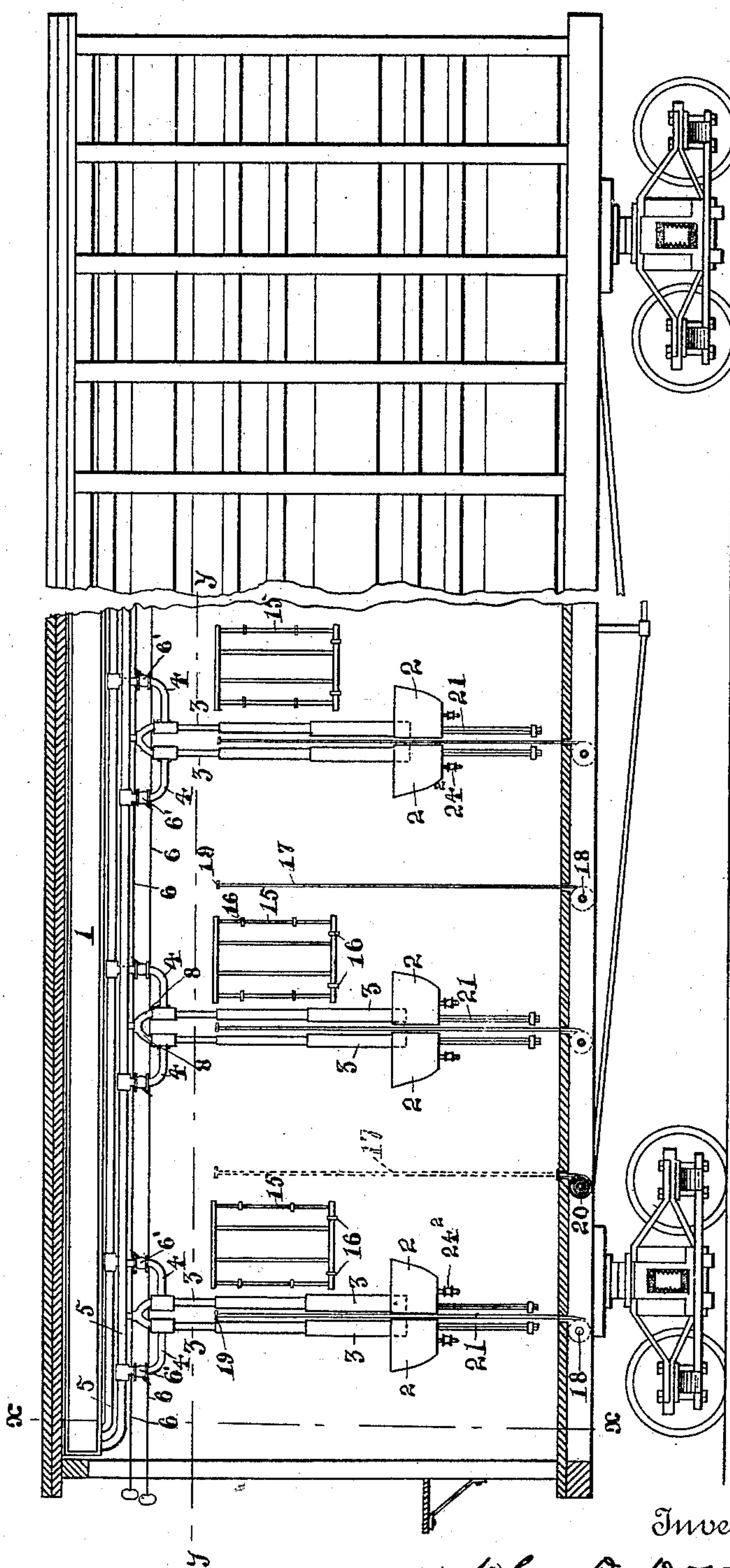
(No Model.)

4 Sheets—Sheet 1.

J. D. DOW.  
STOCK CAR.

No. 468,646.

Patented Feb. 9, 1892.



