

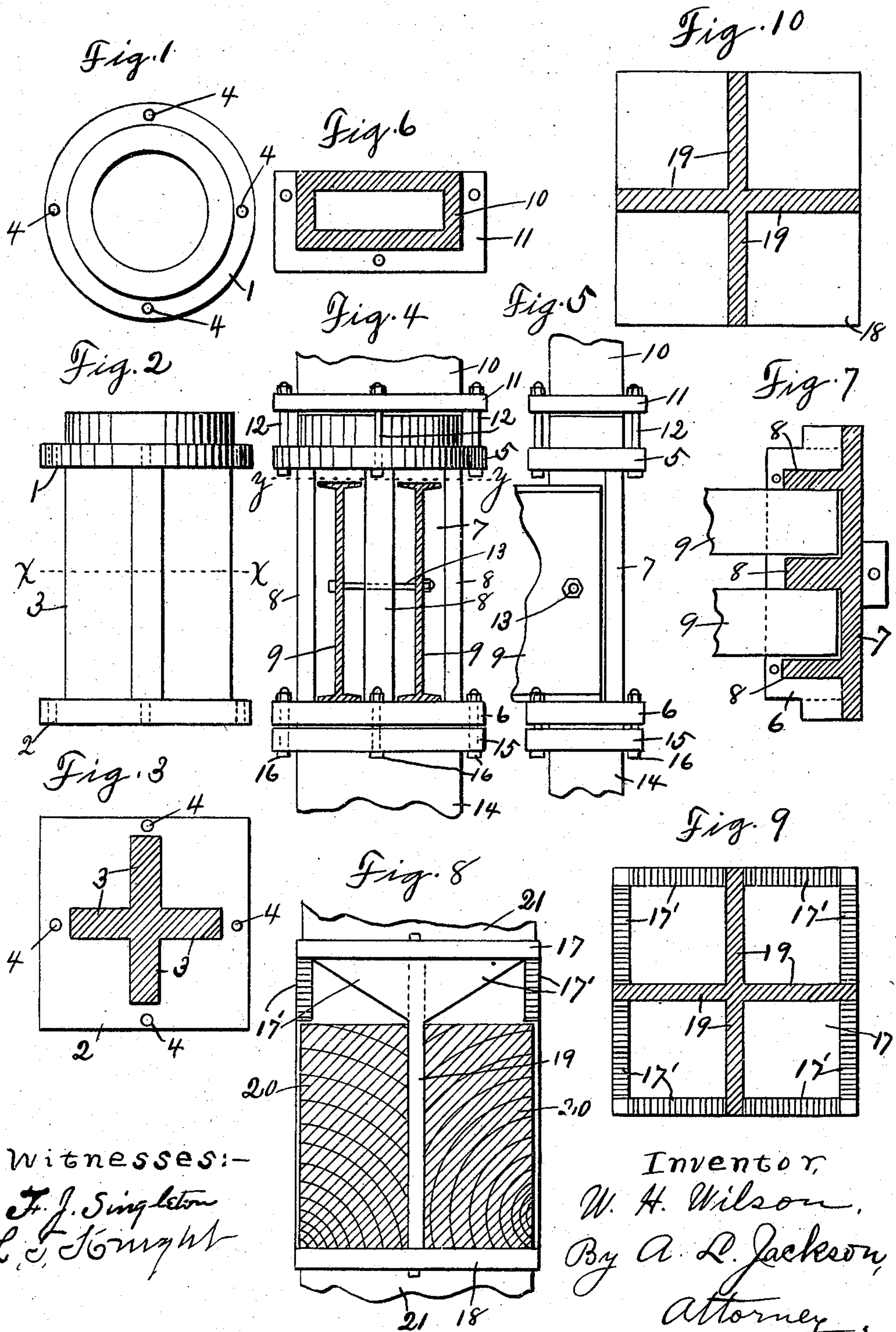
No. 868,053.

PATENTED OCT. 15, 1907.

W. H. WILSON.
CHAIR DOWEL FOR BUILDING PURPOSES.

APPLICATION FILED JULY 11, 1904.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 11

