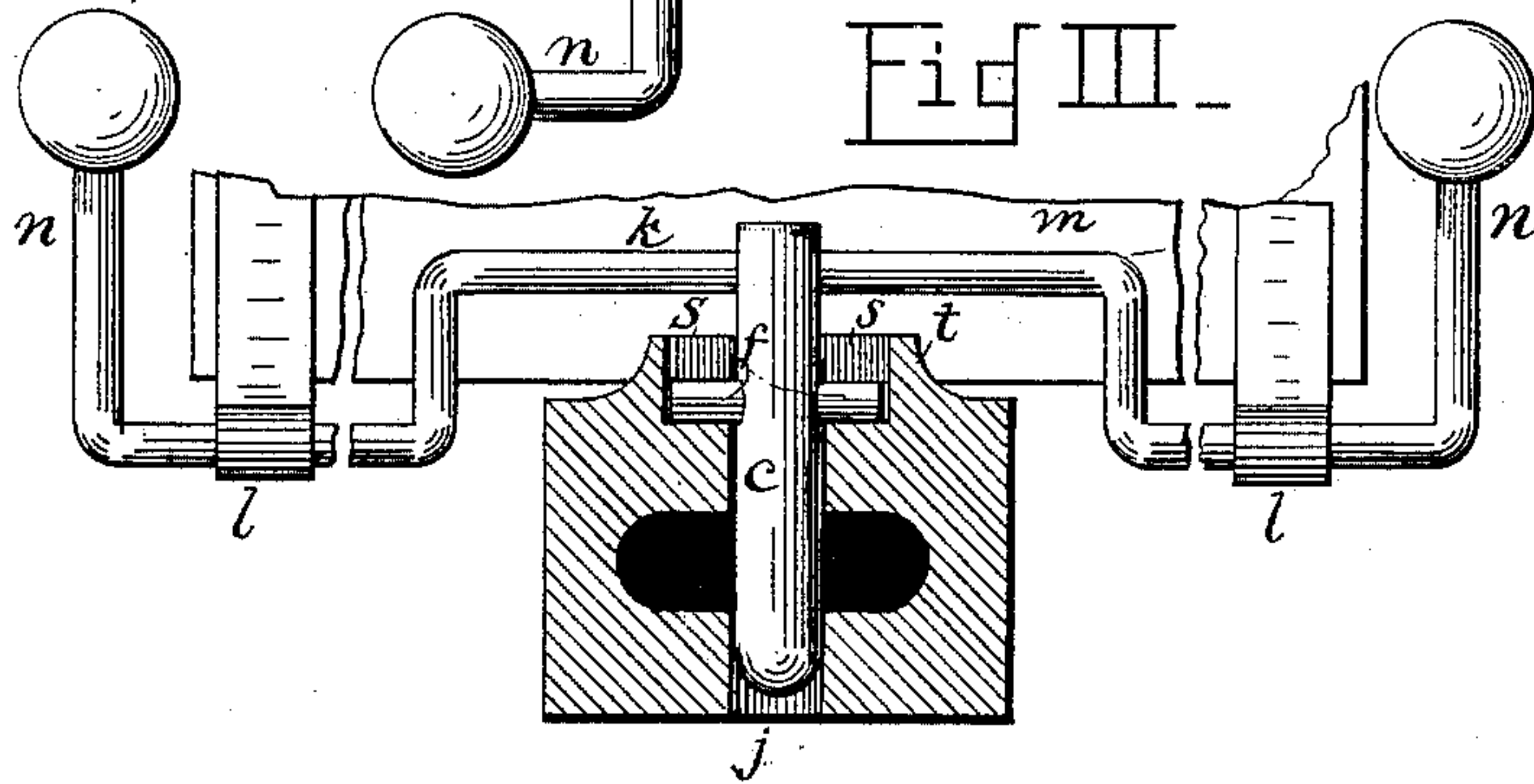
