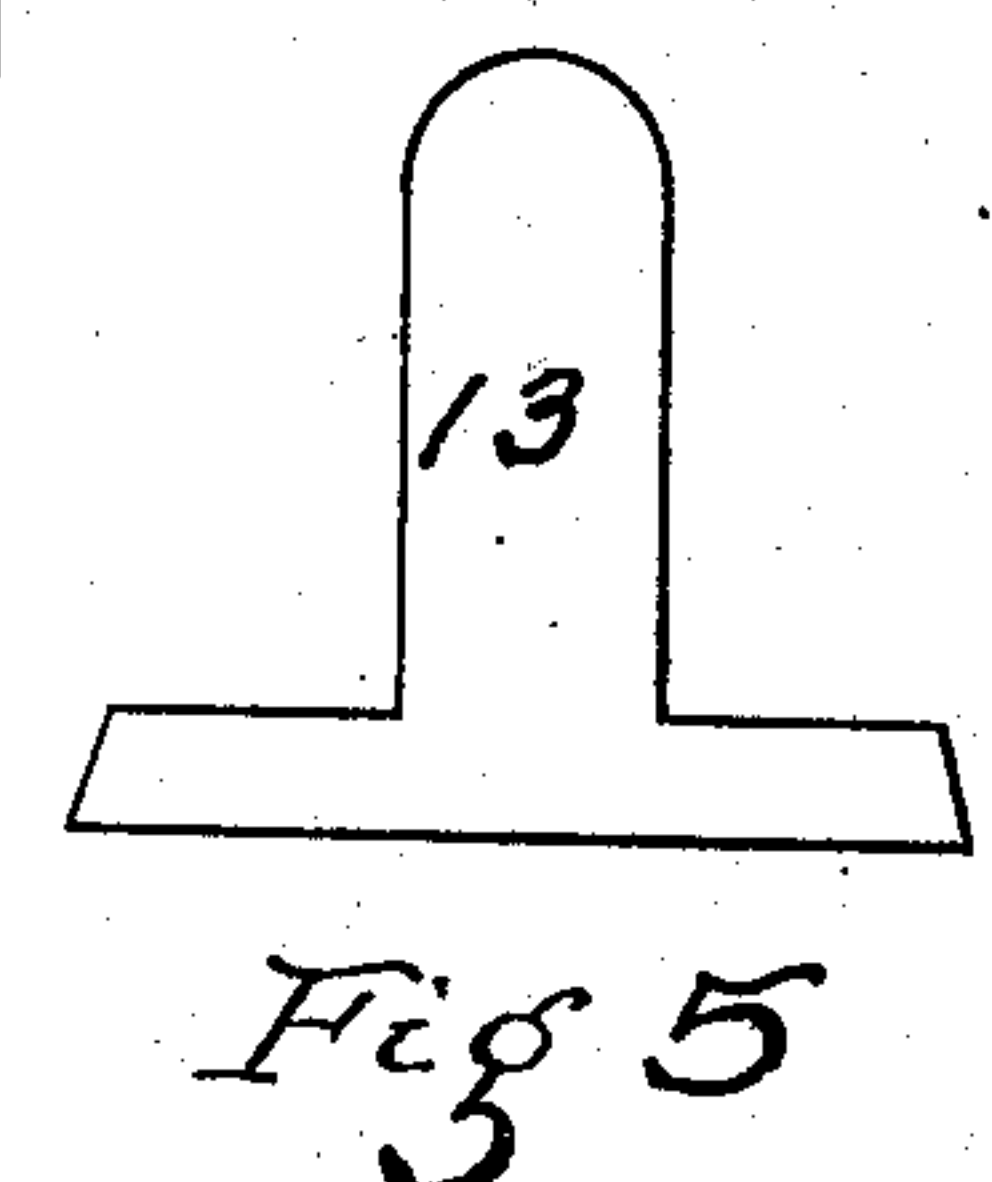
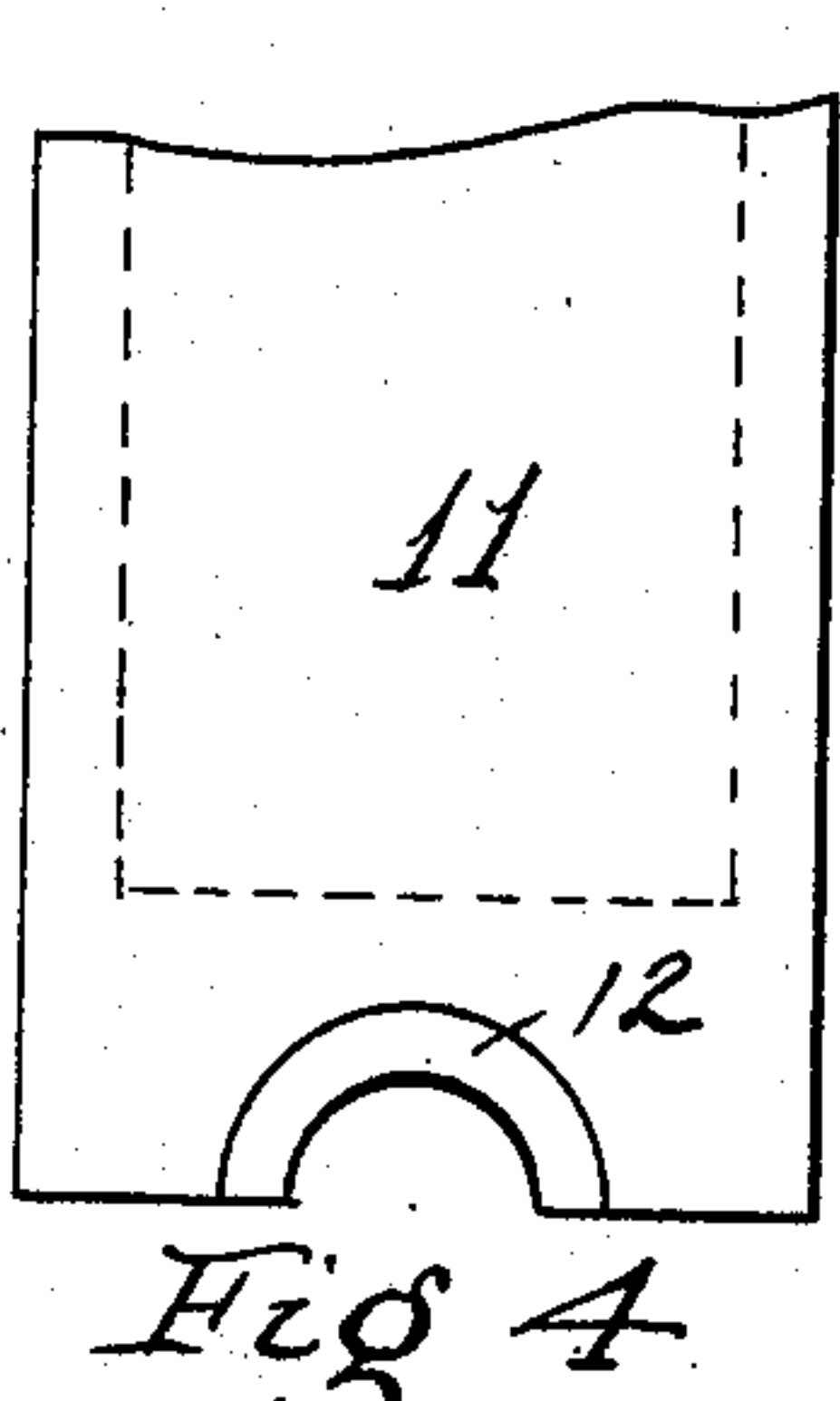