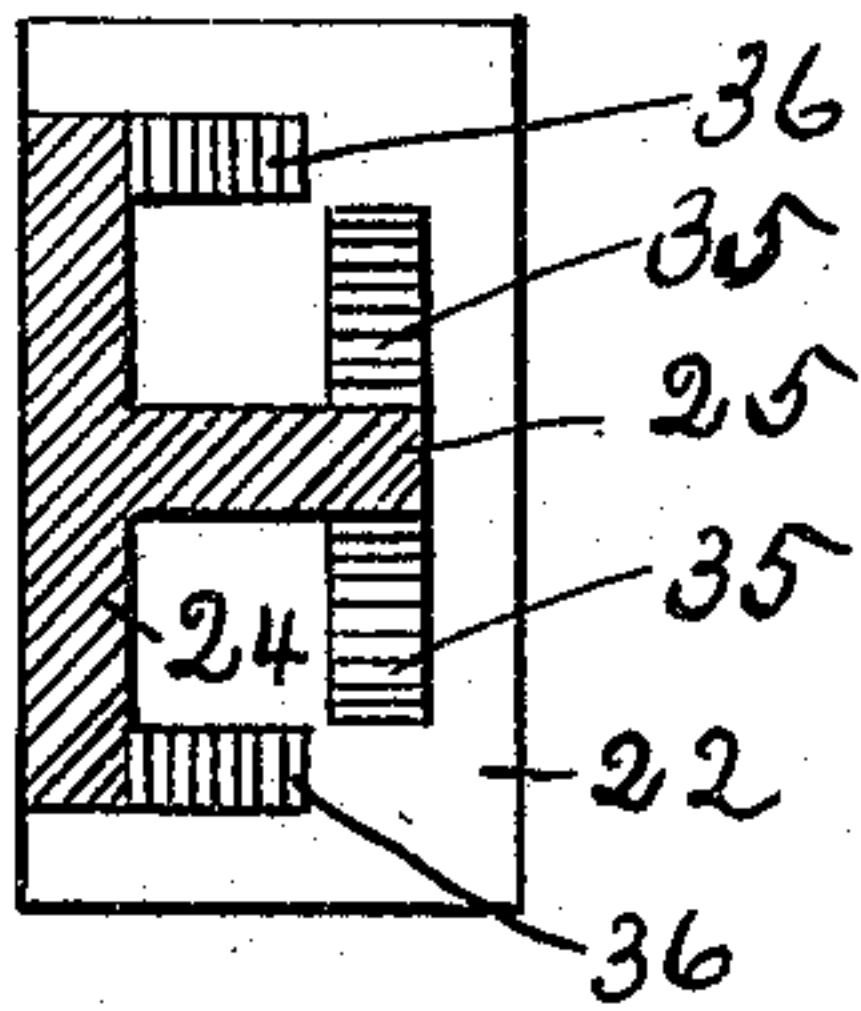


Fig. 12

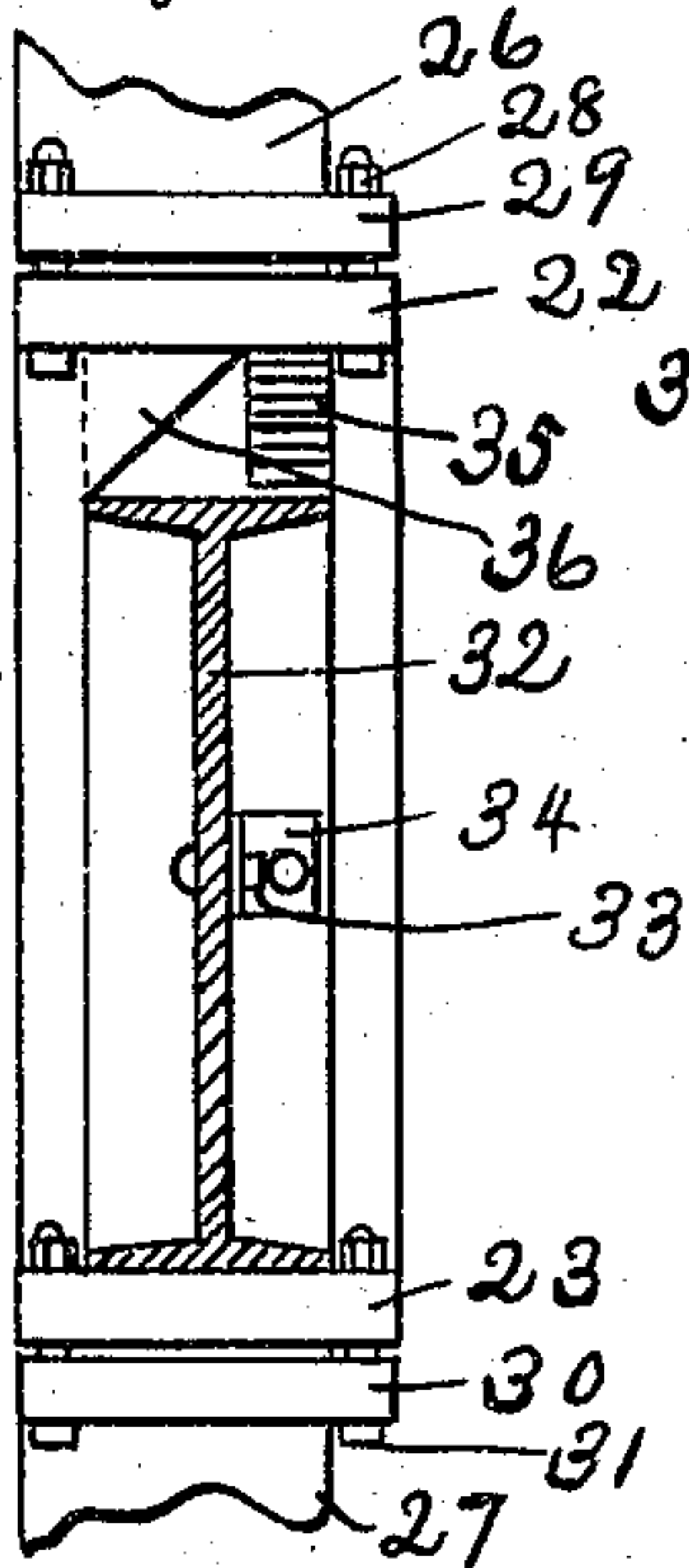
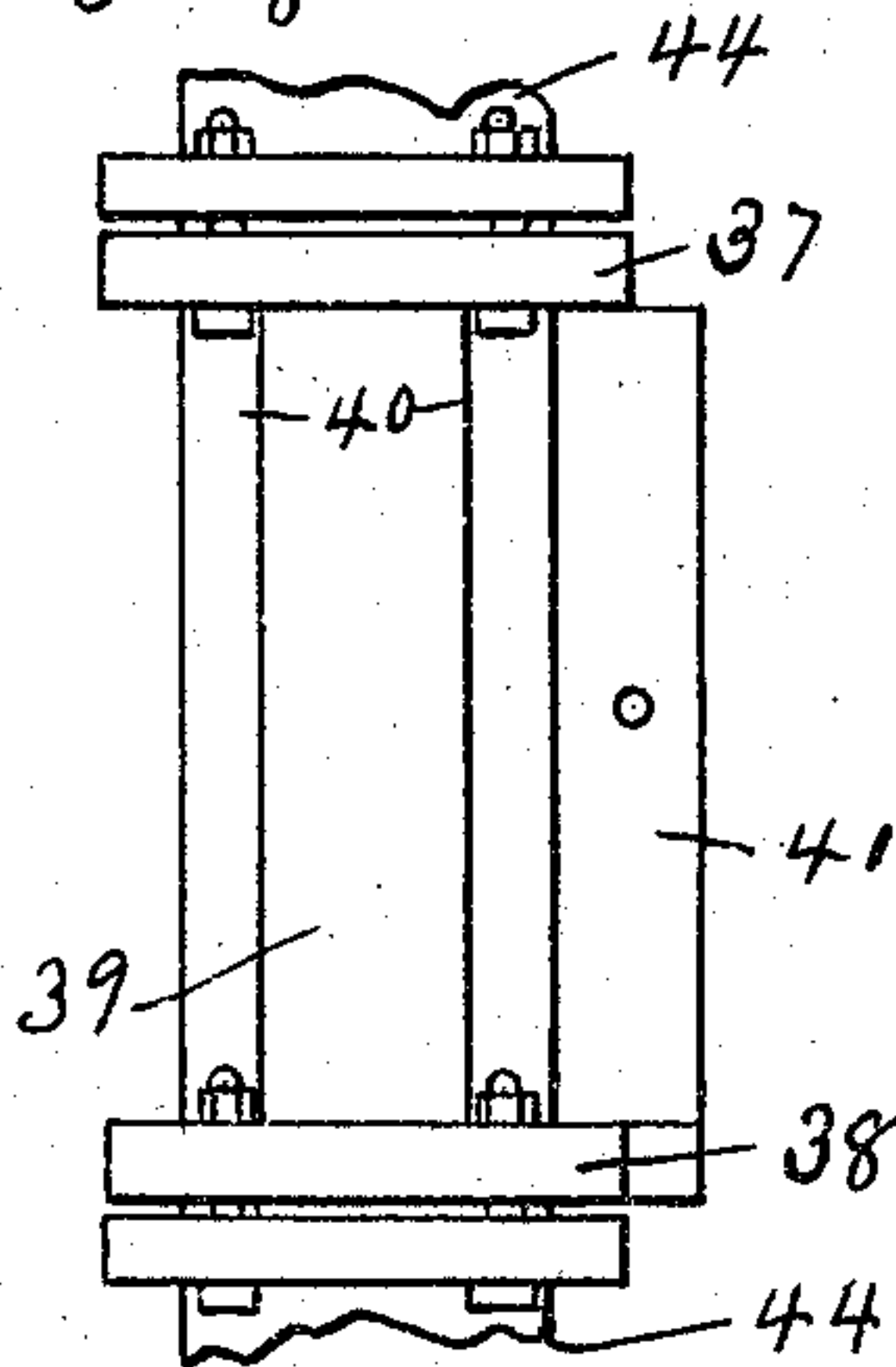


