

No. 663,640.

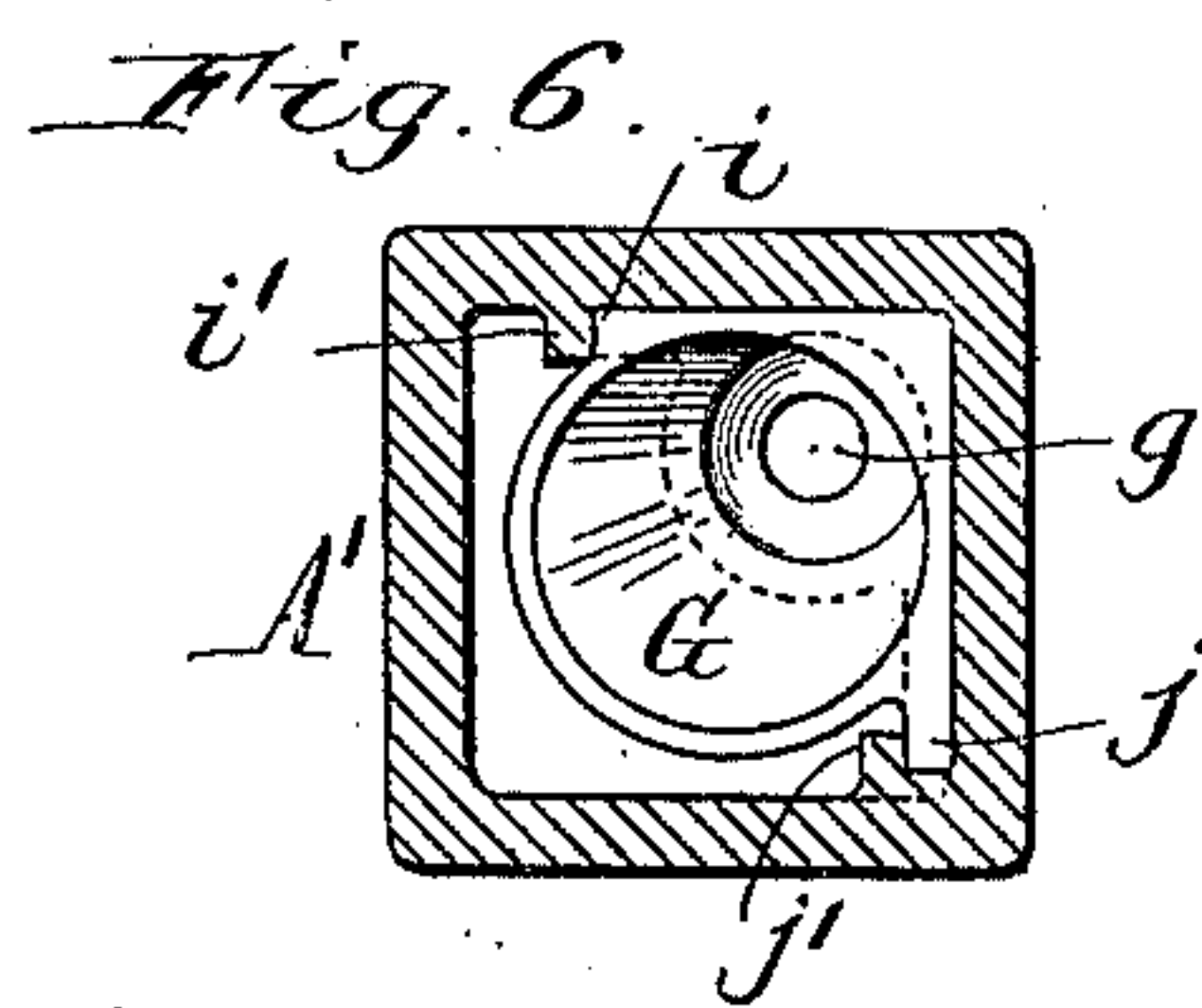
