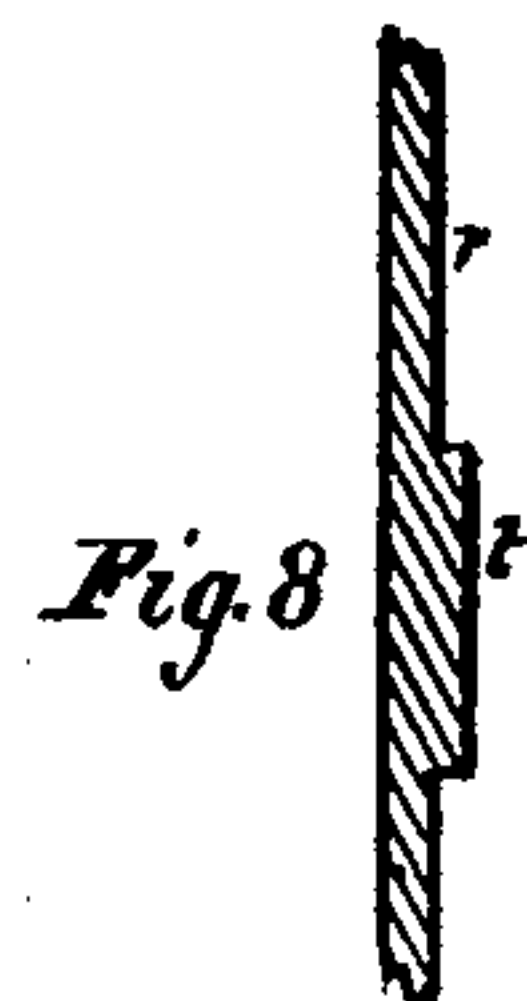