Fig. 14



Witnesses:-

F. J. Singleton
L. E. Wright

Fig. 13

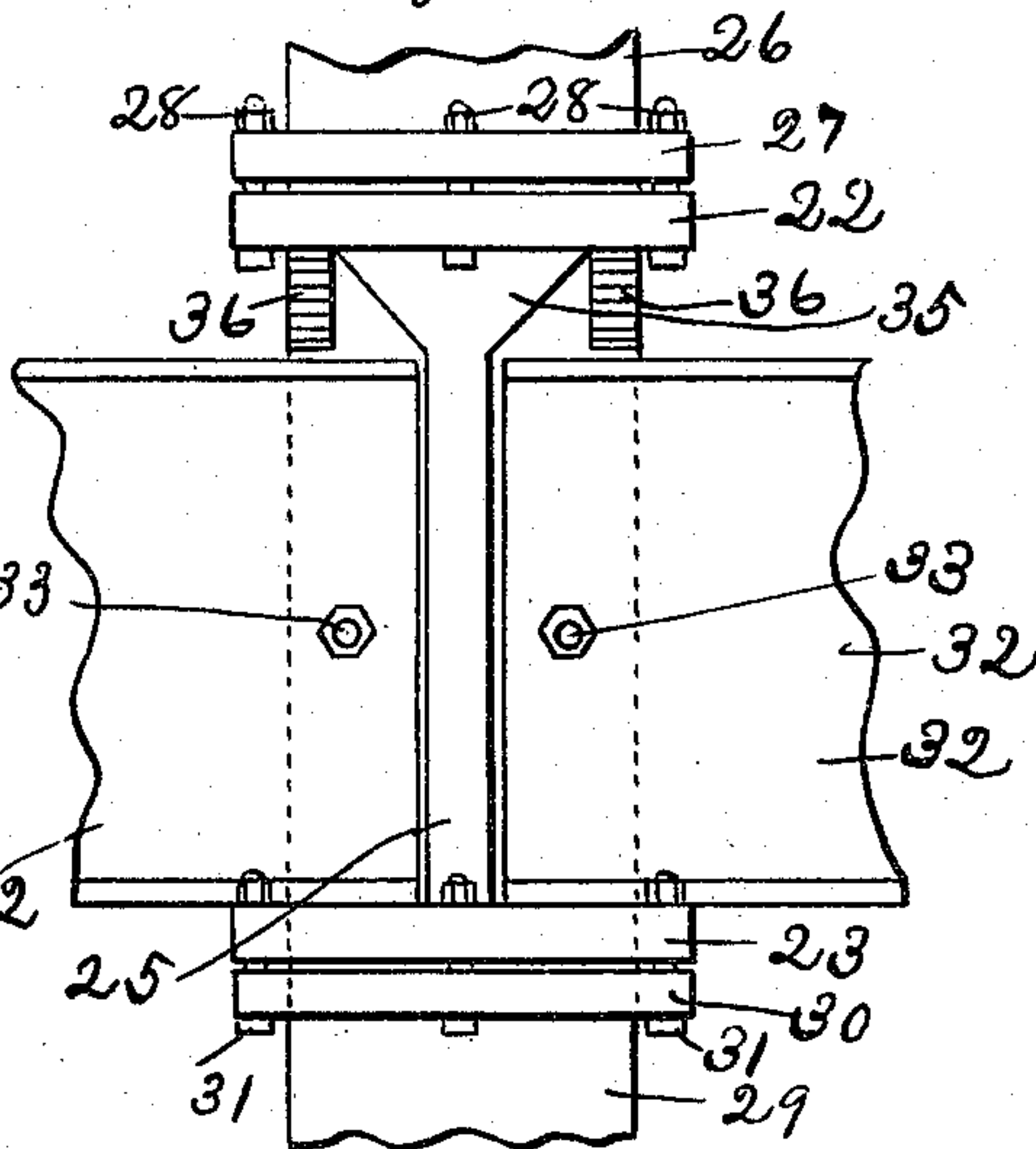