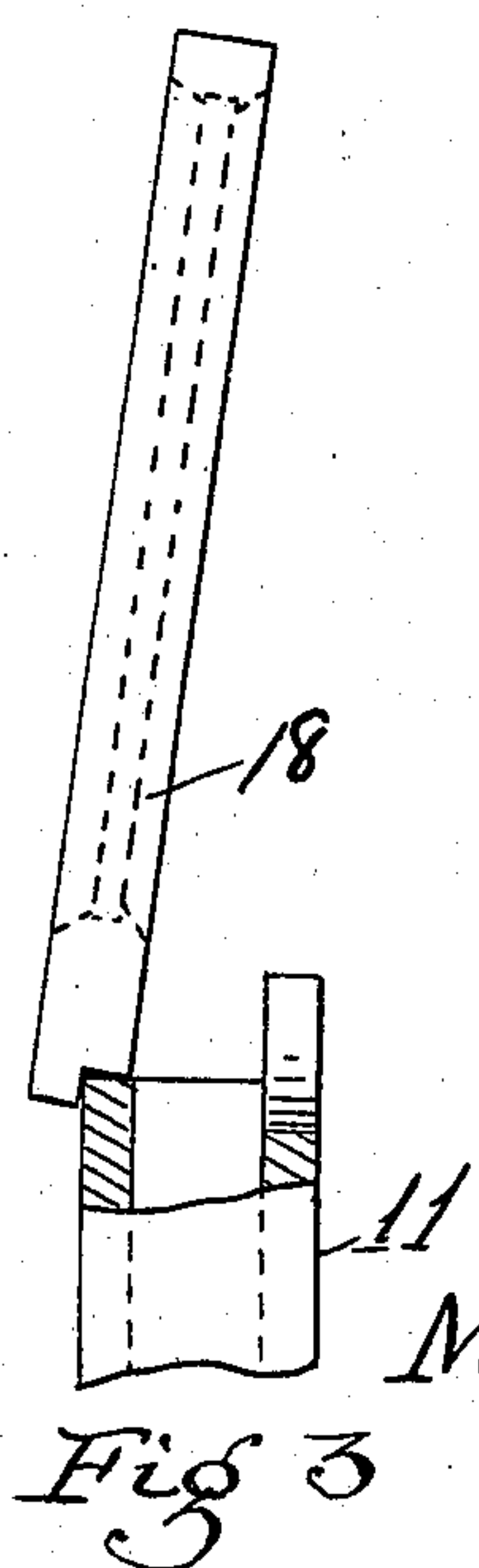