Witnesses  
Arch. M. Catlin  
Alfred Prayton

Inventor  
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by  
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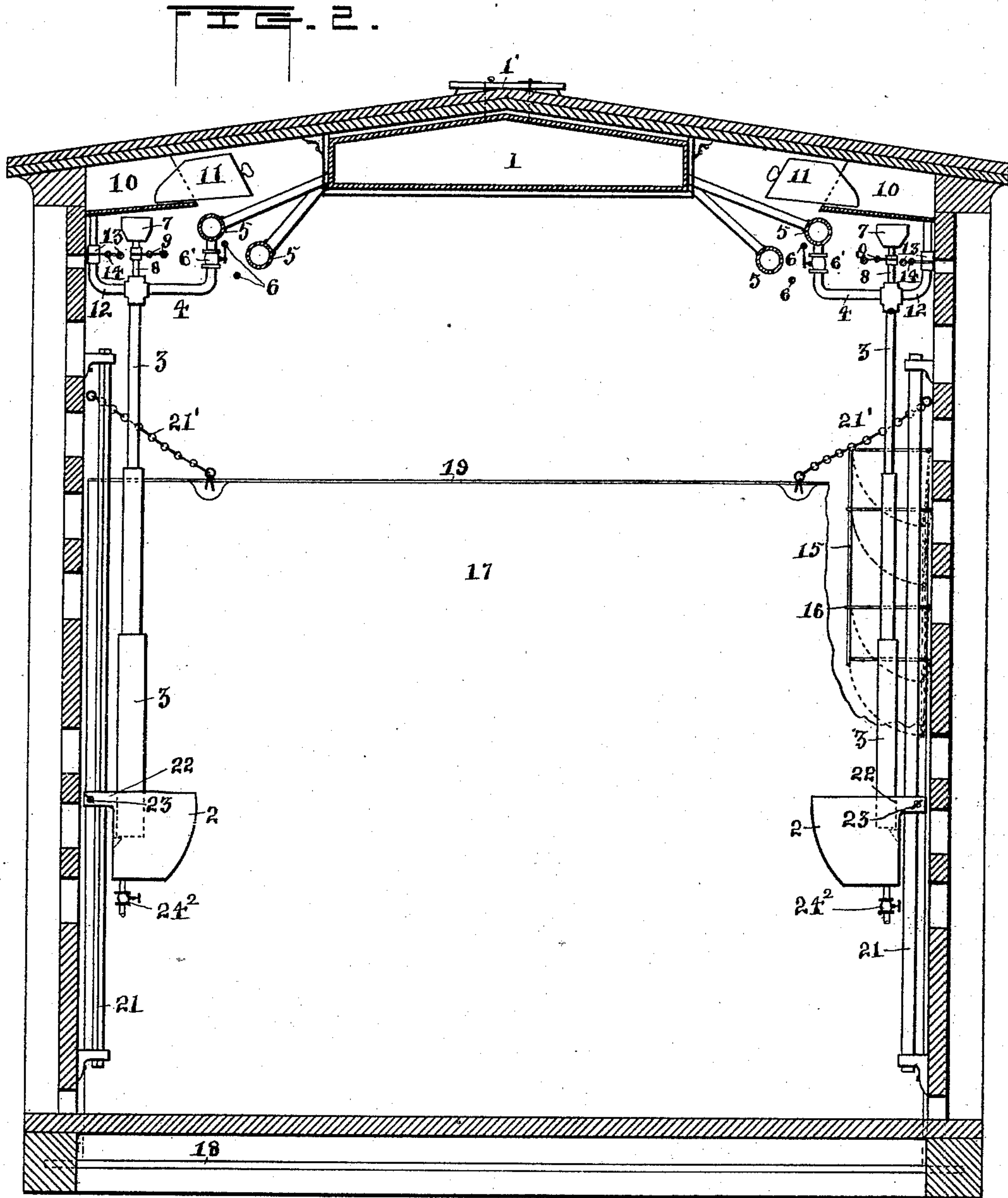
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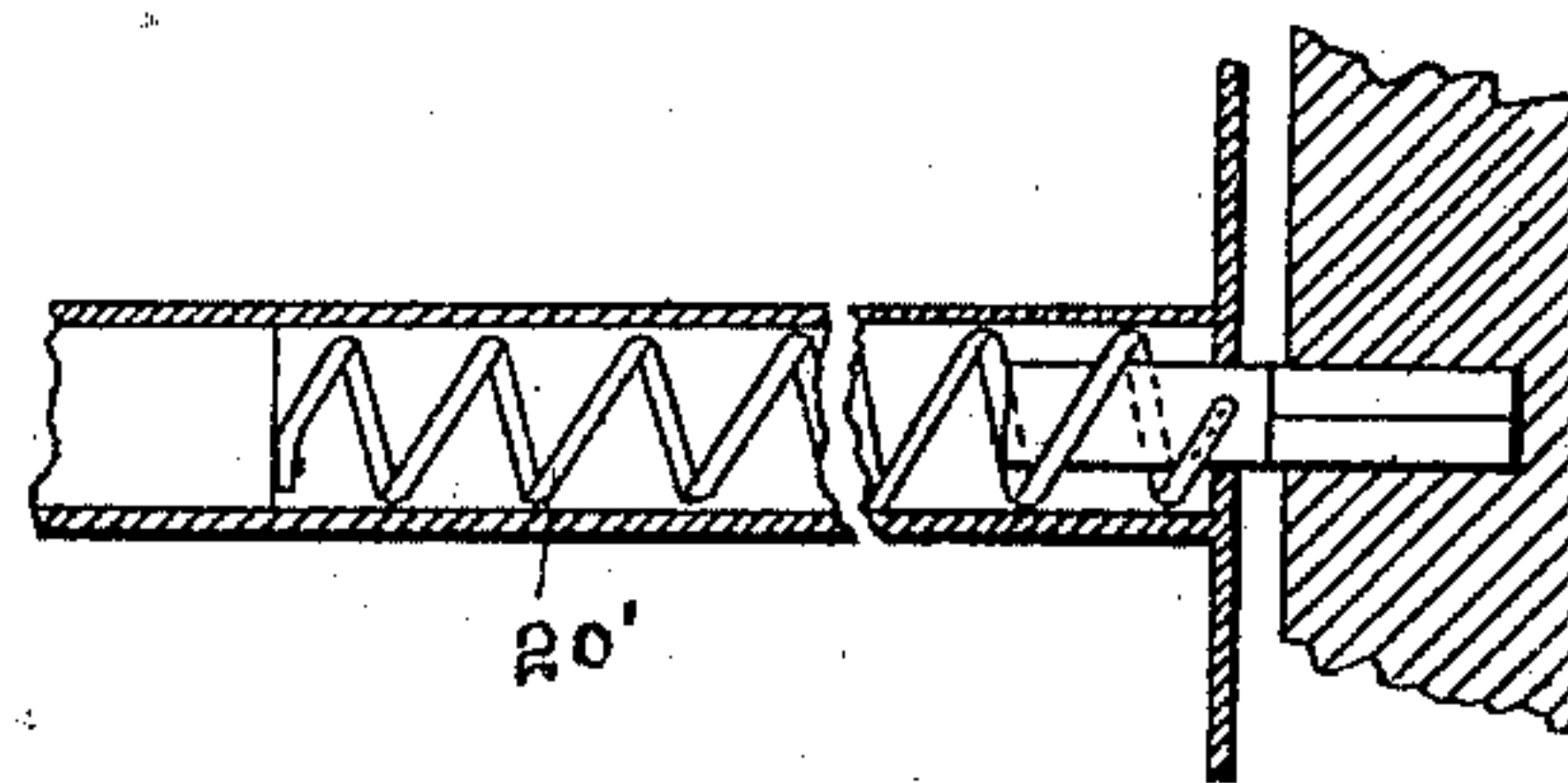
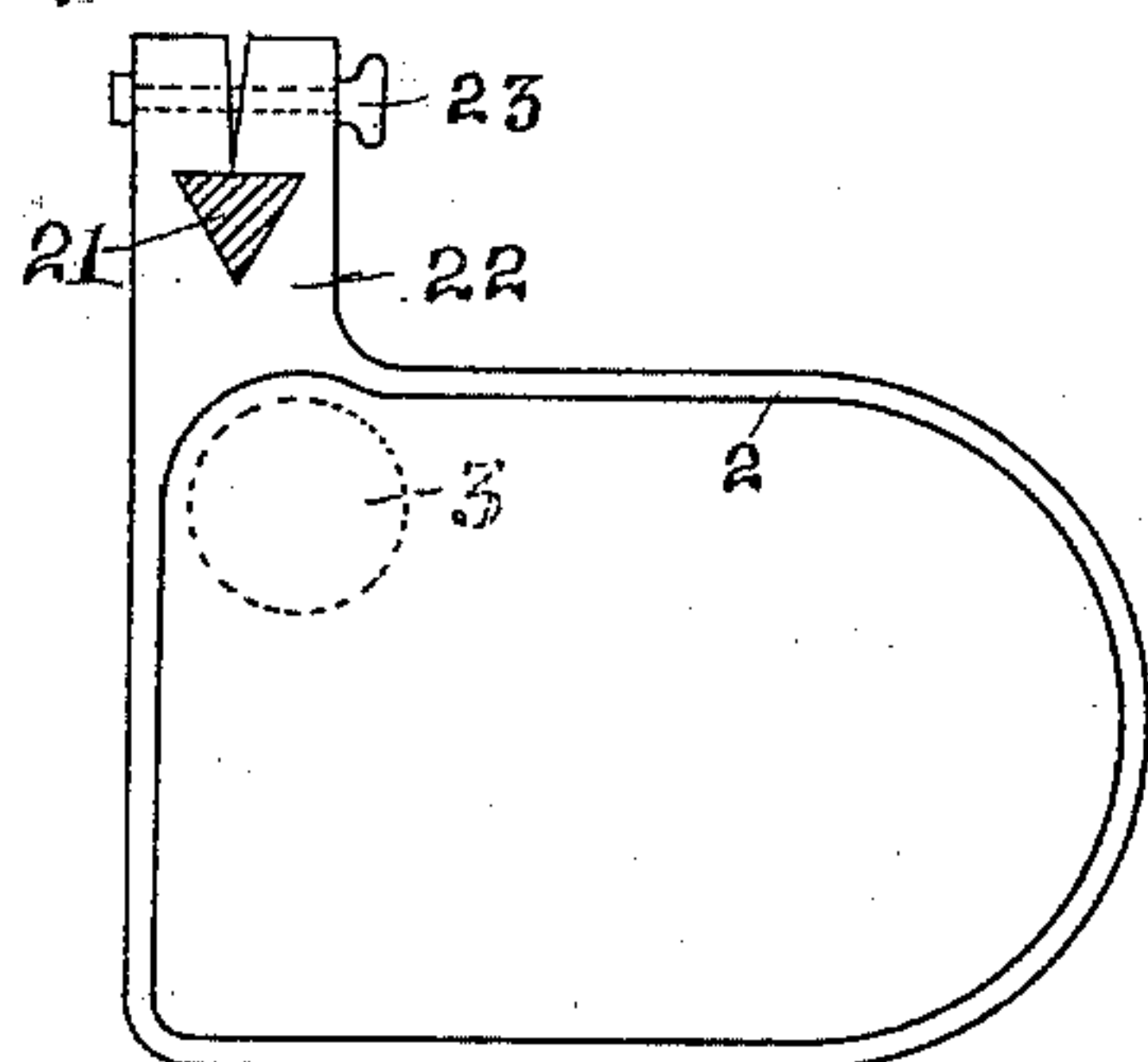
