

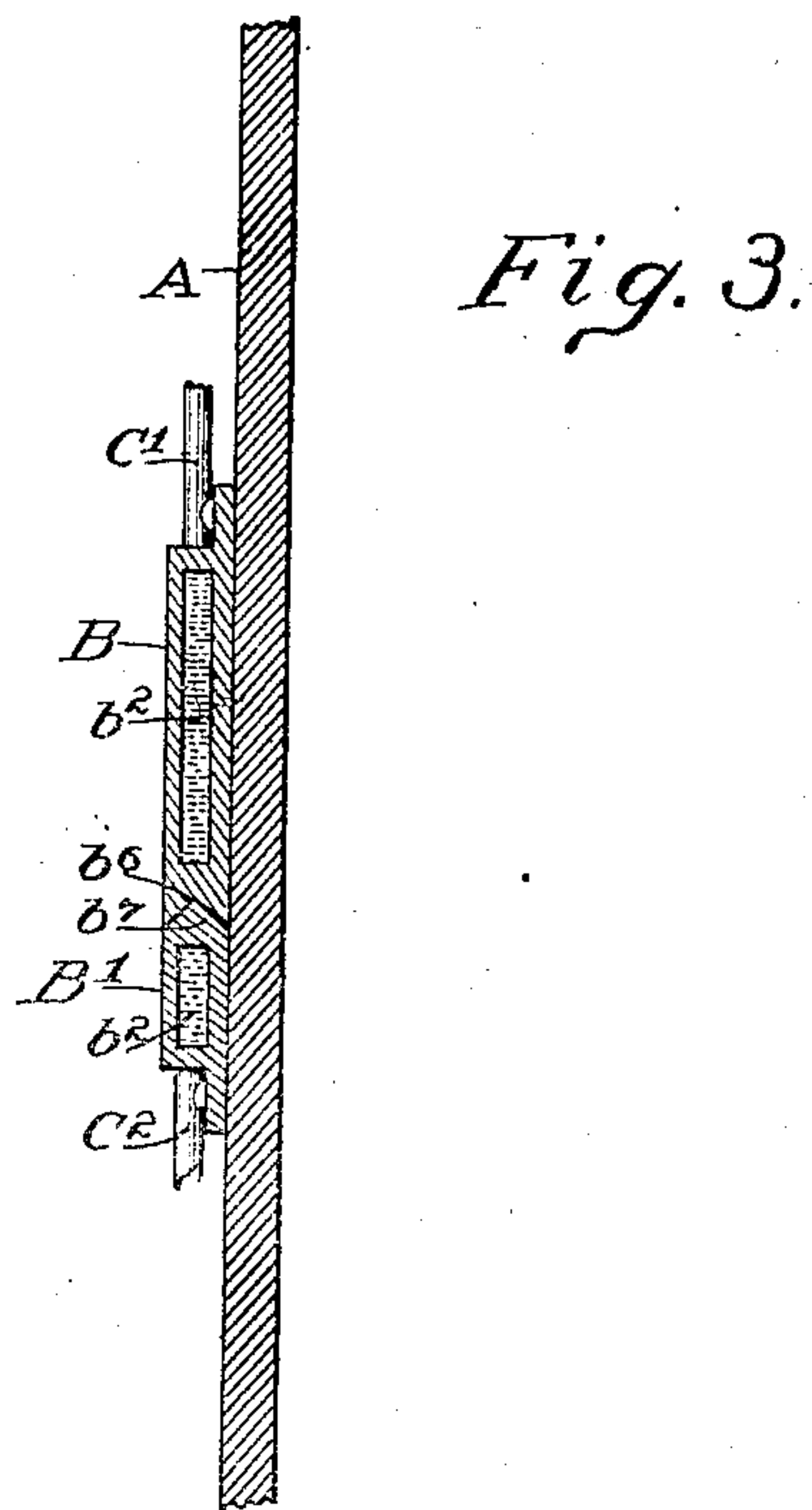
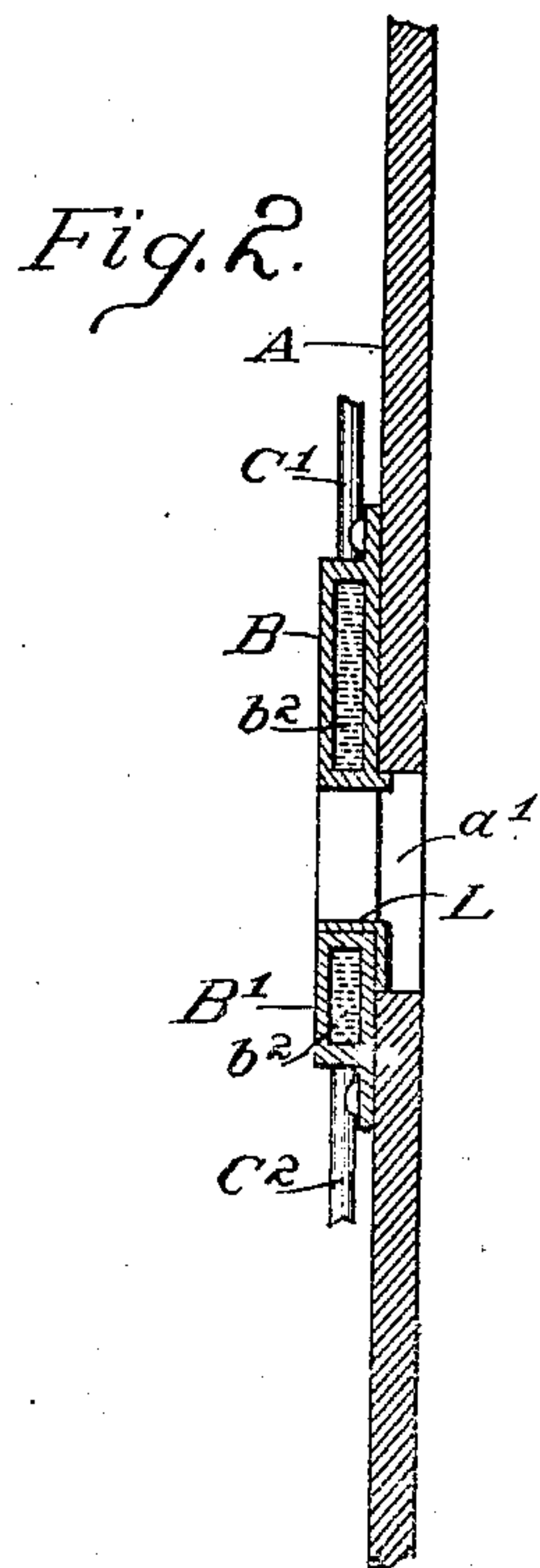
