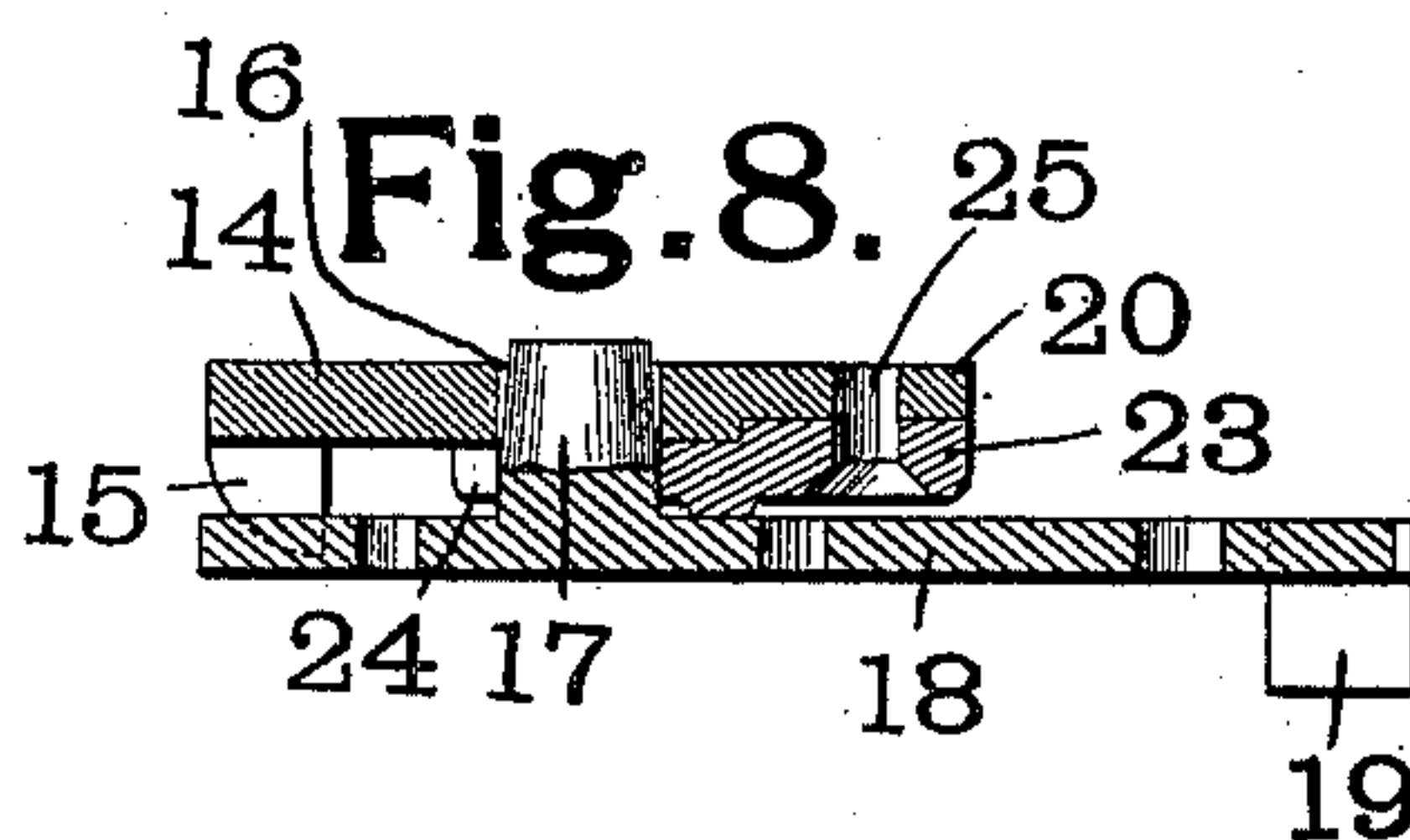
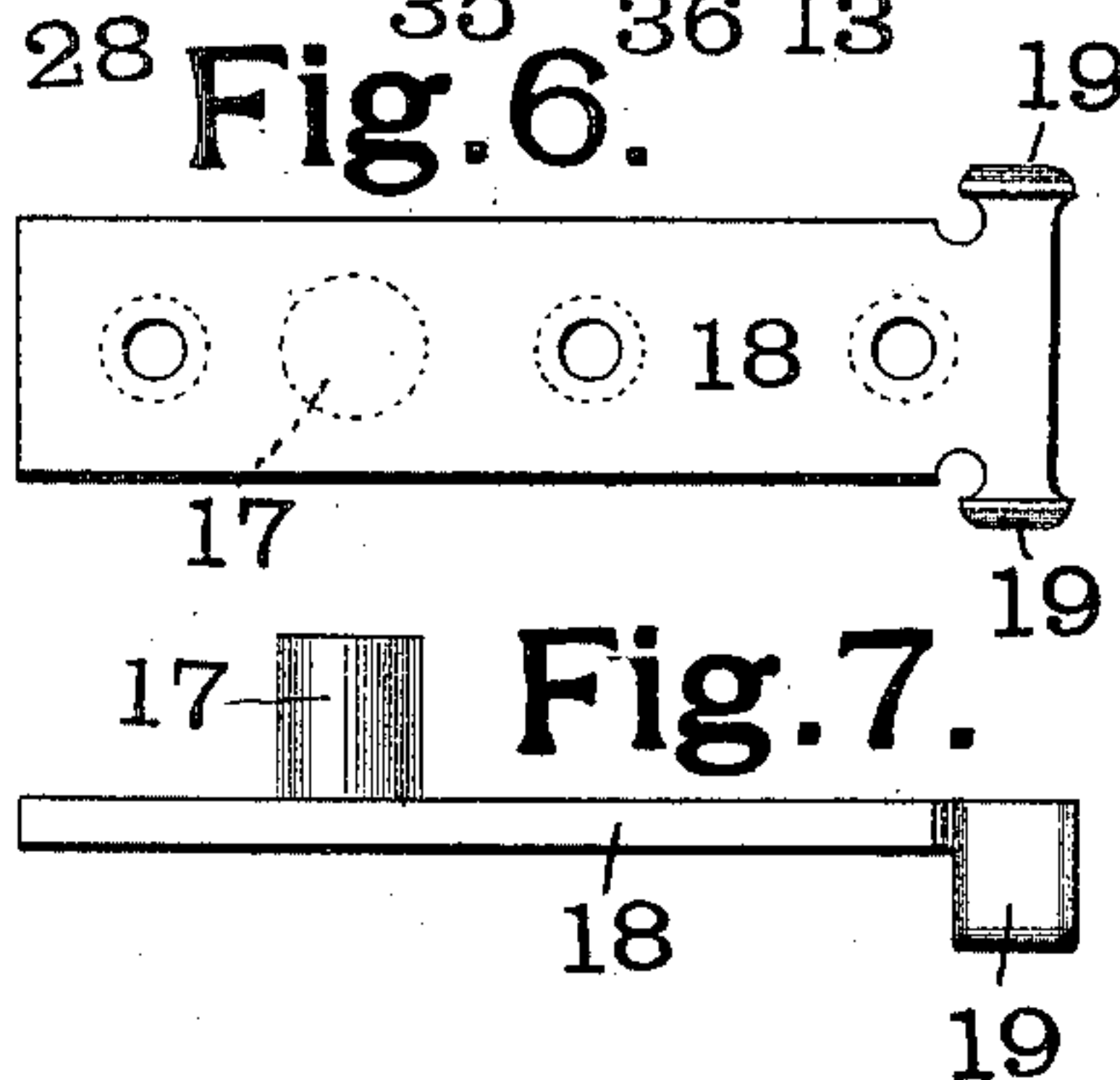