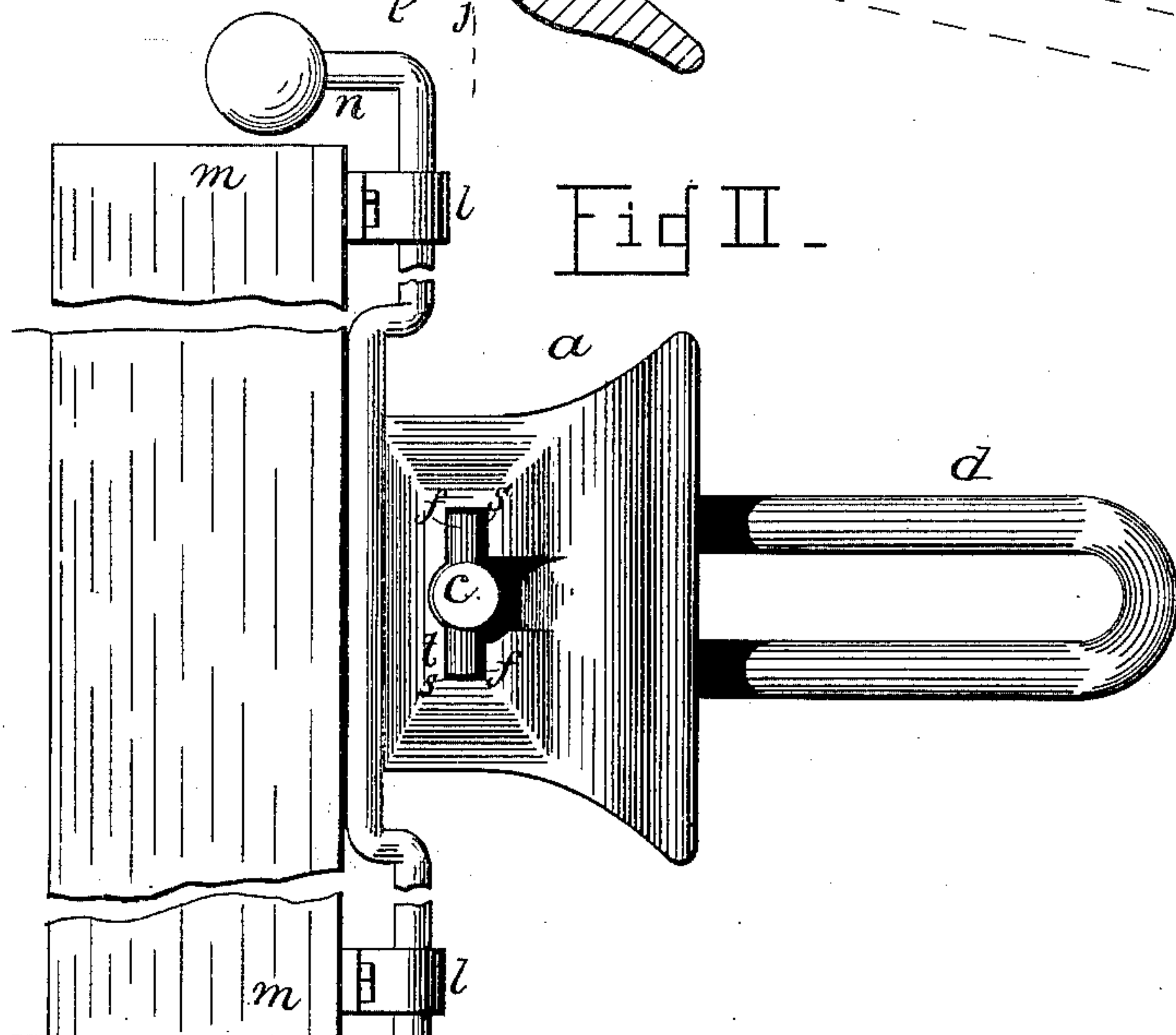
