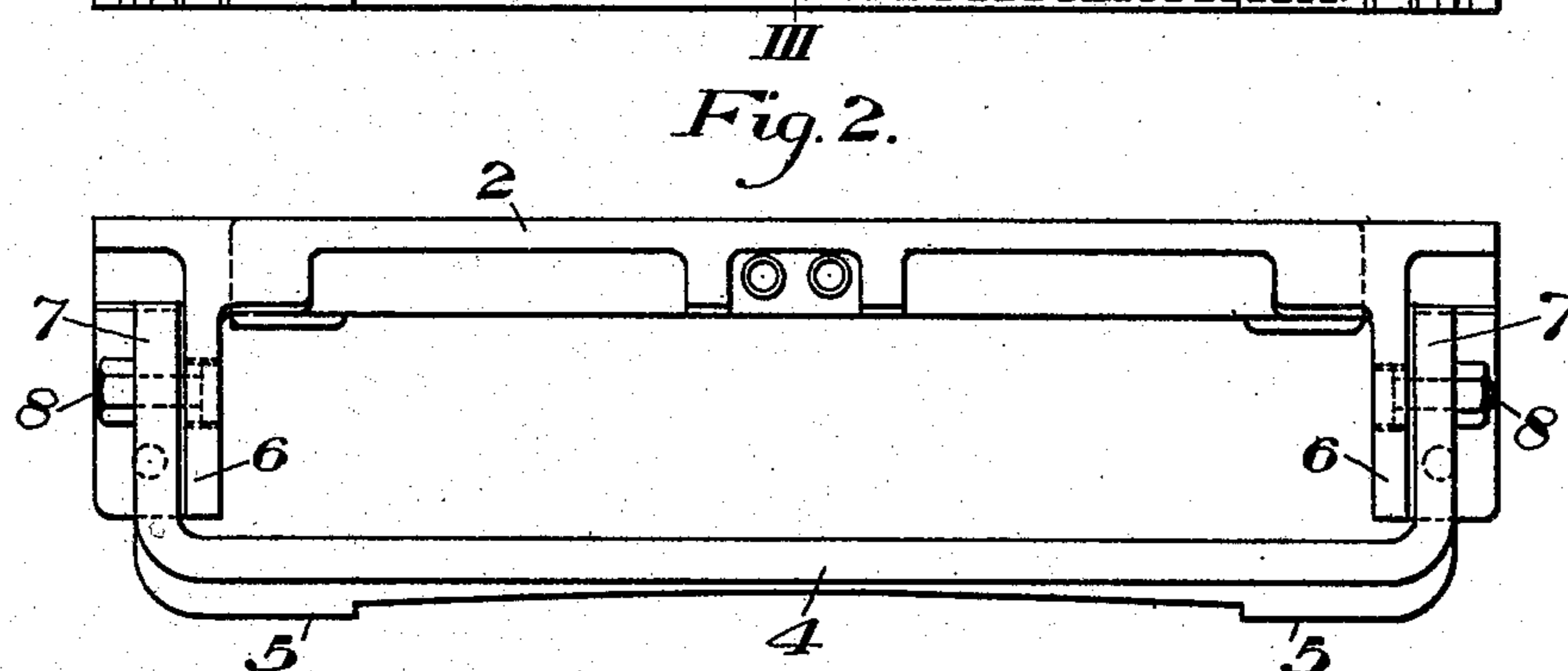
