

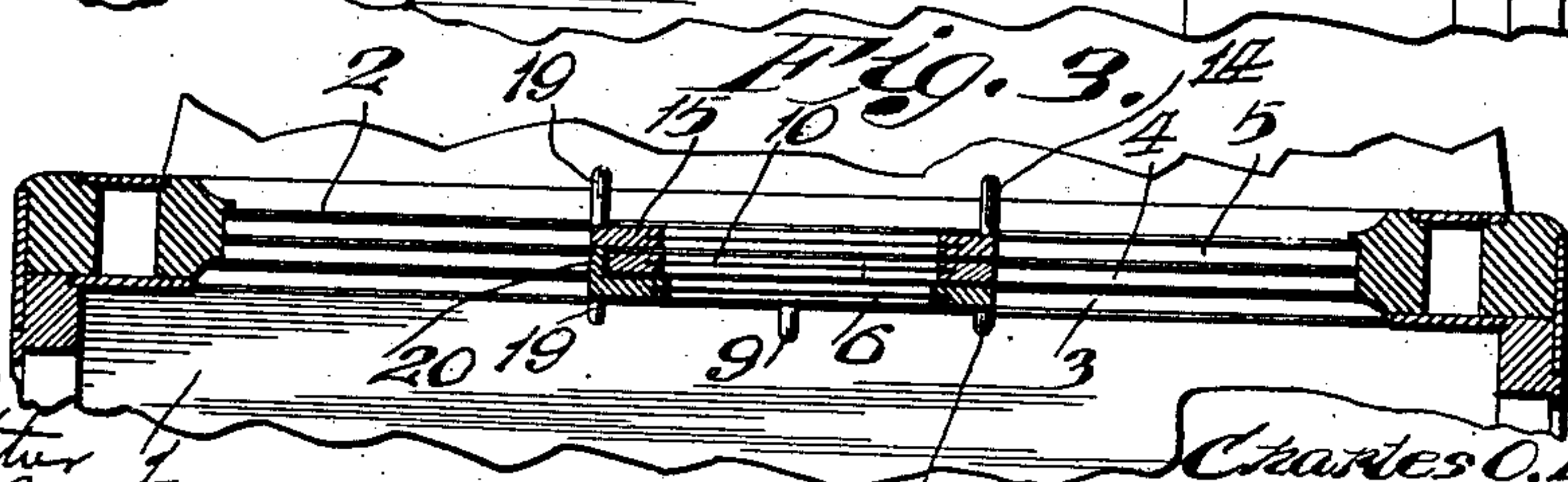
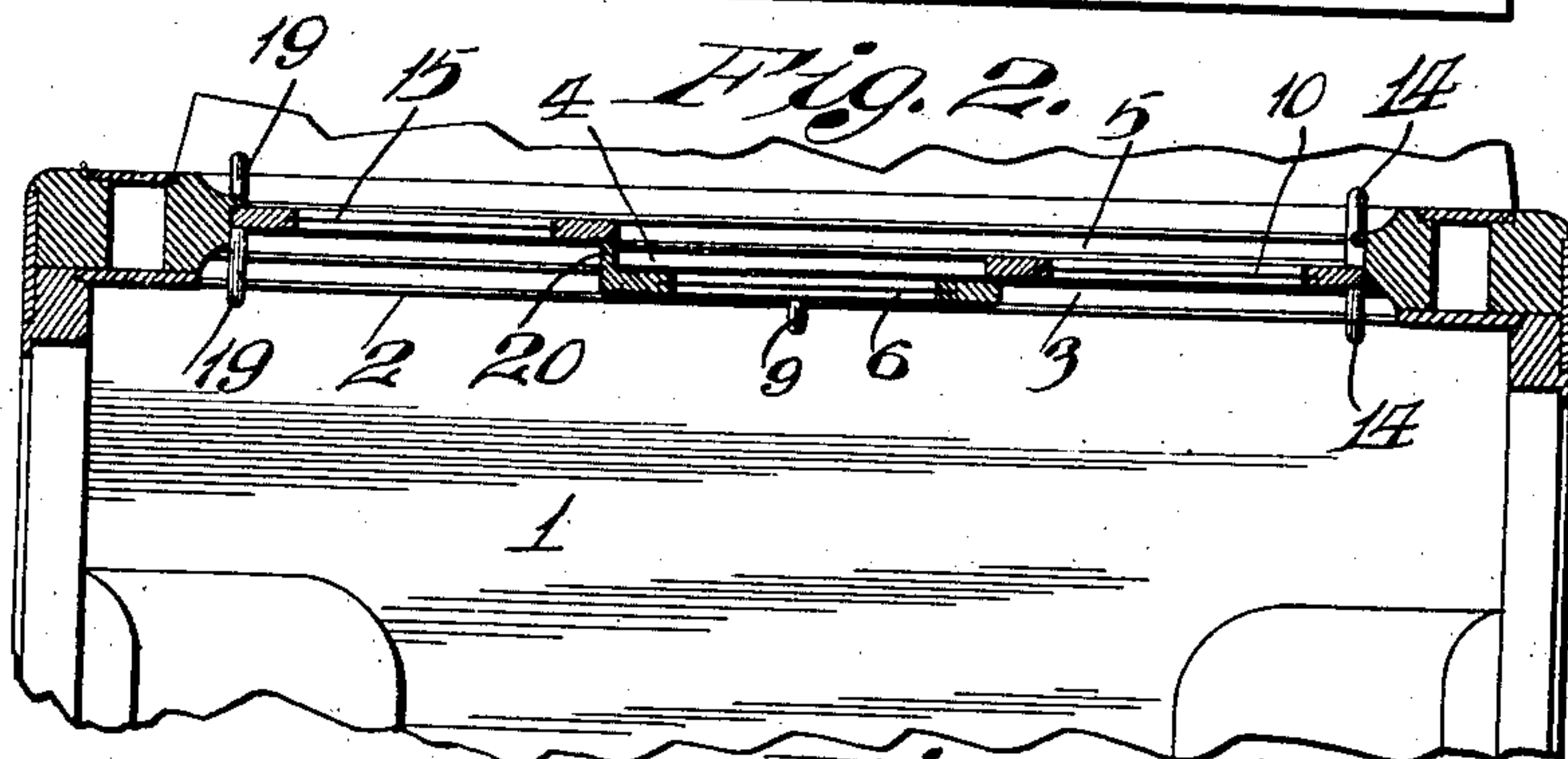