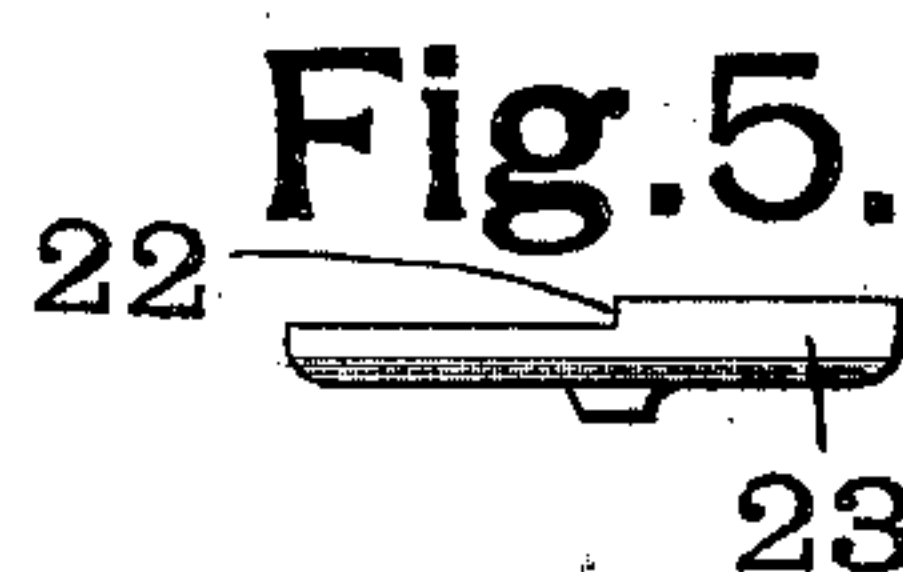
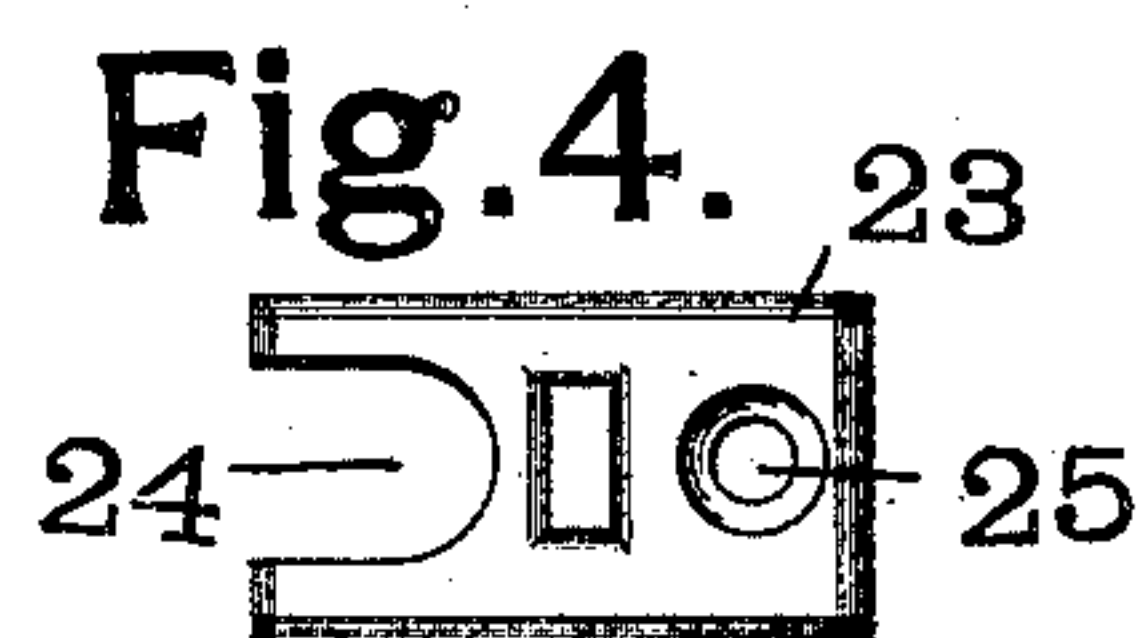