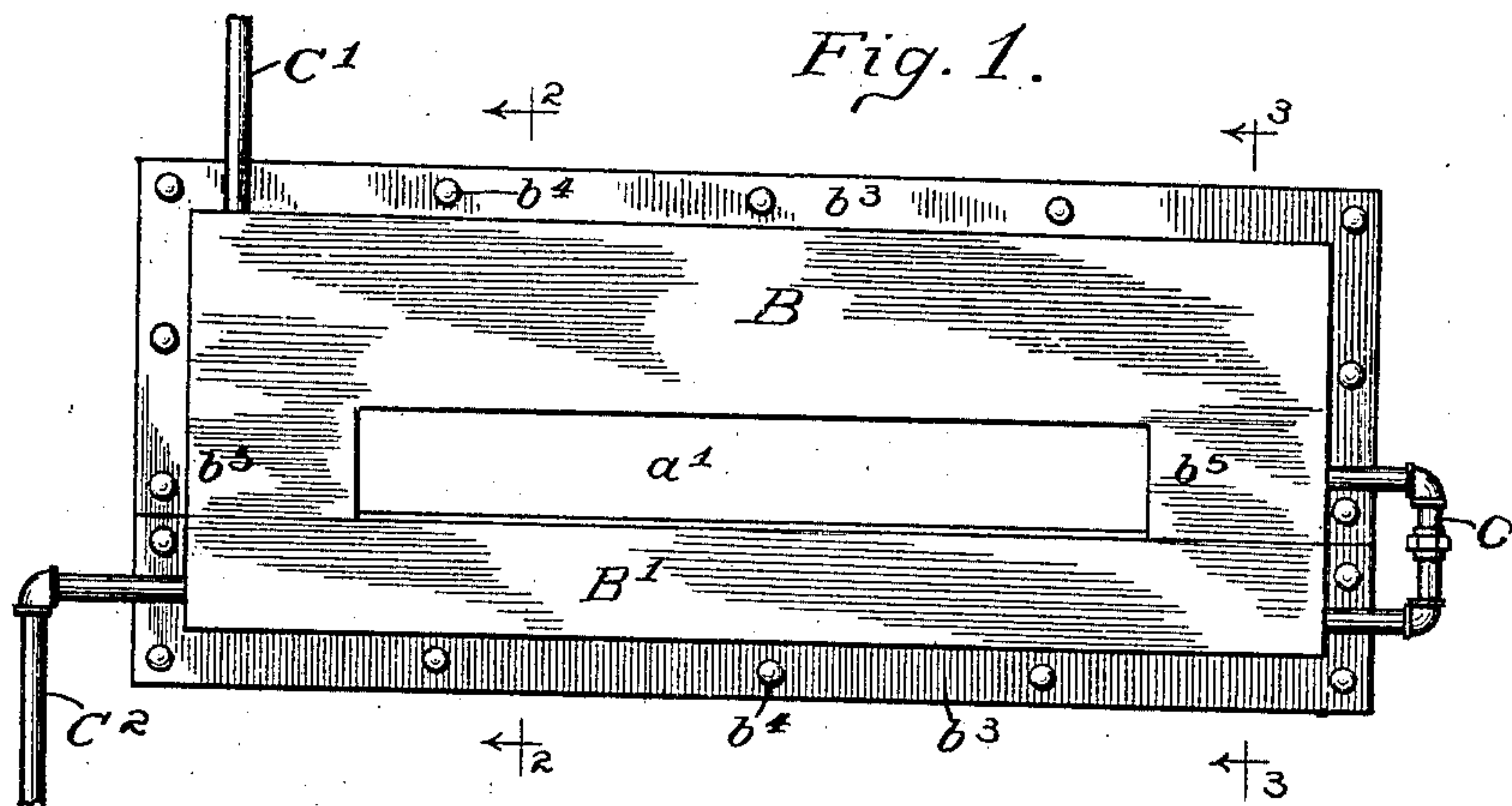
No. 829,490.