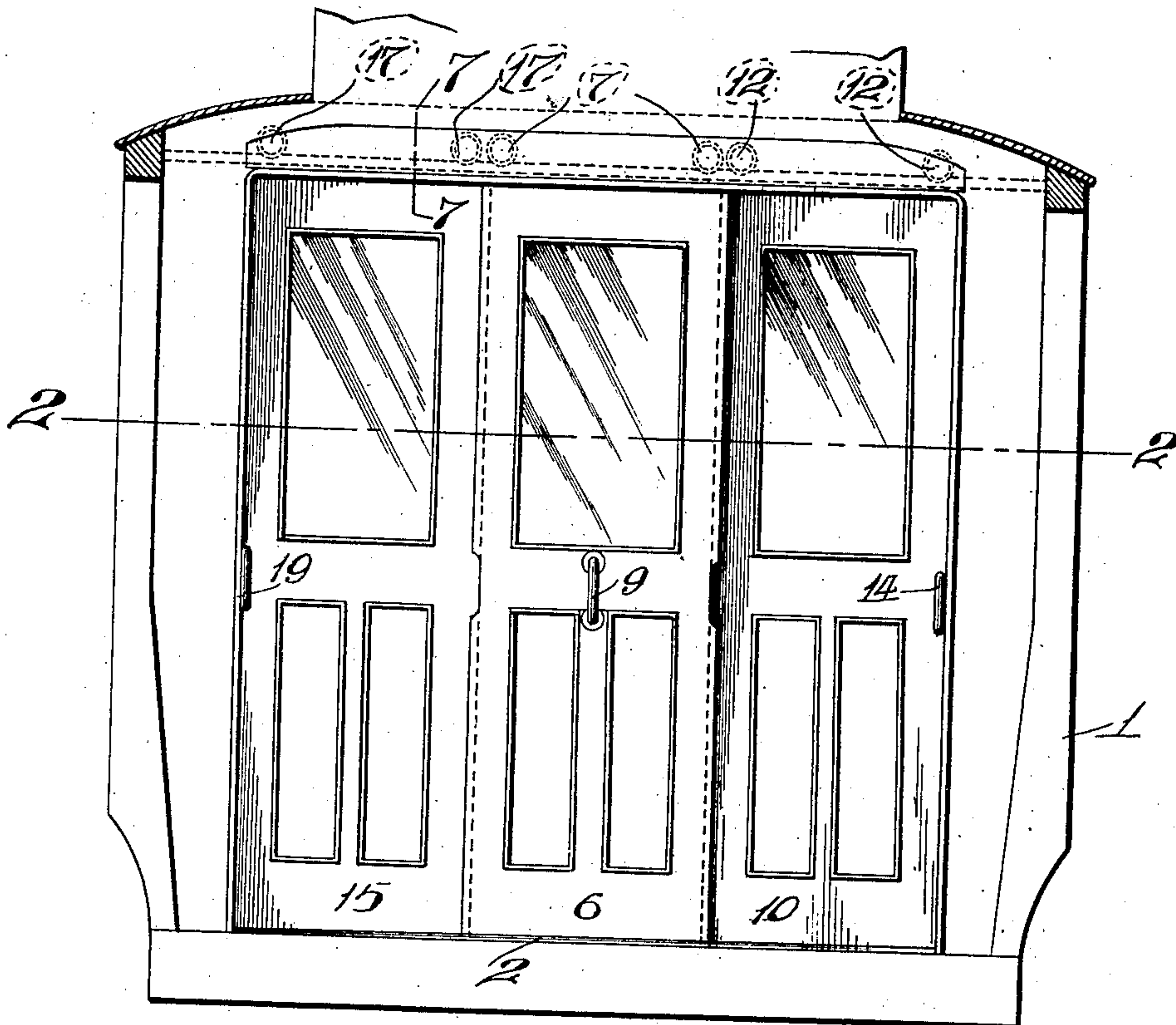
908,199.