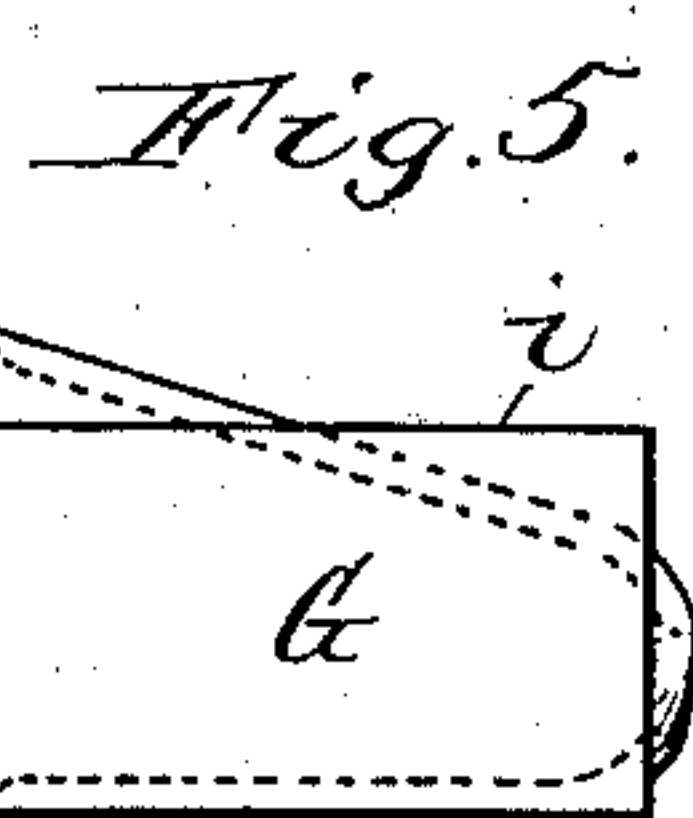
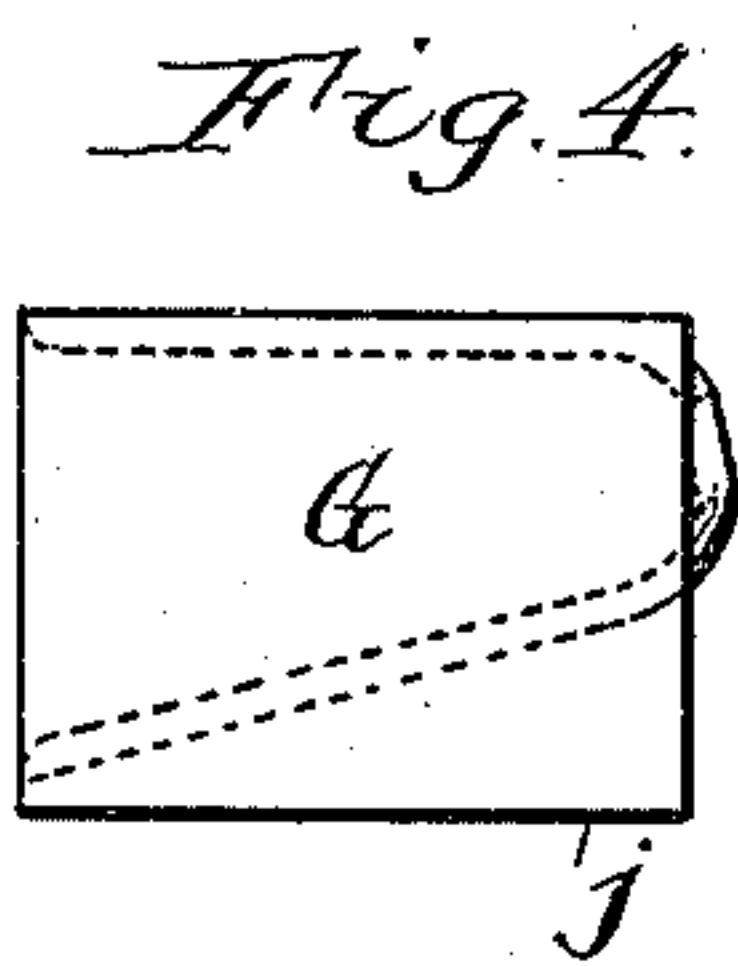
