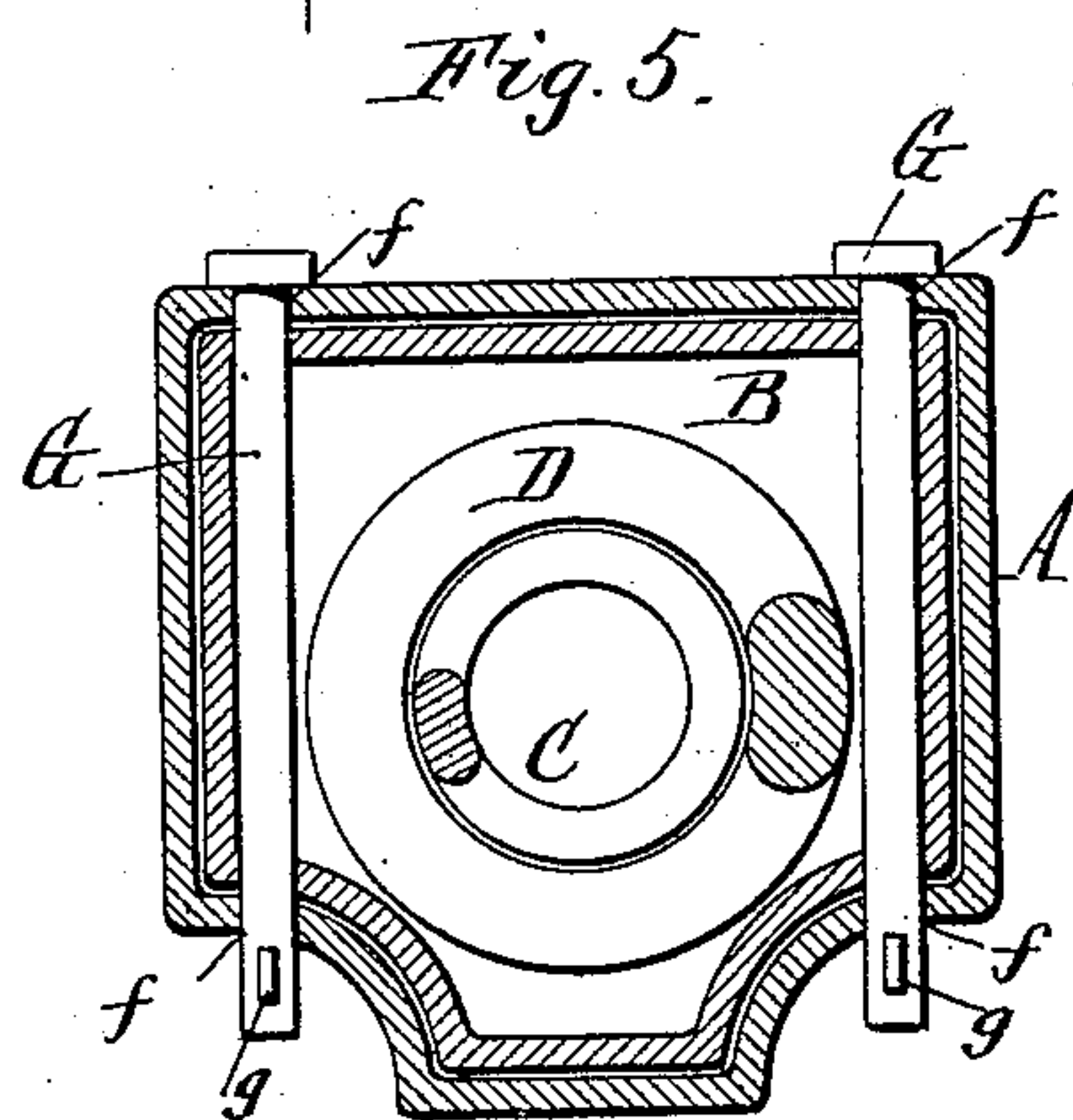
