

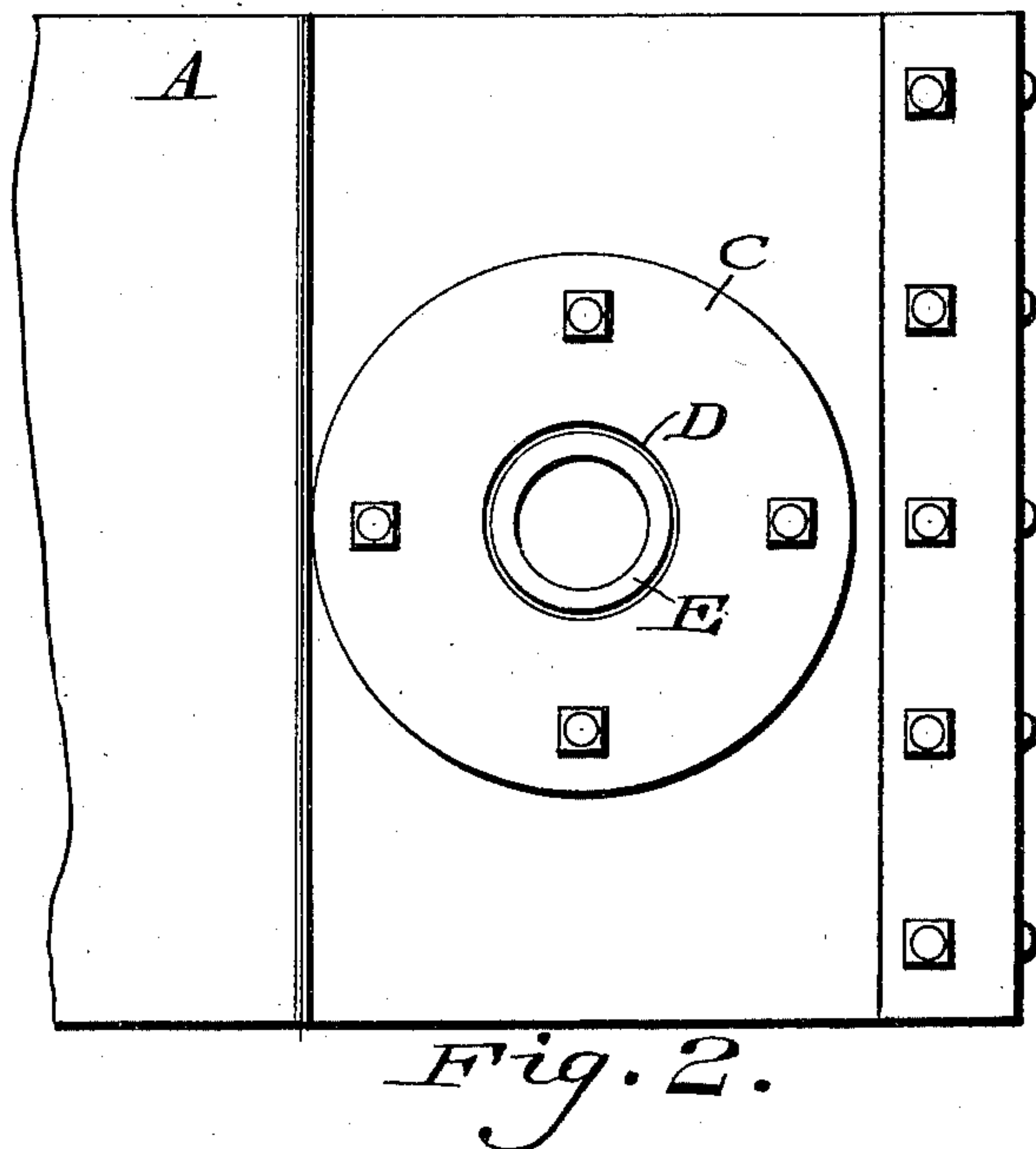