Fig. 15

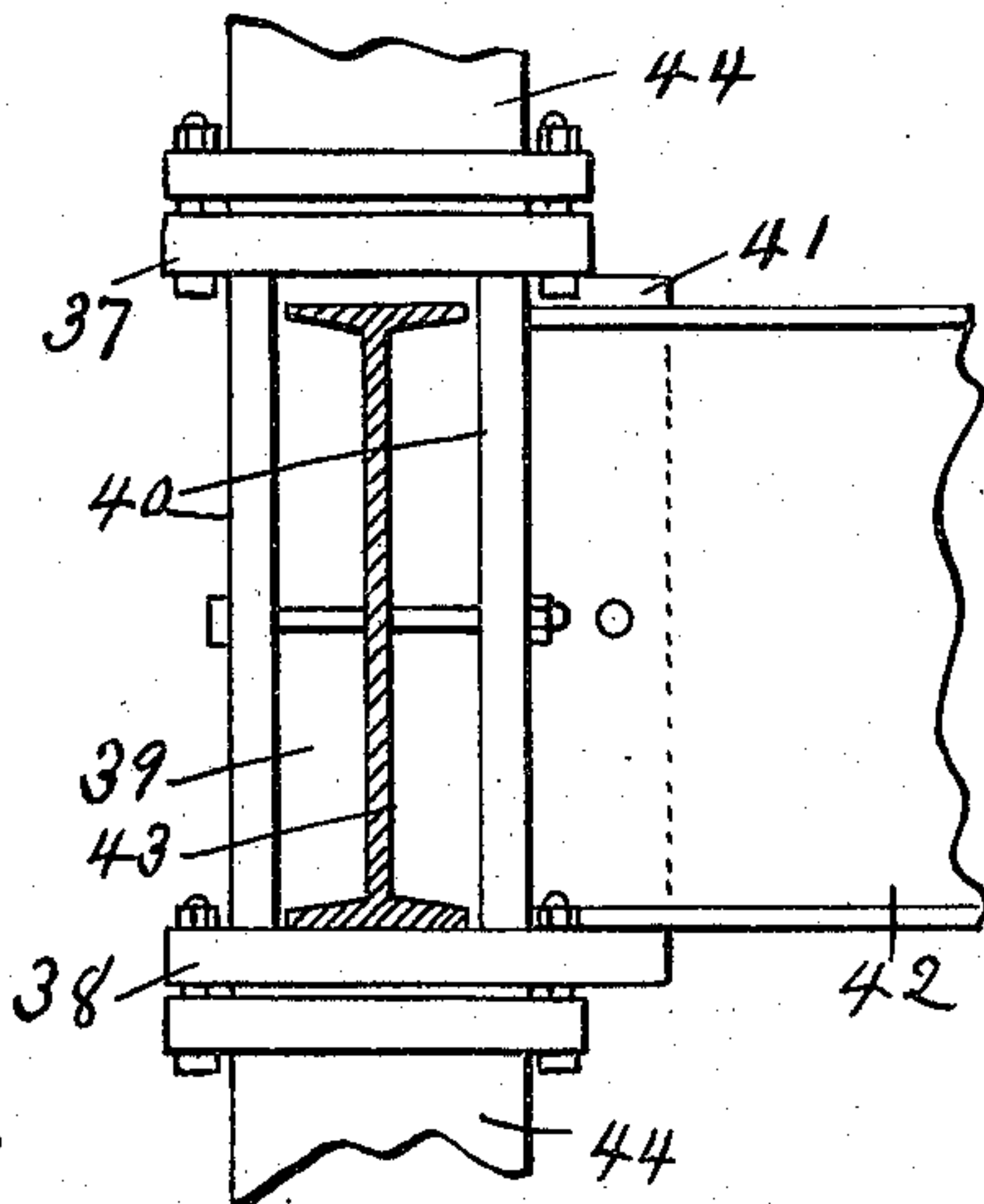


Fig. 16