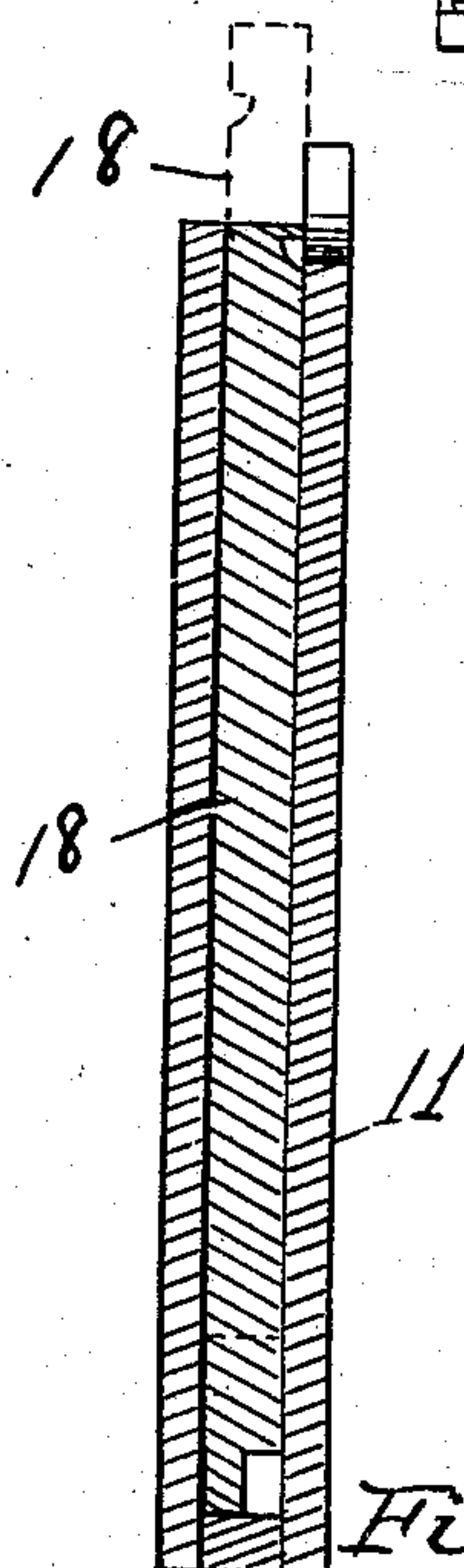
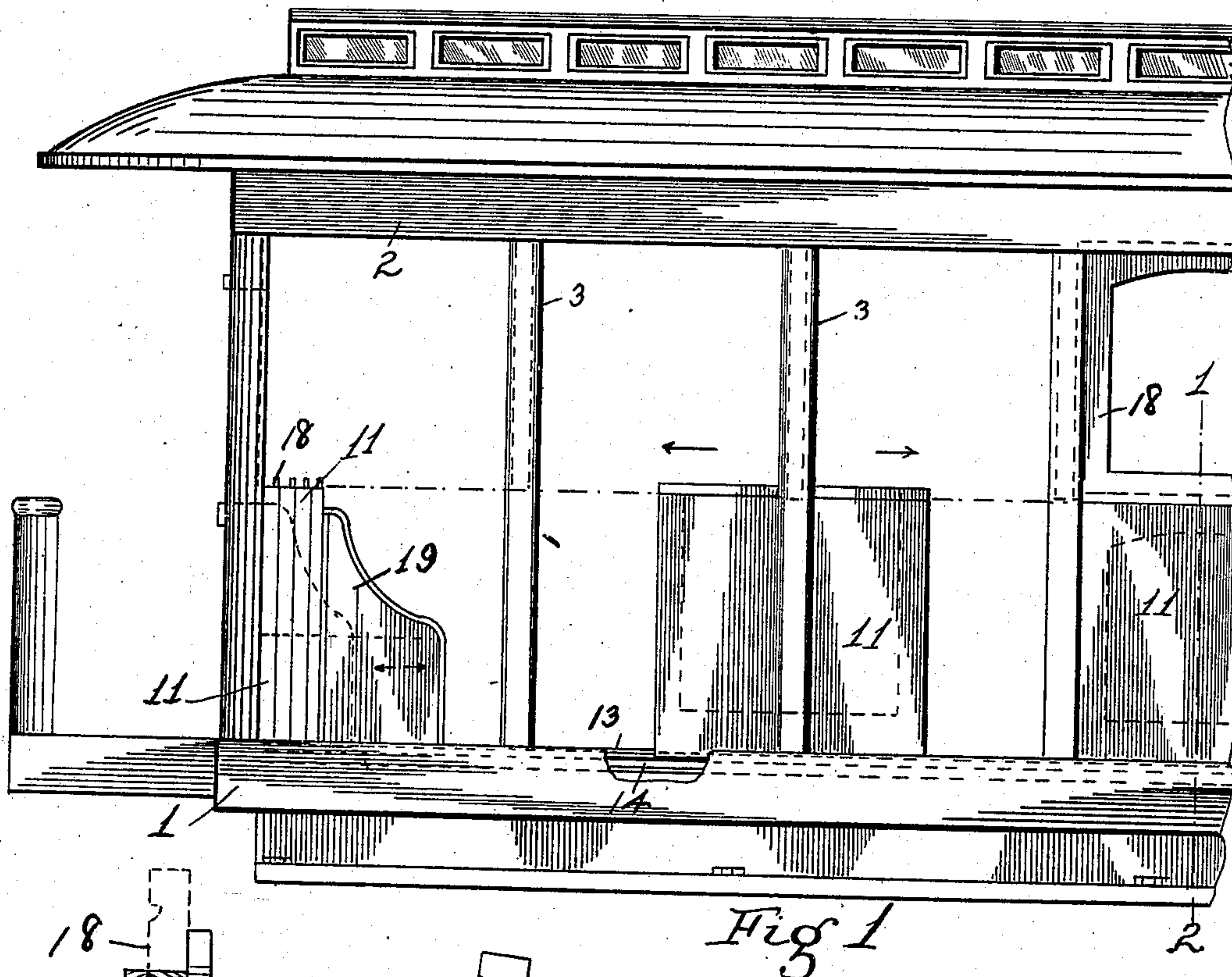