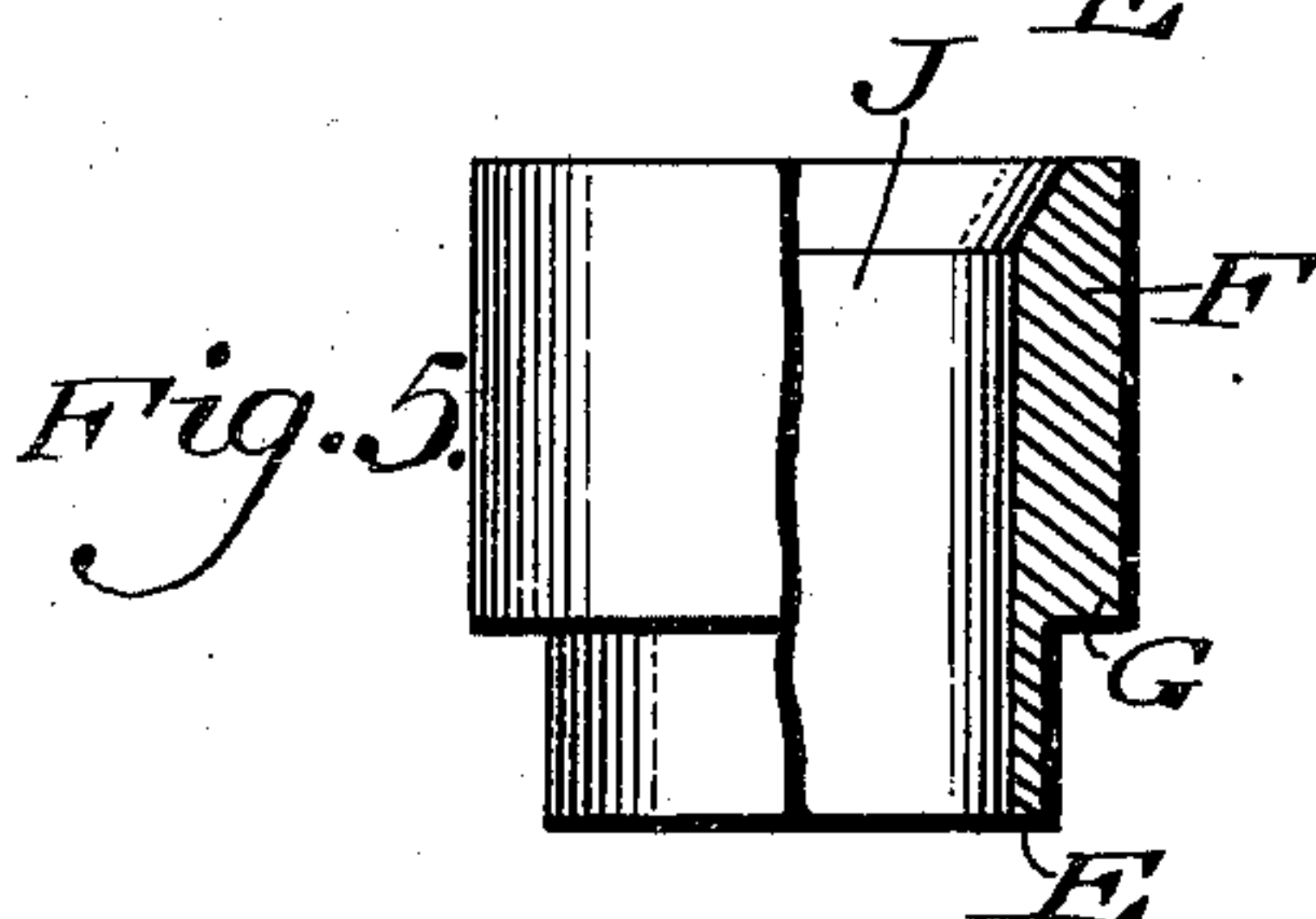
