

No. 872,058.

PATENTED NOV. 26, 1907.

T. I. DUFFY.
METAL SHEATHED paneled PARTITION.

APPLICATION FILED AUG. 21, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

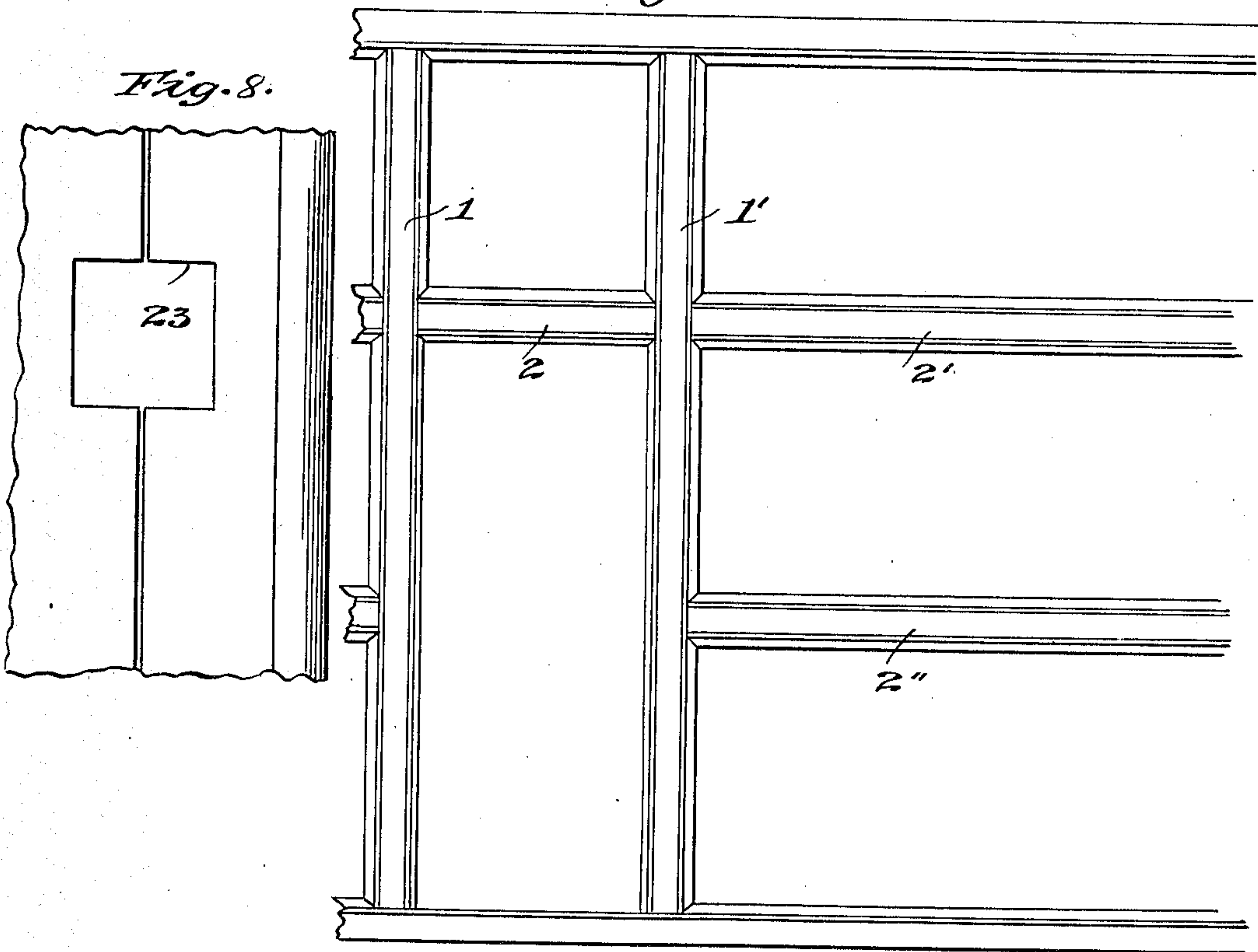


Fig. 8.