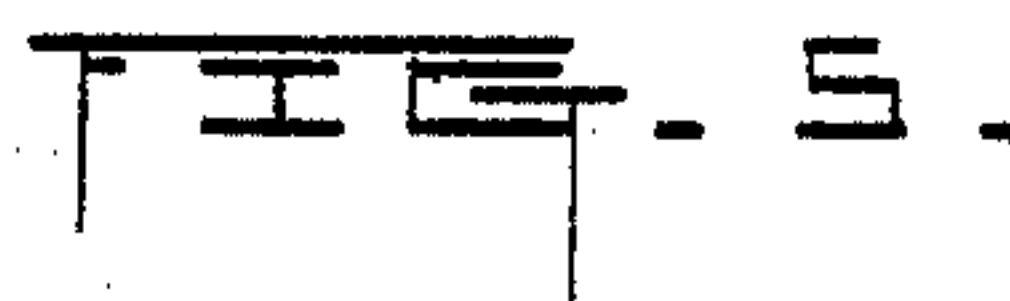
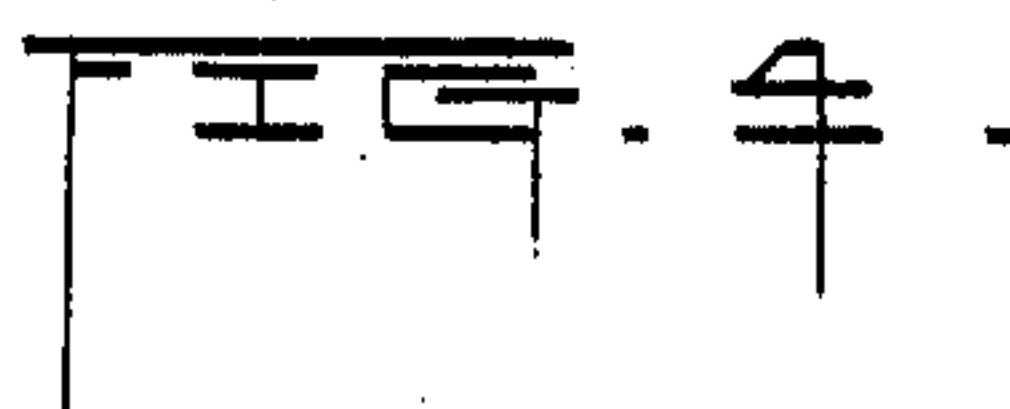
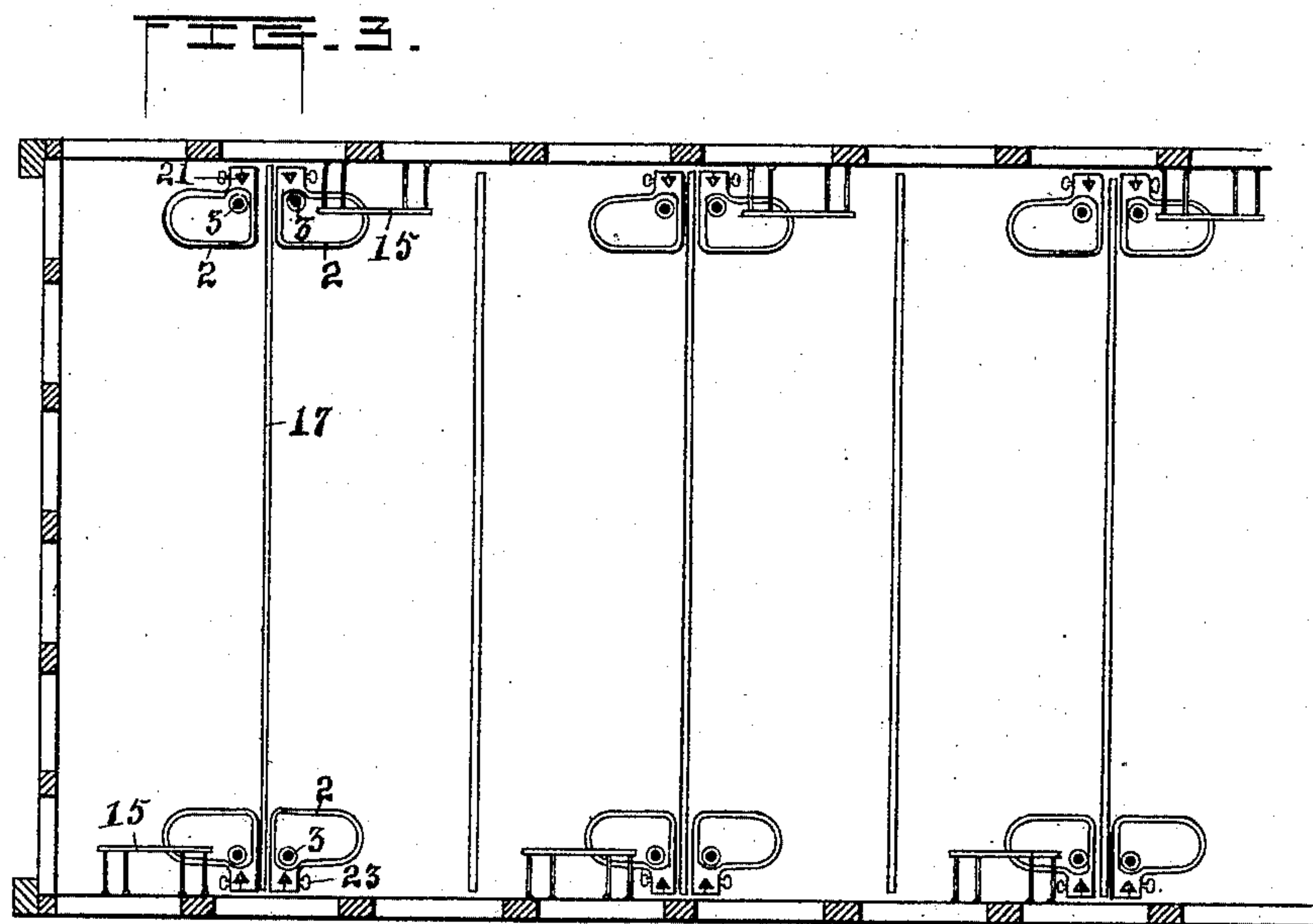
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FIG. 6.

