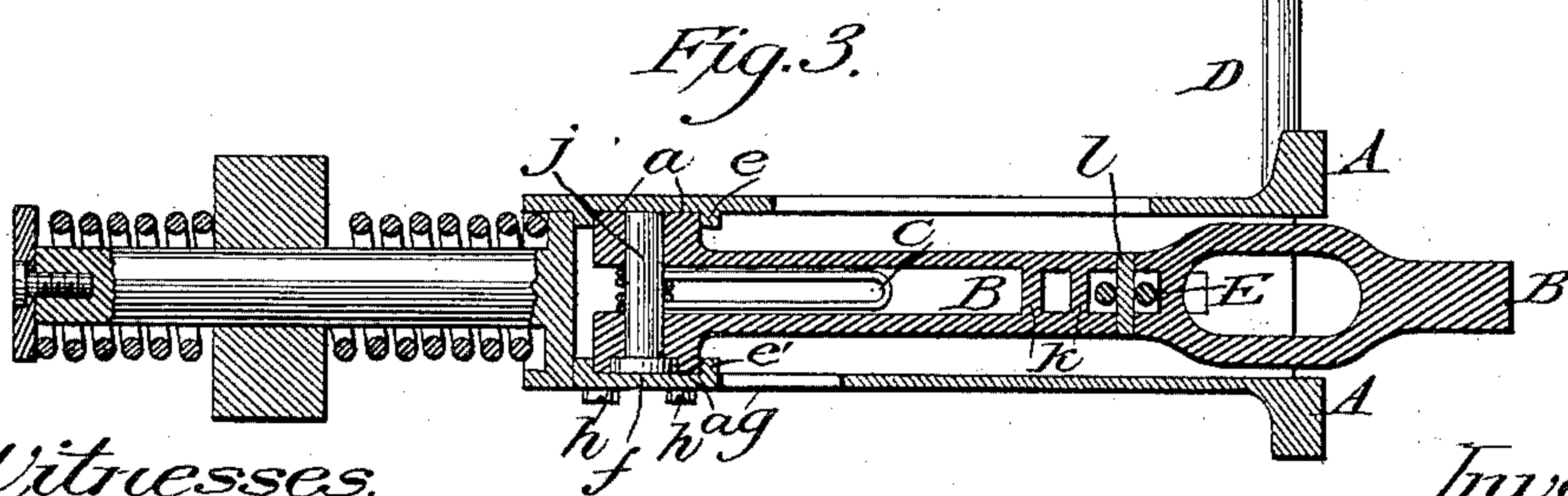