PATENTED AUG. 28, 1906.

G. W. SHEAR.

FURNACE DOOR FRAME.

APPLICATION FILED JULY 22, 1903. RENEWED JAN. 29, 1906.



Witnesses:
John Braunwalder.
L. G. Snow.

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UNITED STATES PATENT OFFICE.

GEORGE W. SHEAR, OF JOLIET, ILLINOIS.

FURNACE-DOOR FRAME.

No. 829,490.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed July 22, 1903. Renewed January 29, 1906. Serial No. 298,443.

To all whom it may concern:

Be it known that I, GEORGE W. SHEAR, a citizen of the United States, residing at Joliet, in the county of Will and State of Illinois, have invented certain new and useful Improvements in Furnace-Door Frames, of which the following is a specification.

My invention relates to improvements in water-cooled frames for furnace or oven doorways; and an important object of my invention is to provide against the warping of the door-frame and the consequent opening of the joints between door and frame.

An additional object is to effect a cooling of the furnace-front whereby the workman is protected from the excessive heat.

In the accompanying drawings, which form a part of this invention, Figure 1 is a front elevation of my improved door-frame. Fig. 2 is a vertical section on the line 2 2 of Fig. 1. Fig. 3 is a vertical section on the line 3 3 of Fig. 1.

Referring to the drawings in detail, A represents so much of a furnace-front as is necessary to the proper illustration of my invention and in which is formed an elongated doorway or opening a' , which may, if desired, extend the full width of the furnace chamber or oven. Surrounding the doorway is a frame composed of two sections B, B', the former occupying the upper part and the latter the lower portion of the opening. Both sections are formed with water-chambers b^2 and with flanges b^3 , through which bolts b^4 pass into the furnace-front.

Section B has a single water-chamber extending the full length thereof and in the vertical ends b^5 , and the section b' has an independent water-chamber extending its full length, and the two chambers are connected at the same end by the pipe C. Water enters under pressure the section B at one end through a pipe C', which leads from any

suitable source of water-supply and is discharged, after traversing section B, pipe C, and section B', through the pipe C², thus effecting a circulation throughout the frame.

The lower edges of the end portions of the section B are formed with a groove b^6 , shaped, preferably, like an inverted V, and the corresponding portions of the section B are formed with a double bevel b^7 , which fits into said groove when the frame is in place, thus centering the parts and resisting any tendency of either section to twist, warp, or pull away at this part of the frame.

Over the portion of the section B' that bounds the lower edge of the doorway I place an angle-plate L, which serves as a wear-plate for the tongs used in connection with the furnace and which may be renewed from time to time.

It will be apparent that I may make modifications in the above-described device which will not depart from the principles of construction, which include especially a door-frame formed in sections which interlock to prevent warping, &c.

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

A furnace-door frame composed of a hollow section forming the top and sides of the door-casing, and a separate section forming the sill of the casing, said sections having integral interlocking portions, and adapted to be secured to the furnace-front, substantially in the manner and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE W. SHEAR.

Witnesses:

C. B. CHEADLE,
F. BENJAMIN.