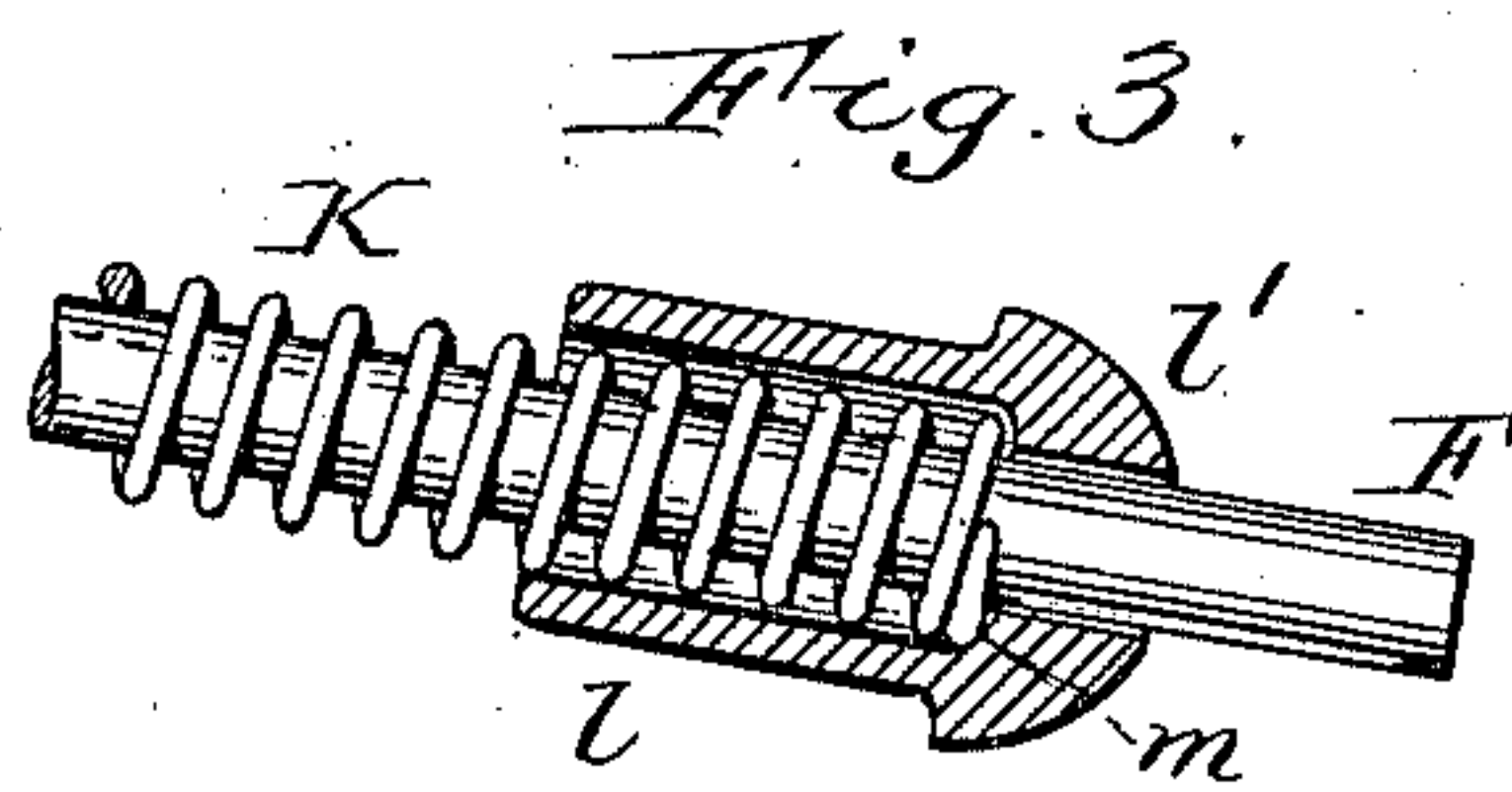
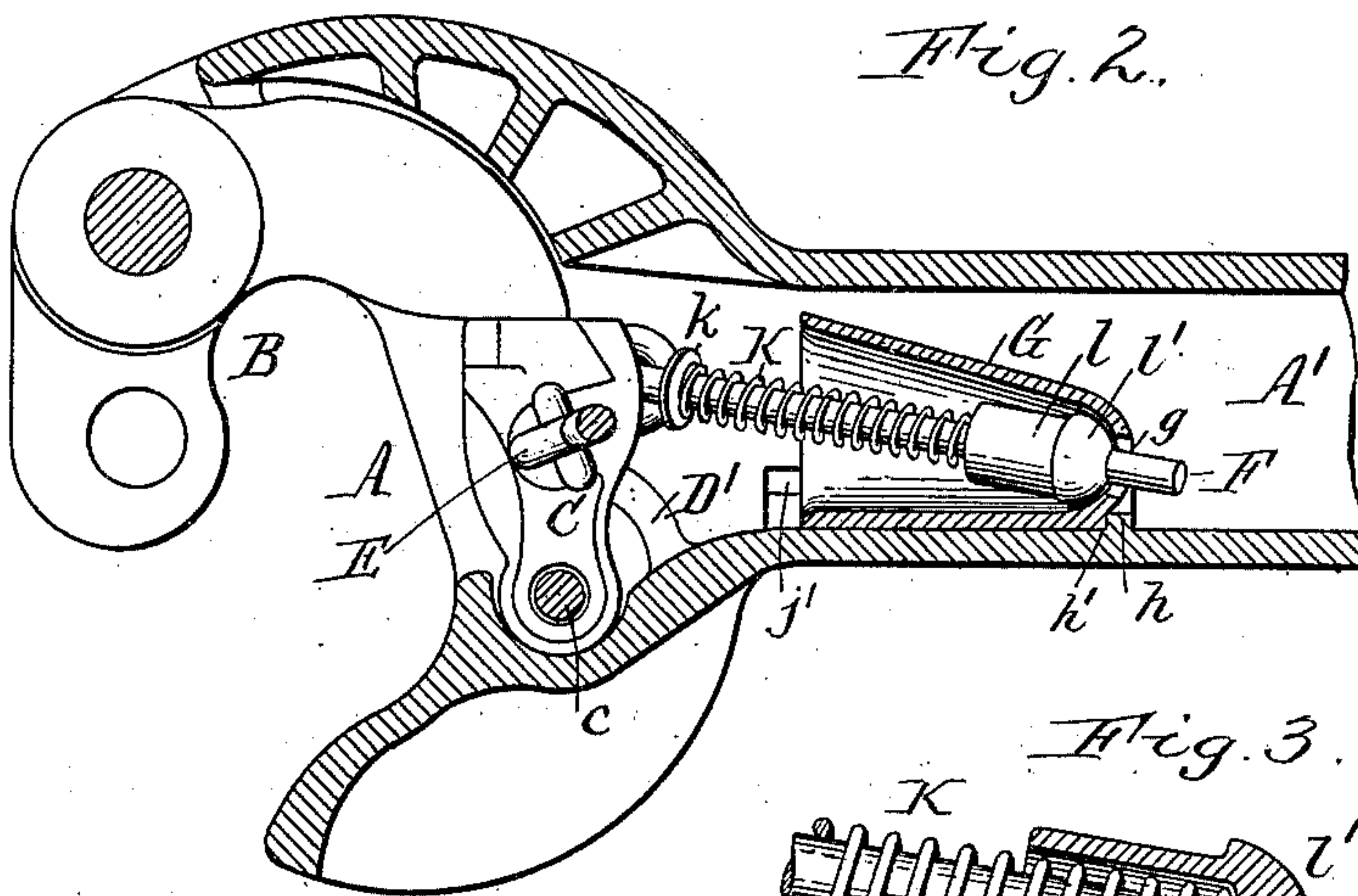