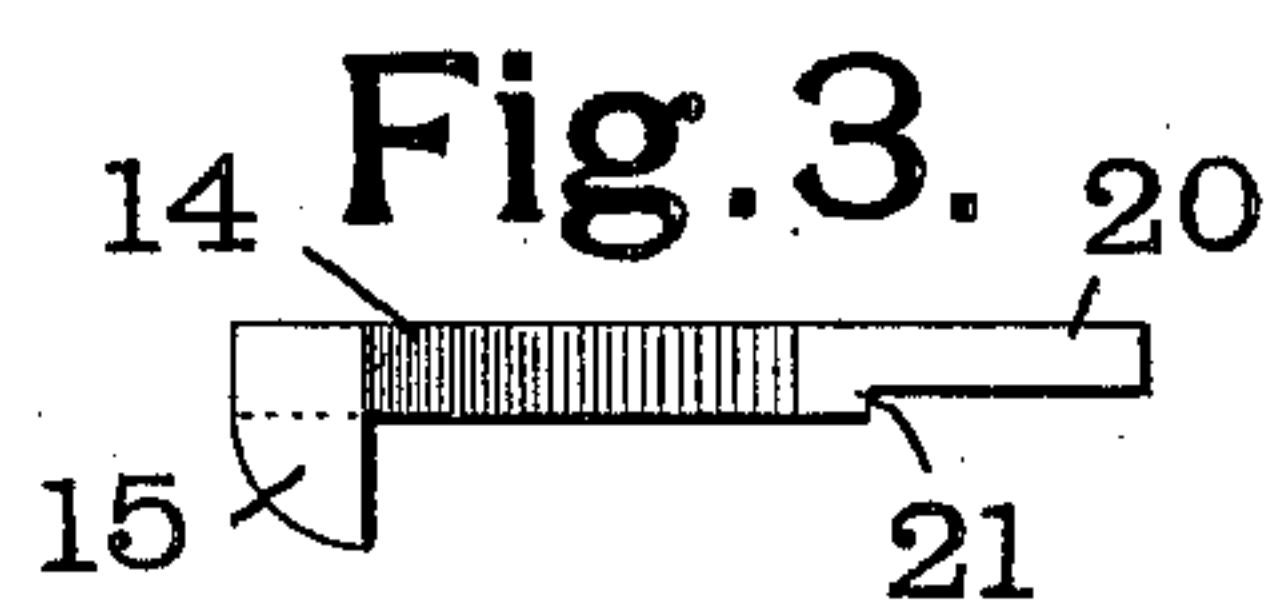