C. O. BIRNEY.
CAR END CONSTRUCTION.
APPLICATION FILED AUG. 28, 1908.

Patented Dec. 29, 1908.

2 SHEETS—SHEET 1.

Fig. 1.



attest.
L. G. Decker
M. Smith

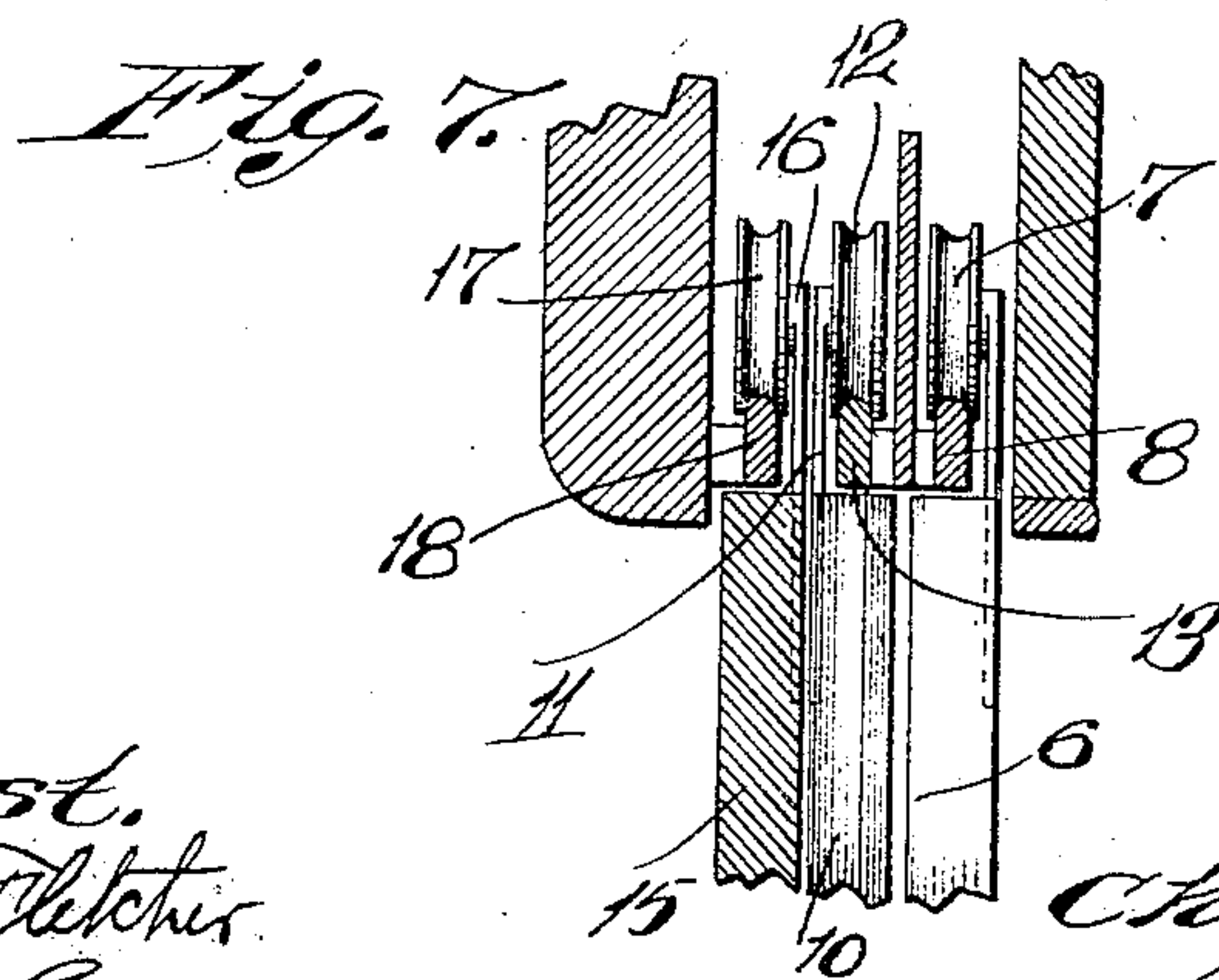
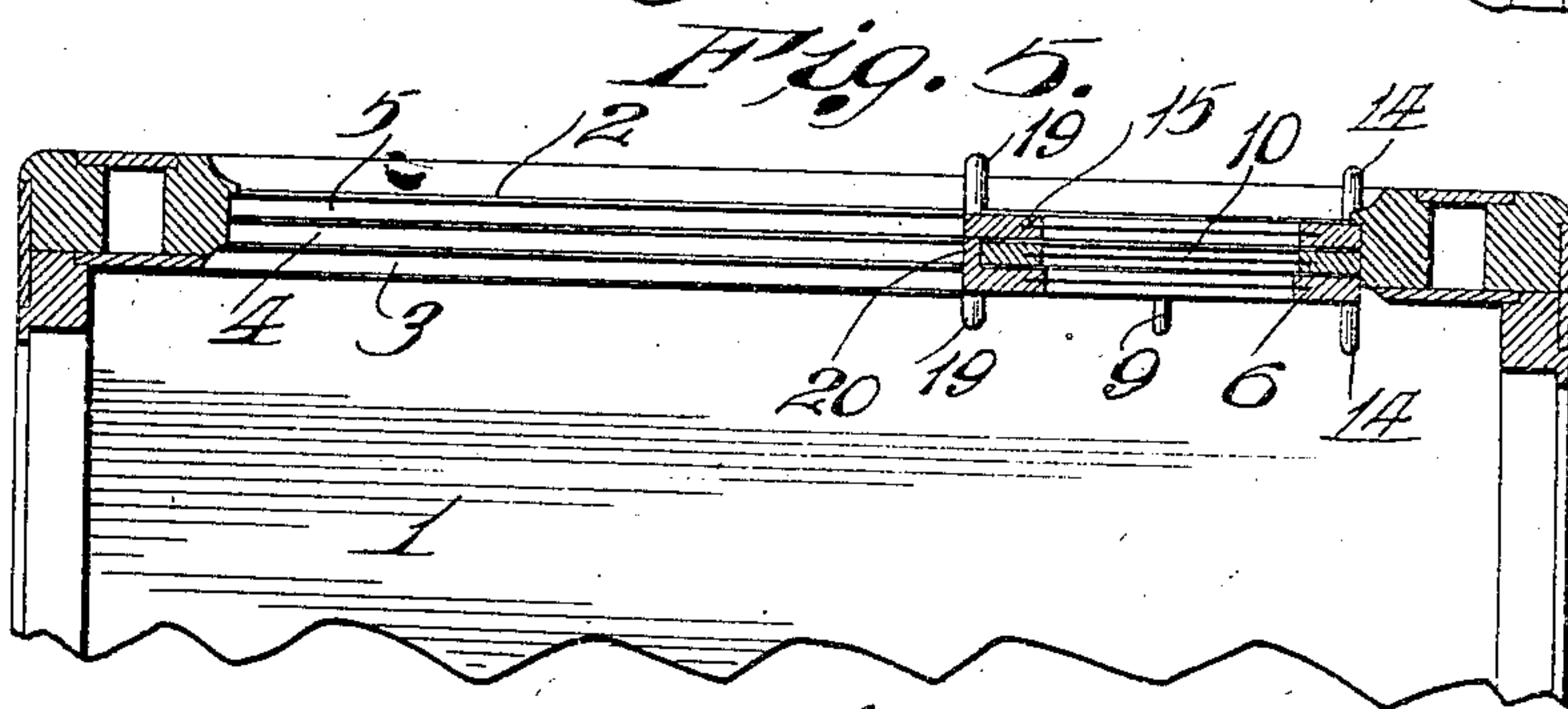