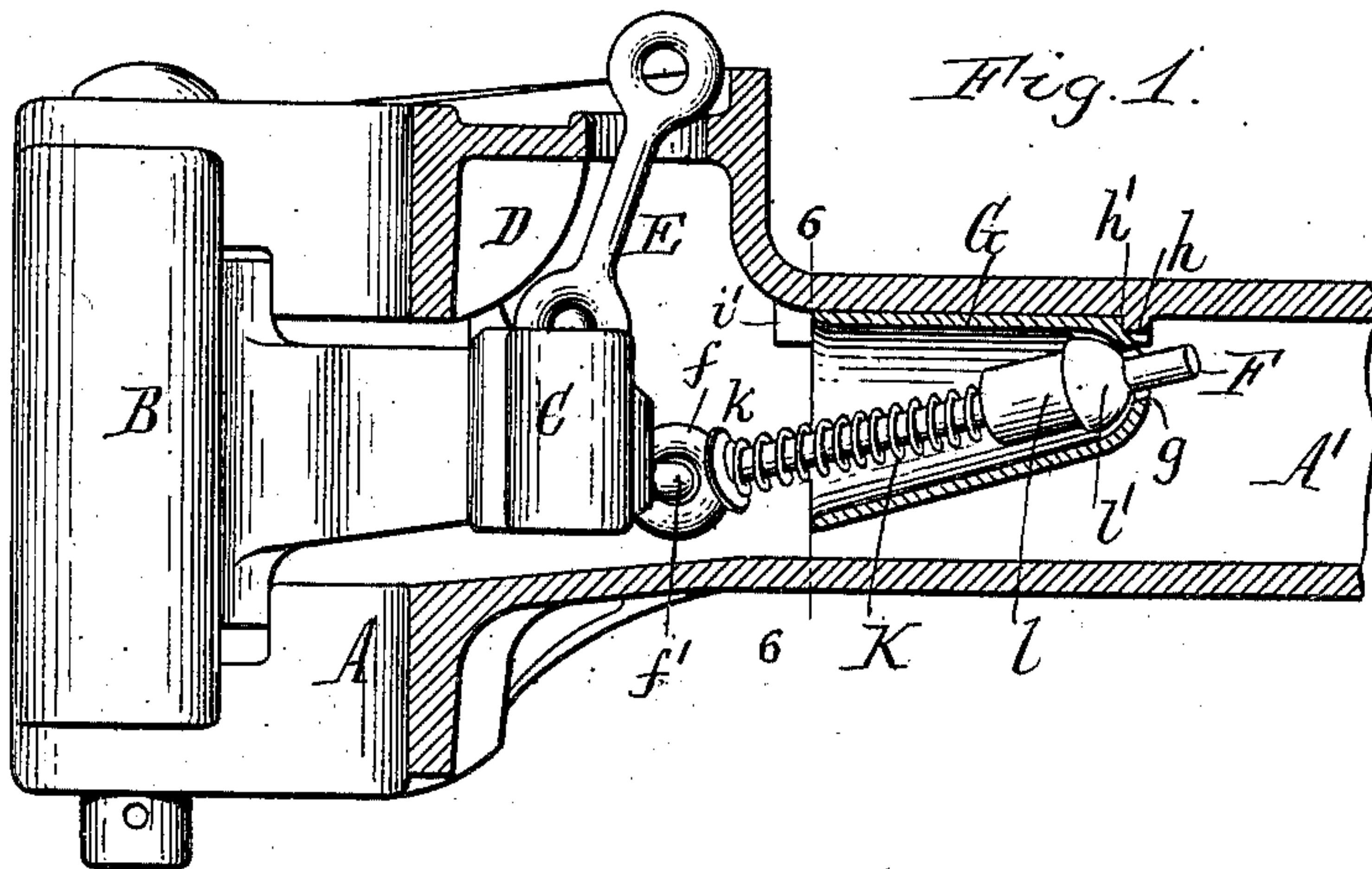
Patented Dec. 11, 1900.