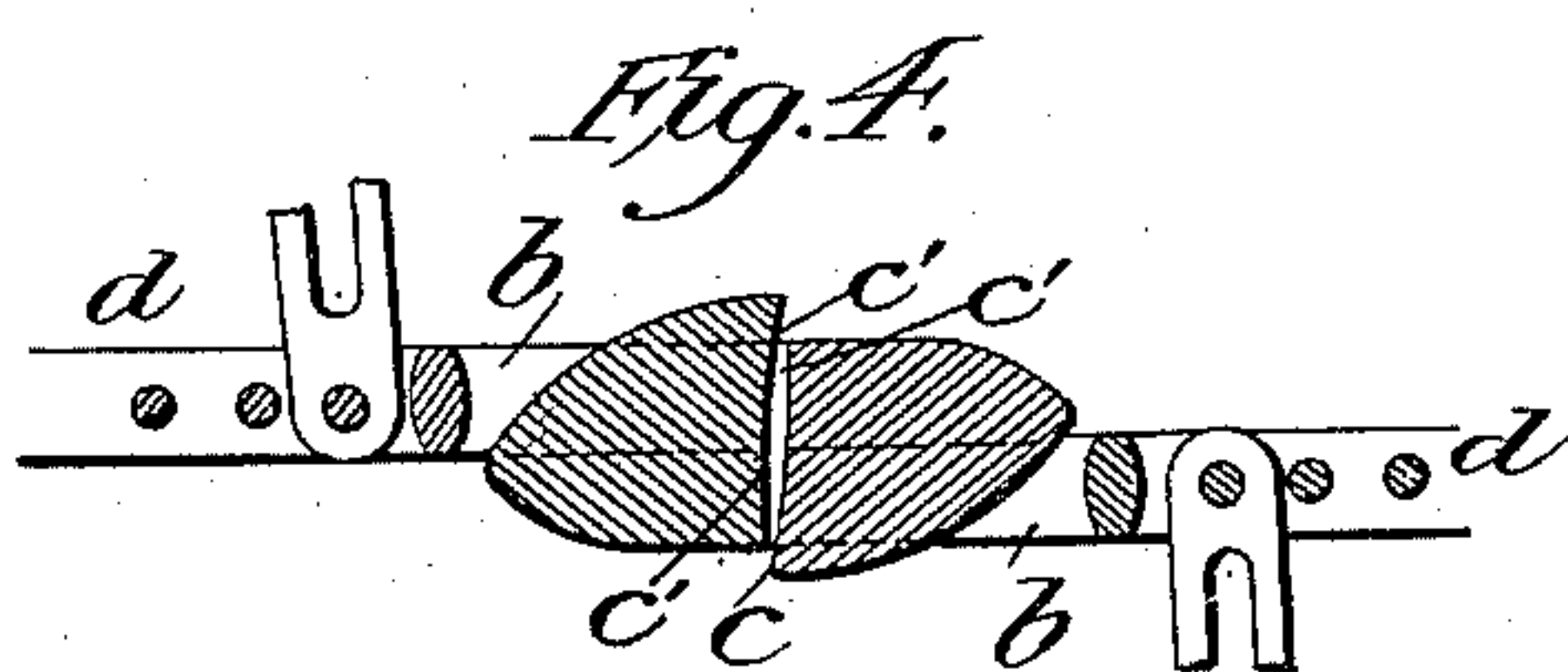
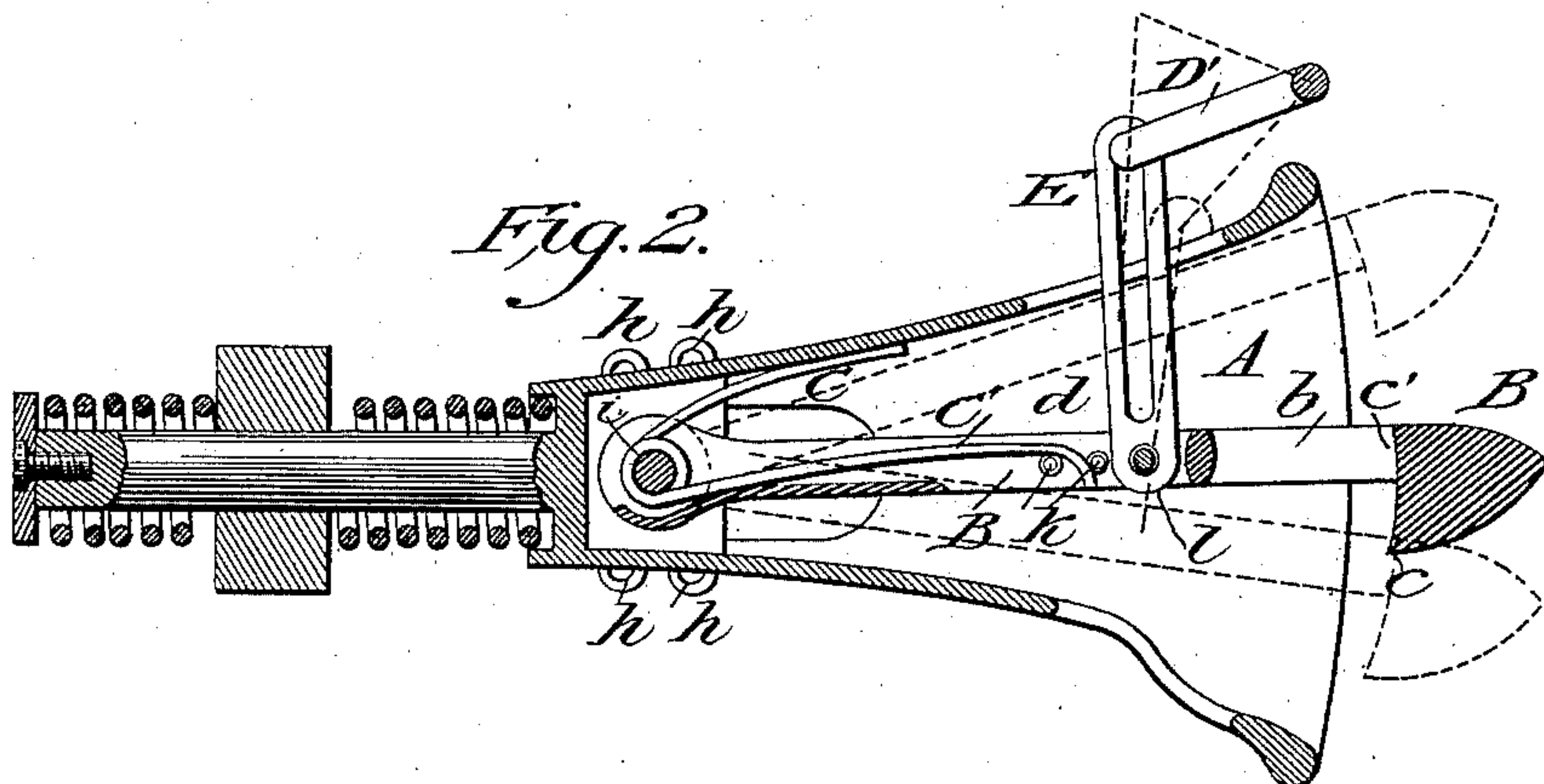