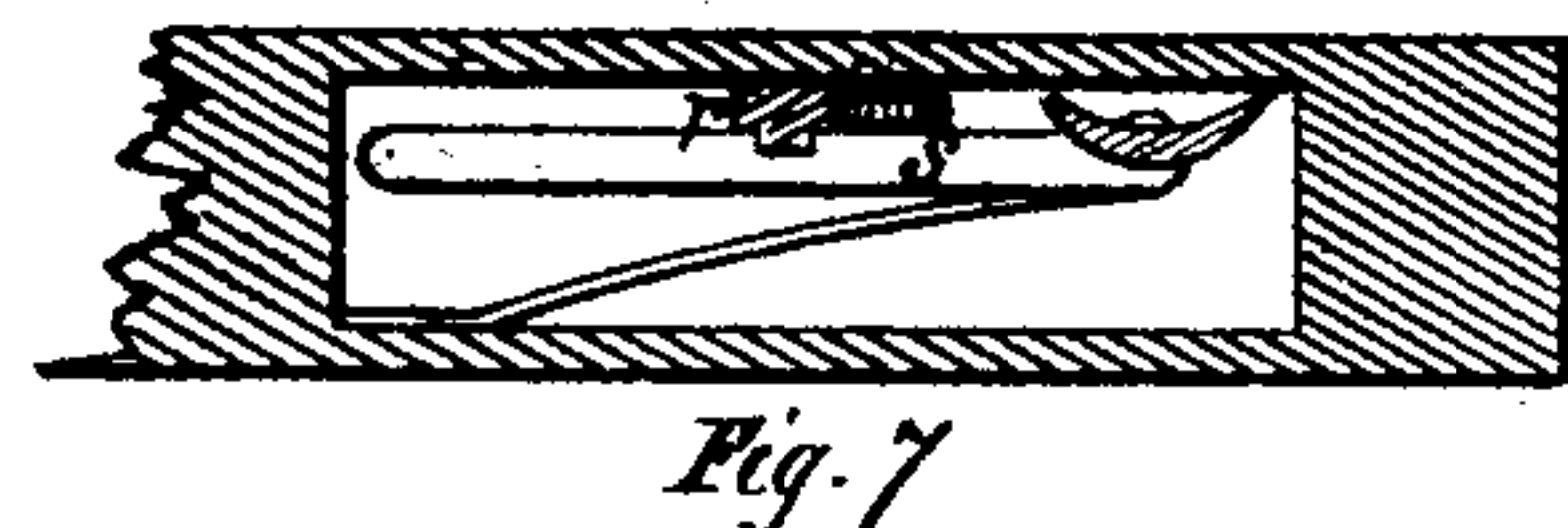
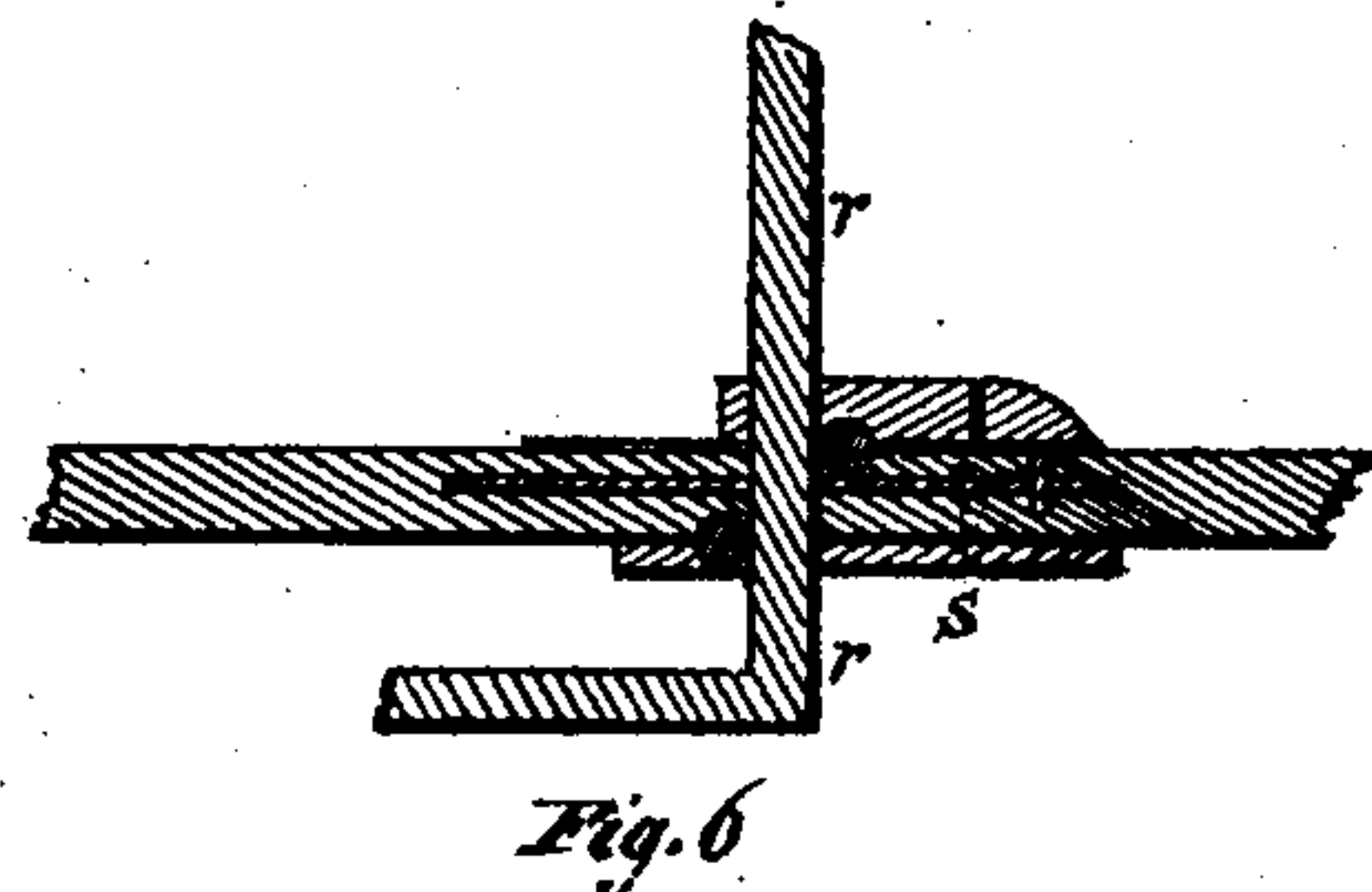