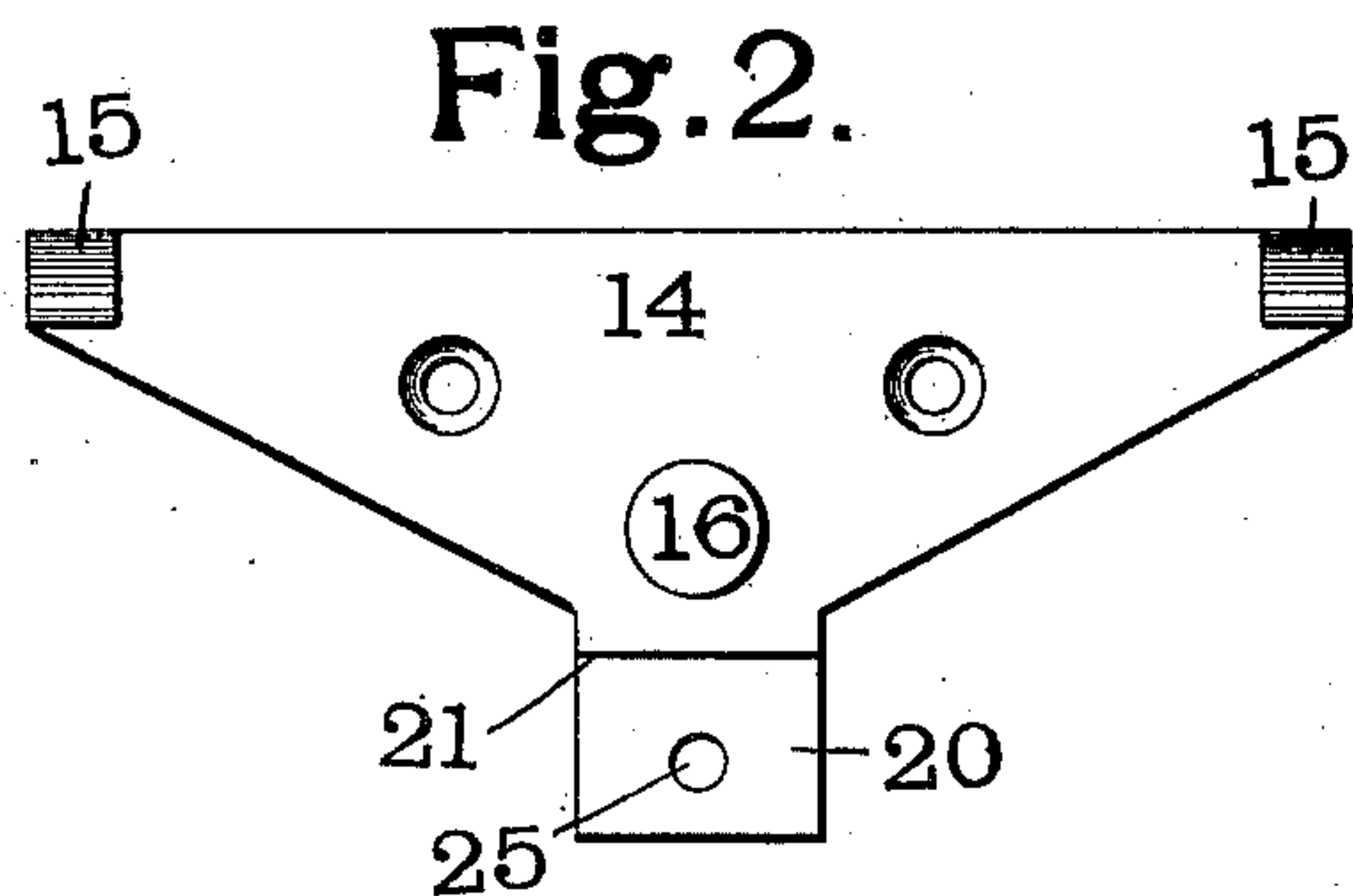
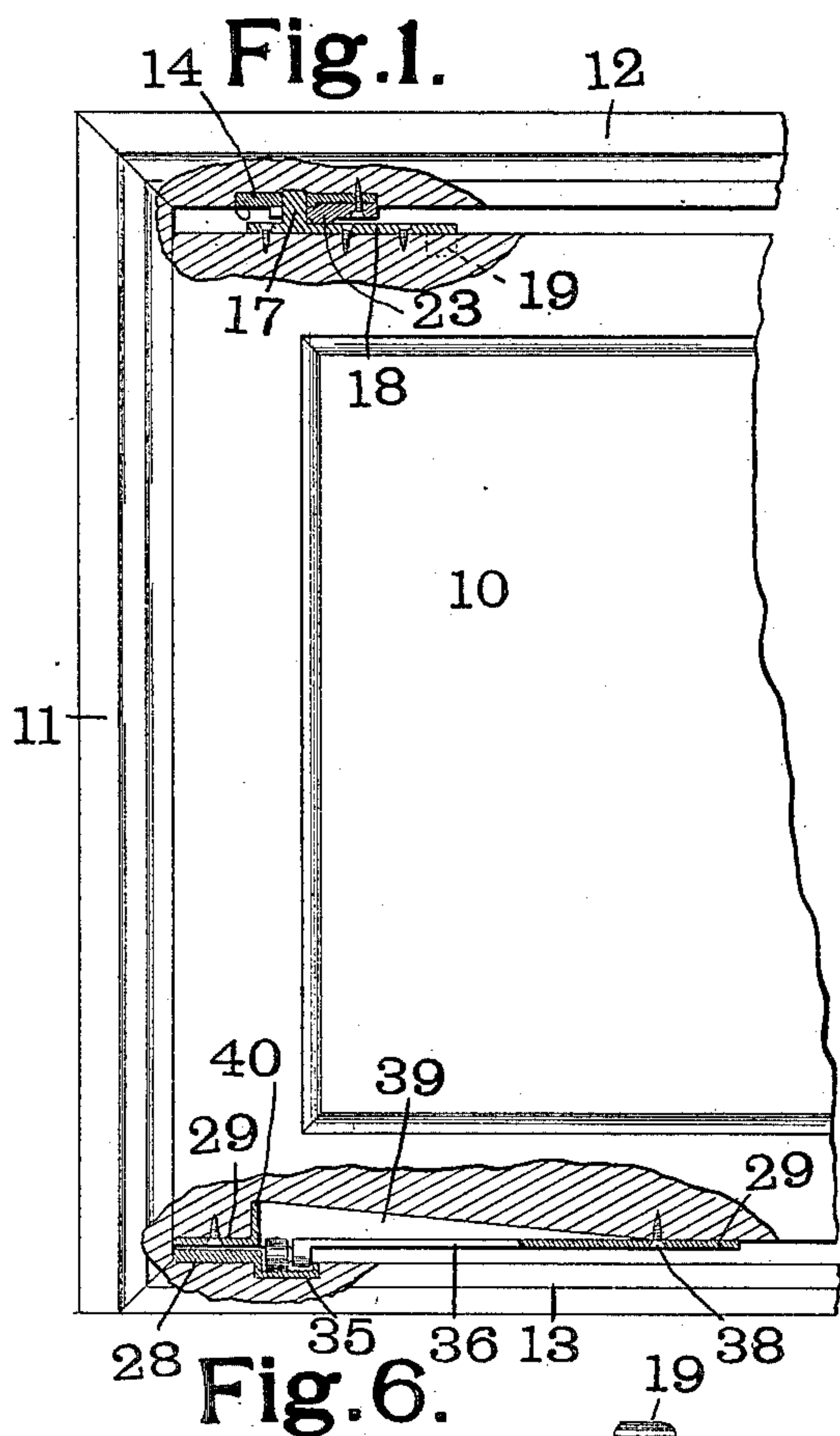