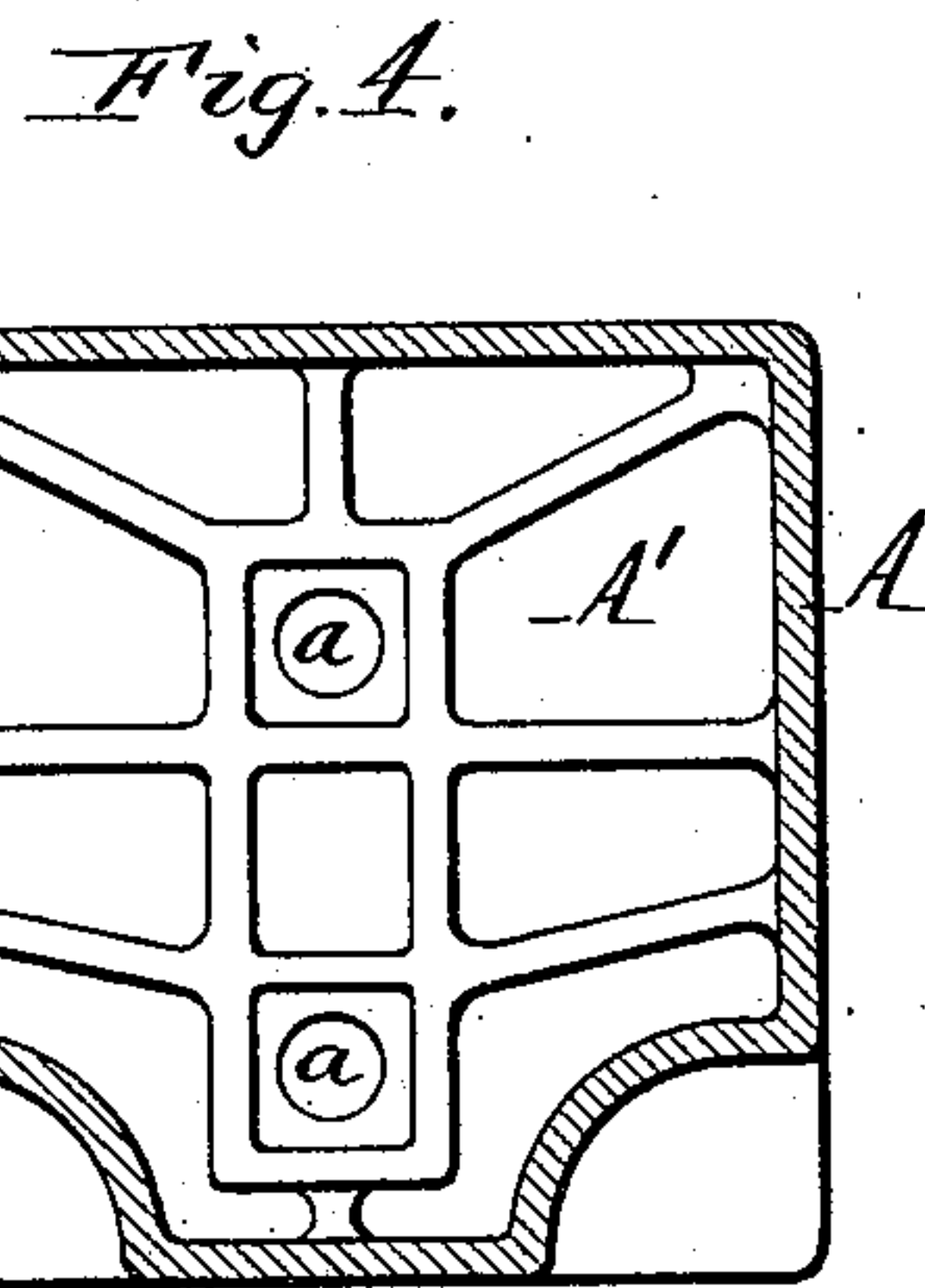