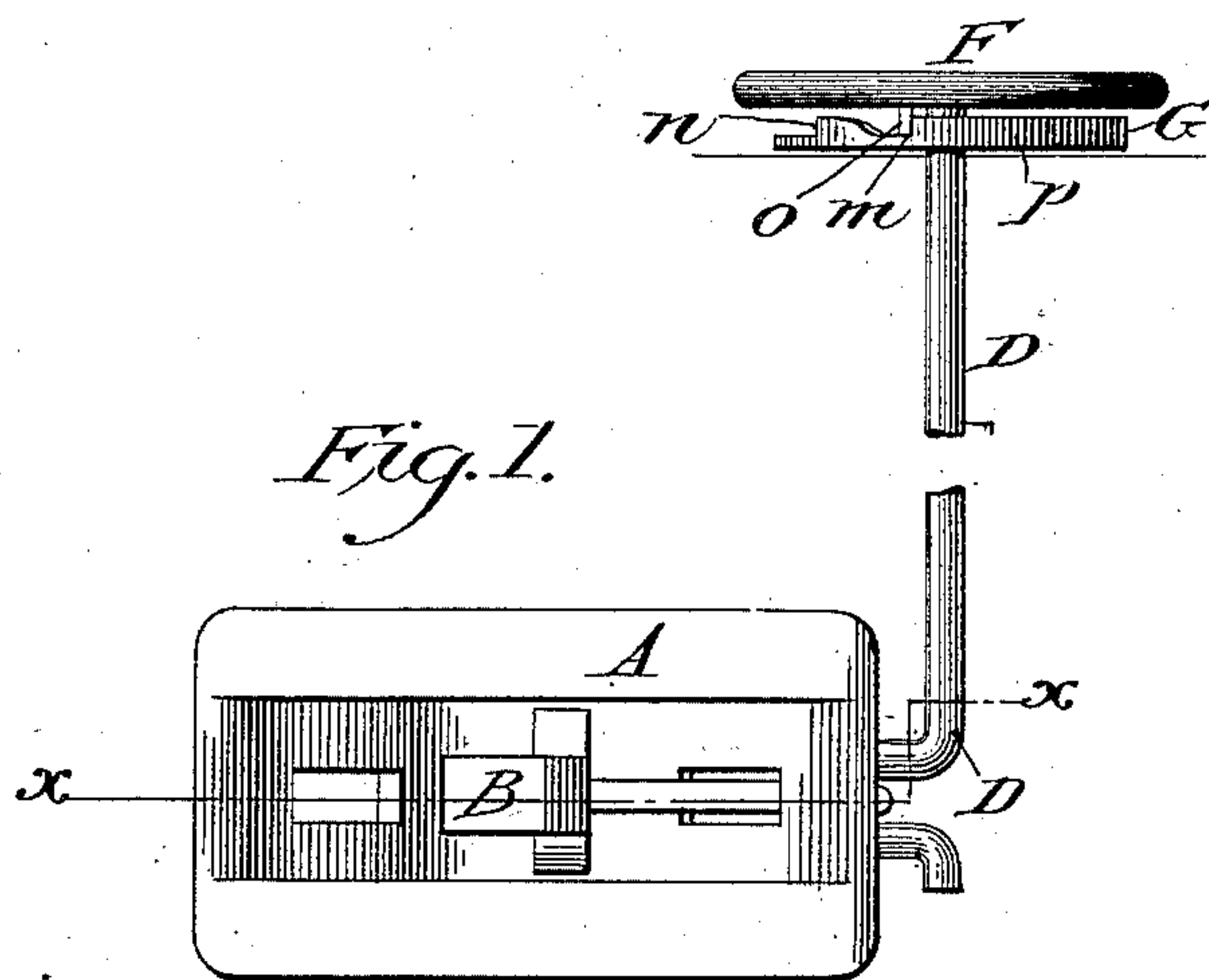