C. H. FOSTER.
HINGE FOR DOORS.

(Application filed June 13, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

W. A. Alexander
J. R. Watkins.

Inventor

C. H. Foster

By Attorneys

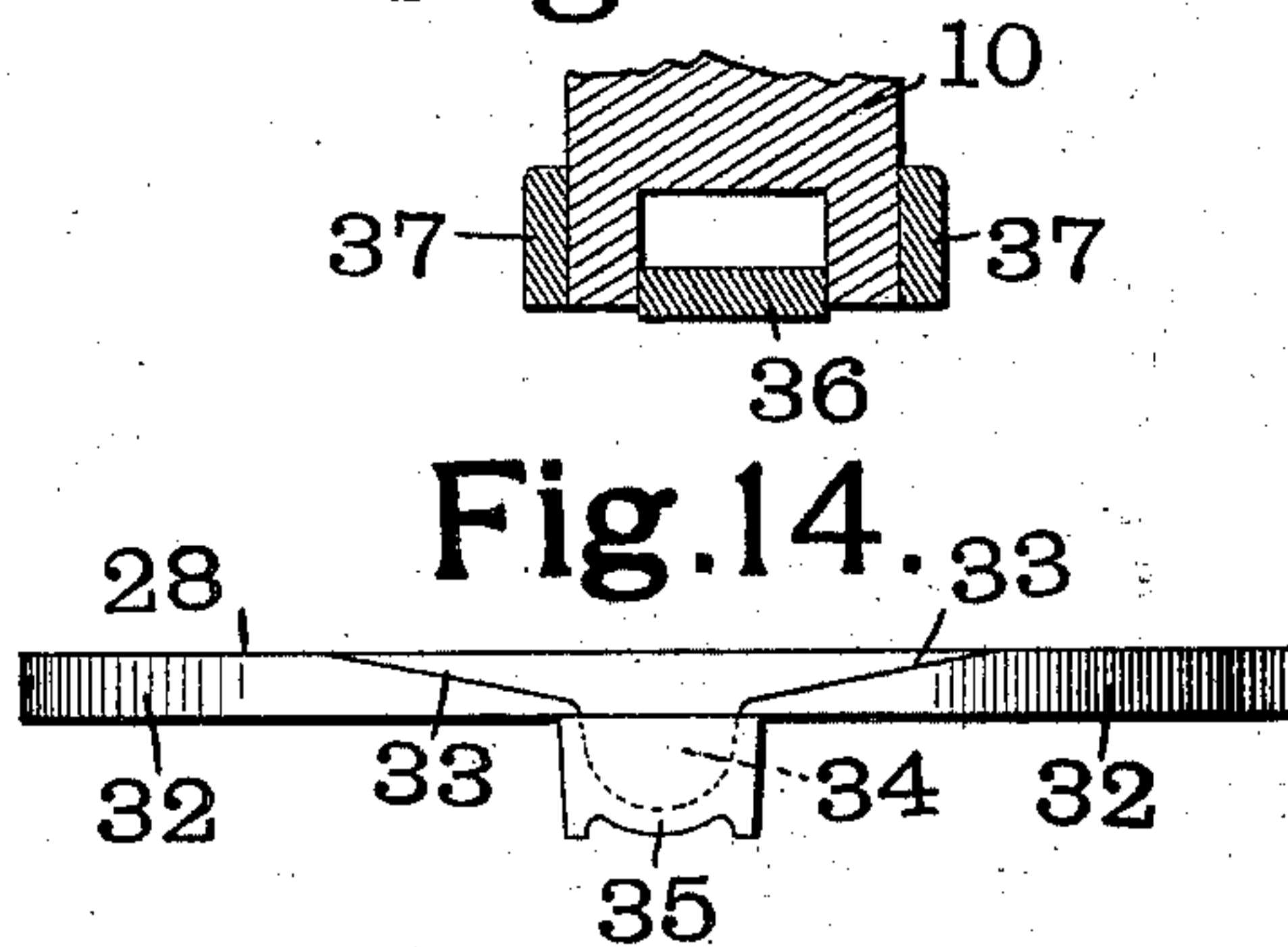
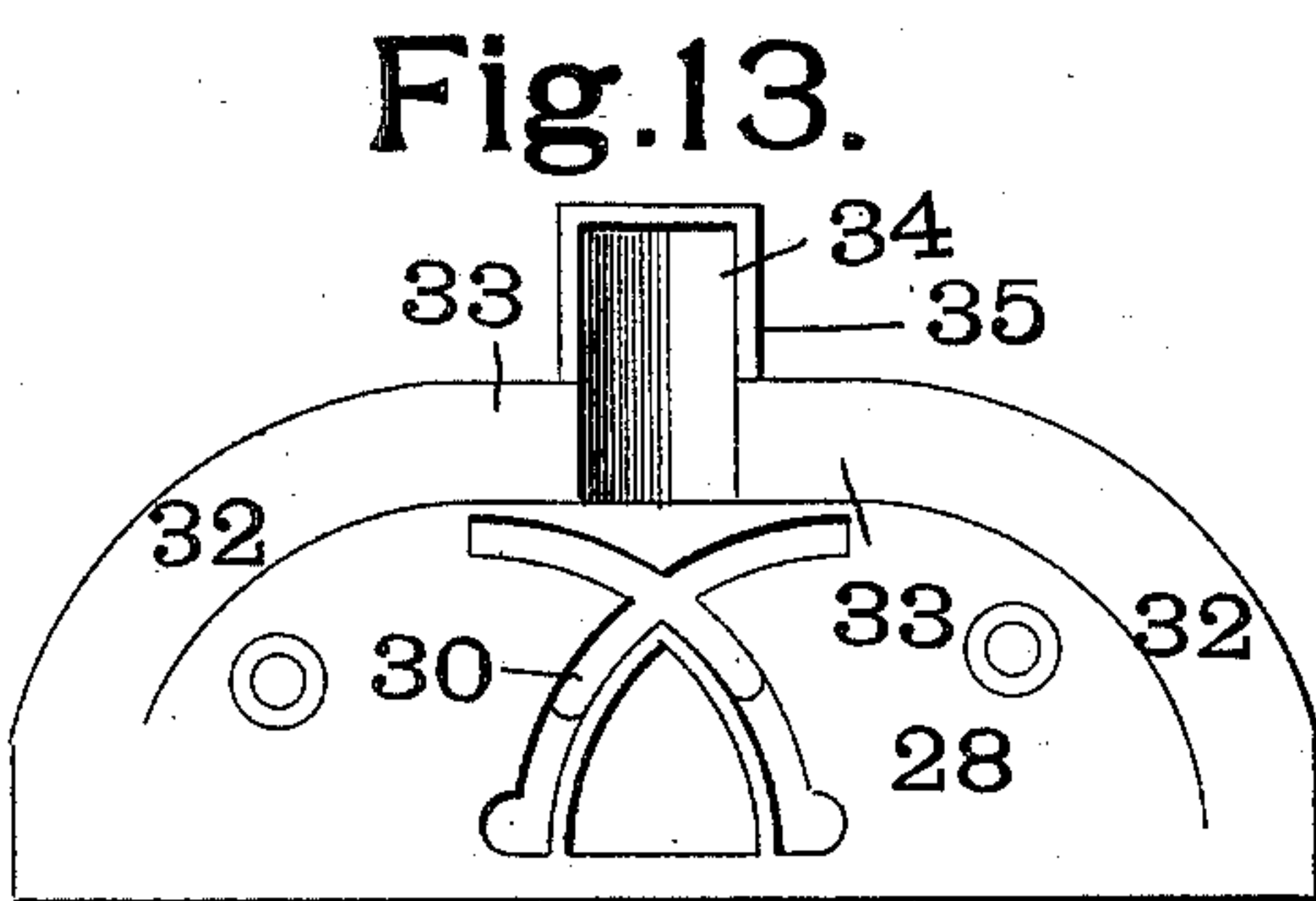
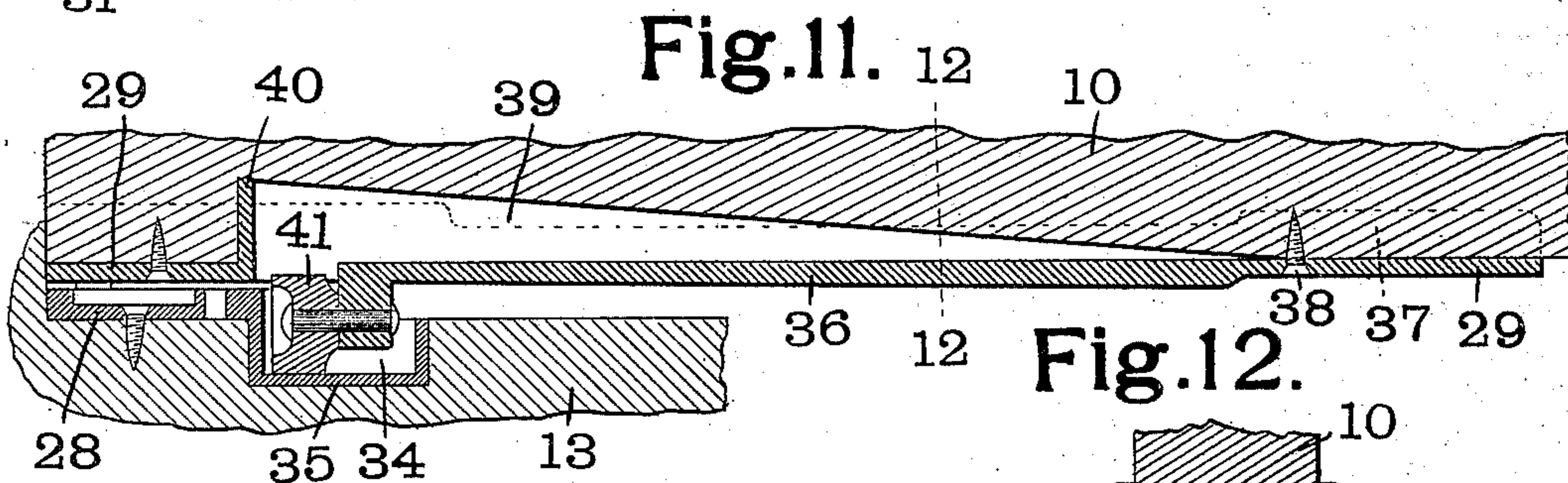
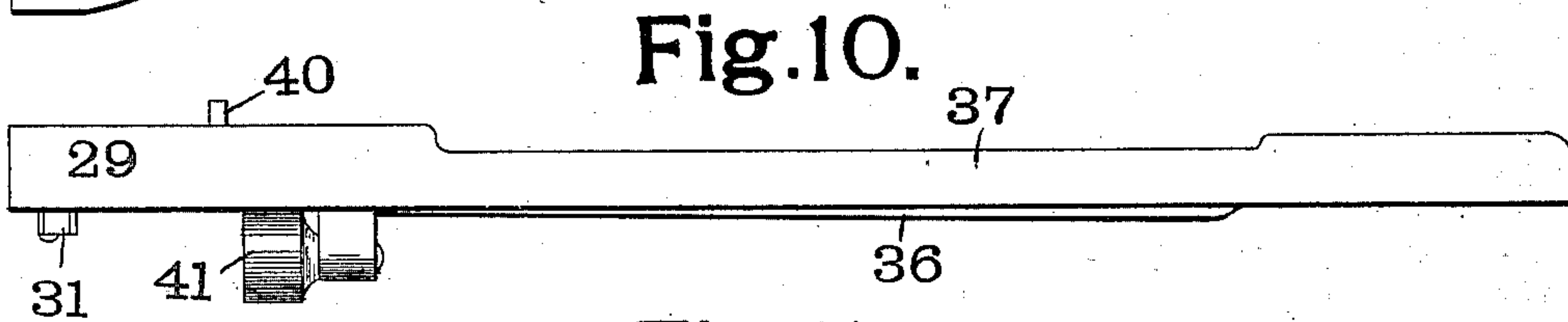
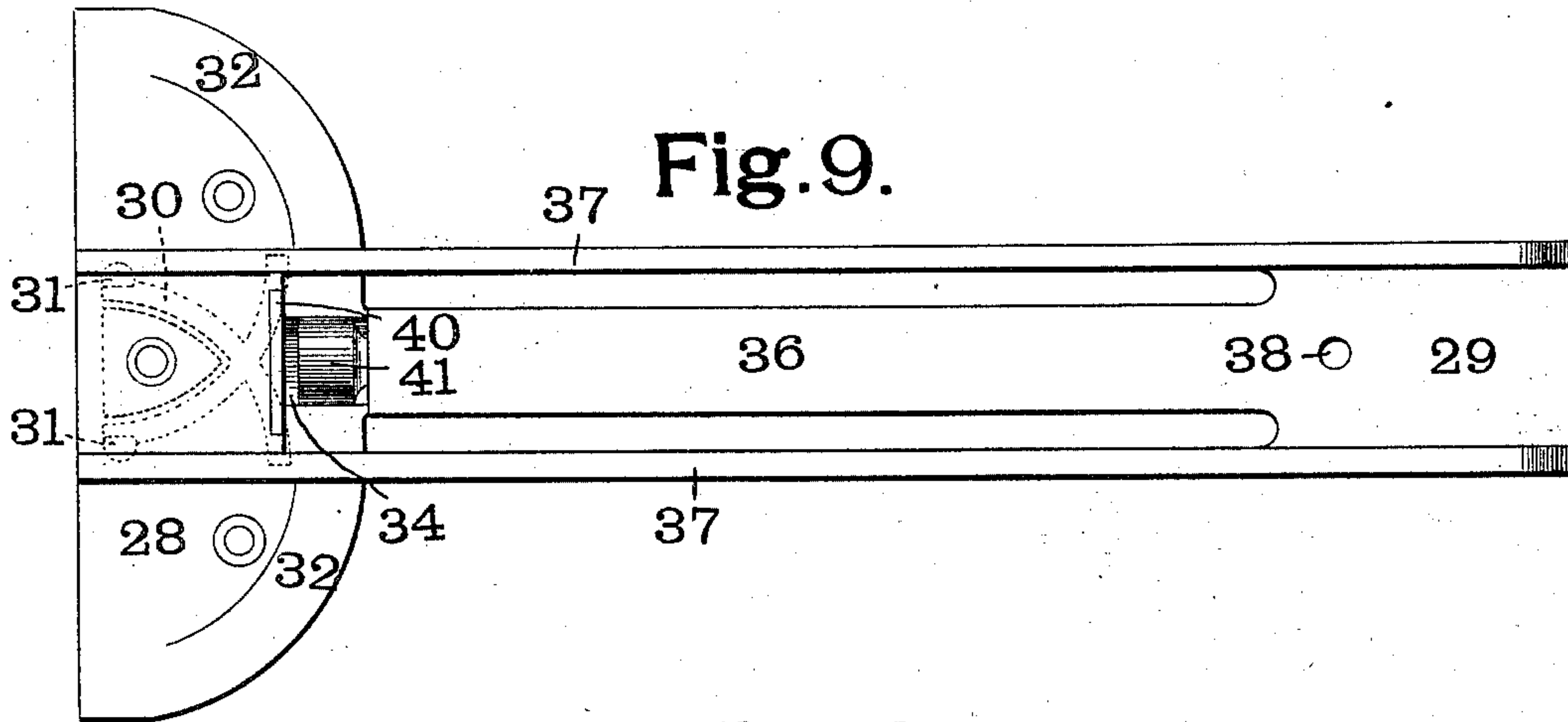
Foster & Bryson.