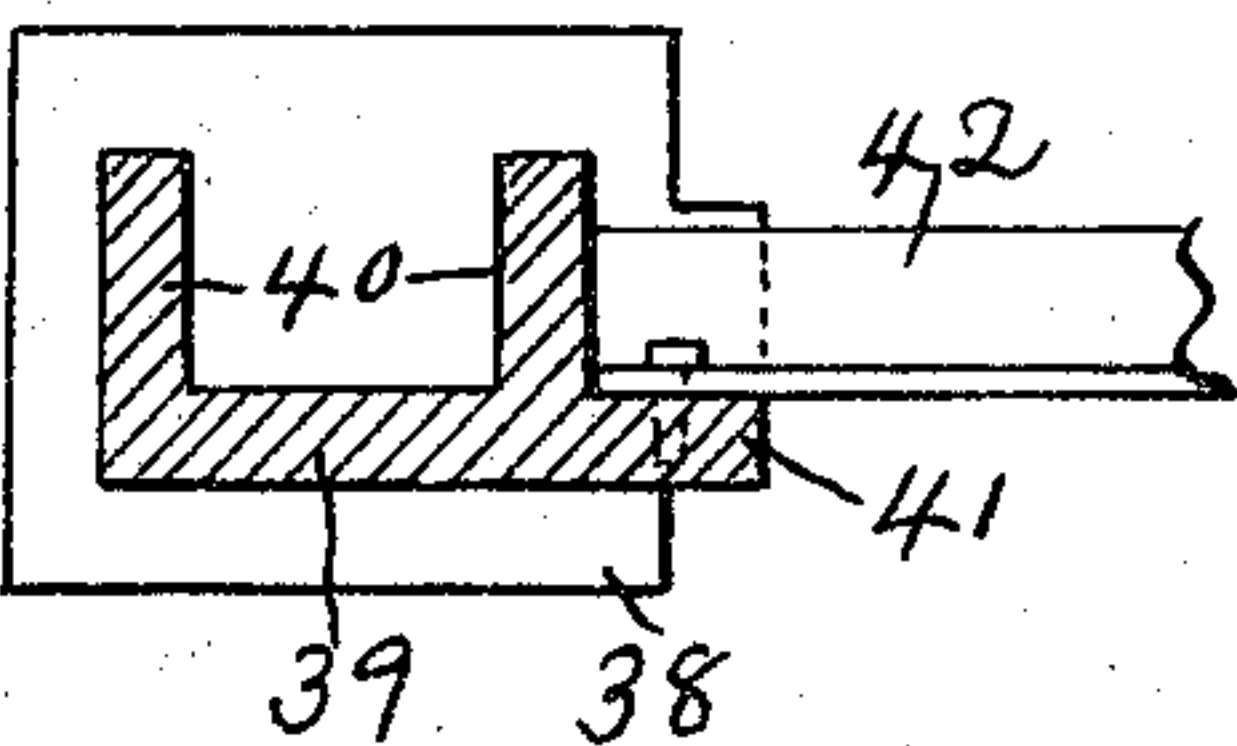


Fig. 17

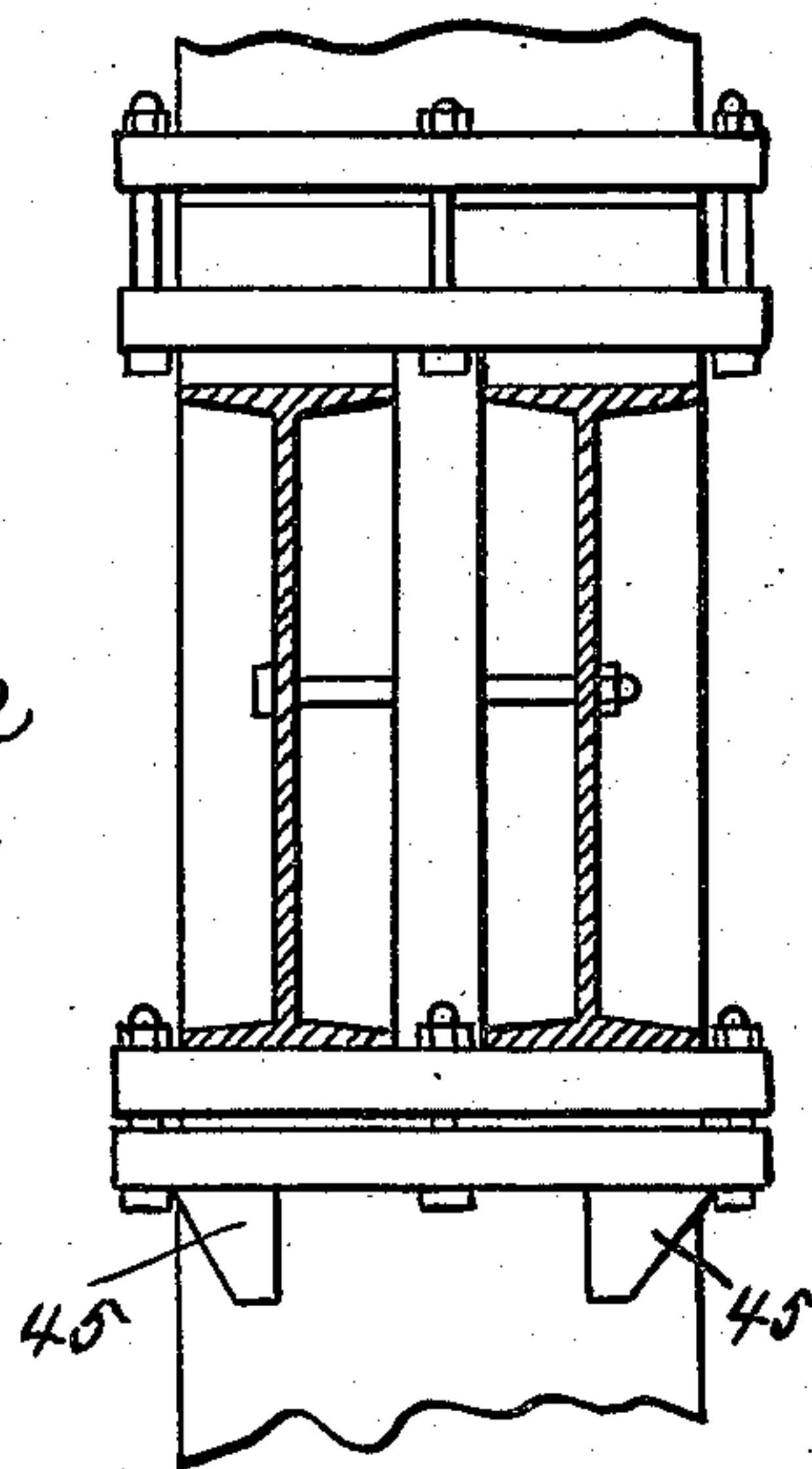