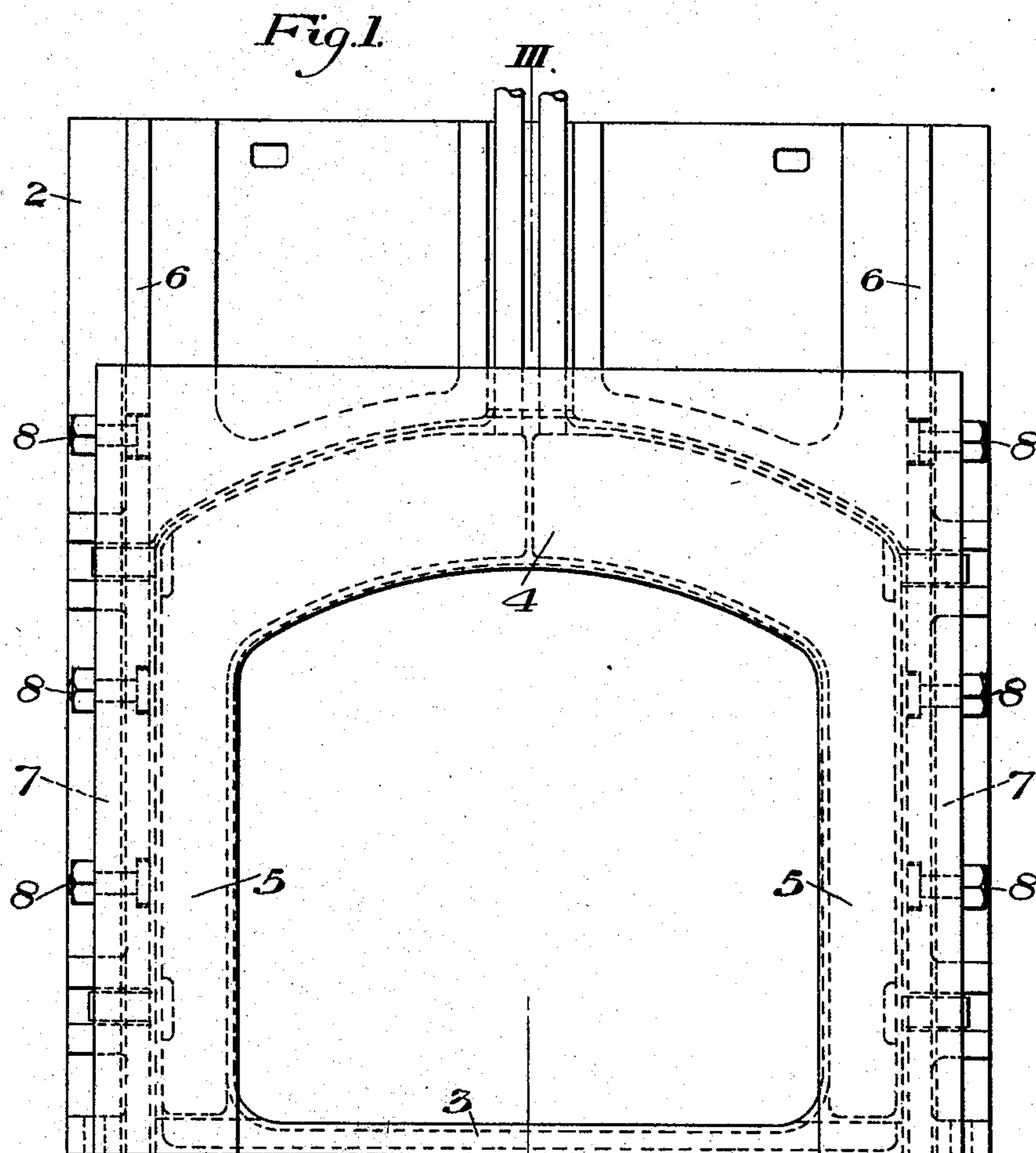