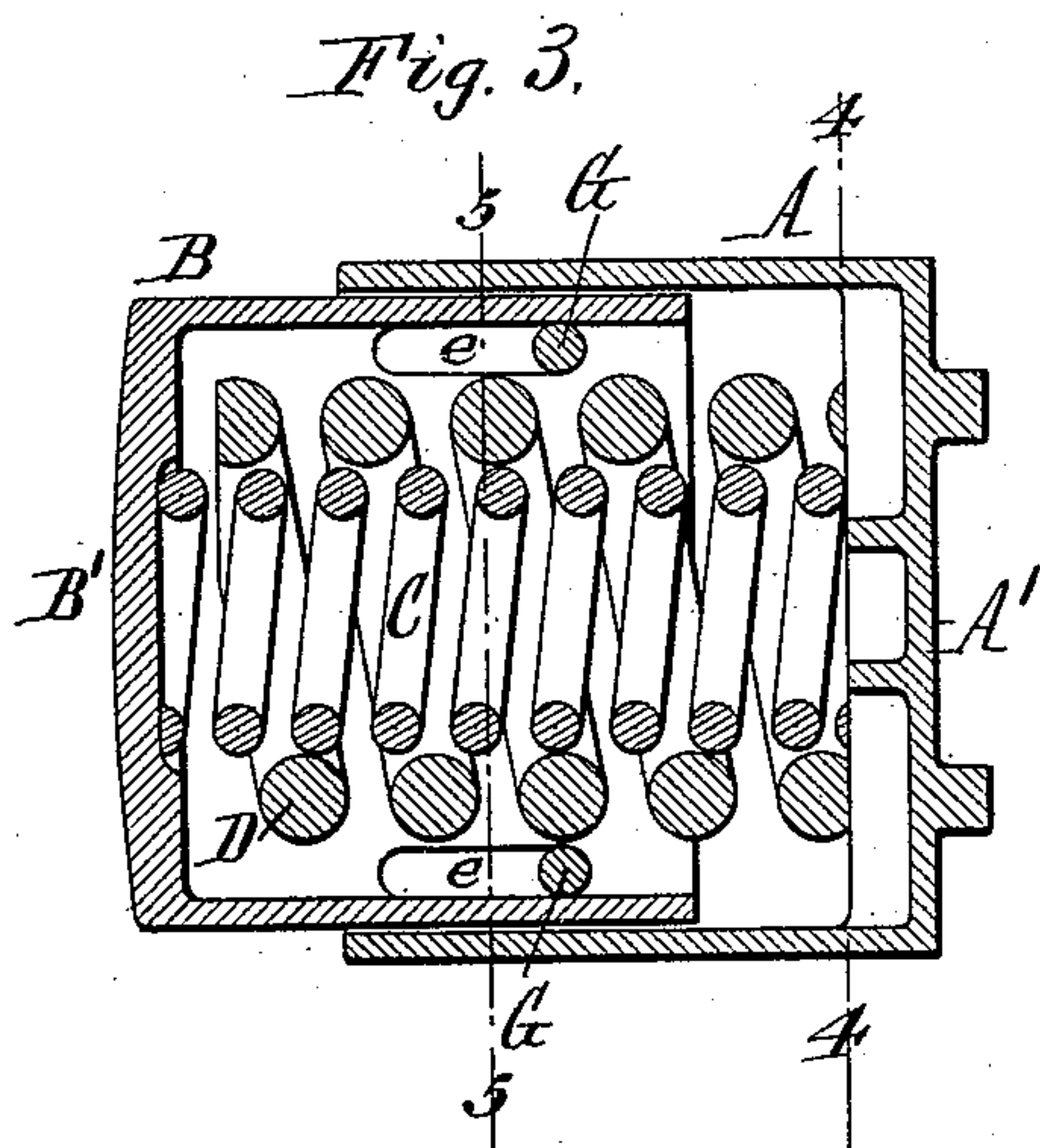