No. 867,917.

PATENTED OCT. 8, 1907.

M. P. HENVIS.
CONVERTIBLE RAILWAY CAR.
APPLICATION FILED MAY 7, 1907.

3 SHEETS—SHEET 1.



Witnesses.
Monie Hyman
St L Rodgers.

Maurice P. Henvis Inventor

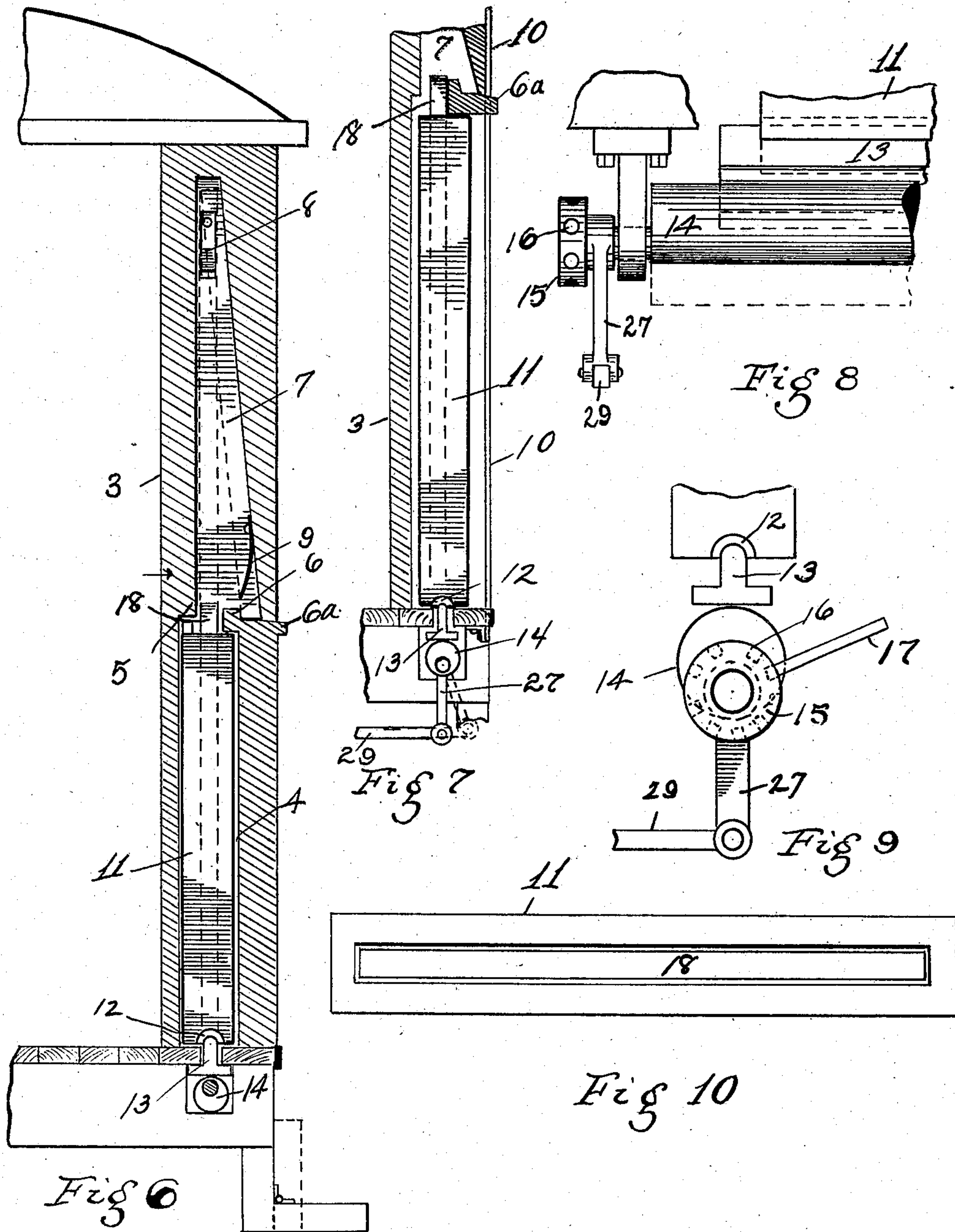
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No. 867,917.

PATENTED OCT. 8, 1907.

M. P. HENVIS.
CONVERTIBLE RAILWAY CAR.
APPLICATION FILED MAY 7, 1907.

3 SHEETS—SHEET 2.



Witnesses
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No. 867,917.

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APPLICATION FILED MAY 7, 1907.