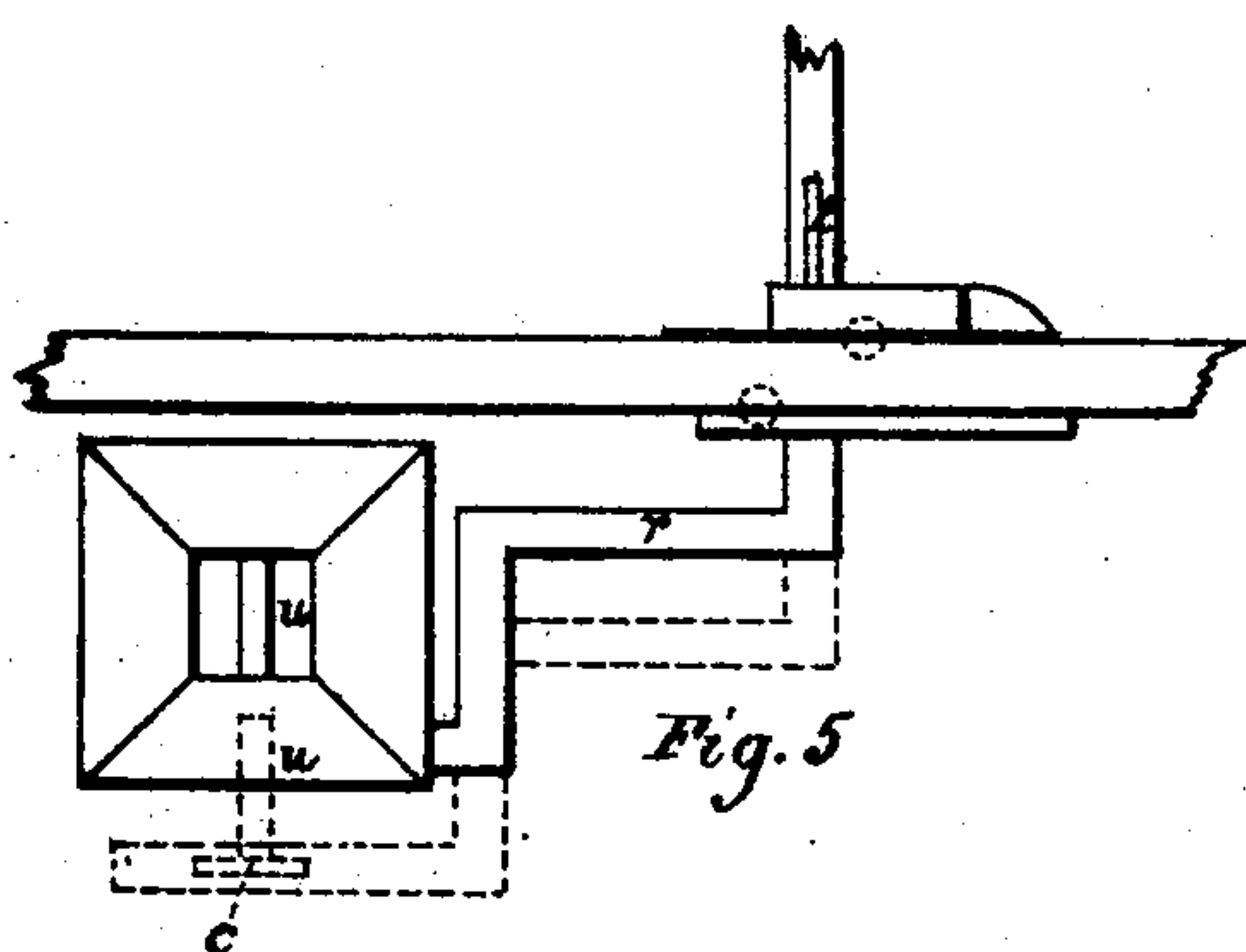