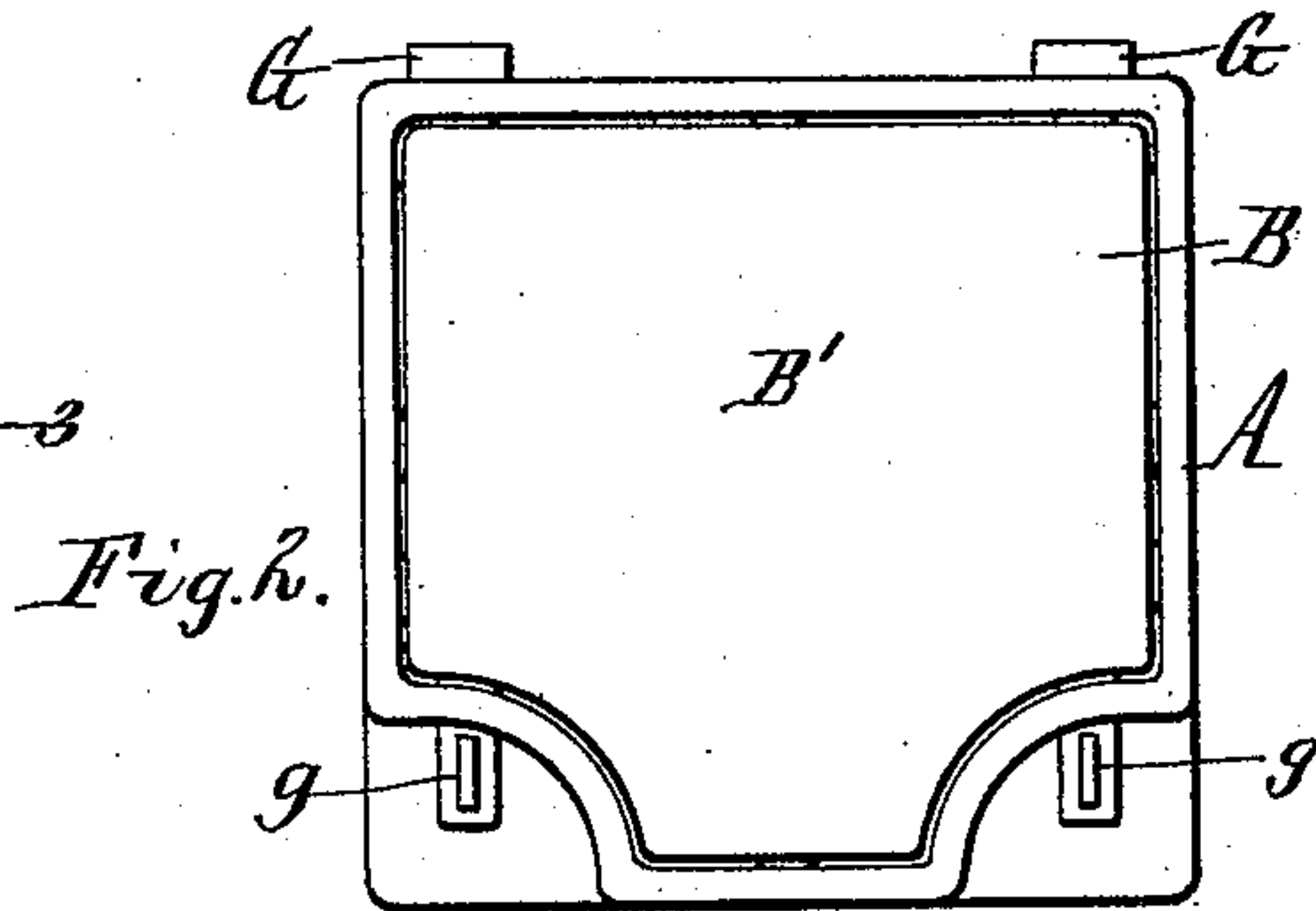