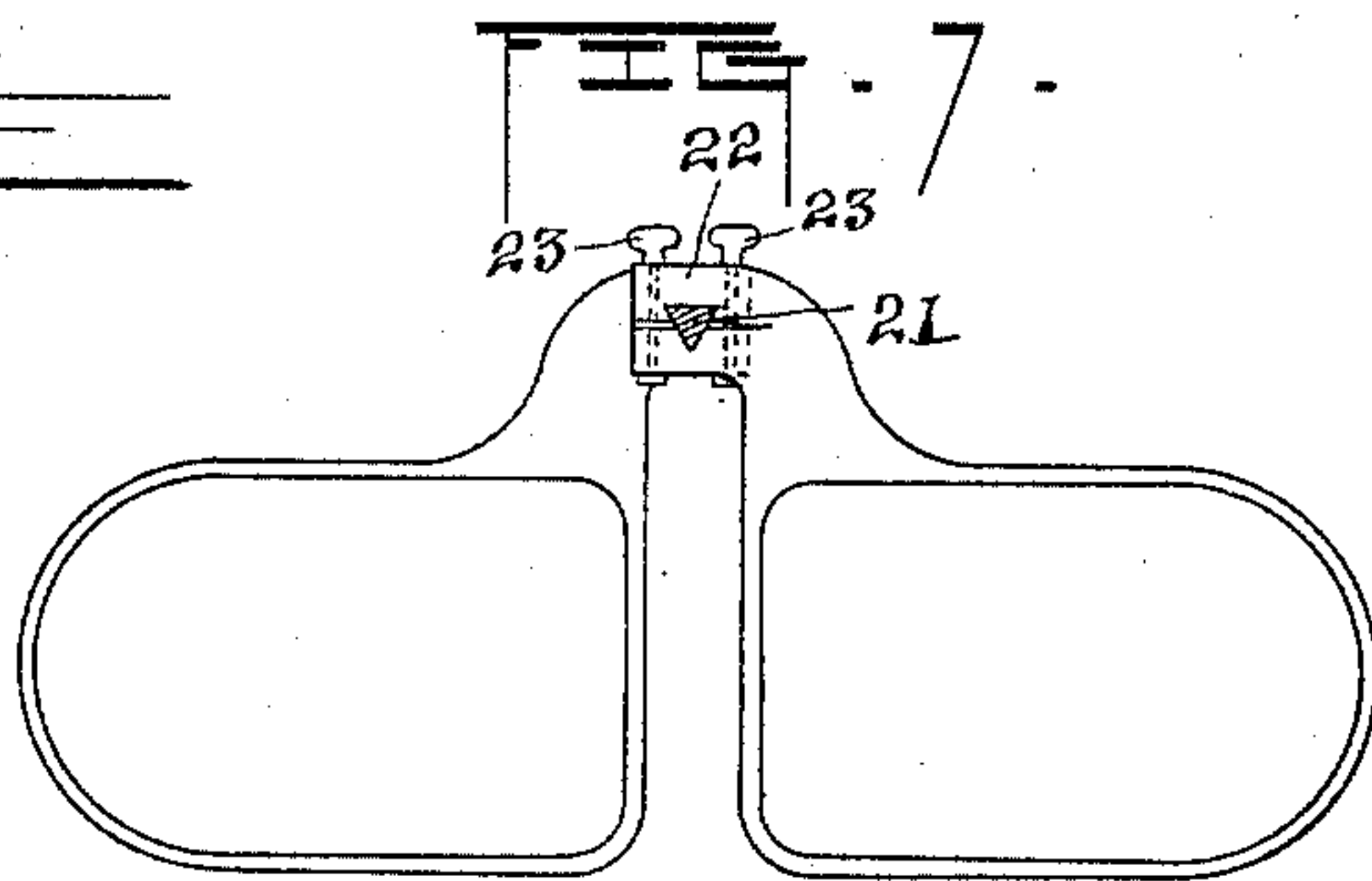
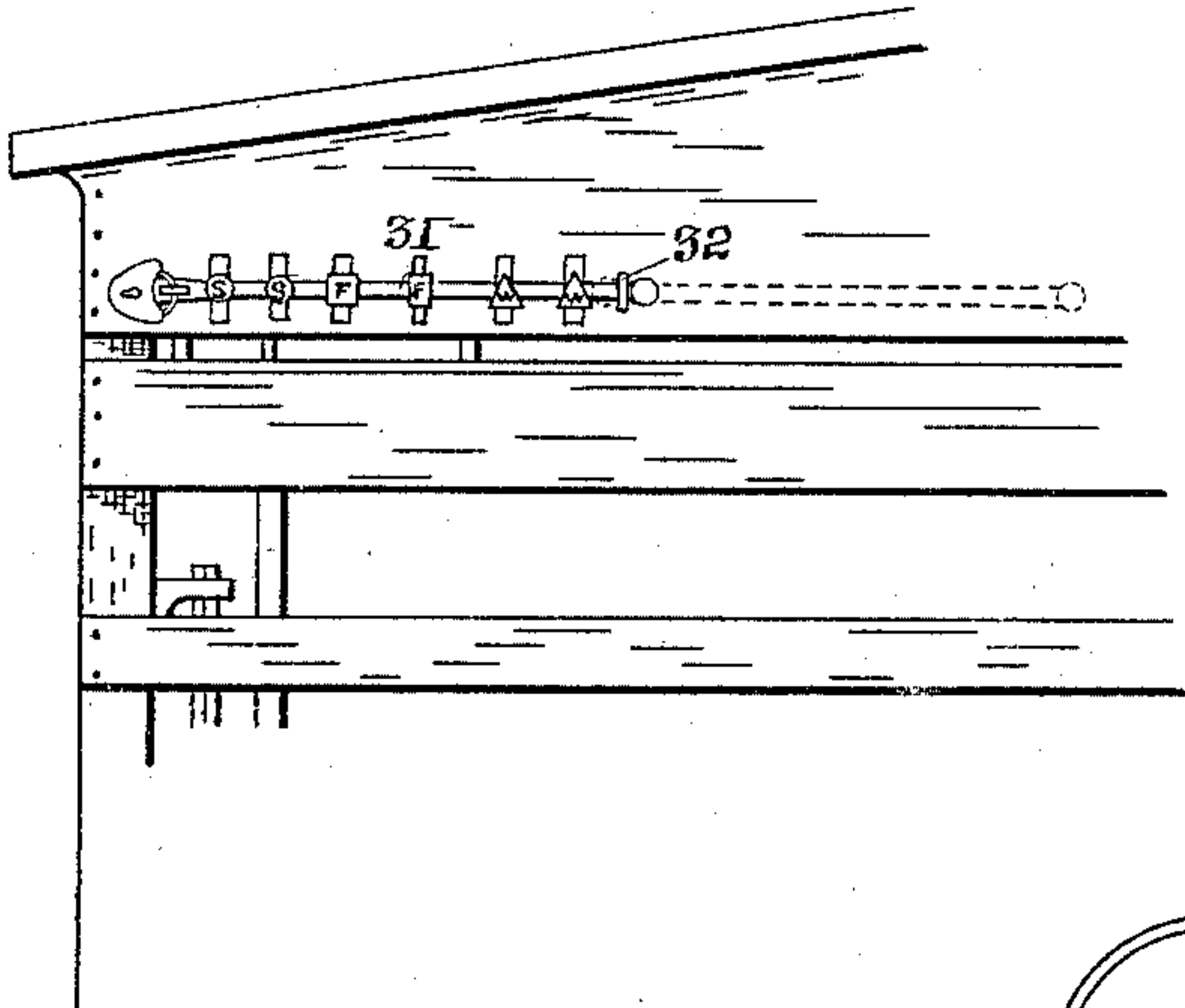