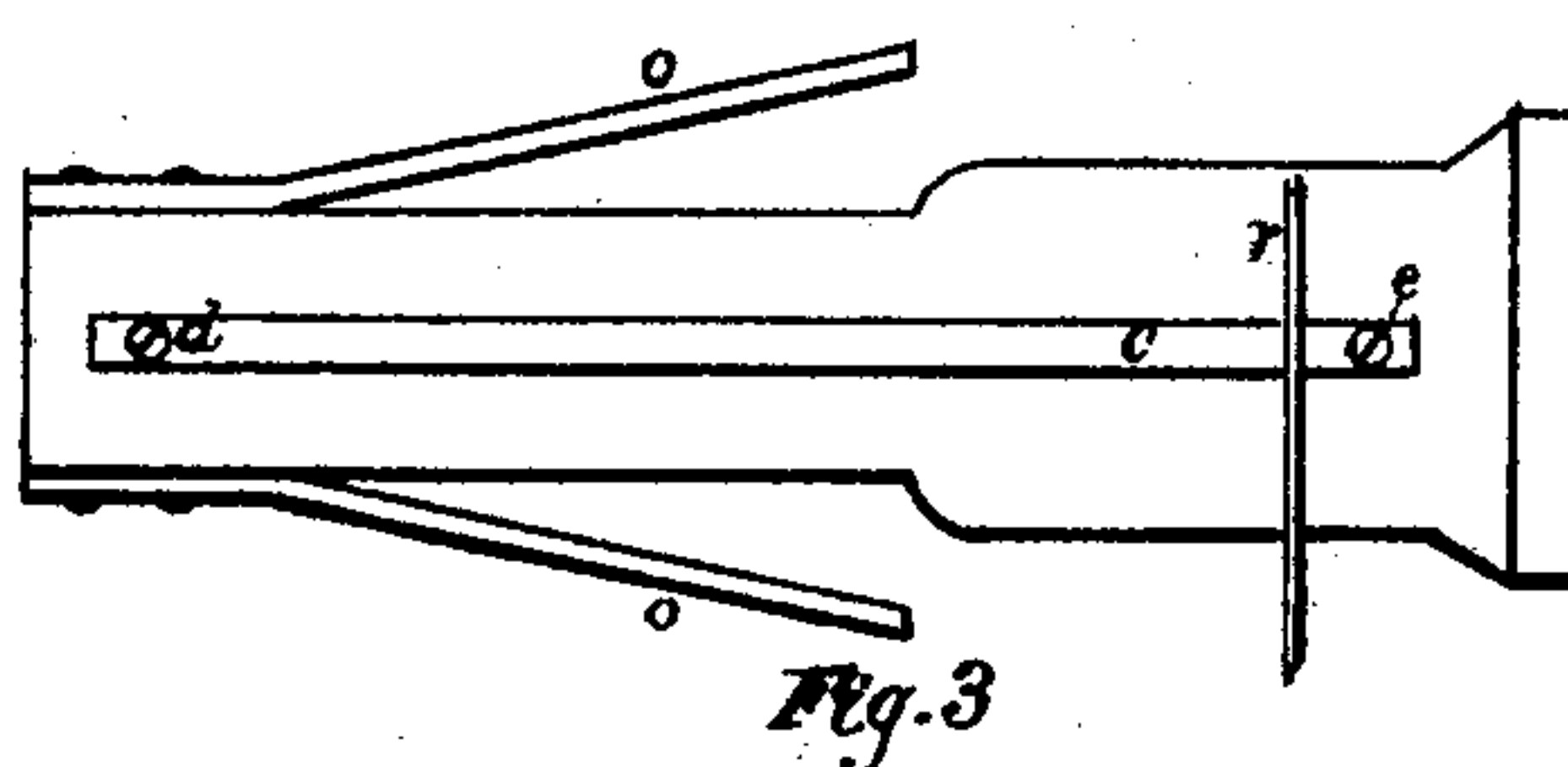