2 Sheets—Sheet 1.

CAR COUPLING.

Patented Feb. 12, 1889.



Witnesses.

Chas. H. Baker,
B. C. Fenwick.

Inventor:

William C. Watson
Henry T. Brown Atty
per Geo M. Finckel
Assoc. Atty

(No Model.)

2 Sheets—Sheet 2.

W. C. WATSON.

CAR COUPLING.

No. 397,673.

Patented Feb. 12, 1889.

Fig. 5.

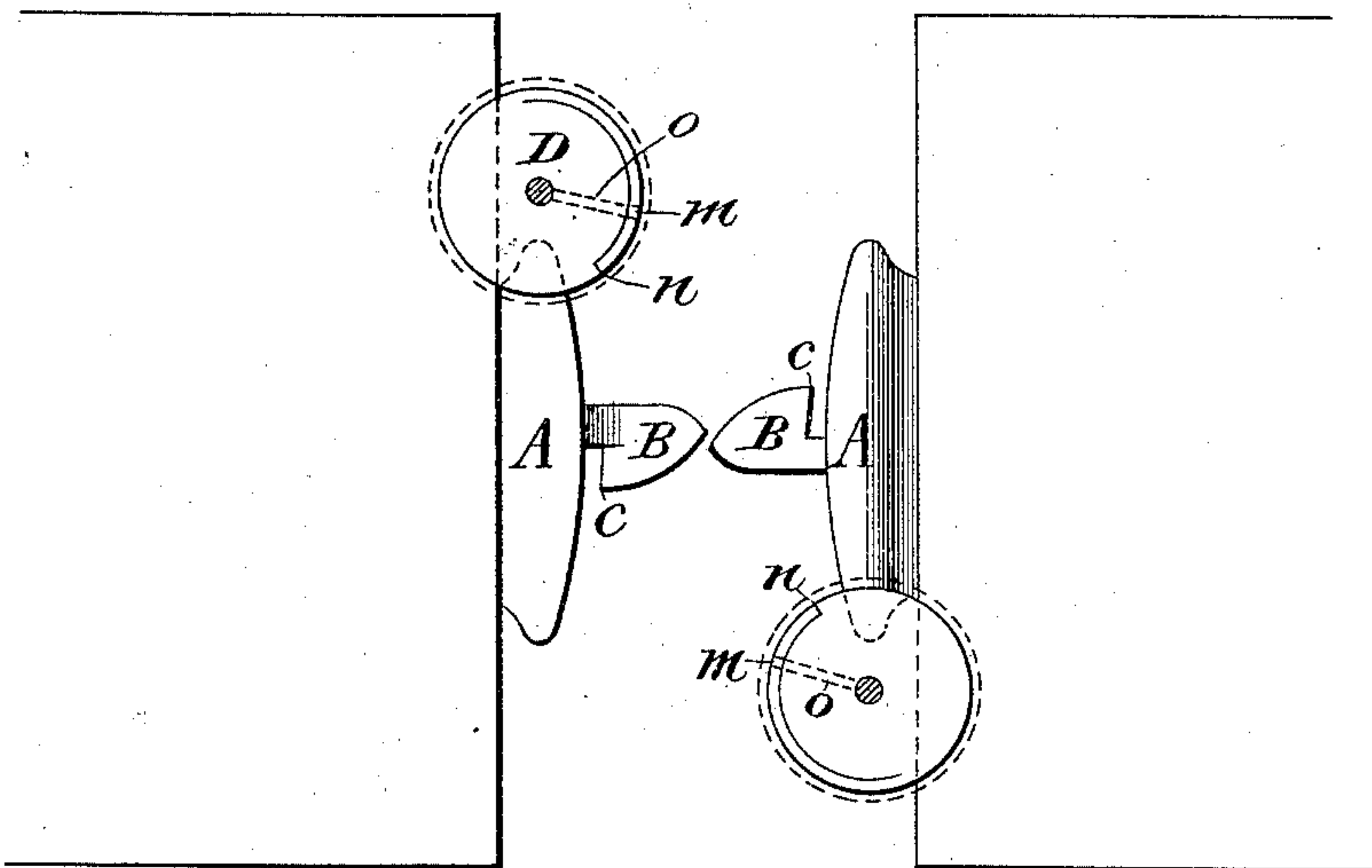
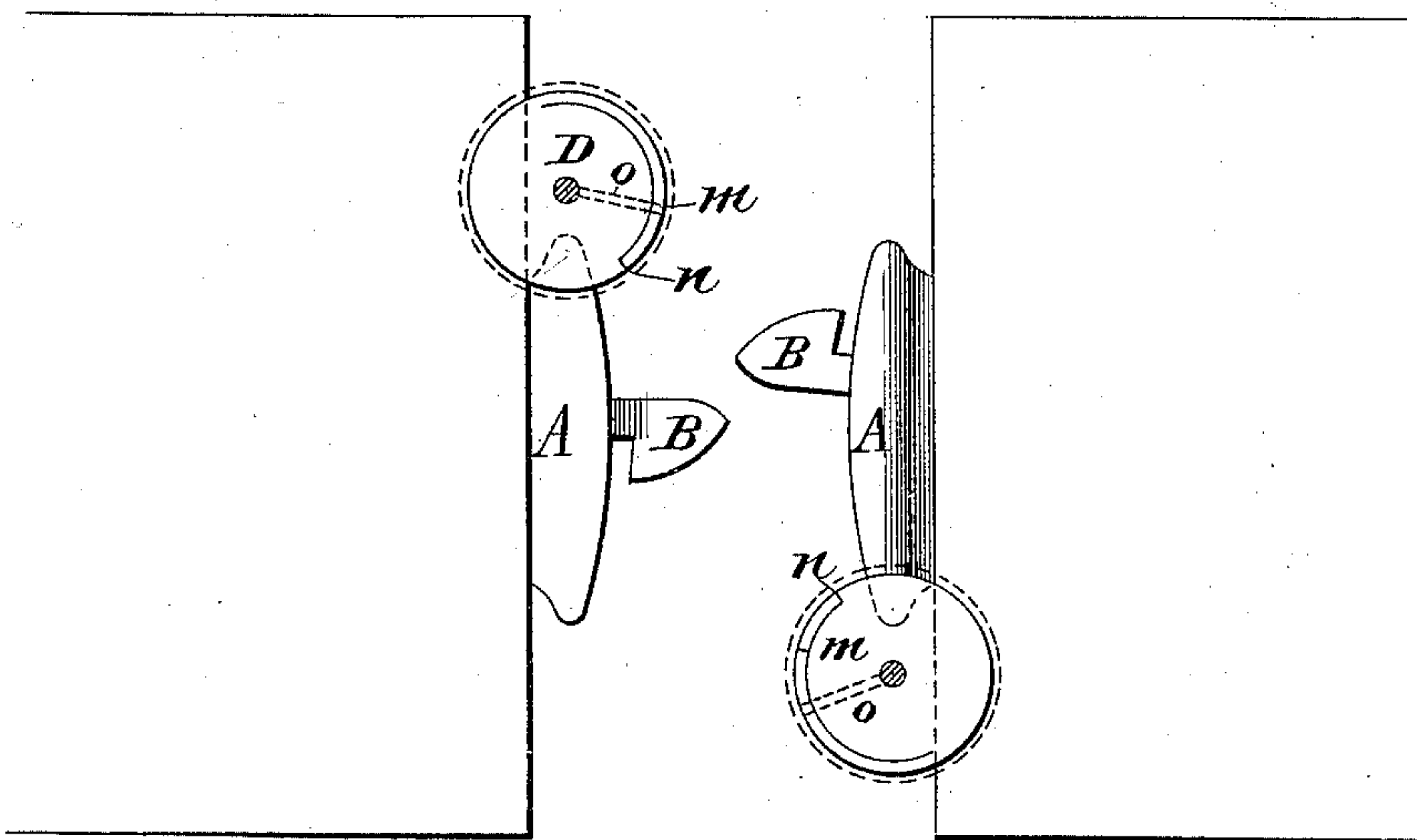