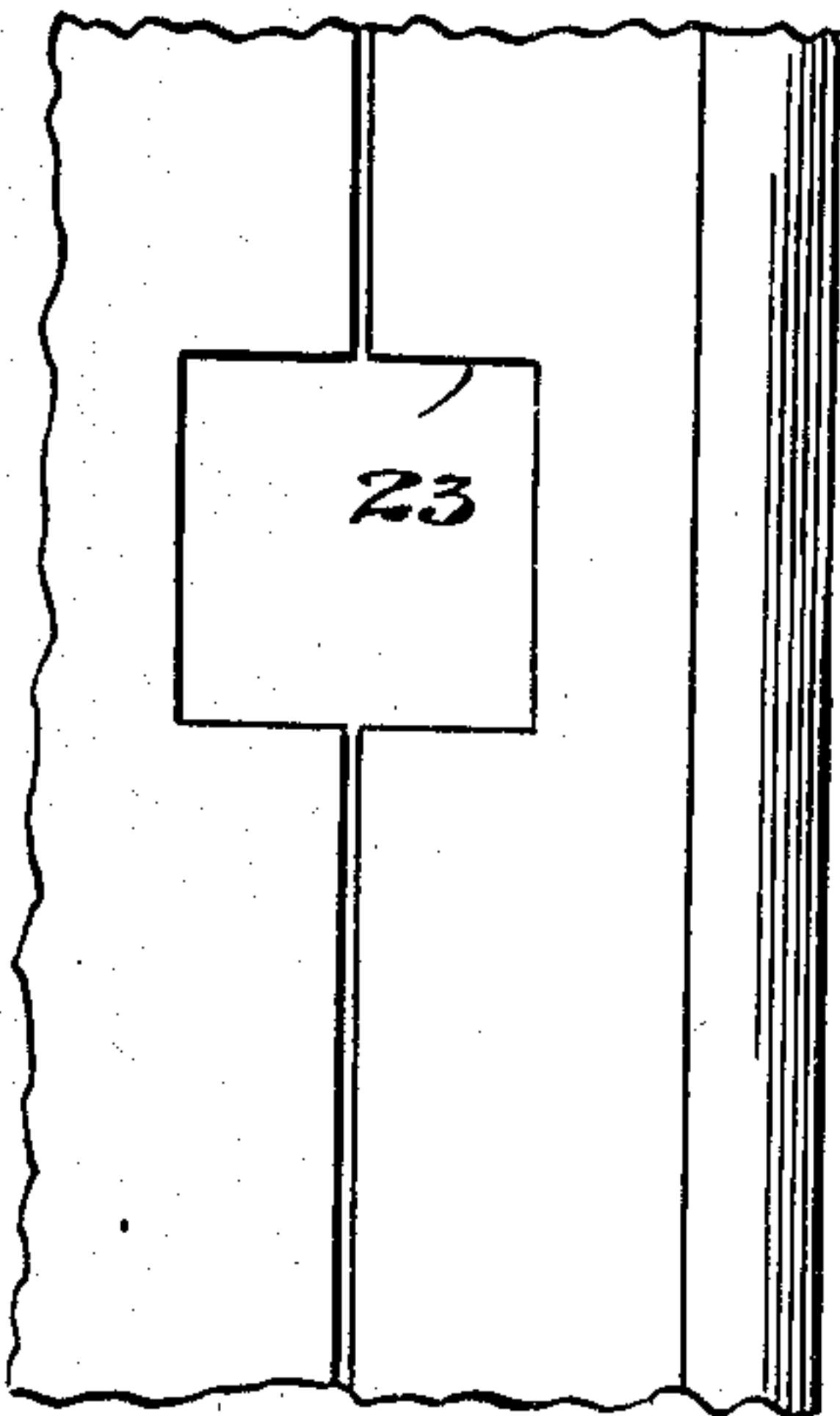


Fig. 5.