910,926.

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 APPLICATION FILED JUNE 30, 1908.

Patented Jan. 26, 1909.
 2 SHEETS—SHEET 1.



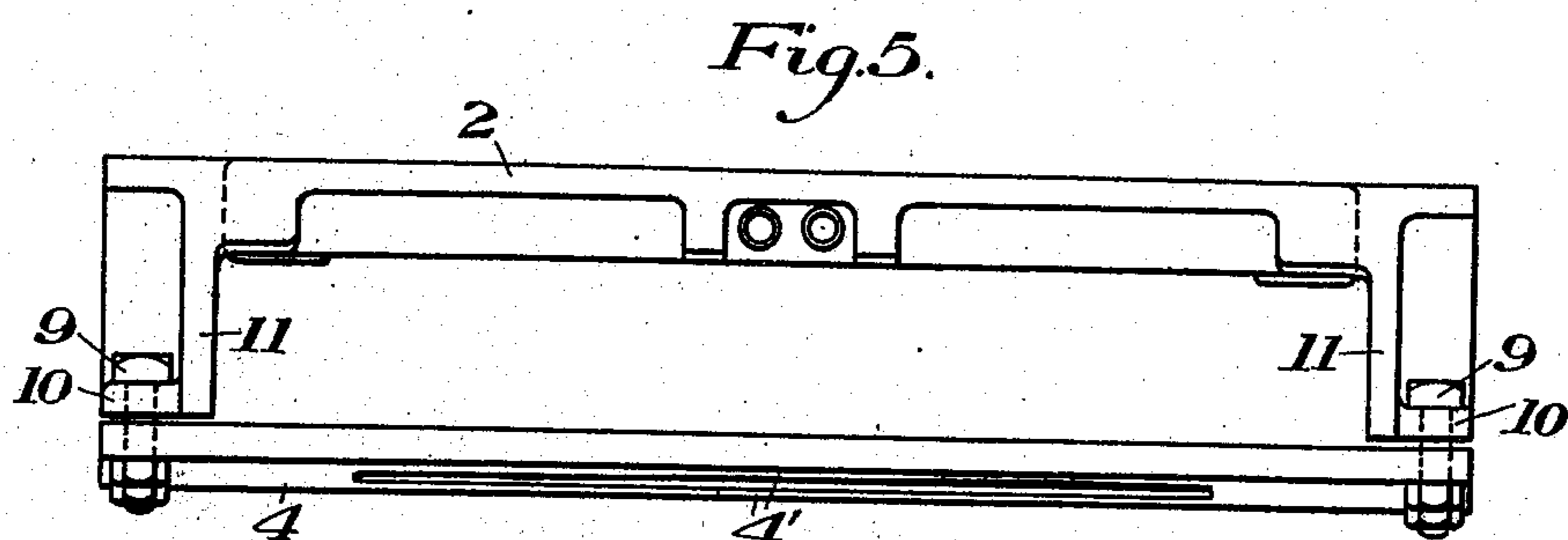
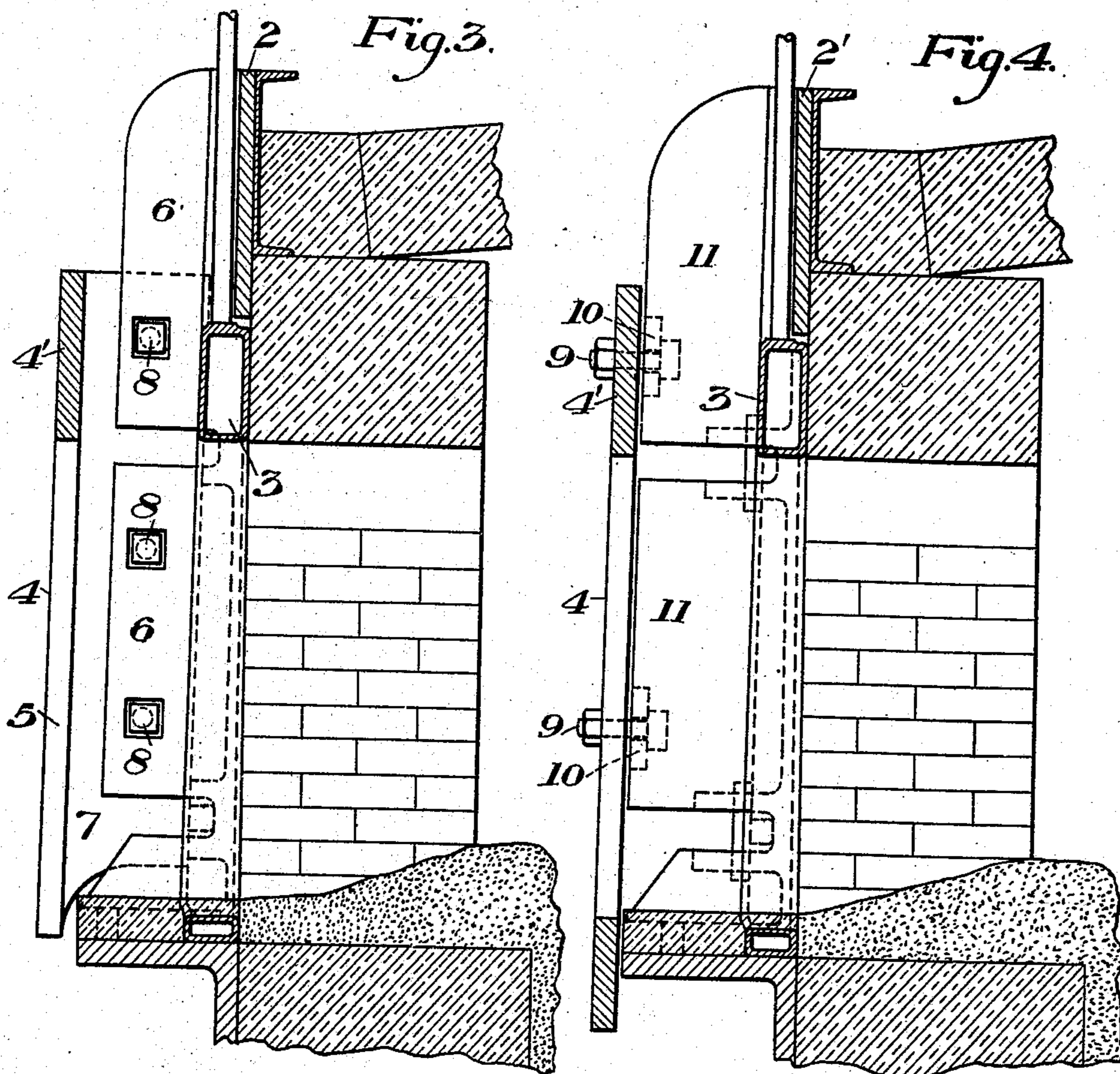
WITNESSES
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R. A. Balderson