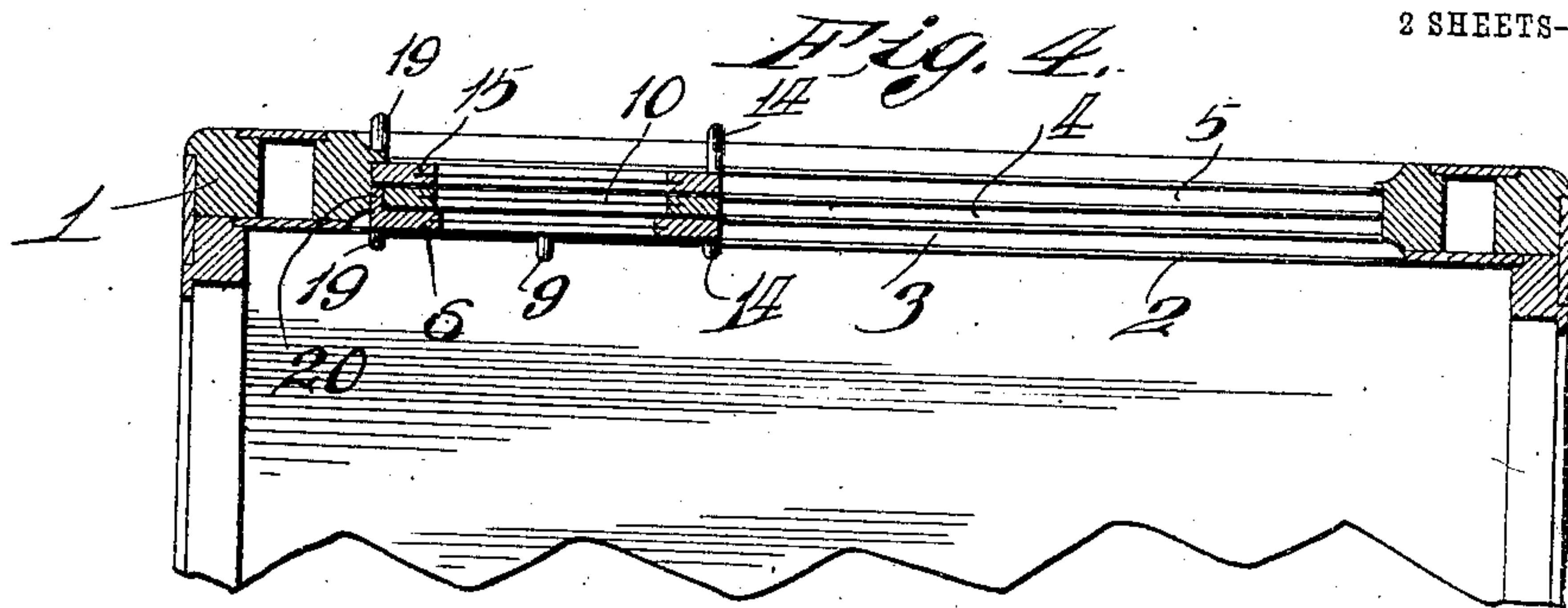
Inventor
Charles O. Birney.
By Higdon & Longan,
Attys.