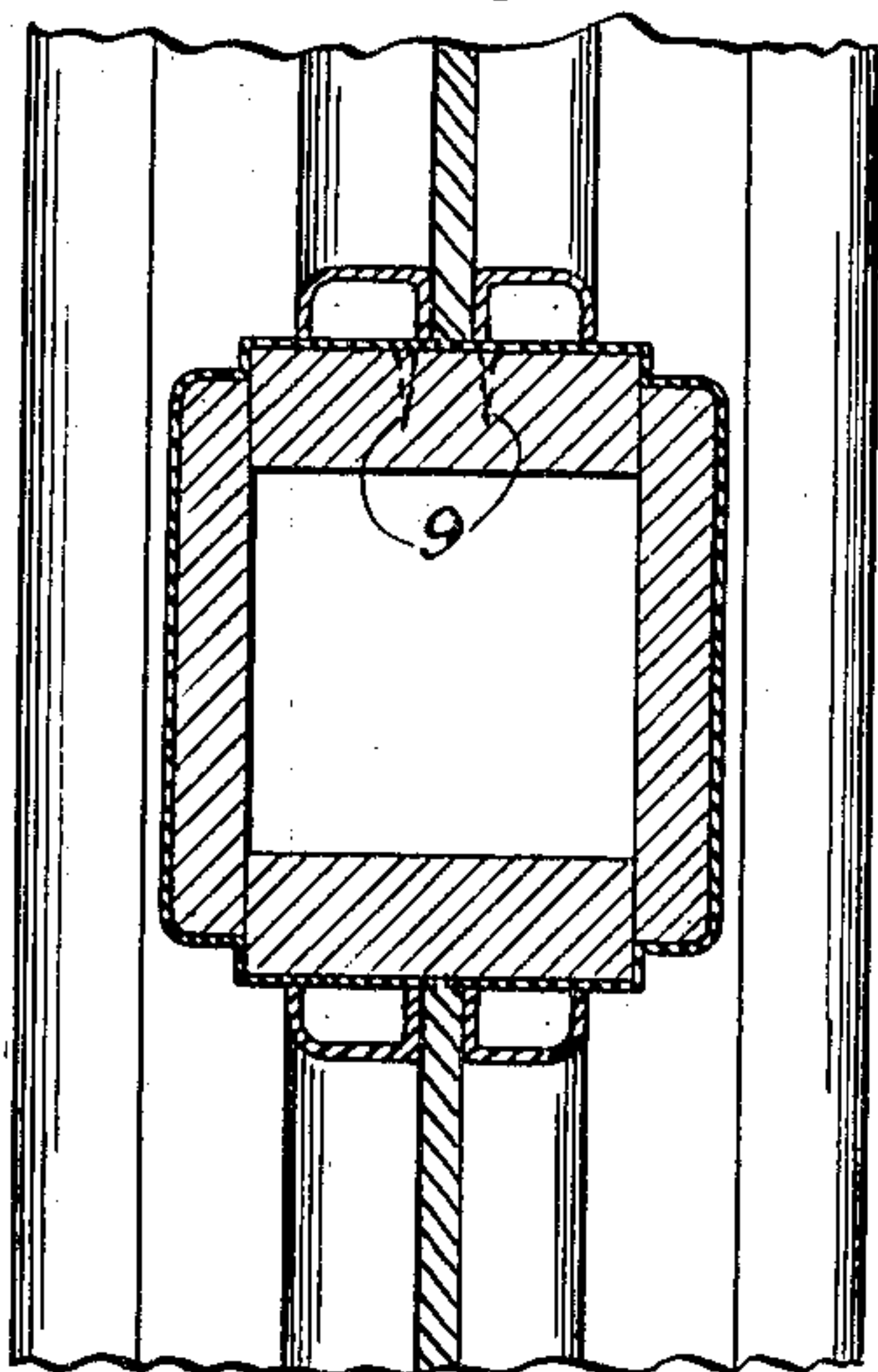


Fig. 7.