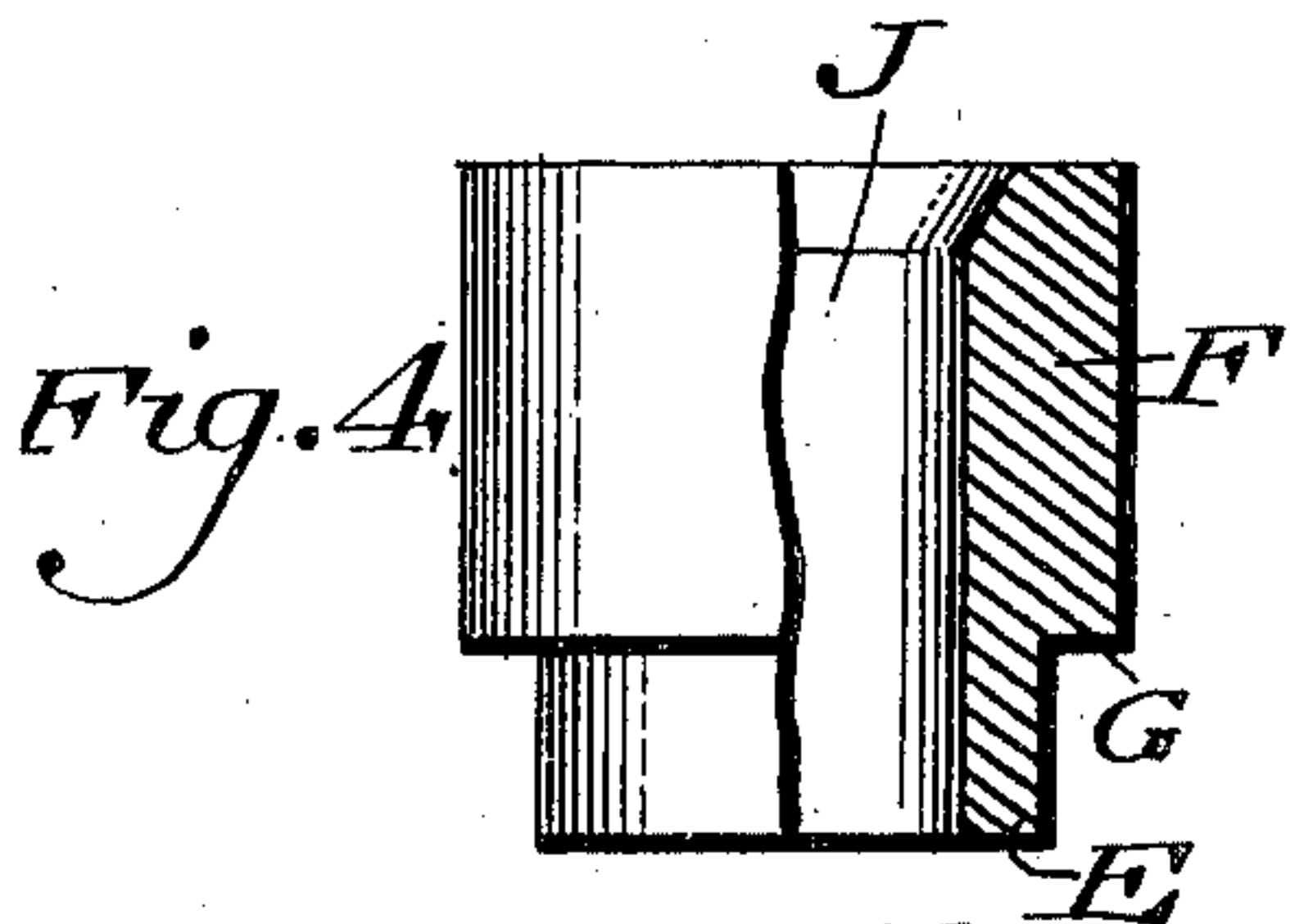