Fig. 18

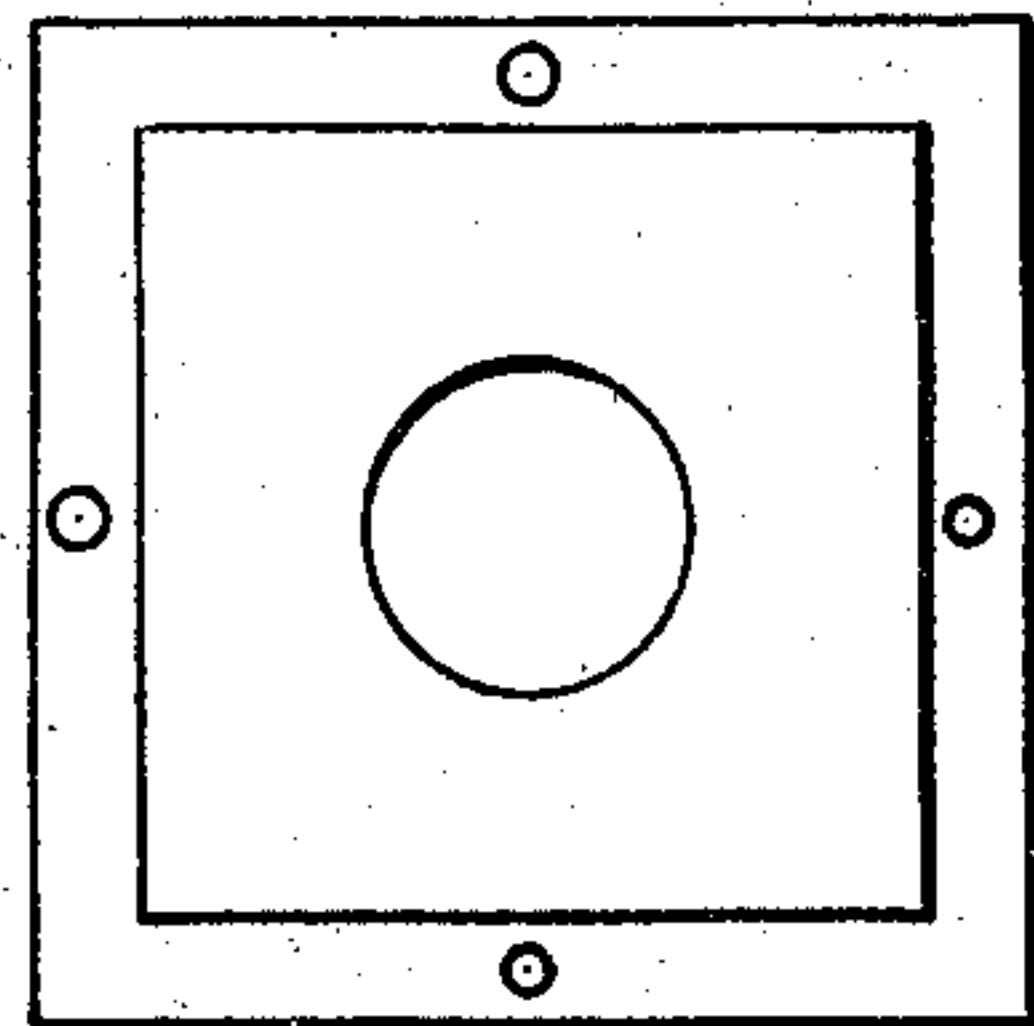
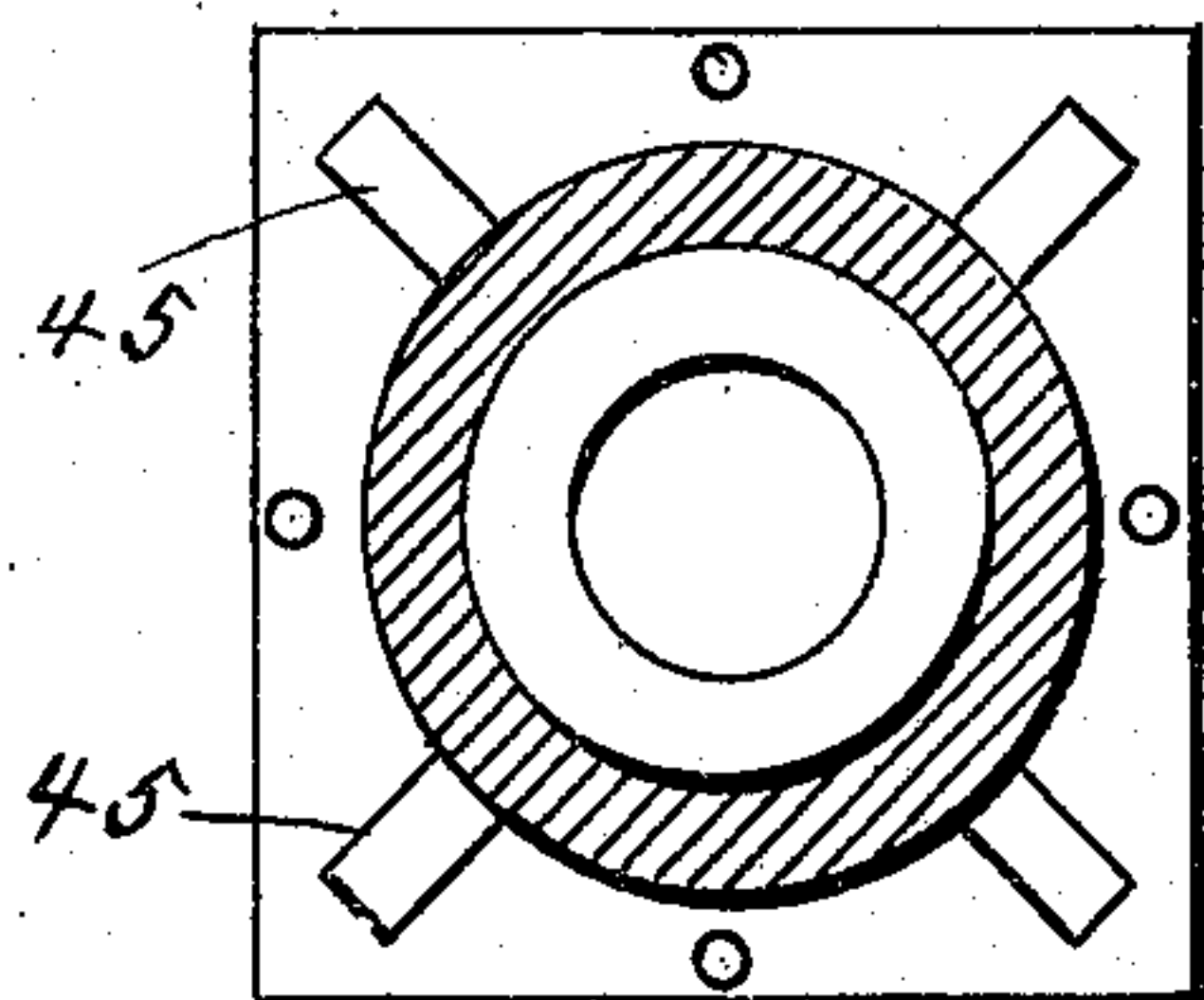