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2 SHEETS—SHEET 2.



attest.
 H. G. Fletcher.
 M. P. Smith.

Inventor.
 Charles O. Birney.
 By Higdon & Langan.
 Attys.

UNITED STATES PATENT OFFICE.

CHARLES O. BIRNEY, OF ST. LOUIS, MISSOURI.

CAR-END CONSTRUCTION.

No. 908,199.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed August 28, 1908. Serial No. 450,638.

To all whom it may concern:

Be it known that I, CHARLES O. BIRNEY, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Car-End Construction, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates generally to passenger cars, and more particularly to the construction of the ends of such cars and the doors therein, my object being to construct an extra wide door opening in the end of the car, and to provide a series of sliding doors for said opening, and which sliding doors are so arranged as that separate entrance and exit openings may be formed adjacent the sides of the car, or a single wide entrance or exit may be formed on either side of the door opening, which arrangement is especially advantageous on passenger cars utilizing the pay-on-platform principle.

To the above purposes, my invention consists in certain novel features of construction and arrangement of parts, which will be hereinafter more fully set forth, pointed out in the claims, and illustrated in the accompanying drawings, in which:—

Figure 1 is a cross section taken through the body of a car constructed in accordance with my invention, and looking toward the door opening in the end of said car, and with the sliding doors in the car end shown in closed positions; Fig. 2 is a horizontal section taken on the line 2—2 of Fig. 1; Fig. 3 is a horizontal section through a car end of my improved construction, and showing the sliding doors moved to the center of the door opening to form separate entrance and exit openings; Fig. 4 is a horizontal section taken through a car end of my improved construction, and showing all of the doors moved to one side of the door opening to form a single wide entrance opening; Fig. 5 is a horizontal section similar to Fig. 4, and showing the sliding doors moved to one side of the door opening so as to form a single wide exit opening; Fig. 6 is a horizontal section similar to Figs. 4 and 5, and showing the doors shifted into such positions as to form a single entrance and exit at the center of the door opening; Fig. 7 is an enlarged vertical section taken on the line 7—7 of Fig. 1, and

showing the wheeled hangers which carry the sliding doors.

Referring by numerals to the accompanying drawings:—1 designates the car body, in the end of which is formed an extra wide door opening; and arranged on the car floor, between the door posts, is a threshold 2 in which is formed three grooves, 3, 4, and 5.

6 designates a sliding door which is in width approximately one-third the width of the door opening; and the lower end of this door is arranged to slide in the groove 3, and the upper end of said door is provided with a pair of grooved wheels, such as 7, which operate on a track rail 8 located in the head of the door frame. This door 6 occupies a position at the center of the door opening when said door opening is closed. Fixed to the inside face of the door 6, at the center thereof, is a handle 9, by means of which said door is shifted from one position to another.