3 SHEETS—SHEET 3.

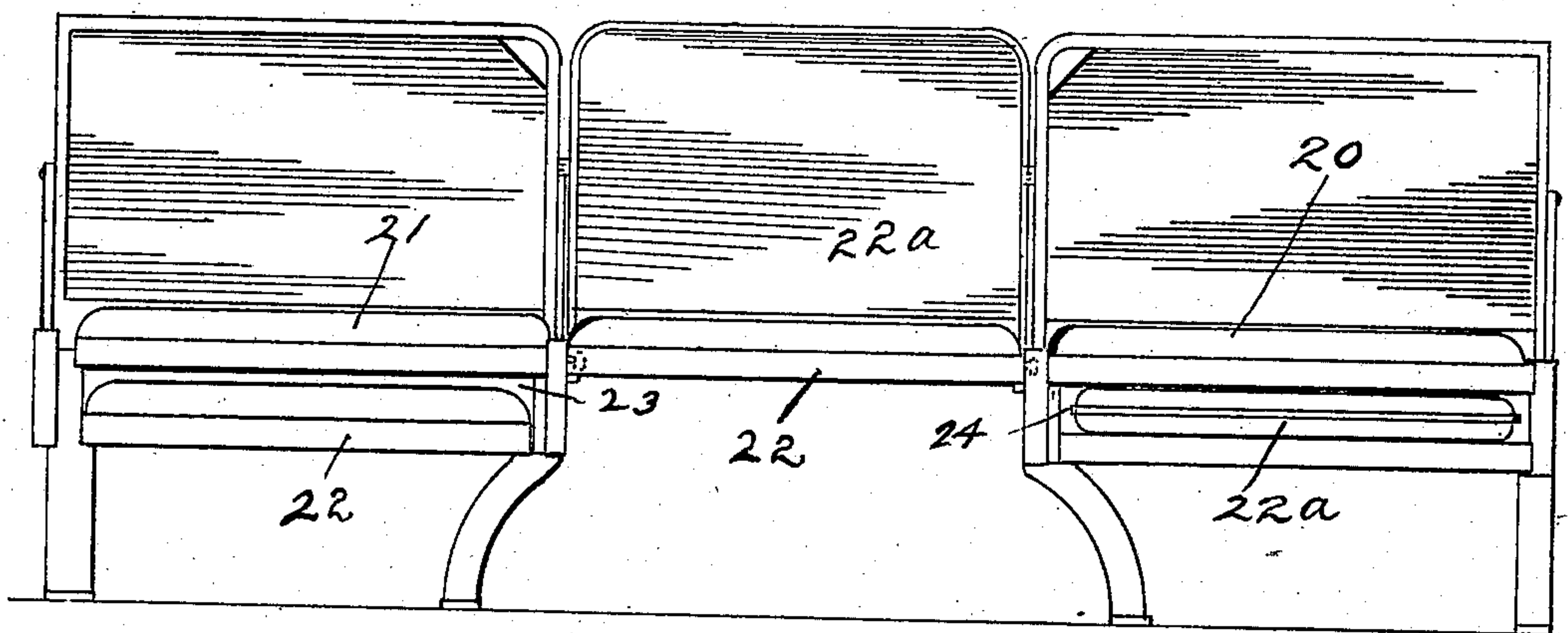


Fig 11

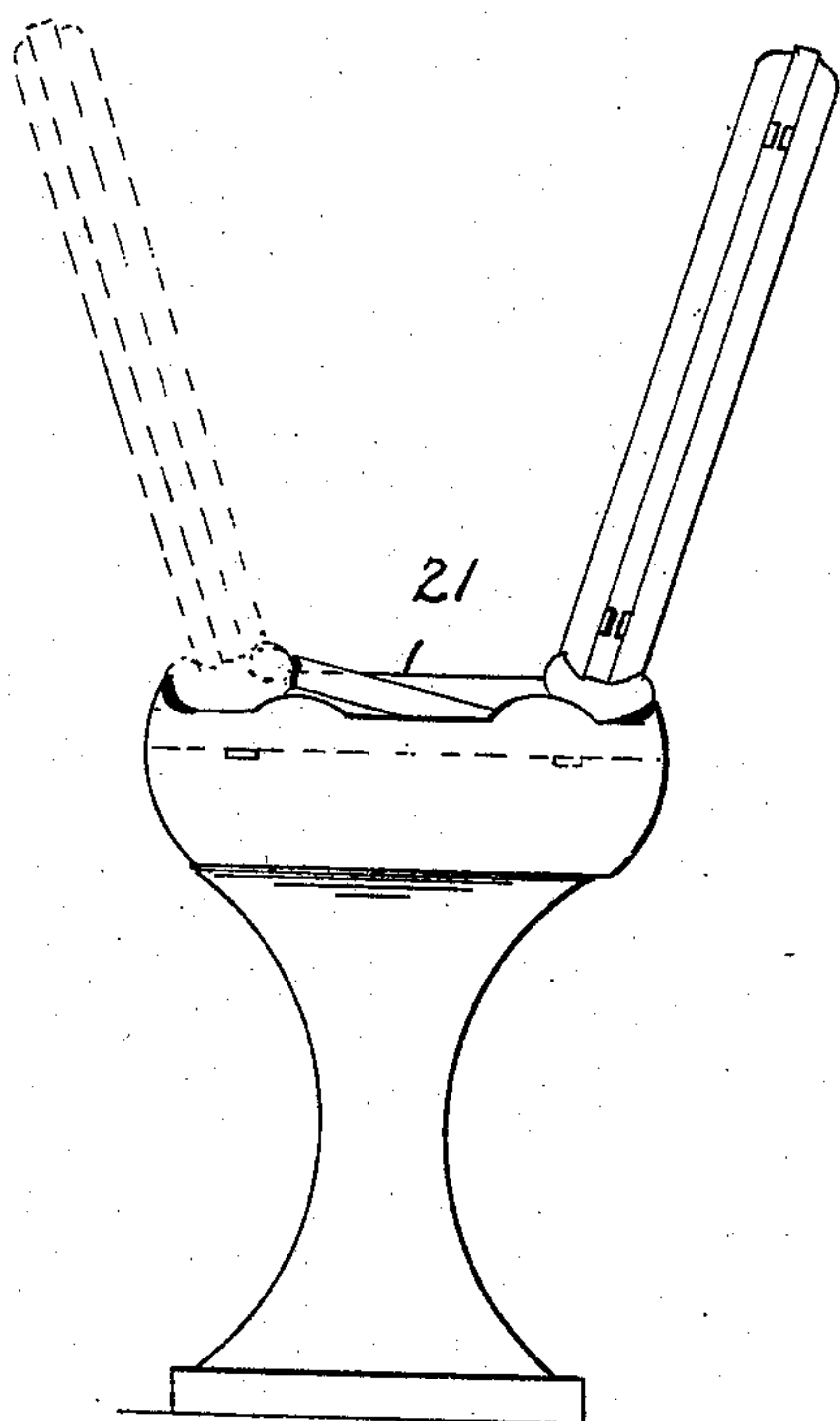