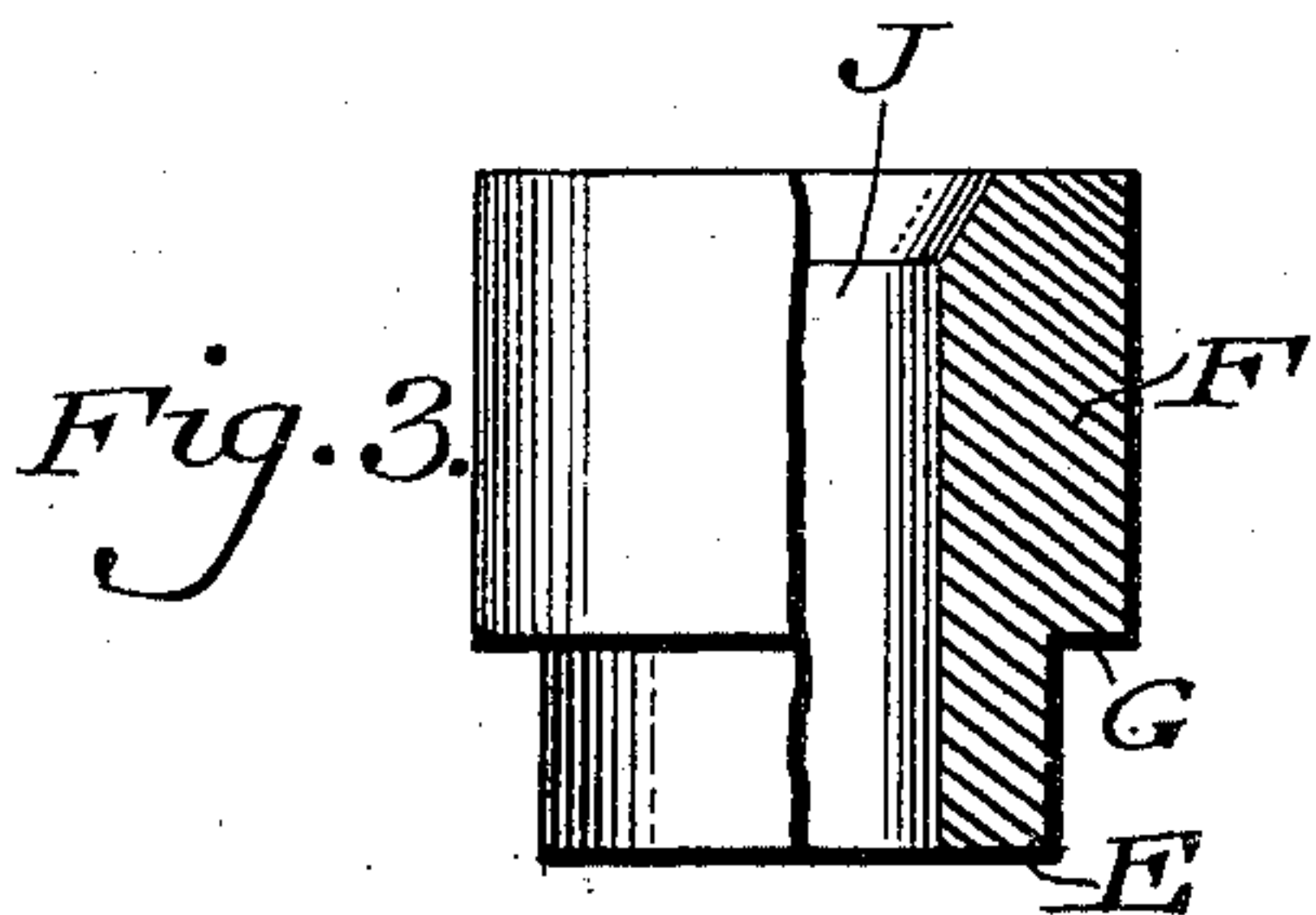