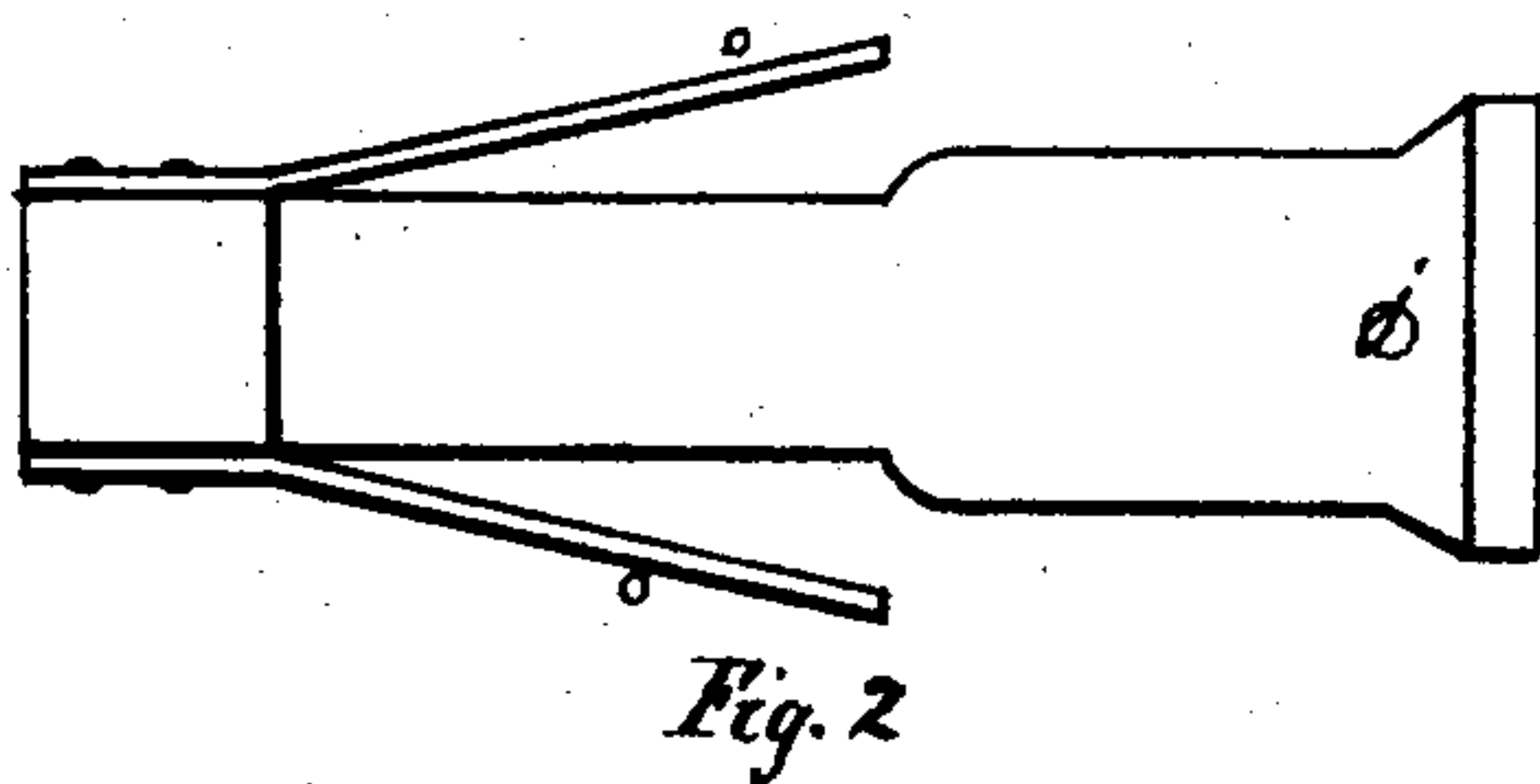
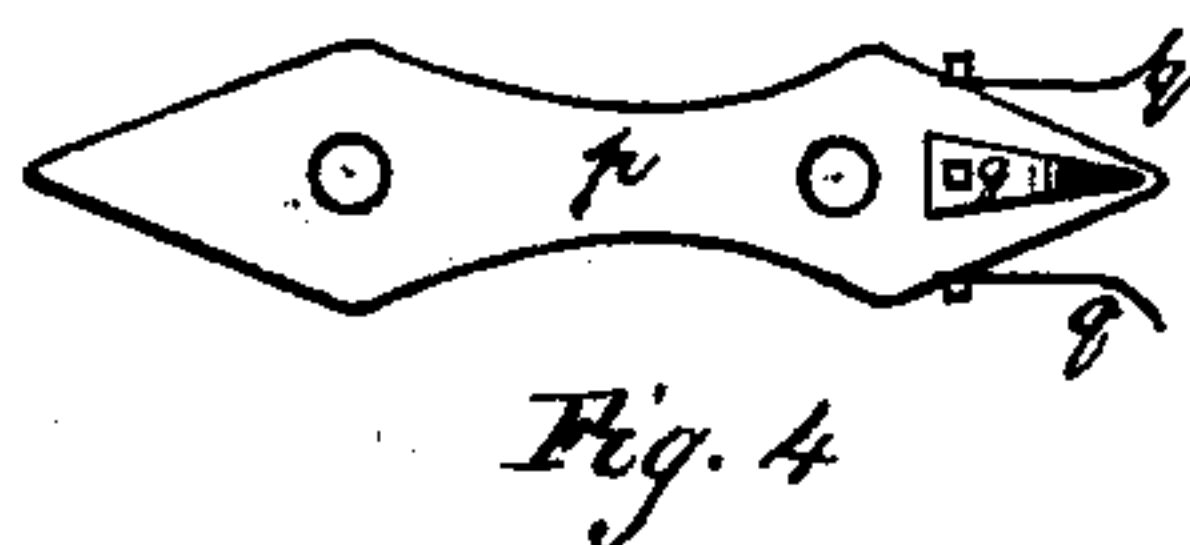