Fig 12

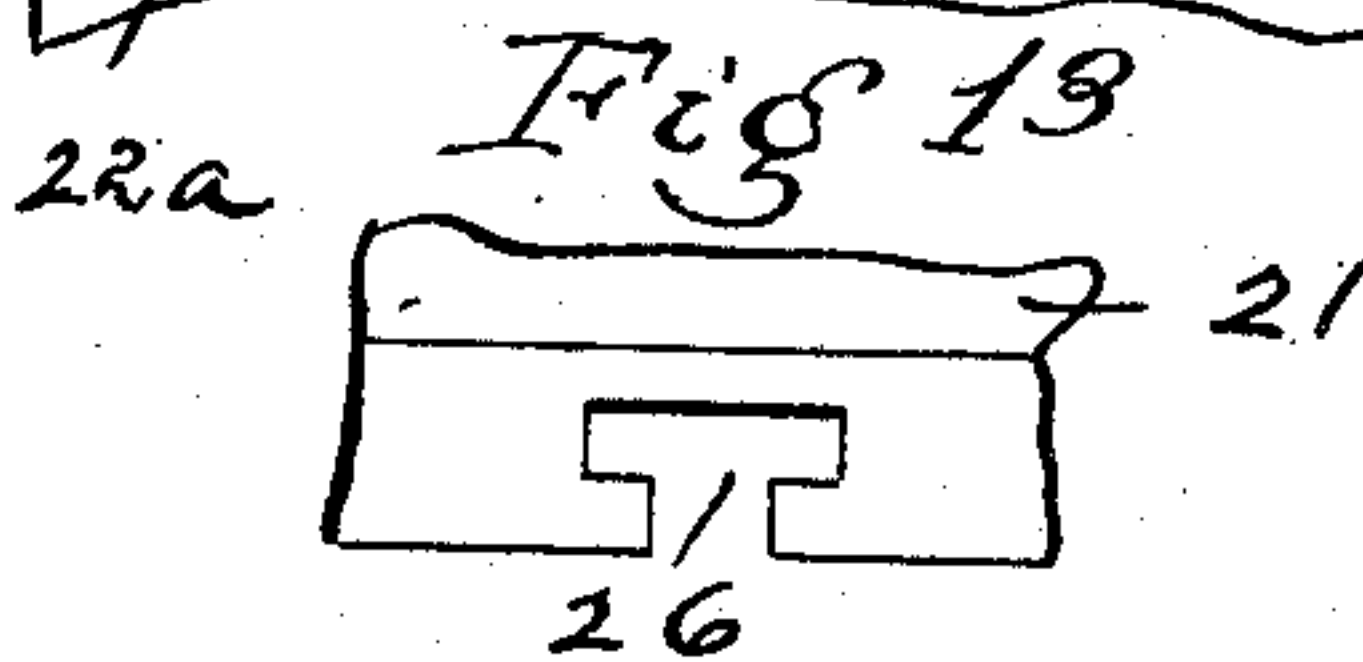
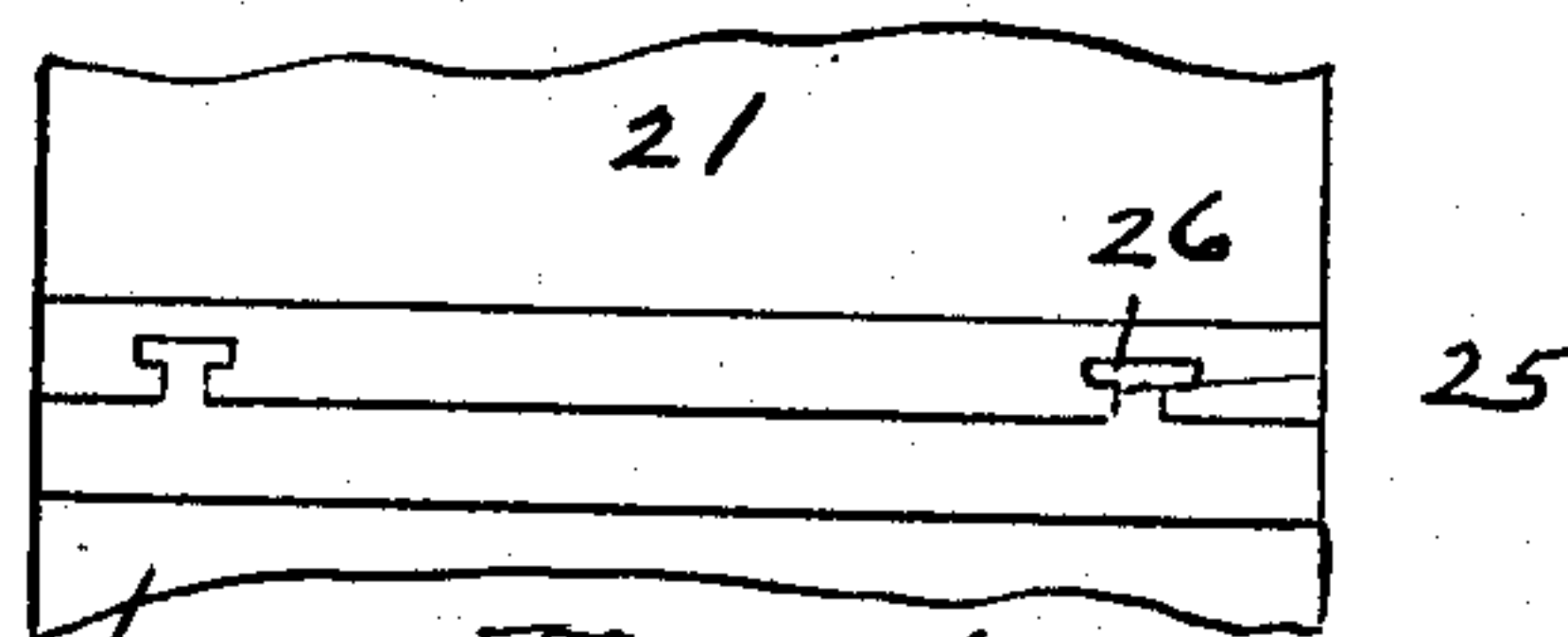