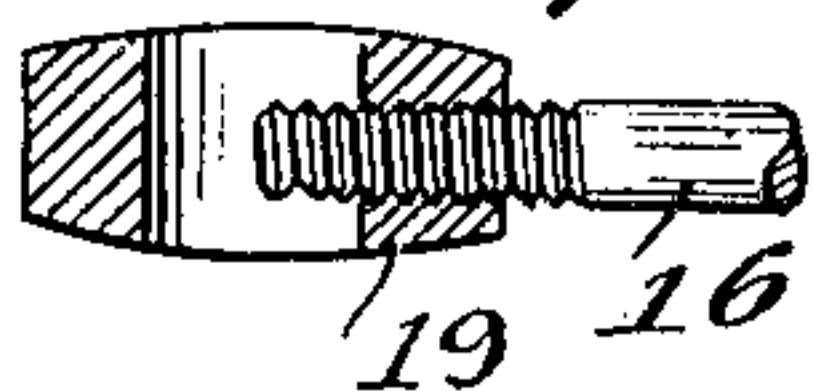
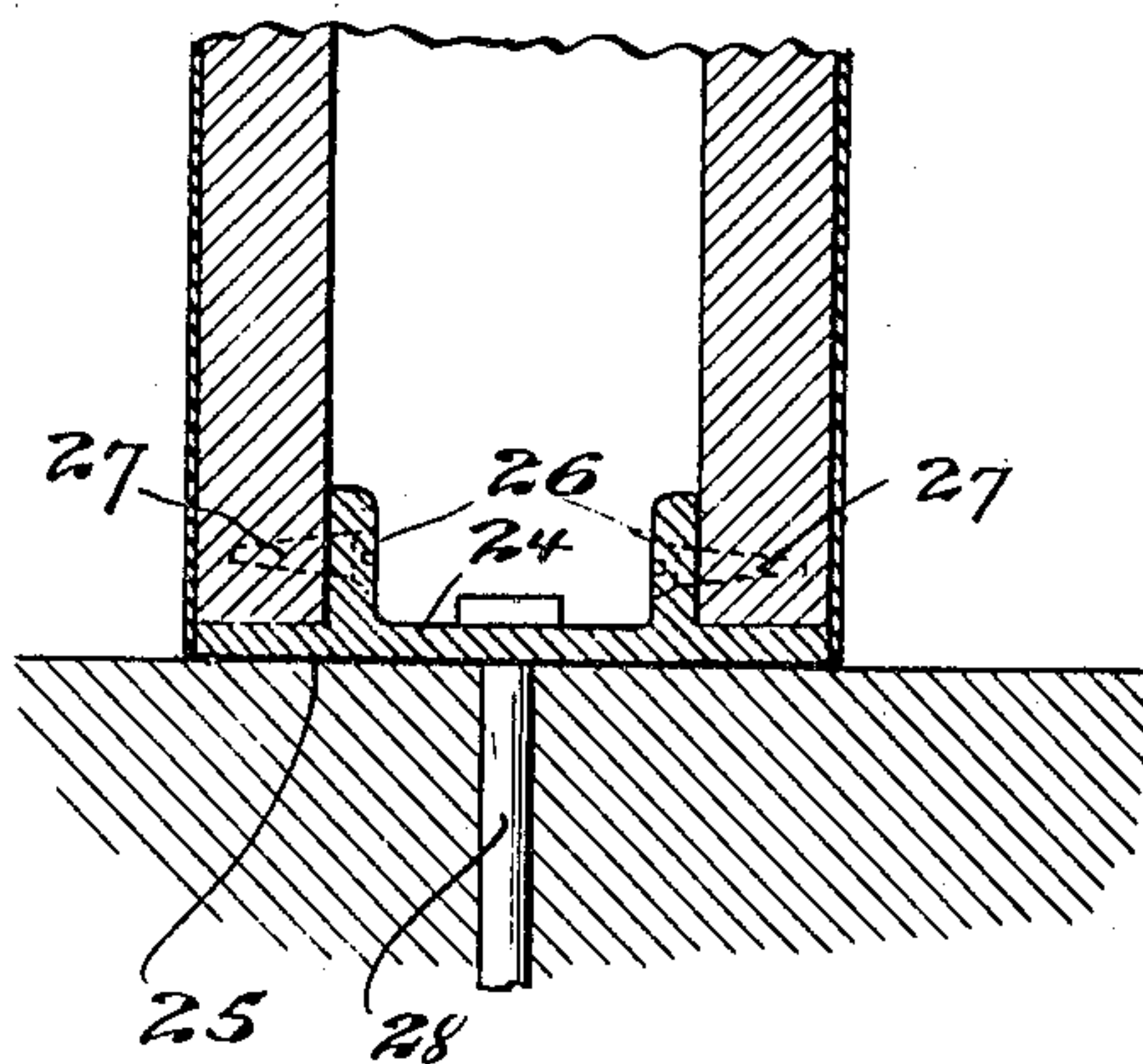


Fig. 6.