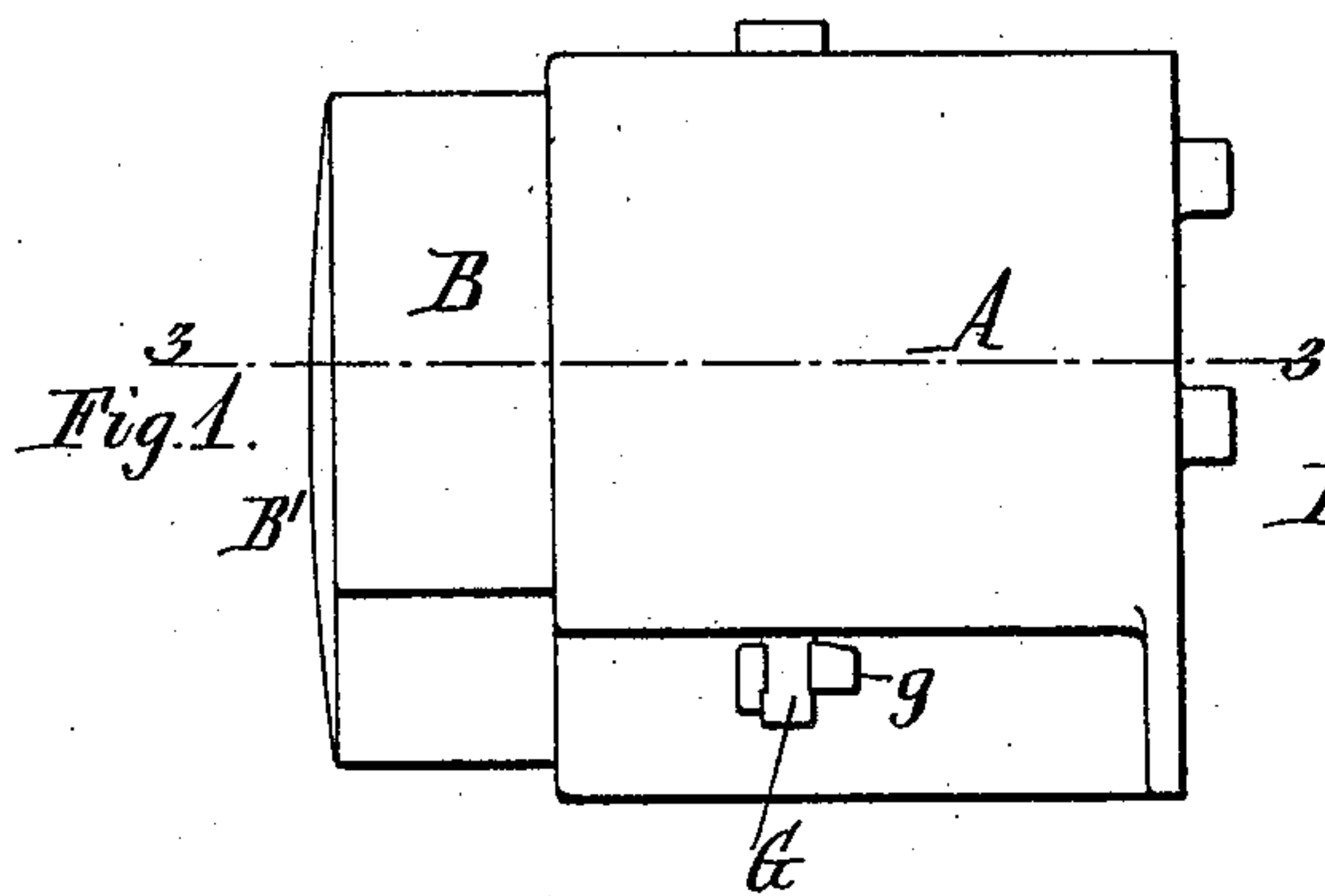