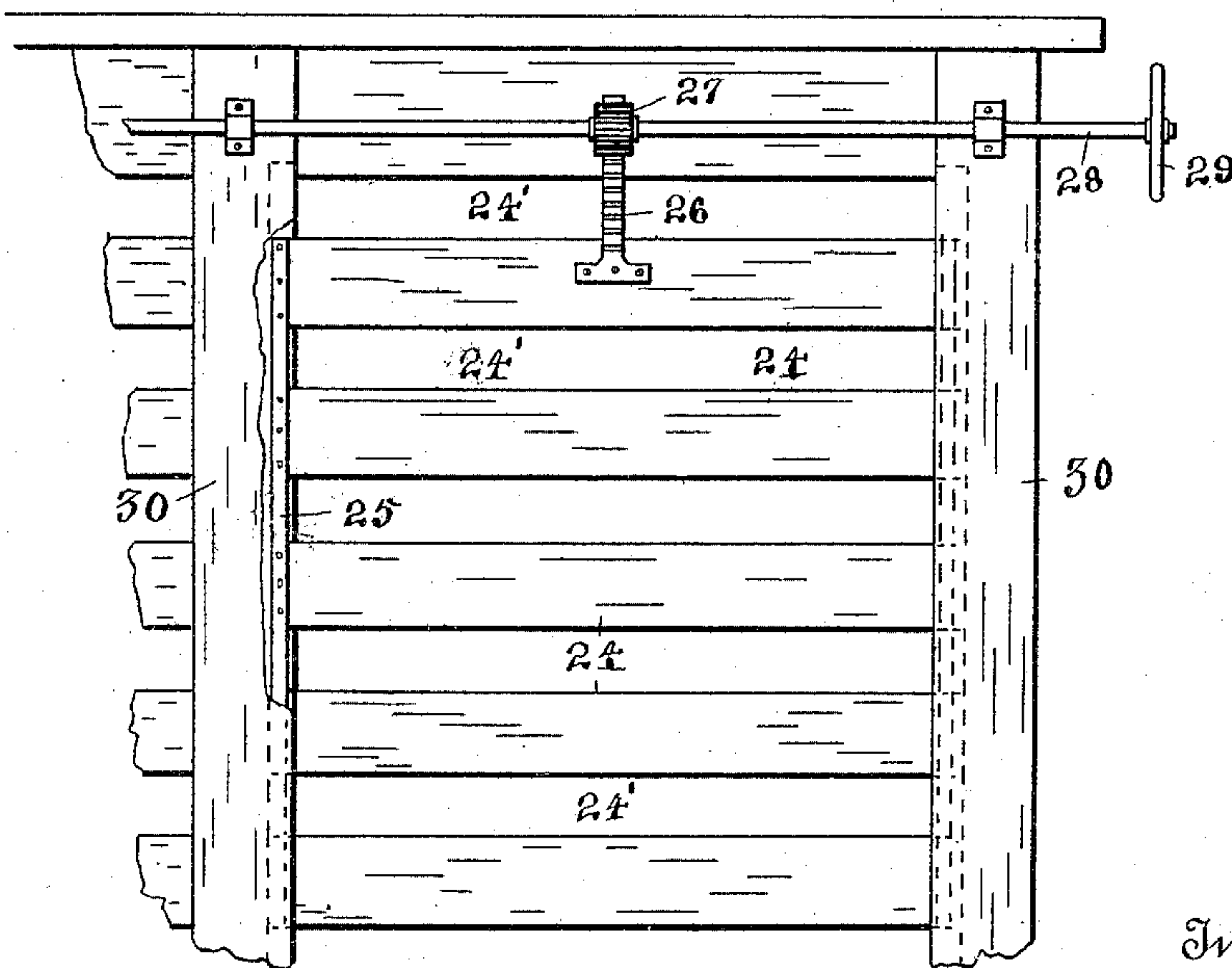