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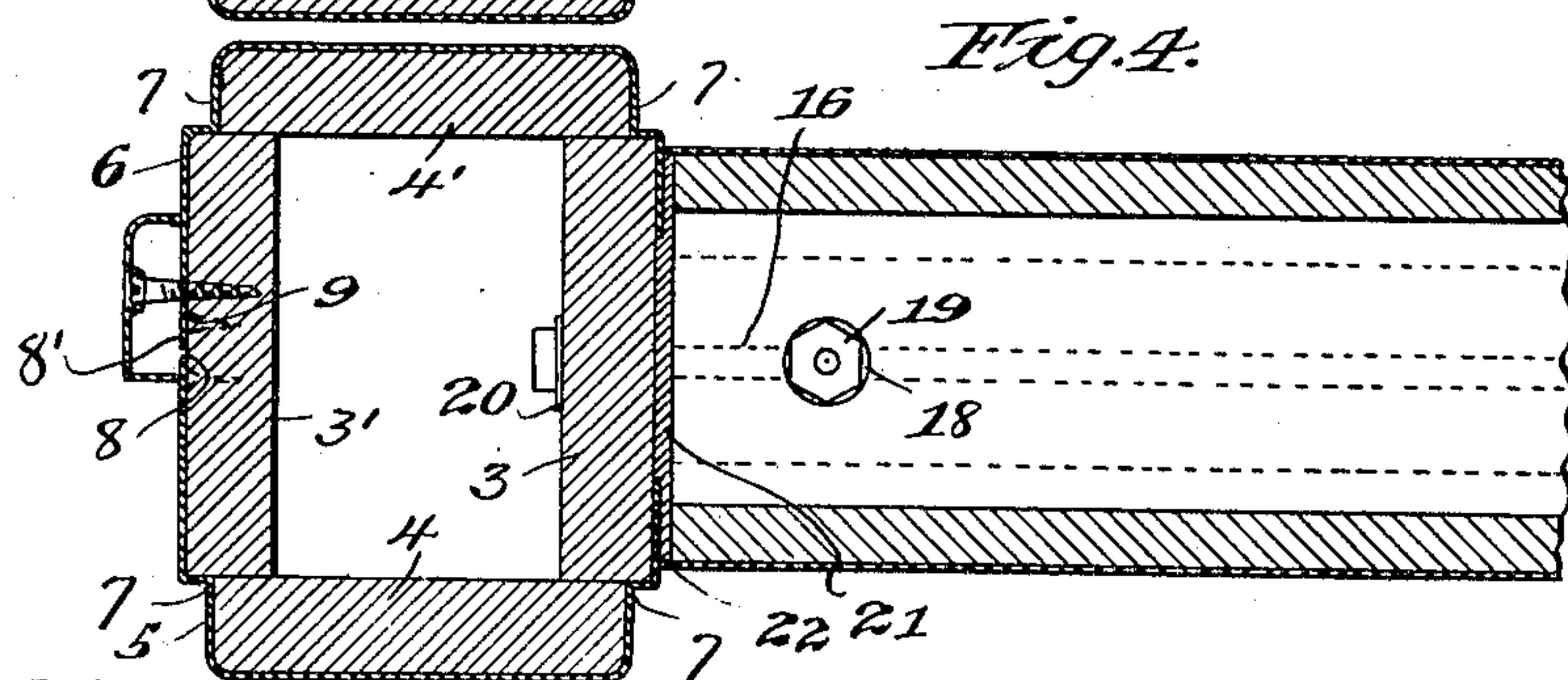
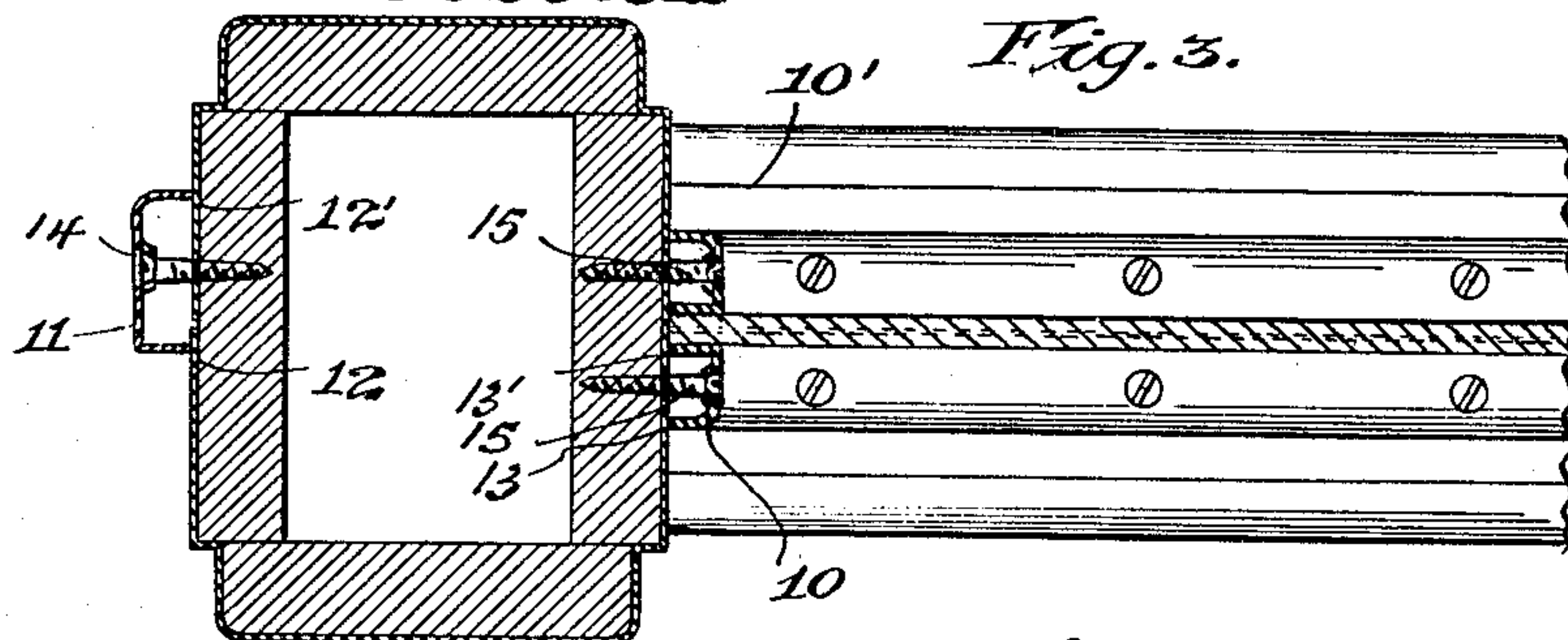