Fig. 6.



Witnesses:

Chas. H. Baker,
B. C. Fenwick

Inventor:

William C. Watson
Henry T. Brown *Atty.*
per Geo. M. Finckel
Assoc. Atty.

UNITED STATES PATENT OFFICE.

WILLIAM C. WATSON, OF PATERSON, NEW JERSEY, ASSIGNOR OF ONE-HALF
TO THEODORE Y. KINNE, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 397,673, dated February 12, 1889.

Application filed April 10, 1888. Serial No. 270,202. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. WATSON, of Paterson, in the county of Passaic and State of New Jersey, have invented a new and
5 useful Improvement in Car-Couplings, of which the following is a specification.

This invention relates to that class of couplings the principal members of which are hooks pivoted and having lateral movements
10 within the draw-head, the coupling action being effected by the engagement of two such hooks, one on each of two cars to be coupled.

The invention consists in the construction hereinafter described and particularly
15 claimed.

In the accompanying drawings, Figure 1 represents a front view of a draw-head and coupling and their appurtenances embodying my invention. Fig. 2 represents a horizontal
20 section of the same in the line *xx*, Fig. 1. Fig. 3 represents a central vertical section of the same. Fig. 4 represents a horizontal section of portions of two coupling-hooks, showing their engagement. Figs. 5 and 6 are plan views representing the ends of two car-platforms and
25 portions of the draw-heads and coupling-hooks of two cars.

Similar letters of reference designate corresponding parts in all the figures.

30 In Figs. 1, 2, and 3, A designates the draw-head. B is the coupling-hook, having its rear part pivoted at *aa* into the top and bottom of the rear part of the draw-head. The said hook is constructed with an eye, *b*, in rear of
35 its nose *c*, the front end of said eye forming a continuation of the back of the nose *c*, as shown at *c'* in Figs. 2 and 4. By this construction of the hook with an eye whereby, when two coupling-hooks are brought together
40 in position for coupling, as shown in Fig. 4, the end of each hook is permitted to pass into and through the eye of the other hook, so that a long surface of engagement is provided between the two hooks without giving
45 the nose a very long projection, and the shanks *d* of the hooks are enabled to come more nearly into line, whereby a more direct traction is obtained.

The pivoting of the coupling-hook into the
50 draw-head is effected by constructing the hook with integral pivots *aa*, the upper one

of which is fitted to a bearing, *e*, provided for it in the top of the back part of the draw-head. The corresponding lower pivot is fitted to a bearing in the removable plate *f*,
55 which is placed across and partly covers an opening, *g*, in the bottom of the draw-head, and which is secured by bolts or screws *h h* to the draw-head. By this method of pivoting the coupling-hook into the draw-head facility is afforded for the removal of the hook
60 for renewal or repair. To effect such removal, the screws *h* and the plate *f* may be taken off by a man going a little way under the platform of the car, after which the hook will
65 drop away from its pivot-bearing *e*, and can be easily withdrawn through the open front of the draw-head.