(No Model.)

W. F. RICHARDS.
CAR BUFFER.

No. 574,576.

Patented Jan. 5, 1897.



WITNESSES:

Chas. F. Burkhardt.
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INVENTOR.

W. F. Richards.

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLARD F. RICHARDS, OF BUFFALO, NEW YORK, ASSIGNOR TO THE
GOULD COUPLER COMPANY, OF NEW YORK, N. Y.

CAR-BUFFER.

SPECIFICATION forming part of Letters Patent No. 574,576, dated January 5, 1897.

Application filed September 18, 1896. Serial No. 606,204. (No model.)

To all whom it may concern:

Be it known that I, WILLARD F. RICHARDS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Car-Buffers, of which the following is a specification.

This invention relates to that class of car-buffers which are designed more especially for freight-cars and which consist of a forwardly-projecting socket secured to the end sill of the car, a tubular follower sliding in said socket and having a closed front end forming the buffer-head, and light and heavy buffer-springs arranged in said socket and the hollow follower.

The object of my invention is the provision of simple means for limiting the outward movement of the follower in its supporting-socket, so as to prevent the complete separation of the follower from the socket.

In the accompanying drawings, Figure 1 is a side elevation of my improved buffer. Fig. 2 is a front view thereof. Fig. 3 is a longitudinal section of the same in line 3 3, Fig. 1. Figs. 4 and 5 are vertical cross-sections thereof in lines 4 4 and 5 5, Fig. 3, respectively.

Like letters of reference refer to like parts in the several figures.

A is the horizontal socket, which is secured to the end sill of a car, preferably by bolts passing through openings *a*, formed in the bottom or closed rear end *A'* of the socket, and which is preferably square or rectangular in form, as shown.

B is the tubular follower arranged to slide in the socket A and having its rear end open and its front end closed to form the buffer-head *B'*. The follower is square or rectangular to conform to the socket A. By constructing the follower in this manner the buffer-head presents a comparatively large buffing or contact surface.

C is the light buffer-spring arranged partly in the socket and partly in the follower and bearing at its ends against the bottom of the

socket A and the head *B'* of the follower in a well-known manner.

D is the heavy buffer-spring, which bears at its rear end against the bottom of the socket and comes into action when the resistance of the light spring is overcome. The follower is provided in its upper and lower walls on opposite sides of the buffer-springs with longitudinal slots *e*, and the adjacent walls of the socket A are provided in line with said slots with openings *f*.

G represents stationary stop pins or bolts which pass through the openings *f* of the socket and the longitudinal slots *e* of the follower and which limit the outward movement of the follower in the socket, thereby preventing its complete withdrawal from the socket. These stop-pins are confined in their openings by keys *g*, passing through their projecting lower ends. Upon removing these keys the stop-pins can be removed and the follower can be withdrawn from the socket for making repairs or renewing the buffer-springs.

I claim as my invention—

1. The combination with a socket adapted to be secured to the end of a car, of a tubular follower guided in said socket and provided near one side thereof with a longitudinal slot, a stop pin or bolt passing through said socket and the longitudinal slot of the follower, and a buffer spring or springs arranged in said socket and follower, substantially as set forth.

2. The combination with a socket adapted to be secured to the end of a car, of a tubular follower guided in said socket and provided in its upper and lower walls and near opposite sides thereof with longitudinal slots, stop-pins passing through said socket and the longitudinal slots of the follower, and a buffer spring or springs arranged in said socket and follower, substantially as set forth.

Witness my hand this 28th day of August, 1896.

WILLARD F. RICHARDS.

Witnesses:

JNO. J. BONNER,
ELLA R. DEAN.