W. F. RICHARDS.

CAR COUPLING.

(Application filed June 14, 1900.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLARD F. RICHARDS, OF BUFFALO, NEW YORK, ASSIGNOR TO THE
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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 663,640, dated December 11, 1900.

Application filed June 14, 1900. Serial No. 20,317. (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-Couplings, of which the following is a specification.

This invention relates to that class of twin-jaw car-couplings having a horizontally-swinging jaw or knuckle and a horizontally-swinging lock, commonly known as the "Gould" lock, and a spring which holds the lock in engagement with the tailpiece of the knuckle, and more especially to an improvement in the coupler of this class shown and described in Letters Patent of the United States No. 584,893, granted to me June 22, 1897.

The object of my present invention is to simplify and improve the construction of the abutment of the lock-spring, with a view of facilitating its insertion into the draw-bar.

In the accompanying drawings, Figure 1 is a sectional elevation of the car-coupling containing my invention, showing the knuckle locked. Fig. 2 is a horizontal section thereof. Fig. 3 is a detached sectional elevation, on an enlarged scale, of the rear portion of the thrust-rod, the lock-spring, and the bearing-block mounted on said rod. Fig. 4 is a detached side elevation of the abutment of the lock-spring. Fig. 5 is a top plan view thereof. Fig. 6 is a transverse section in line 6 6, Fig. 1, the thrust-rod, spring, and bearing-block being omitted.