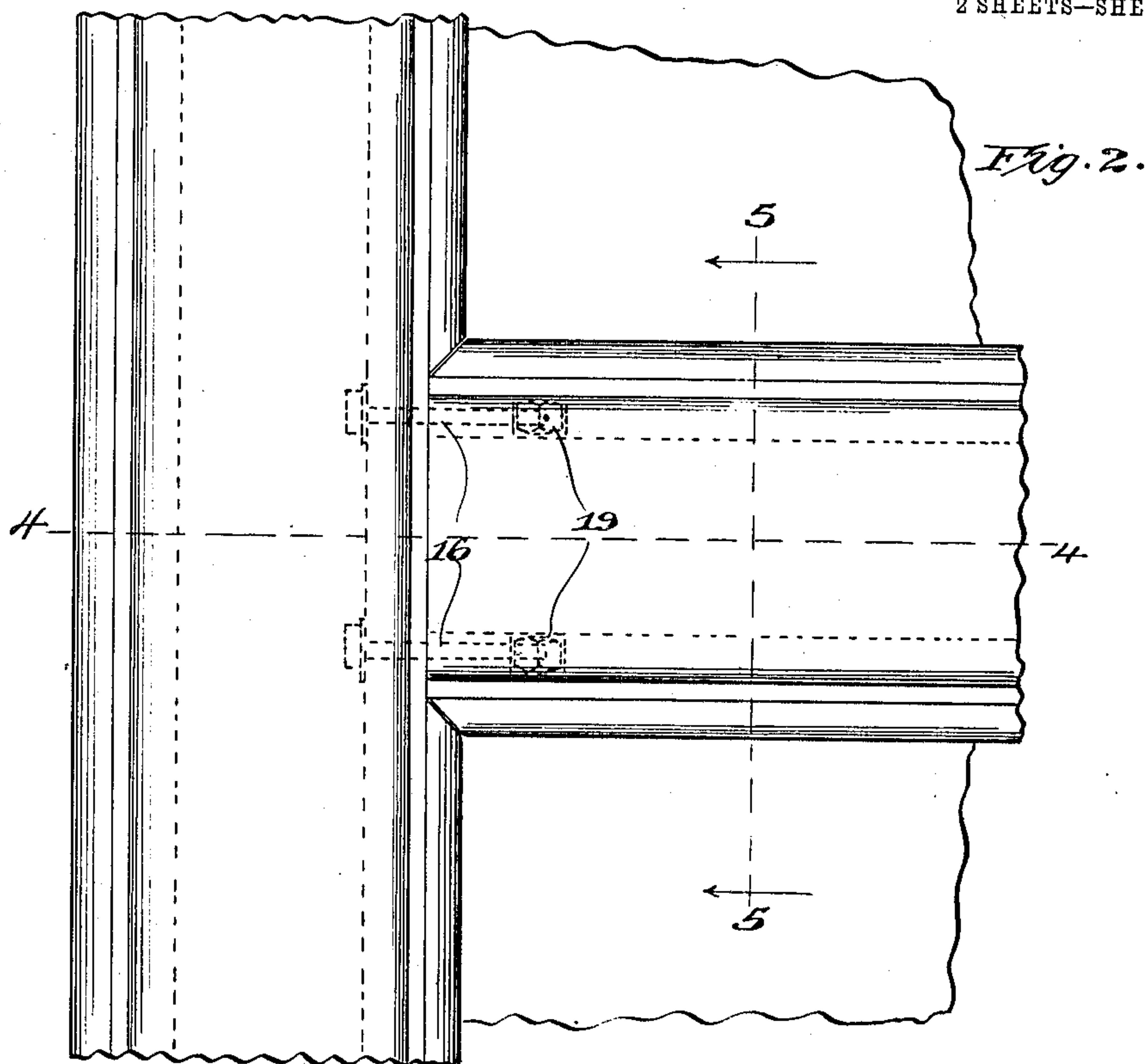
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