C. H. FOSTER.
HINGE FOR DOORS.

(Application filed June 13, 1901.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses

W. A. Alexander
J. R. Watkins.

Inventor

C. H. Foster

By Attorneys
Foster & Rogers.

UNITED STATES PATENT OFFICE.

CHARLES H. FOSTER, OF OMAHA, NEBRASKA.

HINGE FOR DOORS.

SPECIFICATION forming part of Letters Patent No. 696,029, dated March 25, 1902.

Application filed June 13, 1901. Serial No. 64,422. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. FOSTER, a citizen of the United States, residing at the city of Omaha, in the State of Nebraska, have
5 invented a certain new and useful Hinge for Doors, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had
10 to the accompanying drawings, forming part of this specification.

One object of my invention is to so construct a hinge for gravity-closing doors that the action of the door will be supplemented by a
15 spring when it is near its closed position.

Another object of my invention is to provide means for preventing the door from being accidentally lifted off its pivot.

Still another object of my invention is to
20 provide a stop for limiting the movement of the door.

My invention consists in certain novel features and details of construction, all of which are described in the following specification
25 and pointed out in the claims affixed hereto.

In the accompanying drawings, which illustrate the usual form of door with my invention applied thereto, Figure 1 is a view on a reduced scale, partly in elevation and partly in section,
30 showing the door closed. Fig. 2 is a bottom plan view of the fixed part of the upper hinge. Fig. 3 is a side view of the part shown in Fig. 2. Fig. 4 is a bottom view of the key for preventing the door from being lifted off its pivot.
35 Fig. 5 is a side view of the key shown in Fig. 4. Fig. 6 is a bottom view of the movable part of the upper hinge. Fig. 7 is a side view of the part shown in Fig. 6. Fig. 8 is a sectional view of the complete upper hinge. Fig.
40 9 is a top plan view of the two parts of the lower hinge. Fig. 10 is a side view of the movable part of the lower hinge. Fig. 11 is a sectional view showing the complete lower hinge and a part of the door to which the same is
45 applied. Fig. 12 is a section on the line 12 12 of Fig. 11. Fig. 13 is a top plan view of the fixed part of the lower hinge, and Fig. 14 is a front view of the same.