Fig 14

Witnesses
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UNITED STATES PATENT OFFICE.

MAURICE P. HENVIS, OF NORFOLK, VIRGINIA.

CONVERTIBLE RAILWAY-CAR.

No. 867,917.

Specification of Letters Patent.

Patented Oct. 8, 1907.

Application filed May 7, 1907. Serial No. 372,310.

To all whom it may concern:

Be it known that I, MAURICE P. HENVIS, a citizen of the United States, residing at Norfolk, in the county of Norfolk and State of Virginia, have invented certain new and useful Improvements in Convertible Railway-Cars, of which the following is a specification.

My invention relates to convertible railway cars.

The object of the invention is to provide a car that may be quickly transformed so as to form a complete summer or winter car permitting such a change to be quickly accomplished and to be without complicated parts also to be inexpensive in construction.

A further object of the invention is to permit an adoption of my invention on closed cars already in use thus making them as open or summer cars.

My invention may also be applied to summer cars to transform them into winter ones.

Further objects and advantages will be more fully described herein and specifically pointed out in the claims recourse being had to the accompanying drawings forming a part of this specification in which:—

Figure 1 is a side elevation of one end of the car. Fig. 2 is a cross section of the box sides taken on the line 1—2 in Fig. 1. Fig. 3 is a part elevation of the upper portion of the box side with a window sash resting on one of its edges when the car is closed. Fig. 4 is an end view of one of the box sides showing a U shape heel iron. Fig. 5 is an end view of the track adapted to support the movable sides and engage a groove or channel in them or in the groove in the U iron which is secured to the bottom edge of the side members. Fig. 6 is a cross section of one of the sides of the cars showing the opening in the studs. Fig. 7 is a similar view showing a modified form of construction. Fig. 8 is an elevation of a part of the cam rod, track and side member. Fig. 9 is an end view of the same. Fig. 10 is a plan of one of the box sides with a window sash therein. Fig. 11 is a front elevation of the seats in the car when said car is operating for summer use. Fig. 12 is a side elevation of the same. Fig. 13 is a plan of the portion of two seats showing the T slot and lugs adapted to interlock, and Fig. 14 is a fragmentary plan of the T slots and T lugs when separated.

In the drawings like reference numerals indicate similar parts in all the views.

1 are the lower or floor sills, 2 being the letter board united to the studs or uprights 3 spaced at suitable distances along the length of the car as shown in Fig. 1. Each stud is provided with an opening 4 as shown in Fig. 6 from the floor of the window sill the length of the same depending on the height of the side boxes or sections.

5 and 6 are overhanging portions of the stud to hold and guide the box sides when moved which will be described hereafter.