THOMAS I. DUFFY, OF CHICAGO, ILLINOIS, ASSIGNOR TO VOIGTMAN AND COMPANY, OF CHICAGO, ILLINOIS, A COPARTNERSHIP.

METAL-SHEATHED paneled PARTITION.

No. 872,058.

Specification of Letters Patent.

Patented Nov. 26, 1907.

Application filed August 21, 1905. Serial No. 275,145.

To all whom it may concern:

Be it known that I, THOMAS I. DUFFY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Metal-Sheathed Paneled Partitions, of which the following is a specification.

This invention relates to improvements in metal sheathed paneled partition structures of that character which are largely used in fire proof buildings.

The salient objects of the present invention are to provide a construction in which ordinary "finishing lumber" or "mill work", as it is commonly termed, is employed to form the partition frame and this frame structure is so covered by sheet metal as to provide a reliably fire-proof structure; to provide a construction which may be very economically manufactured and at the same time permits of the formation of molding edges, angles, beads and analogous ornamentation, enabling the structure to closely simulate woodwork; to provide a construction which may be very conveniently assembled and in which the frame members are united at their points of intersection in an extremely strong, efficient and simple manner and in which the uniting mechanism is entirely concealed; to provide a construction which permits of building up into panels and openings of various sizes and shapes with convenience; to provide an improved manner of supporting or anchoring the partition structure to the floor and ceiling structure so that access of fire to the interior of the frame work structure by the burning of the ceiling or floor is prevented; and in general to provide improvements in the detail of the character referred to.

To the above ends the invention resides in the matters hereinafter described and more particularly pointed out in the appended claims and it will be readily understood from the following description reference being had to the accompanying drawings in which;—

Figure 1 is a view showing in elevation a partition structure embodying the invention. Fig. 2 is a fragmentary view showing on an enlarged scale fragmentary portions of an upright frame member and connected cross rail member. Fig. 3 is a plan view partly in sec-

tion of the parts shown in Fig. 2. Fig. 4 is a horizontal sectional view taken on line 4—4 of Fig. 2. Fig. 5 is a sectional view taken on line 5—5 of Fig. 2 and looking in the direction of the arrows. Fig. 6 is a vertical sectional view through the central portion of the lower end of one of the upright frame members, showing the construction and arrangement of the anchor plate and the manner in which the latter is united to the upright and floor respectively. Fig. 7 is a sectional detail of one of the dowel-bolts and nut. Fig. 8 is a fragmentary view of the meeting edges of the sheathing.

Referring to the drawings, 1, 1' designate a series of uprights and 2, 2' and 2'' a series of cross rails; these members in the finished structure serving to separate the partition into panels and openings.

The uprights and cross rails are severally of the same general construction. That is to say, each frame member is composed of four strips or casing members, as 3, 3' and 4, 4' respectively, arranged to form a hollow supporting frame member, internally rectangular in cross section and externally either rectangular or ornamentally irregular, as preferred.

In the preferred construction, each box frame thus constructed is covered and inclosed by two sheet metal covering members as 5 and 6; these covering members being so constructed that they can be slipped onto the respective halves which they cover after the strips going to make up any particular frame member have been assembled. In the construction illustrated, the members 4 and 4' are sufficiently less in width than the external width of the box structure to provide rabbets 7 at the four external angles of the frame member and accordingly the sheathing members are suitably shaped to fit these angles and have their edges 8, 8' arranged to meet along lines approximately coincident with the middles of the strips 3 and 3', as seen clearly in Fig. 4. These sheathing members may be utilized to hold the frame strips in proper assembled relation and to this end, and in order to secure the sheathings in place, their edges are tacked or nailed to the underlying strips 3 and 3' at suitable intervals apart as indicated at 9.

Suitable moldings as indicated at 10, 10'

and 11, are applied to the box frame; the first mentioned serving the function of supporting the panels while the strip 11, in the present instance is intended to form a door stop. In any case, these moldings are preferably of hollow sheet metal construction, the metal being suitably formed into hollow channel-like cross sectional form and the molding so applied that the edges, as 12, 12' and 13, 13' rest against the outer faces of the metal sheathings.

As an improved detail of construction, the moldings are so punched as to form counter-sunk apertures 14 which permit securing screws 15 to be inserted therethrough and into the under lying frame structure, with their heads flush with the outer surface of the molding.

As an improved means of uniting the several frame members at their points of intersection, each abutting member is provided with a plurality of securing bolts 16, seated in the opposed side members and projecting therefrom so as to form in effect dowel-pins, which extend through the proximate side of the upright. Describing this construction more in detail, and referring more particularly to Figs. 2 and 4, the upper and lower side members 4 and 4' are bored longitudinally to receive the lengths of the bolts 16 and at the inner end of each bolt aperture, they are cross bored, as indicated at 18, to receive nuts 19. The nuts 19 are of special form, which enables them to be seated in round apertures and when thus seated reliably anchor the dowel-bolts. To this end each nut is of polygonal form and has its angles seated in the sides of the cross-bore 18 and a threaded aperture 19 which receives the correspondingly threaded end of the bolt, extends transversely through one side of the nut and into its central opening, as indicated clearly in the detail sectional view Fig. 7. The bolts 16 are provided with polygonal heads whereby they may be turned into nuts 19 and washers 20 are arranged to underlie their heads.