FIG. 8.



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# UNITED STATES PATENT OFFICE.

JOHN D. DOW, OF ST. PAUL, MINNESOTA.

## STOCK-CAR.

SPECIFICATION forming part of Letters Patent No. 468,646, dated February 9, 1892.

Application filed September 9, 1890. Serial No. 364,398. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN D. DOW, a resident of St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Stock-Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

The object of the invention is to provide a stock-car that can be conveniently and economically used for animals, whether large or small, and in which such animals can be properly supplied with hay, grain, or other food, and with water and salt.

In the accompanying drawings, Figure 1 is a partial longitudinal vertical section and in part a side elevation of a car embodying my invention. Fig. 2 is a transverse section on line *x x* of Fig. 1. Fig. 3 is a partial horizontal section on line *y y* of Fig. 1. Fig. 4 is a horizontal section of a detail. Fig. 5 is a detail of a curtain roller and spring. Fig. 6 is a view of devices for locking feed-rods. Fig. 7 is a detail showing attachment of two mangers to one rod, and Fig. 8 is a partial side elevation showing devices for opening and closing the side of the car.

Numeral 1 denotes a water-tank located near the roof of the car. It can be suitably protected from frost, if desired, and can be filled by any usual or convenient means. Iron tanks are not the most suitable for this purpose, as they do not keep the water in good condition for any length of time and afford no protection against freezing. My tank is therefore made of pine or similar wood and is preferably charred on the inside. It is provided externally with a sheet-metal casing, made air-tight, to inclose a dead-air space to avoid radiation of heat. Both the provision for keeping the water sweet and for preventing freezing are important, as it is preferred to store in the tank sufficient water for two or three days' use.

As shown, 1' indicates an opening adapted to receive water from the same source that supplies the engine-tank.

2 2 are mangers or troughs for both watering and feeding. They communicate, by means of the extensible or telescoping stand-pipes 3 3, with the branches 4 4 of the main water-

pipes 5 5, of which there are two on each side of the car, communicating each with alternate mangers.

6 6 are cock-controlling rods for the respective mains, and 6' 6' are the cocks. These rods extend the full length of the car and may be operated from either end; or, if desired, they may be divided and a part of each series of the valves operated from its respective end.

In Fig. 1 the water-controlling cocks 6' are shown on the two branch pipes 4 4, which connect the water-mains 5 with the mangers, and rods are indicated for operating them. It would be practicable to employ one main 5 and one connecting pipe and control the water-supply to all of a series of mangers on one side of the car by one valve. Two pipes and valves, substantially as shown, however, are required, if it is desired to use at pleasure either every or every other manger.

7 are salt-receptacles, communicating with the water-supply pipes above their extensible portions by means of a pipe having branches 8, each of which has a valve or cock controlled by one of the rods 9, each being connected with the valves in alternate branches, as in the case of the water-supply cocks. It is not essential that one salt-receptacle supply two mangers or that the salt-conveying pipe have two branches.

10 are grain or food receptacles or bins, which are supplemented by the scoops 11, by means of which the grain is introduced into the bins, and which also serve to close the ends of the same, as indicated. These bins or receptacles communicate with the extensible or telescoping pipes 3 by means of valved pipes 12. The valves 13 are connected to and operated by rods 14, under substantially the same arrangement as described in connection with the water-cocks.

15 are hay-mangers connected to the side of the car by means of hooks and eyes, links, or chains. 16 indicates said hooks loosely connected to the manger or car, as shown, the arrangement being such that when filled with hay the manger or rack will be held a few inches from the car and will fall by gravity against the side of the car as the hay is consumed.

17 are flexible partitions, which when not



in use are wound upon the spring-operated rollers 18.

19 denotes T-shaped pieces secured to the edge of the partitions, whereby the openings in the floor through which the curtain passes may be covered when the partitions are lowered, as shown in full lines at the left of Fig. 1 at 20.

20' indicates a spring for the purpose of keeping the partition taut when in use and of rolling it up when its supporting-chains are detached. This spring, however, may be of any convenient form. The partitions can be raised and supported by means of chains 21'. Other convenient means of supporting and of withdrawing the curtains may be provided, if desired. It is, however, deemed important that they be adapted to be readily moved out of the way.

The mangers are secured to posts 21, which are preferably made triangular in cross-section, by means of clamping-arms 22 and a tightening-screw 23. These arms may be formed on or attached to the mangers in any suitable way, and by them and the screws or by like devices the mangers are made vertically adjustable to suit the height of the animal to be fed, and also to provide for moving them out of the way when it is desirable to use the car for dead freight. The lower end of the bottom section of the telescoping pipe is supported a little above the bottom of the manger. When the latter is raised or lowered, the telescoping sections slide one within or upon another.

24<sup>2</sup> 24<sup>2</sup> (see Fig. 2) indicate draw-off pipes provided with cocks for clearing the mangers.

The above-described devices can be made of any suitable material. Tarpaulin or other flexible or durable material is suitable for the partitions. Vulcanized rubber, leather, tarpaulin, papier-maché, or other like material is suitable for the mangers. The grain bins or scoops can be made of sheet metal and the salt-bins of wood, or of any material that will not rust and that will keep the salt dry. Rubber, lead, papier-maché, or iron tubing may be employed. The sides of the cars may be constructed as is customary, so that they can be either close or ventilated. The water-tank will preferably be covered by a non-conducting material to prevent freezing of water therein. It will be noted that the mangers, as shown, are located in pairs on both sides of the car. Each manger can have its own supporting-rod, or, preferably, one rod can be made to support two mangers, as indicated in Fig. 7. If used for the transportation of cattle or horses, one of each pair is raised and secured in position out of the way, and the animals are arranged side by side in a single row, with heads alternately in opposite directions. If, however, small animals, like sheep or swine, are carried, all the mangers are used and the animals, are arranged side by side in two rows. Before loading a car, hay, grain, or other feed and salt are placed in