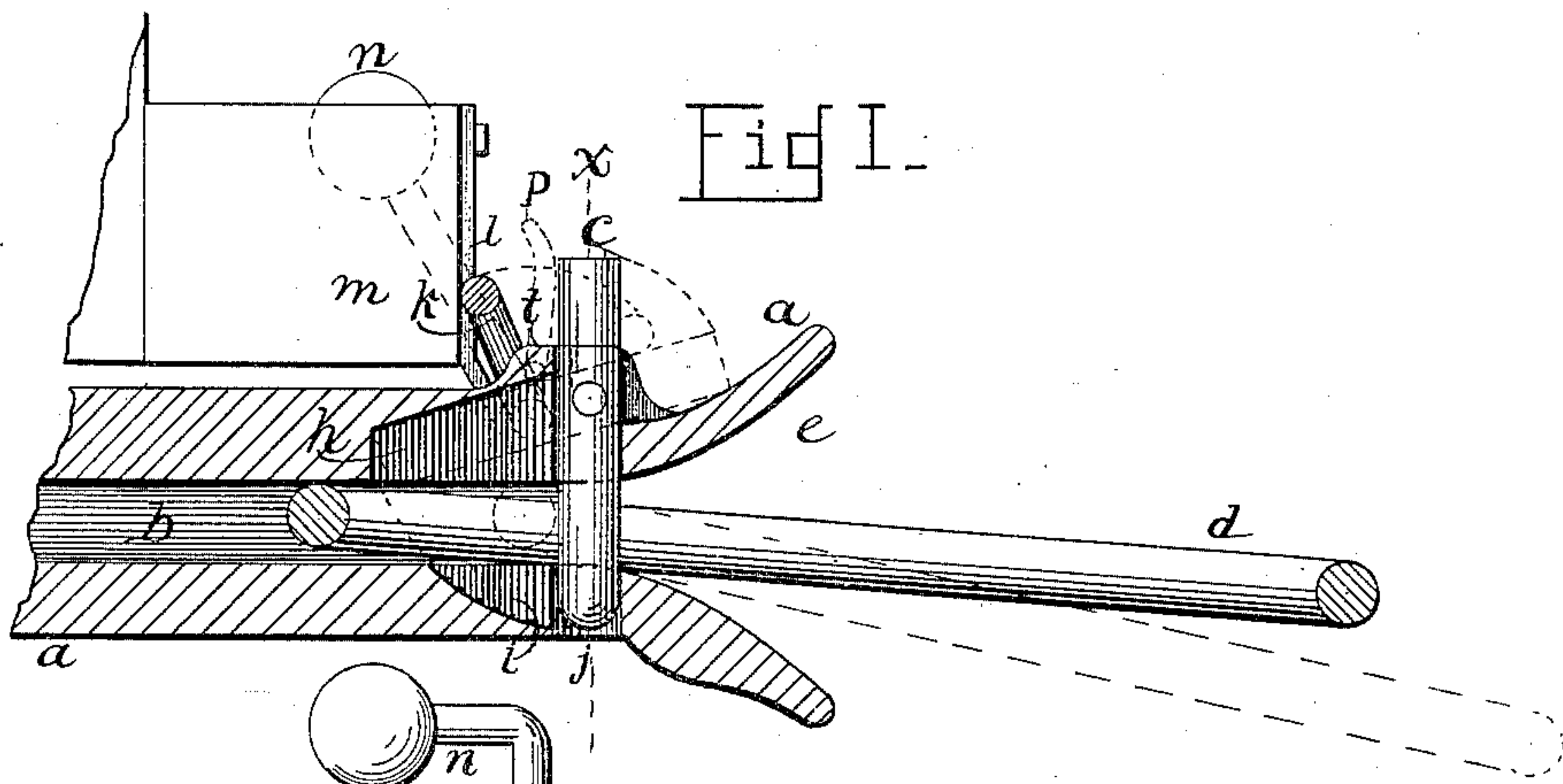