INVENTOR
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by Baker, Byrnes & Parnes,
his Attys.

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WITNESSES
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UNITED STATES PATENT OFFICE.

LUTHER L. KNOX, OF BEN AVON, PENNSYLVANIA.

GUARD OR FENDER FOR FURNACE-DOOR FRAMES.

No. 910,926.

Specification of Letters Patent.

Patented Jan. 26, 1909.

Application filed June 30, 1908. Serial No. 441,180.

To all whom it may concern:

Be it known that I, LUTHER L. KNOX, of Ben Avon, Allegheny county, Pennsylvania, have invented a new and useful Guard or Fender for Furnace-Door Frames, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation of one form of door frame provided with my invention; Fig. 2 is a plan view of the same; Fig. 3 is a vertical section on the line III—III of Fig. 1; Fig. 4 is a similar section showing a modification; and Fig. 5 is a plan view of the construction shown in Fig. 4.

My invention has relation to guards or fenders for protecting furnace door frames, and more particularly door frames of the general character described and claimed in my Patent No. 864,752 of August 27th, 1907, although it is applicable to any form of water-cooled door frame in which it is desirable to protect the water-cooled frame from injury by contact with the furnace charging apparatus.

The precise nature of my invention will be best understood by reference to the accompanying drawings, which will now be described, it being premised, however, that it may be modified in various ways by those skilled in the art without departing from the spirit and scope of my invention as defined in the appended claims.

Referring first to the construction shown in Figs. 1, 2 and 3 of the drawings, the numeral 2 designates the main member of a door frame, and 3 the supplemental member, which is in the form of a rim-like structure which fits within the door opening of the main frame in the manner and for the purpose described in my said patent. For the purpose of protecting this supplemental frame 3, which is shown in the form of a thin-walled casting, from injury by reason of contact with the charging device in the operation of the furnace, I provide a fender or guard 4 which consists of a plate secured to the main frame and having a transverse portion 4' which extends parallel with and in

front of the top or lintel portion of the frame 3, and depending side portions or legs 5, which extend downwardly in front of the side legs of the frame 3. The main frame is provided with forwardly projecting flanges 6, and the guard or fender has inwardly turned edge flanges 7 which are detachably secured to the flanges 6 by bolts 8, or any other suitable means.

The forms shown in Figs. 4 and 5 are similar to that shown in the other figures, except that the side flanges 7 of the guard or fender are omitted and the plate forming this guard or fender is secured by bolts 9, or the like, to lugs 10 at the outer edges of flanges 11 which project forwardly from the main frame 2'.

The guard or fender can be readily attached to and removed from the main frame member, and forms a simple and efficient means for preventing injury to the supplemental frame member.

What I claim is:—

1. A furnace having a water-cooled door frame member, and a guard or fender having a portion extending parallel with and in front of the frame member to protect the same against contact with the furnace-charging apparatus, substantially as described.

2. A furnace door frame consisting of a main member, and a supplemental hollow water-cooled member, of a guard or fender secured to the main frame member and extending in front of and protecting the supplemental frame member; substantially as described.

3. A furnace door frame consisting of a main frame member having a door opening therethrough, and a supplemental frame member in the form of a hollow rim-like structure fitting within the opening in the main member, and a guard or fender plate secured to the main member and lying in front of and protecting the supplemental member; substantially as described.

4. A furnace door frame consisting of a main member having a door opening therethrough and provided with forwardly projecting flanges, a supplemental member in the form of a rim-like hollow structure fitting

within the door opening of the main member,
and a guard or fender plate secured to the
main frame member and having transverse
and vertical portions which extend in front
5 of and protect the transverse and vertical por-
tions of the supplemental frame member;
substantially as described.

In testimony whereof, I have hereunto set
my hand.

LUTHER L. KNOX.

Witnesses:

GEO. H. PARMELEE.

H. M. CORWIN.