Like marks of reference refer to similar
50 parts in the several views of the drawings.

10 indicates the door, 11 the rear jamb, 12 the lintel, and 13 the sill, all of which parts may be of any usual construction.

14 indicates the fixed part of the upper hinge, which is preferably let into the lintel 12, 55 so as to be flush with the lower face thereof. The fixed part 14 is provided with two stops 15, which project below the face of the lintel 12. Formed in the fixed part 14 is a circular opening 16, adapted to receive the bearing-
60 pin 17, carried by the movable part 18 of the hinge. The movable part 18 is provided with two downwardly-projecting portions 19, (see Figs. 6, 7, and 8,) which project down the
65 faces of the door and are adapted to strike against the stops 15 on the fixed part 14. The fixed part 14 is provided with a forwardly-projecting portion 20, on which is formed a
70 shoulder 21, adapted to come in contact with a shoulder 22 on a key 23. (See Figs. 4 and 5.) The purpose of the key 23 is to prevent
75 the door from being lifted off its pivot, as will be more fully hereinafter described. The key 23 is provided with a bifurcated end 24, which surrounds the bearing-pin 17 on the movable
80 part 18, as is most clearly shown in Figs. 1 and 8. The key 23 is secured to the forwardly-projecting portion 20 on the fixed part 14 by means of a screw passing through openings 25
85 in the said parts 23 and 20.

The lower hinge is composed of the fixed part 28 and a movable part 29. In the fixed part 28 is formed a bearing 30, composed of two curved intersecting guideways, and on the movable part 29 are formed two bearing-
85 pins 31, which coöperate with the bearing 30 in the fixed part. This particular form of bearing is not claimed in the present application, as it is covered in my previous applications No. 47,391, filed February 15, 1901, 90 and No. 52,735, filed May 25, 1901. Formed on the fixed part 28 is a curved track 32, upon which a roller carried by the movable part runs. At the central portion of this track
95 32 are two inclines 33, which lead to a semi-cylindrical recess 34, formed in a forwardly and downwardly projecting portion 35, carried by the said part 28. The central portion of the movable part 29 forms a duplex
100 spring, of which a central blade 36 forms one

part and two lateral blades 37 form the other. At the fixed end of the central blade 36 the movable part 29 is secured to the lower edge of the door by means of a single screw 38, and the lower edge of the door is provided with a triangular cut-away portion 39 of a depth at its base equal to the height of the upwardly-projecting portion 40 of the part 29 and of a length equal to the distance between said projection and the screw 38, by which the forward end of the part 29 is secured to the door. This cut-away portion 39 allows the central blade 36 to be forced upward into the same, and the fact that but a single fastening 38 is used at the fixed end of the said blade allows the strain on the blade 36 to be communicated to the lateral blades 37, thus allowing a much shorter spring to be used than would be possible if but a single blade were used. Pivoted to the free end of the blade 36 is a roller 41, which rests in the groove 34 when the door is in its central position, and which runs on the track 32 when the door is opened.

In assembling the parts of the door, the fixed parts of the upper and lower hinges are secured to the lintel and sill, respectively, as shown in Fig. 1, and the movable parts are secured to the upper and lower edges of the door. The bearing-pin 17 can now be inserted in the opening 16 in the fixed part of the upper hinge and the door raised sufficiently to allow the bearing-pins 31 on the movable part of the lower hinge to be placed in the bearings 30 in the fixed part of the lower hinge. As soon as the door is in position the key 23 can be placed in position, as best shown in Fig. 8, and secured by means of a screw fastening through the opening 25. It will now be impossible to again raise the door sufficiently to disengage the bearing-pins 31 from the bearings 30. When the door is opened, the outer end of the same will be thrown upwardly owing to the bearing-pin 17 being farther from the rear jamb than the bearings 31, and will thus cause the door to return to its normal position. This tendency is supplemented when the door nears its closed position by the action of the spring-mounted roller 41 on the inclined portions 33 of the track 32, thus insuring the prompt return of the door to its normal position. As soon as it has reached its normal position the roller 41 drops into the groove 34, thus holding the door

closed until considerable pressure is brought to bear on it.

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

1. A hinge for doors or the like consisting of a fixed part, a movable part, a spring-mounted member carried by one of said parts, and a track carried by the other of said parts provided with a depression at its central part, and inclines connecting said track with said depression.

2. A hinge for doors or the like consisting of a movable part, a spring-mounted member carried by said movable part, a fixed part, a track carried by said fixed part and provided with a depression at the central portion of said track and with inclines connecting said track with said depression.

3. A hinge for doors or the like consisting of a fixed part, a movable part, a track carried by one of said parts, a central spring-blade carried by the other of said parts and bearing on said track, and two lateral spring-blades also carried by said last-named part and cooperating with said central blade.

4. A hinge for doors or the like consisting of a fixed part, a track carried thereby, a movable part, a central spring-blade carried by said movable part and bearing on said track, and two lateral spring-blades also carried by said movable part and cooperating with said central blade.

5. A hinge for doors or the like consisting of a fixed part, a movable part, a bearing-pin carried by one of said parts, an opening formed in the other of said parts and adapted to receive said bearing-pin, and a key adapted to embrace said bearing-pin and to be secured to one of said parts.

6. A hinge for doors or the like consisting of a fixed part, a pair of downwardly-projecting stops carried by said fixed part, a movable part adapted to be secured to the top of a door, and a pair of wings carried by said movable part and adapted to come in contact with said stops.

In testimony whereof I have hereunto set my hand and affixed my seal in the presence of the two subscribing witnesses.

CHARLES H. FOSTER. [L. S.]

Witnesses:

JAMES H. BRYSON,
JESSIE R. WATKINS.