their respective bins or receptacles in sufficient quantity for the proposed trip. Two crews—one for each end of the car—place the animals one by one in the two ends as they are driven in at the side door, the partitions being raised or lowered, as the case may be, as fast as the animals are suitably stationed. Salt is supplied to each manger, preferably after the stock is in the car. The salting of the animals soon after they are put aboard the car is an important matter, as it appeals powerfully to their appetite and tends to distract their attention from their annoying and terrifying experience. Being supplied in or near the manger, its consumption familiarizes them therewith and prepares them to accept the water and food which are subsequently supplied. The devices for feeding salt above described are very suitable for the purpose and are preferred, though many of the advantages of the invention can be secured by the use of other means for a like purpose. Thus a salt "lick" could be attached to or near the manger with some benefit. After the animals have become somewhat quieted by the eating or licking of the salt, water is supplied by means of the cock-controlling rods. These rods 6 6 are arranged in pairs, there being two rods on each side of the car and each being connected with alternate valves. Each manger has its special grain and salt receptacle, and these can be charged according to the number of mangers required. By this construction and arrangement I am able to supply every manger for small stock or every other manger for large stock on either side, as desired, and to effect the operation from either end of the car; or, if desired, the rods may be provided with handles or means of operating them at one of their respective ends only, and the handles of the rods for different purposes may be so arranged that the attendant will be compelled to walk from one end of the car to the other between the several operations of salting, watering, and feeding, whereby time will be more certainly afforded for the stock to consume the salt and the water. By first tempting the stock to partake salt and then giving them water they will forget something of their strange experience and surroundings, and will become accustomed to their mangers and stalls before they leave the stock-yards or place of shipment, and will eat better and lose less weight than under less favorable conditions.

In Fig. 6 is indicated a movable bar 31, which passes through a staple 32, and adapted to be passed through and locked in the handles of the operating-rods by a key carried by the attendant to avoid intermeddling. Each handle is conspicuously marked, as indicated, both by a letter and by a form of the handle, whereby danger of a mistake is lessened. A locking device is not essential to the other improvements, but is desirable. Obviously the rods can be so bent or arranged as to conveniently receive through their handles a



locking-bar. Such modified arrangement is shown in Fig. 6.

In Fig. 8 is shown a part of the side of the car. 24 are movable boards arranged with spaces 24' between them narrower than the boards. 25 indicates one of the metal strips for connecting the boards 24 with each other. 26 is a rack, and 27 a pinion for raising and lowering the movable panel formed of the boards. The pinion is made fast on a rod 28, having a handle 29. 30 are retaining-bars, behind which the panel is adjustably held. The rod is supported in brackets. Behind the movable boards are others of the same width, fixed to the frame, the construction being such that when the movable panel is lowered, as indicated in Fig. 8, the movable and fixed boards are side by side and the spaces 24' are uncovered. To cover these and close the side the movable panel is raised.

It will be obvious that in a car constructed as above described animals can be fed and watered while the train is in motion, and also that when desired the mangers with their supporting-rods and the racks and partitions can be easily removed and the car thereby adapted for dead freight.

Having thus described my invention, what I desire to secure by Letters Patent is—

1. In a stock-car, the vertically-adjustable mangers, bins, or receptacles, pipes leading from the receptacles to the mangers, valves or cocks in the pipes, and rods for operating the valves, each rod being connected with every alternate valve, whereby every other manger may be used for large stock or every manger for small stock and the mangers supplied from the receptacles, all combined substantially as set forth.

2. In a stock-car, the salt, water, and grain receptacles, a vertically-adjustable manger and telescoping stand-pipe communicating with the salt-receptacle, branches leading from the grain-receptacle, and the water-main attached to the upper section of said telescoping stand-pipe, all in combination, substantially as set forth.

3. In a stock-car, the combination of a removable partition, chains for holding it in an operative position, and a spring-operated roller located below the car-floor, said partition being attached to the roller, substantially as described.

4. In a stock-car, the partitions, the manger-supporting rods or posts, and the vertically-adjustable mangers provided with clamping-screws and arranged in pairs and secured to said posts, one of said mangers being located on each side of each partition, and the telescoping stand-pipes, all combined, substantially as set forth, whereby one or both mangers at each post can be elevated out of the way.

5. In a stock-car, the posts angular in cross-section, combined with the mangers having

attached thereto clamping-arms and a tightening-screw for clamping the arms upon the post, substantially as set forth.

6. In a stock-car, a hay-rack attached to the car solely by pivoted links or chains pivotally connected to the rack at several points, said chains and rack being adapted to drop by gravity toward the side of the car as the contents of the rack are consumed, all combined substantially as set forth.

7. In a stock-car, a movable spring-operated roller located below the car-floor, the said floor having a slot above the roller, and a flexible partition connected to the roller and provided at its upper edge with a stop to close said slot when the partition is not in use, all combined substantially as set forth.

8. In a stock-car, an exterior platform or foot-board, a series of mangers provided with feed-pipes having branches leading to separate storing-receptacles, said branches being provided with valves or cocks, the storing-receptacles, and rods operating the valves, each rod being connected with valves in appropriate pipes leading to said storing-receptacles and extending outside the car above the platform and having both a visual and a tactual mark to indicate the office of the same and of its connected valves, all combined substantially as set forth.

9. In a stock-car, a series of mangers, a water-tank, two mains connecting with the tank, each provided with branches leading to alternate mangers, cocks in said mains or branches, and two operating-rods connected each to cocks corresponding to one of the series of alternating mangers, all combined whereby every manger or alternate manger can be supplied with water, substantially as set forth.

10. In a stock-car, a series of mangers upon one side of the same, each provided with a supply-pipe having a valve, in combination with two separate valve-operating rods, each connected to every alternate valve, whereby all or part of the mangers may be supplied, accordingly as all or part are desired for use, all combined substantially as described and set forth.

11. In a stock-car, a series of mangers provided with telescoping stand-pipes having branches leading to separate storing-receptacles, said branches being provided with valves and cocks, and a series of rods connected to the valves, each rod being connected with every alternate valve and having both a visual and a tactual mark to indicate the office of the same and of its connected valves, all combined substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOHN D. DOW.

Witnesses:

CHAS. STIERLE,  
C. C. ANDREWS.