C C' designate the spring for producing the engagement of the coupling-hook. (Represented as composed of two leaves united by an
70 eye, *i*, and held in place by a pin, *j*, passing through said eye and through the pivots *aa* of the coupling-hook.) One of the said leaves, C, bears against one side of the draw-head and
75 the other, C', against pins *k k* in the coupling-hook. The pin *j* is supported and held in place by the removable bottom pivot-plate, *f*, of the draw-head, and when the coupling-hook is taken out of the draw-head said pin is free
80 to be removed to liberate the spring.

D designates the upright shaft or spindle by which the disengagement of the coupling-hook is effected. This shaft is intended to be supported in bearings in the usual way
85 on the front platform of a passenger-car or on the front of a freight-car. It is represented as constructed with a crank, D', at or near its lower end, which is connected with the coupling-hook by a slotted link, E, which is attached to said hook by a pin, *l*. Said shaft is
90 furnished at the upper end with the usual hand-wheel, F, and below this hand-wheel there is secured to the car a fixed segment-plate, G, in or on which are two notches or
95 shoulders, *m n*, to engage a stop-piece, *o*, provided on the shaft D or hand-wheel. By turning the hand-wheel to bring the stop-piece *o* into engagement with the notch *n* the coupling-hook is thrown back to the uppermost of
100 the three positions shown in Fig. 2, and so locked positively in a position in which it can

engage with the coupling of another car. By turning the said wheel to bring the stop *o* into engagement with the notch *m* the link is brought to the nearly central position shown in Fig. 2 and in Fig. 5, in the latter of which figures the coupling-links of the two cars are shown in that position ready to couple on their coming together.

As the cars approach each other beyond the position shown in Fig. 5, the link *E* permits them to move back laterally sufficiently for them to pass by each other until their noses *c c* pass each other, when they will be brought into engagement, as shown in Fig. 4, by the action of the spring. The shaft *D* and the hand-wheel *F* are permitted a sufficient vertical movement to engage the stop-piece with and disengage it from the projections or notches *m n*. When the said shaft and wheel are raised to liberate the stop-piece *o*, and the said piece is left free to ride on the portion *p* of the segment-plate *G* behind the notch *n*, the coupling-hook is left under the unrestricted control of the spring *C C'*, and is thrown over laterally to the lowest of the three positions shown in Fig. 2, which corresponds with the position of the right-hand hook in Fig. 6. Either of the hooks being allowed to assume this position will pass freely behind the head of the coupling-hook of another car, which may have been left in a central position ready for coupling. This may be understood by reference to Fig. 6, where the hook of the left-hand car is in the position for coupling. By permitting the hooks to be so thrown over by the springs beyond the coupling position when left free all danger of injury to the couplings by the ends of the hooks abutting against each other when two cars come together is obviated, for if both hooks are locked by the notch *n* they are out of each other's reach, and if both are locked by the notch *m* they will couple on coming to-

gether, and if either of the two be left free from the locking-plate it will be thrown beyond the other whatever may be the position of the latter.

This coupling is simple, strong, and direct in its action and affords all the flexibility in a lateral direction that can be desired.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the draw-head, the coupling-hook provided thereon and the spring provided between them, substantially as herein described, a slotted link connected with the coupling-hook, an operating-shaft provided with a crank engaging the slotted link, and means, substantially as described, for locking the shaft in different positions, as and for the purpose set forth.

2. The combination of the draw-head, the coupling-hook provided thereon and the spring provided between them, substantially as herein described, whereby when the coupling-hook is unlocked and left free it is thrown over by the spring with its back beyond the central position, substantially as and for the purpose herein set forth.

3. The combination of a coupling-hook provided with upper and lower integral pivots, a draw-head having formed in it a bearing for the upper pivot, a removable plate fitted to and secured in the opening in the lower part of the draw-head and containing a bearing for the other pivot, a spring applied within the draw-head between it and the coupling-hook, and the removable pin for holding said spring inserted in the coupling-hook and secured therein by said removable plate, all substantially as herein set forth.

WILLIAM C. WATSON.

Witnesses:

FREDK. HAYNES,
JOS. W. ROE.