6^a is the window sill, 7 being a mortise having one side at an angle to allow the window to incline outward when the car is closed in a manner similar to that shown in Fig. 3.

8 and 9 are springs the one at 8 bears against two edges of the window sash while that at 9 bears against the outside of the sash to hold it from vibrating when it is dropped in the groove behind the overhanging portion 6 when the car is used in cold weather.

Instead of forming an opening through the entire stud it may be cut away as shown in Fig. 7, the metal strip 10 answering as a portion of the studding and bracing the part cut out of the stud, if this mode of construction is desired.

As all cars are provided with sides for winter use which are either continuous or folding I arrange the sides so that they are in independent sections 11, that is to say, they are not connected together either temporarily or permanently and are adapted to be slidably positioned for longitudinal movement from the center of the car to each end or along its entire length, as desired. The box sides or sections 11 receive the window sash slidably positioned therein as in the ordinary construction there being suitable latches or fastenings customary in the practical working of the sash.

The bottom of each box side or sections 11 is provided with a channel iron or U shaped heel bar 12 let into the bottom so as to be flush with it, the channel of the bar engages the T rail 13 upon which they slide and in order to raise them against the projection 5 and 6 to prevent them from vibrating or rattling, I provide a cam rod 14 placed under the flanges of the track 13, as in Figs. 6, 7, 8 and 9, and extending nearly the whole length of the car on both sides. The cam shaft has spindles turned upon it at both ends to fit suitable bearings upon which the rod turns. The cam shaft is inserted in a recess in the floor or lower beams of the car as shown.

15 is a disk on one of the cam shaft spindles and is provided with holes 16 for the insertion of a rod 17 for operating the cam shaft or rod.

18 are the window sashes mounted in the side members or boxes 11 in the ordinary manner.

To transform the car from a closed or winter one to a summer or open car all that it is necessary to do is to release the cam shaft 14 so that it will be in a position shown in Fig. 6 which loosens the side members 11 after which they may be slid along to the ends of the car from the center and then turned around and placed at each end of the car and slipped behind a back seat 19 as shown at the left hand of Fig. 1.

As shown in Fig. 6, studs are cut so that the sides may freely pass through them carrying the window sash, hence they do not pass outside of the studs as is ordinarily done. As shown in Fig. 7 the studs

may have a portion of them cut entirely out or mortised and a metal strap 10 used to reinforce the stud.

As shown in Figs. 6 and 7 the opening 4 and the cut away portion in Fig. 7 permits the sash to be in line with the upper portion of the studs which the window sash occupies when raised. The arrangement also does not interfere with the usual handles placed at the ends of each seat on open cars.

20, Fig. 11, is the right hand seat and 21 the left hand one between which in winter there is an aisle for the passengers to pass through.

In order that the car may be adapted to summer use the aisle is closed by a seat 22 adapted to be placed under the seat 21 when the car is closed the latter being lift-able and acting as a cover for the seat 22 which is slidably shorter and rests upon projections under the seat as shown in Fig. 11.

22^a is the back of the seat 22 adapted to be placed under the seat 20 in the same manner as above described.

23 and 24 are the spaces under the seat 21 and 20, respectively.

25 are T lugs adapted to fit a corresponding slot in the seat or back so that they may be readily united but I may change the locking device if desired in order to accomplish the work quickly.

As the invention is plainly shown in the drawings and as the mode of operating has been set forth further description is deemed unnecessary.

Having described my invention and what I claim and desire to secure by Letters Patent is.

1. A convertible railway car, studs or uprights supporting the roof thereof, and window sash carrying side members adapted to pass through said studs.
2. A convertible railway car, studs or vertical members, and hollow sash boxes adapted to be passed through the studs, said boxes adapted to form the sides of a closed car.
3. A convertible railway car comprising studding, and

box side members adapted to be slidably carried through said studding, said box members adapted to movably support the window sashes.

4. A convertible railway car and its upright posts or studding, independent side members movably positioned to pass through said studding, said side members adapted to inclose the window sash.

5. A convertible street car, of studding, box side members of said car adapted to pass through said studding, said side members adapted to be operated independently of each other.

6. A convertible railway car, of uprights or studding, box members adapted to form the sides of a closed car, said box members positioned to pass through said studding to the ends of the car, and a track way for slidably mounting the box members.

7. A convertible car, of upright posts or studding, box sides adapted to pass through said studding, said box sides being independent of each other and adapted to be placed at the ends of the car.

8. A convertible car comprising studding having openings therethrough, side members partly inclosed by said studding, shoulders in said openings, and cam means for raising said side members against the shoulders.

9. A convertible railway car comprising studding, box members adapted to pass through notches or openings in said studding, a track for said box members, and a cam rod beneath said track.

10. A convertible car comprising studding having openings or notches therein, window sash boxes forming the sides of the car adapted to be movably positioned within the studding, a track under the boxes, a cam rod under said track, and lever and rod means from said cam rod to a second cam rod on the opposite side of the car.

11. A convertible car comprising seats and their backs, an isle seat and back adapted to be placed between the first named seats, said isle seat being inclosed by one of the side seats and its back in another seat, and slot and lug means for holding the isle seat integral with the others.

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses.

MAURICE P. HENNIS.

Witnesses:

WALTER B. BURROW,
MONIE HYMAN.