(No Model.)

J. W. VAUGHN.  
CAR COUPLING.

No. 435,081.

Patented Aug. 26, 1890.



WITNESSES,  
J. E. Stevens  
P. B. Stevens

INVENTOR.  
John W. Vaughn.  
W. X. Stevens. ATT.



# UNITED STATES PATENT OFFICE.

JOHN W. VAUGHN, OF SYRACUSE, NEW YORK.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 435,081, dated August 26, 1890.

Application filed June 11, 1890. Serial No. 355,075. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. VAUGHN, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Automatic Car-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to automatic car-couplings; and its object is to adapt the common draw-head, link, and pin to perform the office of automatically coupling cars with very little change from the forms of those parts now in use, so that when thus adapted they may still be used and operated in the old style and in connection with cars which have not been thus adapted.

To that end my invention consists in the construction and combination of parts forming an automatic car-coupling, hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure I shows a longitudinal vertical section of a car-coupling according to my invention. Fig. II shows the same in plan view, with certain parts broken away; and Fig. III is a transverse vertical section at the line *x* of Fig. I.

*a* represents the draw-head, which is intended to correspond in its general size and form to the draw-heads now in general use.

*c* is a coupling-pin, and *d* is a link.

The mouth *e* and throat *b* of the draw-head may be of any usual form; but I prefer to make the opening of the throat of sufficient vertical height to barely admit the link, so that by setting the link far into the throat it will be held level, so that its projecting end will enter a draw-head of the same height and by setting it forward its free end will hang below a level line to meet a lower draw-head. It will never be necessary that the free end of a link should be held above a level line, because the link should always be placed in that head which is the highest of the two. The pin *c* is provided with permanently-fixed trunnions *f*, and the draw-head is provided with a boss *t*, which is vertically recessed at *s* from the top downward at each side of the pin-

hole to receive the said trunnions and serve as pivotal bearings therefor. The boss *t* rises enough above the level top of the draw-head to permit the pin when in its bearings to be tipped forward far enough to release the link without the head of the pin resting on the draw-head, and *h* is a recess in the upper side of the throat to receive the rear end of the pin at the same time, the boss *t* serving also to close in this recess.

*i* is a recess in the lower side of the throat behind the pin-hole to permit the point of the pin to swing freely backward. The pin-hole *j* extends, as usual, down through the draw-head to admit the common style of pin.

*k* represents the uncoupling-lever journaled in bearings *l*, which are fixed to the dead-wood *m*, or to a front cross-timber of the car-body above the draw-bar, the bearings depending enough below their points of attachment to cause the lever *k* to swing forward rather than downward.

*n n* represent weighted arms of the uncoupling-lever, which arms are located at the sides of the car, where they may be operated by a person on the ground without going between the cars. The normal position of the pin is vertical, as shown in Fig. I, hanging upon its trunnions, and the normal position of the uncoupling-lever is tipped over back, as shown in the same figure. When a link enters the draw-head, it pushes the pin to swing out of its path to the recesses *h* until the end of the link passes in under the pin. Then the pin swings down into its place inside the link.

To uncouple two cars they should first be pushed close together to ease the link. Then the uncoupling-lever is to be pressed forward until it closes the top of the pin down in front of the boss *t*, thereby swinging the point of the pin backward out of the link and leaving it free to be withdrawn. Cars are frequently pushed together in the yard when it is not desirable that they should be coupled, and in that case the pin may be held out of action by leaving the uncoupling-lever resting down forward upon it, the weighted arms *n* being sufficiently heavy to hold the pin. I fix the journals *l* at some distance from each side of the draw-head and bend the operating-arm of the lever *k* upward high enough to be out of the way of any rise of the draw-head and at



the same time adapt it to bear against the rear side of the head of the pin when tipped forward, and yet in most cases this lever would operate as well if journaled above the level of the draw-head close in the rear of the pin and provided with a simple flat arm *p*, as shown in dotted lines, Fig. I. The link being previously arranged as hereinbefore described, two cars will couple automatically when pushed together, and the uncoupling may also be done by a person at either side of the cars without danger by means of the hand-levers or weighted arms *n*.

The expense of altering the old couplings to my present style would be very little, and the whole device is so nearly like those in common use that no instructions would be required to teach the car-hands how to use it.

Having thus fully described my invention, what I believe to be new, and desire to secure by Letters Patent, is the following:

1. The combination of a draw-head provided with the raised boss *t* and the recesses

*s s*, *h*, and *i* and pin-hole *j*, a pin provided with trunnions *f*, adapted to be journaled in the said recesses *s s* and having a head adapted to swing in front of the boss *t*, and a point to swing into the recesses *h* and *i*, and an uncoupling-lever *k*, journaled to the car and adapted to engage the head of the pin, substantially as shown and described.

2. The combination of a draw-head having the boss *t* and recessed as described, a pin having trunnions journaled in the said boss and an uncoupling-lever *k*, journaled to the car at each side of the draw-head below the level of the top thereof and having an upward bend over the draw-head, and weighted arms at the sides of the car, substantially as shown and described.

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

JOHN W. VAUGHN.

Witnesses:

W. X. STEVENS,  
WM. H. DE LACY.