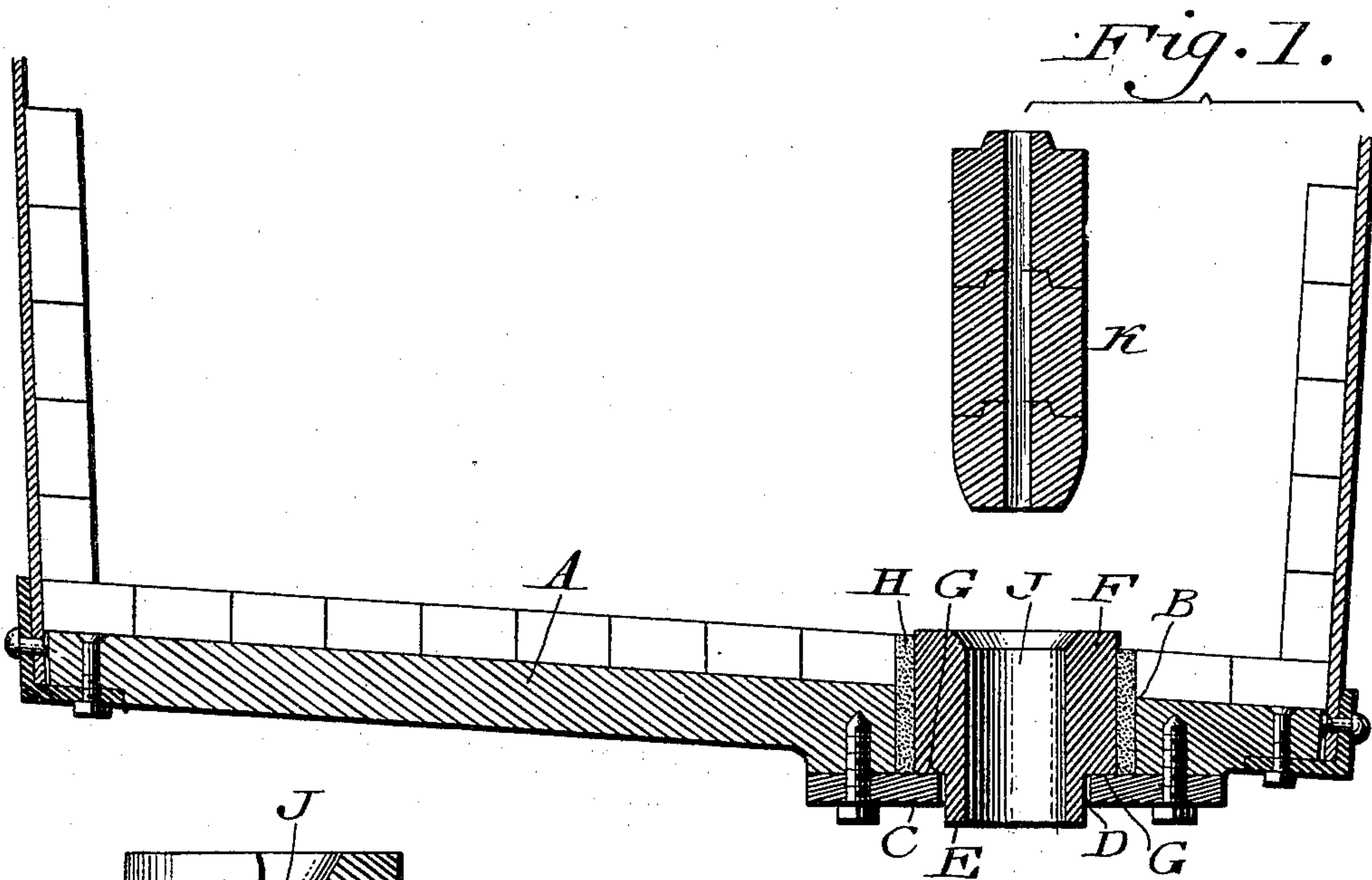
No. 685,964.