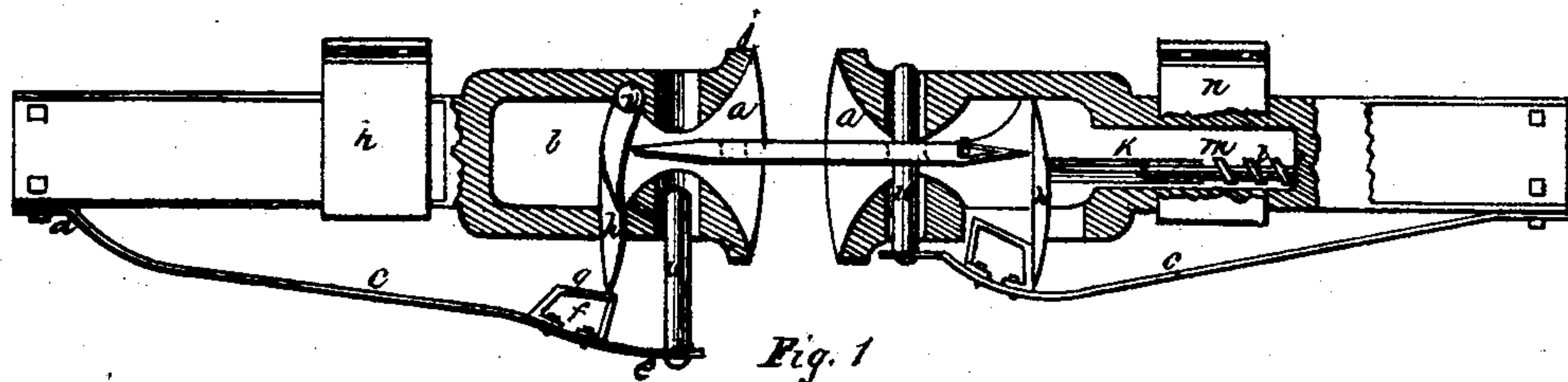