10 designates a sliding door which is of the same width as is the door 6; and the bottom of said door 10 is arranged to slide in the groove 4, and the upper end thereof is provided with a hanger 11, which carries grooved wheels, such as 12, and which travel on a track rail 13 arranged in the head of the door frame adjacent the rail 8. This door 10 is adapted to normally close the entrance opening between one of the door posts and one side of the door 6; and fixed on both sides of said door 10, adjacent the edge which closes against the door post, are handles 14, by means of which said door is shifted.

A sliding door 15, similar in construction to the doors 6 and 10, has its lower end arranged to slide in the groove 5, and the upper end of said door is provided with a hanger 16 carrying grooved rollers, such as 17, which operate on a track rail 18 located in the head of the door frame, adjacent the rails 8 and 13. This door 15 normally closes the exit passageway between one of the corner posts of the car and one side of the center door 6; and fixed on both sides of said door 15, and adjacent the edge which closes against the door post, are handles 19, by means of which said door is shifted from one position to another.

A stop and filler strip 20 is fixed to the outside face of the door 6, on the edge which is normally immediately adjacent the edge of the door 15, and which strip acts as a stop

to limit the movement of the door 10 relative to said door 6; and said strip also acts as a filler for the space between the edges of the doors 6 and 15 when the same are closed.

5 When the doors are arranged to close the door opening in the end of the car, they occupy the positions seen in Fig. 2; and when it is desired to provide separate entrance and exit openings, the doors 10 and 10 15 are moved toward one another until they occupy positions immediately in front of the center door 6, and thus narrow entrance and exit openings are formed between the center door and the door posts. The doors 10 and 15 15 are readily shifted by manually engaging the handles 14 and 19; and during the movement of said doors, the wheels 12 and 17 ride freely upon the tracks 13 and 18, and the lower ends of said doors slide through the 20 grooves 4 and 5.

When it is desired to provide an extra wide entrance, the doors 6 and 10 are shifted to one side so as to occupy positions immediately to the rear of the door 15, (as shown 25 in Fig. 4,) or to provide an extra wide exit opening, the doors 6 and 15 are shifted so as to occupy positions on both sides of and immediately adjacent the door 10, (as seen in Fig. 5.)

30 When it is desired to form a single entrance and exit at the center of the door opening, the center door 6 is shifted so as to occupy a position immediately to the rear of the door 15, (as seen in Fig. 6;) or said 35 door 6 may be shifted to the opposite side of the door opening so as to occupy a position immediately to the rear of the door 10.

By my improved construction, separate entrance and exit openings are readily pro- 40 vided, as desired, in the end of the car to combine with the barriers and gates ordinarily made use of on the platforms of cars utilizing the pay-on-platform principle; and the sliding doors are readily shifted

from one position to another, and can easily 45 and quickly be brought into position to close the entire door opening in the car end.

I claim:—

1. The combination with a car having a door opening in its end, of three doors nor- 50 mally closing the opening, and all of which doors are arranged to slide freely in both directions from one side of the door opening to the other.

2. The combination with a car having a 55 door opening in its end, of three doors normally closing the opening, all of which doors are arranged to slide freely in both directions from one side of the door opening to the other, and guides for the upper and 60 lower ends of said doors.

3. The combination with a car having a door opening in its end, of three doors of equal width, which doors normally close the opening in the end of the car, and being ar- 65 ranged to slide freely in both directions from one side of said door opening to the other.

4. A car having a door opening and three doors arranged to slide freely from one side 70 of the door opening to the other, in order to form entrance and exit openings at either side of the car at the center of the door opening.

5. A car having a door opening in its end, 75 and a plurality of doors arranged to slide freely from one side of the door opening to the other, which doors are adapted to be shifted so as to form a narrow entrance and exit opening at the center of the door open- 80 ing.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

CHARLES O. BIRNEY.

Witnesses:

M. P. SMITH,
E. L. WALLACE.