Patented Nov. 5, 1901.

G. W. BALDT.  
STOPPER SEAT FOR LADLES.

(Application filed Aug. 3, 1900.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

GEORGE W. BALDT, OF CHESTER, PENNSYLVANIA.

## STOPPER-SEAT FOR LADLES.

SPECIFICATION forming part of Letters Patent No. 685,964, dated November 5, 1901.

Application filed August 3, 1900. Serial No. 25,837. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. BALDT, a citizen of the United States, residing in Chester, in the county of Delaware, State of Pennsylvania, have invented a new and useful Improvement in Stopper-Seats for Ladles, which improvement is fully set forth in the following specification and accompanying drawings.

10 My invention consists of an improved stopper-seat and its adjuncts for ladles, wherein the structure is simplified and the expense thereof is reduced to a minimum, provision being also made for employing a removable  
15 or detachable stopper-seat having the same outside diameter, but provided with different-sized pouring-holes, whereby I dispense with the employment of all rings in the seat and all excess of sand heretofore employed, which  
20 latter construction is very dangerous in pouring the metal out of the ladle in case the stopper should stick.

Furthermore, in my invention the bricks or refractory material can be laid very closely  
25 to the stopper-seat, whereby the latter is prevented from withdrawal, and I am further enabled to make the lower portion or depending neck of said stopper-seat shorter than heretofore, since I employ a thin supporting-  
30 plate for said seat, which is secured to the bottom of the ladle, whereby the liability of the extremity of said neck which protrudes beyond said plate being broken off is reduced to a minimum.

35 It further consists of novel details of construction, all as will be hereinafter fully set forth, and particularly pointed out in the claims.

Figure 1 represents a vertical sectional  
40 view of a stopper-seat embodying my invention, showing also a portion of the ladle to which said seat is applicable and the stopper adapted to coact with said stopper-seat. Fig. 2 represents a bottom plan view of Fig. 1.  
45 Figs. 3, 4, and 5 represent partly sectional views of stopper-seats, each having the same exterior diameter, but provided with pouring-holes of different interior diameters.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates a

portion of a ladle having the opening B there-  
through, beneath which opening is located  
the plate C, which latter has the opening D,  
through which latter opening protrudes the  
55 neck or lower portion E of the stopper-seat F,  
the latter being provided with the shoulder  
G, whereby it is supported on the plate C, the  
latter being secured in any suitable manner  
to the bottom of the ladle. 60

H designates sand which is interposed between the exterior periphery of the stopper-seat and the walls of the opening B.

In Figs. 3, 4, and 5 I have shown, on an enlarged scale, the stopper-seats F, each having  
65 the same external diameter, but provided with different-sized pouring-holes J, extending therethrough.

K designates a stopper, which may be of the usual construction. 70

I have found by practical experience that by employing stopper-seats of the construction described having the same exterior diameter, but different-sized pouring-holes  
75 therethrough, I can readily interchange or replace said stopper-seats according to requirements without necessitating any change in the support for said seat, the latter being of the same exterior diameter and supported  
80 in each instance by the contact of the ledge or shoulder G with the plate D, secured to the bottom of the ladle.

It will be seen from the foregoing that the number of parts is reduced to a minimum, and I am enabled to lay the brick very closely  
85 to the stopper-seat, and I also make the neck E thereof but slightly longer than the thickness of the supporting-plate C, whereby the danger of said neck being broken off is reduced to a minimum. I also dispense with  
90 all rings usually employed in the seat and all excess of sand, which, as is familiar to those skilled in this art, is very dangerous in pouring the metal out of the ladle in case the stopper should stick. 95

It will be evident that various changes may be made in the construction as herein shown, and I do not therefore desire to be limited in every instance to the exact construction as herein shown and described, but desire to  
100 make such changes as may come within the scope of my invention.



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

1. In a ladle, an opening therethrough, a  
5 plate secured to the bottom of said ladle and having an opening of smaller diameter than said opening in said ladle, a plurality of interchangeable stopper-seats having the same exterior diameter, and provided with pouring-holes of different sizes being adapted to  
10 be supported on said plate and loose sand interposed between the opening through said ladle and the outer periphery of a stopper-seat.

15 2. In a ladle, an opening therethrough, a stopper-seat, having a shoulder on its lower portion, and a neck or reduced portion projecting therefrom, a plate secured to the bottom of the ladle and having an opening,  
20 through which protrudes said neck, said stopper-seat being supported on said plate, and

loose sand interposed between the opening through said ladle and the outer periphery of said stopper-seat.

3. In a ladle, an opening therethrough, a 25 plurality of interchangeable stopper-seats, each having a shoulder on its lower portion, and a neck projecting therefrom, each of said seats having the same exterior diameter but provided with pouring-holes of different 30 sizes, a plate secured to the bottom of the ladle and having an opening through which protrudes said neck, the desired seat being adapted to be supported on said plate and loose sand interposed between the opening 35 through said ladle and the outer periphery of said stopper-seat.

GEORGE W. BALDT.

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