E. W. BARKER.
Car-Couplings.

No. 133,963.

Patented Dec. 17, 1872.



Witnesses
F. L. Jordan
Edgar S. Brown

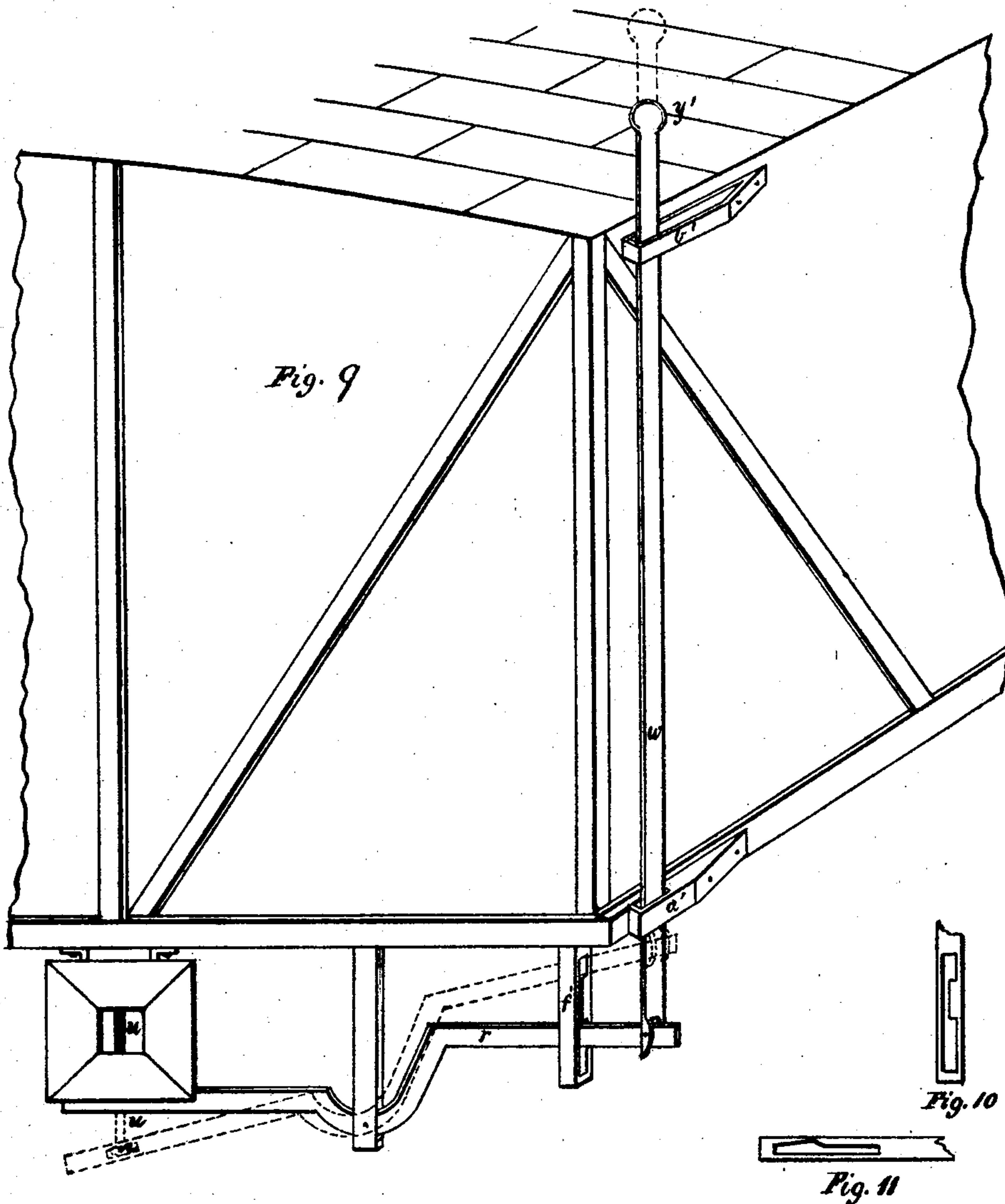
Inventor
Ezekiel W. Barker

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UNITED STATES PATENT OFFICE.

EZEKIEL W. BARKER, OF PORTLAND, MAINE.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 133,963, dated December 17, 1872.

To all whom it may concern:

Be it known that I, EZEKIEL W. BARKER, of Portland, in the county of Cumberland and State of Maine, have invented a new and useful Improved Car-Shackle; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, which is hereby made a part of this specification, and in which—

Figure 1 is a side elevation of my invention partly in section; Fig. 2 is a top view of the draw-head, showing the side springs *o o*; Fig. 3 is a bottom view of the same, showing, in addition to the side springs, the pin-spring *c*, the point *e* to which is attached the pin *u*, and a part of the lever *r* through which passes the pin-spring *c*; Fig. 4 shows the form of the link and the springs attached thereto; Fig. 5 shows the passage of the lever through the platform of a car, the pricked lines showing the lever dropped down to illustrate the shape; Fig. 6 is an opposite-side sectional elevation of the same; Fig. 7 is a top-plan view in section of the platform of a car, showing the passage of the lever through the same, and the spring-catch for holding it; Fig. 8 is a side-sectional view of the lever, showing the projection *t* with which the spring-catch engages; Fig. 9 shows an end view in perspective of a freight-car with my invention attached thereto in a shackled position, the pricked lines showing the position of the lever when unshackled; Fig. 10 shows the slot in which moves the lever and notches for holding the same; and Fig. 11 shows the slot or orifice in the end of the lever *r*, which grasps the spring *c*.

The object of my invention is to produce a self-acting or automatic car-shackle. In shackling or unshackling the operation may be performed, by the means of the devices hereinafter described, from the platform or roof of the car, thus obviating the necessity of passing between the cars to perform either of the above operations, and at the same time attaining a much greater celerity and certainty of operation in performing them, and also a far greater degree of safety from the accidents incident to the use of the ordinary form of shackle while *in transitu* upon the road.

My draw-head is of the form shown by Fig. 1, the extreme outer end *a* of which is

made very large to secure the entrance of the link when two cars come together to be shackled. The chamber from thence backward to the point where the pin passes through the link decreases gradually in size, until at that point it is quite small, and from thence backward it is enlarged very considerably to contain the mechanism and permit the operations hereinafter described.