Fig. 19



Inventor,

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UNITED STATES PATENT OFFICE.

WILLIAM H. WILSON, OF DALLAS, TEXAS.

CHAIR-DOWEL FOR BUILDING PURPOSES.

No. 868,053.

Specification of Letters Patent.

Patented Oct. 15, 1907.

Application filed July 11, 1904. Serial No. 216,010.

To all whom it may concern:

Be it known that I, WILLIAM H. WILSON, a citizen of the United States, residing at Dallas, Texas, have invented certain new and useful Improvements in Chair-

5 Dowels for Building Purposes, of which the following is a specification.

My invention relates to building construction, and more particularly to chair dowels, and the object is to provide chair dowels for supporting columns and girders whereby the weight is supported directly on top of the columns instead of being placed on the sides of the columns by means of brackets. The brackets commonly used for this purpose are dispensed with and chairs are provided with suitable bearing surfaces on or

15 against which the columns or girders are supported, and may be held in place by suitable bolts and dowels.

Other objects and advantages will be fully explained in the following description and the invention will be more particularly pointed out in the claims.

20 Reference is had to the accompanying drawings which form a part of this application and specification.

Figure 1 is a plan view of a chair dowel for center girders. Fig. 2 is a side elevation of the same. Fig. 3 is a horizontal section of the same, taken along the line $x x$ of Fig. 2. Fig. 4 is an elevation of an end chair dowel for the central girders, and showing sections of I-beams in place and showing broken columns attached to the chair dowel. Fig. 5 is an edge view of the chair dowel as shown in Fig. 4. Fig. 6 is a horizontal section of a rectangular column, illustrating the flange for attaching the column to the chair dowel. Fig. 7 is a horizontal section, taken along the line $y y$ of Fig. 4. Fig. 8 is an elevation of a chair dowel which may be used for wooden girders and columns, showing sections of two

35 girders made of wood and also parts of columns above and below the chair dowel. Fig. 9 is a horizontal section of the chair dowel shown in Fig. 8, the section being inverted. Fig. 10 is the other part of the chair dowel shown in Fig. 8, this view being the sectional plan view. Fig. 11 is an inverted horizontal section of a side wall chair dowel for supporting single I-beam girders. Fig. 12 is an edge elevation of the same. Fig. 13 is a side elevation of the same. Fig. 14 is an elevation of a corner chair dowel. Fig. 15 is a similar view showing I-beams in place, one being broken and the other shown in cross-section. Fig. 16 is a horizontal section of the chair dowel shown in Fig. 14. Fig. 17 is an elevation of an end wall chair dowel, showing sections of I-beam girders and broken portions of columns above and below the chair dowel. Fig. 18 is a top plan view of a column provided with flange for attaching the same to the chair dowel. Fig. 19 is a sectional plan

view of a cylindrical column provided with flange for attaching the same to a chair dowel.