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

A is the chambered draw-head of ordinary construction, and A' the hollow draw-bar.

B is the knuckle, C the horizontally-swinging lock mounted on the vertical pivot *c*, and D D' are the customary inclines arranged in the draw-head above and below the lock for swinging the same backward when raised and forward when released.

E is the link which connects the lock with the usual operating devices and which are not shown in the drawings.

F is the thrust-rod arranged in the draw-head and the draw-bar and having its front end connected with the free end of the lock,

preferably by engaged eyes *ff'*, arranged on these parts, as shown, so as to form a swiveling connection, which permits the thrust-rod to freely follow the combined vertical and horizontal movements of the lock. The rear portion of this thrust-rod is guided in a hollow longitudinal abutment or abutment-socket G, which is removably arranged in the draw-bar and provided in its closed rear end with an opening *g*, through which the thrust-rod passes. This abutment-socket is flared forwardly and its axis is arranged somewhat obliquely to the draw-bar to permit the necessary vertical and lateral movements of the thrust-rod. The abutment-socket is held against rearward displacement in the draw-bar by an internal stop or lug *h*, which is arranged at the top of the draw-bar and against which a shoulder *h'* at the rear end of said socket abuts. The abutment-socket is flat at its top and on one of its sides, and these flat surfaces bear against the top and the corresponding side wall of the hollow draw-bar, as shown in Fig. 6. The abutment-socket is held in this position by a shoulder *i*, formed at its top and bearing against or engaging behind an internal longitudinal flange or rib *i'*, arranged on the upper portion of the draw-bar, and by a longitudinal flange *j*, formed on the lower portion of the abutment-socket adjacent to its flat side and engaging behind a similar rib or flange *j'*, which projects upwardly from the bottom of the draw-bar. The flanges *i'* and *j'* of the draw-bar, while confining the abutment-socket against lateral displacement, permit the same to be conveniently slid rearwardly into place against the stop-lock *h* or to be withdrawn forwardly from the draw-bar.

K is the lock-spring surrounding the thrust-rod and bearing at its front end against a washer *k*, which in turn abuts against the eye *f* of the rod and at its rear end against the front end of a bearing block or sleeve *l*, which in turn bears against the closed rear end of the abutment-socket. The thrust-rod slides freely through the bearing-block *l*, and the latter is provided with a convex rear end *l'*, which bears against the concave bottom or rear end of the abutment-socket G, thereby permitting the rear portion of the thrust-rod

to rock or swivel freely in the abutment-socket in adapting itself to the varying positions of the lock. As shown in Fig. 3, the bearing-block is hollow, and the rear end of the spring bears against an internal shoulder *m* of said block.

As the abutment-socket is not secured in place by cotter-pins or other separate fastenings, but is simply slid rearwardly into the guideway formed by the longitudinal ribs *i'* *j'* and the opposing corner of the hollow draw-bar, the socket can be readily inserted and removed without special care, and the cost of the coupler is also reduced.

I claim as my invention—

1. The combination with the draw-head, the hollow draw-bar, the knuckle and the lock, of a hollow abutment or socket removably seated in the draw-bar and flared toward the lock, a thrust-rod guided in said socket and connected with the lock, and a spring applied to said rod and tending to hold the same in engagement with the knuckle, substantially as set forth.

2. The combination with the draw-head, the knuckle and the lock, of the hollow draw-bar provided in its top and bottom with internal longitudinal retaining ribs or flanges, and in

rear of said flanges with a stop, an abutment arranged in the draw-bar and removably seated between said flanges and the adjacent top and side walls of the draw-bar and abutting against said stop, a thrust-rod connected with the lock and guided in said abutment, and a spring applied to said rod between the lock and said abutment, substantially as set forth.

3. The combination with the draw-head, the hollow draw-bar, the knuckle and the lock; of a hollow forwardly-flaring abutment or socket removably seated in the draw-bar and provided with a concave rear end, a bearing-block having a convex rear end which bears against the corresponding rear end of the abutment-socket, a thrust-rod connected with the lock and passing through said bearing-block and the rear end of the abutment-socket, and a spring applied to said rod and abutting at its rear end against said bearing-block, substantially as set forth.

Witness my hand this 3d day of May, 1900.

WILLARD F. RICHARDS.

Witnesses:

JNO. J. BONNER,
CYESTA HORNBECK.