The under side of the draw-head is provided with the spring *c* attached to the draw-head at *d*, and, passing along underneath and vertically, but not horizontally, parallel to it, has the pin *u* attached to it at *e*. Upon the upper side of this spring, at *f*, is affixed the step *g* of any most convenient form, preferably the form shown at *g*, which, when pressed upon by the toggle *h*, sustains the pressure of the spring, and holds it so far downward that the point of the pin *u* is drawn down to the plane of the bottom of the chamber in the draw-head, and leaves the link free to be withdrawn. The toggle *h*, pivoted at *i*, performs this office. When the car is unshackled this toggle, dropping down to a perpendicular or nearly perpendicular position, sustains, as before described, the pressure of the spring; when, however, the link borne in the draw-head of an approaching car enters the orifice or chamber in the draw-head so far that the point of the link presses upon the toggle *h*, the toggle swinging on its pivot *i* slips backward until its point passes entirely beyond the step *g*, relieving the pressure of the spring *c* upon the toggle, and the pin is thrown upward through the perforations *j* in the draw-head and link, and the cars are shackled.

It will be observed that when thus shackled the spring *c* effectually prevents the pin *u* from dropping out, and its withdrawal can only be accomplished by the exertion of some degree of force, which is exerted in the manner herein shown. At *k*, Fig. 1, is seen a device whose intention and purpose are as follows: If desired, instead of pivoting the toggle, as at *i*, the sleeve *k* may be used, which is firmly attached to the toggle *h*, and incloses the arm *l*, upon which it moves freely, impelled by the spiral spring *m*, which, by pressing outward, gives the toggle *h* a constant tendency to press forward to a position where its point rests upon the step *g*. Thus it will be seen that either form of toggle

may be used with equal certainty of action. At *n n*, Fig. 1, Plate I, are seen the stirrups or sustaining-irons which hold the draw-heads under the bottom of the car.

Fig. 2 is a view of the top of the draw-head, and on the sides thereof, at *o o*, may be seen two springs, which may be made of any material possessing sufficient elasticity, and whose function is to give the draw-head an inclination to remain in the middle of the car and in proper position for shackling.

At *p*, Fig. 4, is seen the link to be used with my invention, and is of the form shown, and is furnished at *q q q* with three small springs, whose function is to sustain the link when held in one draw-head approaching another, for the purpose of shackling said springs, being auxiliary to the springs seen at *o o*, Fig. 2, and act in conjunction with them in sustaining the link, draw-head, and their attachments in a right line with each other.

I will next proceed to describe the attachments or devices for operating the parts already described, which operating devices must, of course, be modified to meet the requirements of the different kinds of cars upon which they may be used.

In Fig. 5 is shown the bent lever *r*, which is of the form illustrated in the drawing. This is intended for use on passenger-cars or freight-cars which have a low platform. This lever is connected with the spring *c* and passes up through the platform, as seen in Figs. 6 and 7. Where it passes up through the platform it is operated upon by the spring-catch *s*. This catch is to hold the lever in position when it has been so operated as to either press down the spring *C* or release it, and thus either unshackle or shackle the two draw-heads. This catch operates, in conjunction with the projection or shoulder on the lever, under or over the top or bottom end of which the catch passes

to confine and hold the lever in position when pressed down or drawn up through the aperture for it in the platform.

Fig. 9 shows the end of a box-car, with the lever *r* attached, as before, to the spring *c*, and, joining another lever, *w*, passing up the side of the car, enables the operator upon the top or roof of the car to perform all the acts required in shackling or unshackling, by grasping the handle *y* and pressing it down or drawing it up, as required. At *a'* the slot is only of the width required for the passage of the lever *w*, while at *f* the slot is much longer and is provided with notches for holding the lever, as seen in Figs. 9 and 10.

In Fig. 11 is shown the slot or orifice in the end of the lever *r*, which grasps the spring *c*. At *b'* a slot is made longer than the slot at *a'*, and is of sufficient length to permit the forward and backward motion of the lever *w* to unhook the lever *r* from the notches shown in Figs. 9 and 10.

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

1. The draw-head having the interior chamber *b*, the pivoted toggle *h*, the spring *c*, step *g*, pin *u*, and springs *o o*, in combination with the link illustrated in Fig. 4, or their equivalents, herein described.

2. The combination of the lever *r* with the spring *c* and the pin *u* and the spring-catch *s*, as herein set forth.

3. The combination of the spring *c* and the lever *r*, lever *w*, and handle *y'*, all as herein set forth.

4. The method of locking the pin *u* when shackled or unshackled, as shown in Figs. 6 and 7.

EZEKIEL W. BARKER.

Witnesses:

WILLIAM HENRY CLIFFORD,
D. W. SCRIBNER.