Similar characters of reference are used to indicate 55 the same parts throughout the several views.

The chair dowel consists of a head 1, a base 2, and a connecting web 3 all formed of a single casting. These three parts I prefer to cast in one piece. The head 1 may be cylindrical and the base 2 may be rectangular. 60 The web 3 for the center columns and girders may have four wings at right angles to each other as shown in Figs. 2 and 3. The wings of the web 3 will be determined by the position which the chair dowel is to occupy. The head 1 and the base 2 have holes 4 for bolts to be used 65 in bolting columns to the chair dowel.

The manner of attaching the columns to the chair is illustrated in Figs. 4, 5, and 7. The chair dowel shown in these three figures is for the ends of the central girders next to the wall. This dowel consists of the head 70 5, the web 7, and the base 6. The web 7 has a plurality of wings 8 and the girders 9 are placed on the base 6 between the wings 8. A column 10 having a base flange 11 is bolted to the head 5 by means of bolts 12. The girders or I-beams 8 may be bolted in place by 75 the bolts 13. A column 14 having a head flange 15 may be bolted to base 6 by means of bolts 16. The chair dowel is adapted for use with either rectangular or square or cylindrical columns. This chair dowel was intended especially for steel and iron building 80 framework, but it is adapted for wood girders and columns also.

Figs. 8 to 10 inclusive illustrate a chair dowel adapted for use with wood girders and columns. The chair dowel shown in these views has a head 17, a base 18, 85 and a connecting web 19 which may have any number of wings arranged at an angle to each other. Fig. 8 shows girders 20 and columns 21 in place on the chair dowel. The head 17 has strengthening webs or braces 17' formed integral therewith. 90

Figs. 11, 12, and 13 illustrate a chair dowel for a side wall for single I-beams or girders. The chair dowel here shown has a head 22, a base 23, and a web 24 with a wing 25. Column 26 is attached to the chair dowel by bolting the base flange 27 to the head 22 by bolts 28 and column 29 is bolted to the chair dowel by bolting the flange 30 to the base 23 by means of bolts 31. The girder or I-beam 32 may be secured in place by bolt 33 which secures the I-beam to an angle iron 34 which may be bolted to the wing 25. The head 22 is 100 strengthened by downwardly inclined flanges or webs 35 which are formed integral with the head.

Figs. 14 to 16 inclusive illustrate the form of chair dowel to be used for the corners of buildings. The

chair dowel here shown has a head 37, a base 38, a web 39 with wings 40, and a side projecting flange 41. In fireproof buildings channel iron or I-beams 42 for arches are attached to the flanges 41. The girders 43 and the columns 44 are attached in the manner heretofore described.

Fig. 17 illustrates an elevation of an end wall chair dowel with a rectangular column attached to the head of the chair dowel and a cylindrical column supporting the chair dowel. Fig. 18 is a plan view of the rectangular column shown in Fig. 17, showing an opening through the center of the column. Fig. 19 is an inverted sectional view of the cylindrical column shown in Fig. 17. This column is shown with braces or webs 45.

The various illustrations disclose different forms of the chair dowel all of which involve the same principle, each having a head for supporting a column above and to which the column is attached, a connecting web with various wings forming the body of the chair dowel and to which the girders may be attached, and a base to which a supporting column may be attached. It will be noticed that the weight is always thrown directly on the supporting columns and vertically above the lower columns. The girders project in the chair dowels so that the weight of the girders and all the weight thrown on the girders is supported directly in the line of the columns. The usual brackets for attaching the girders to the columns are dispensed with. It will be noticed that each girder is independent of every other girder. Consequently when a girder is injured, as by fire, it can be removed and a new girder put in without disturbing anything but the particular girder taken out and the one put in.

It is apparent that various other forms of the chair dowel may be made without departing from the principle of my invention.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is,—

1. The combination of columns arranged one vertically above another and chair dowels for uniting the top of one column with the bottom of another column, each dowel having a horizontal portion constituting a head and a horizontal portion constituting a base and said horizontal portions being connected by webs which provide seats for the ends of girders and said dowels having upward and downward portions projecting within said columns and said columns having flanges bolted to said horizontal portions of said dowel.

2. The combination of columns one arranged above the other and each having horizontal flanges, chair dowels each uniting the top of one column with the bottom of another column, and girders with the ends thereof secured in said dowels, said dowels having heads attached to the bottom flanges of the columns and bases attached to the top flanges of the columns and having integral angular webs connecting said heads and bases and providing seats for said girders.

3. The combination of columns one arranged above the other and each having horizontal flanges, chair dowels each uniting the top of one column with the bottom of another column, and girders with the ends thereof secured in said dowels, said dowels having heads attached to the bottom flanges of the columns and bases attached to the top flanges of the columns and having flanges projecting upwards and downwards in said columns and having integral angular webs connecting said heads and bases and providing seats for the ends of said girders.

In testimony whereof, I set my hand in the presence of two witnesses, this 29th day of June, 1904.

WM. H. WILSON.

Witnesses:

J. R. SCOFIELD.

A. L. JACKSON.