In order to provide an absolutely fire proof joint at the juncture of the two frame members, a metal plate 21 is interposed between the abutting end of one member and the engaged side of the abutted member; this plate being desirably of the exact size and configuration, as to its margins, of the outer configuration of the abutting member and being apertured for the passage of the dowel-bolts therethrough. Inasmuch as the abutting member must be secured in position at a time when access may be had to the interior of the abutted member, the margins of the plate 21 are provided with very shallow but extended rabbets 22 which permit the sheathings 5 and 6 of the abutted member to be adjusted to position to envelop said member after the abutting member has

been bolted on. At the points which register with the plate or plates 21, the sheathing members 5 and 6 are notched out or cut out, as indicated at 23 Fig. 8, to accommodate the thicker central portions of the plates.

As an improved means of anchoring the frame members at their ends, as for example where they rest upon the floor or engage the ceiling or side walls, I have provided an anchor plate of special construction. Referring to Fig. 6, 24 designates as a whole one of these anchor plates which in plan, size and configuration, conforms to the frame member it is designed to support. One side 25 of the plate is usually made flat to rest against the floor or wall and upon its opposite side the plate is provided with ribs 26 constructed to fit and telescope within the end of the frame member. The plate is suitably secured to the frame member, as for example by means of screws inserted through the ribs 26 and into the frame structure, as indicated at 27, and the whole structure united to the floor or wall by means of an anchor bolt 28 which may be a wood screw or other suitable bolt.

An important characteristic of the present invention is that the parts are so constructed and arranged that they may be conveniently assembled and anchored in position without leaving any exposed securing devices to disfigure the structure. In assembling and securing the structure in position, three sides of each of the abutted members are first assembled in proper relation and the sheathing of that side applied and secured so as to hold these parts assembled. The abutting members are next placed in position and their dowel-bolts inserted and screwed home. The anchor plates having been suitably secured in the ends of the partially assembled abutted members, the structure is placed in position in the building and suitably anchored by the insertion of the bolts 28.

The fourth side of the abutted member is now placed in position and the sheathing of that side applied and secured; it being noted that the abutting plates 21 are spaced away from the abutted member at their edges so as to permit the sheathing to be applied. The moldings are next applied, whereupon the structure is complete in readiness to receive the panels, doors or other filling members which complete the partition.

It is to be particularly noted that in a structure embodying my invention all joints of the sheathing are perfectly concealed and as to those which are exposed to the exterior they are interlined by the metal plates so that fire could not obtain access even though such joints should by reason of shrinkage of the wood, or expansion of the same under heat, slightly open. Moreover the anchor plates prevent access of fire to the

hollow frame structure even though the walls, ceiling or floors be burned away at the points of connection thereto.

I claim as my invention:

- 5 1. In a metal covered paneled or analogous frame structure, the combination of intersecting upright and transverse frame members, one arranged to abut against the other, the abutted member being made hollow and one side thereof detachable, a divided metal envelop arranged to inclose said abutted member, one part of which envelop covering the detachable side being also detachable and internally arranged connected devices
10 uniting said abutting and abutted members.
2. In a metal covered paneled or analogous frame structure, the combination with intersecting upright and transverse frame members, one arranged to abut against the
20 other and the abutted member made hollow and one side thereof made detachable, of a dowel bolt seated longitudinally in the end portion of the abutting member and extending through the proximate side of the
25 abutted member, whereby it is accessible when assembling said parts and inclosed when assembled.
3. In a metal covered paneled or analogous frame structure, the combination with
30 intersecting upright and transverse frame members, one arranged to abut against the other and the abutted member made hollow

and one side thereof made detachable, of a dowel bolt seated longitudinally in the end portion of the abutting member and extend- 35 ing through the proximate side of the abutted member whereby it is accessible when assembling said parts and inclosed when assembled and an abutting plate interposed between the end of the abutting member and the con- 40 nected member.

4. In a metal covered paneled or analogous frame structure, the combination with intersecting upright and transverse frame members, one arranged to abut against the 45 other and the abutted member made hollow and one side thereof made detachable, of a dowel bolt seated longitudinally in the end portion of the abutting member and extend- 50 ing through the proximate side of the abutted member whereby it is accessible when assembling said parts and inclosed when assembled and an abutting plate interposed between the end of the abutting member and the con- 55 nected member, said abutting plate being constructed to conform at its margins to the external configuration of the abutting member and provided with marginal rabbets, and sheet metal envelops inclosing both abutting 60 and abutted members.

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