

No. 870,540.

PATENTED NOV. 12, 1907.

F. BREDEL.

COVER CLOSURE.

APPLICATION FILED MAY 19, 1906.

Fig. 1.

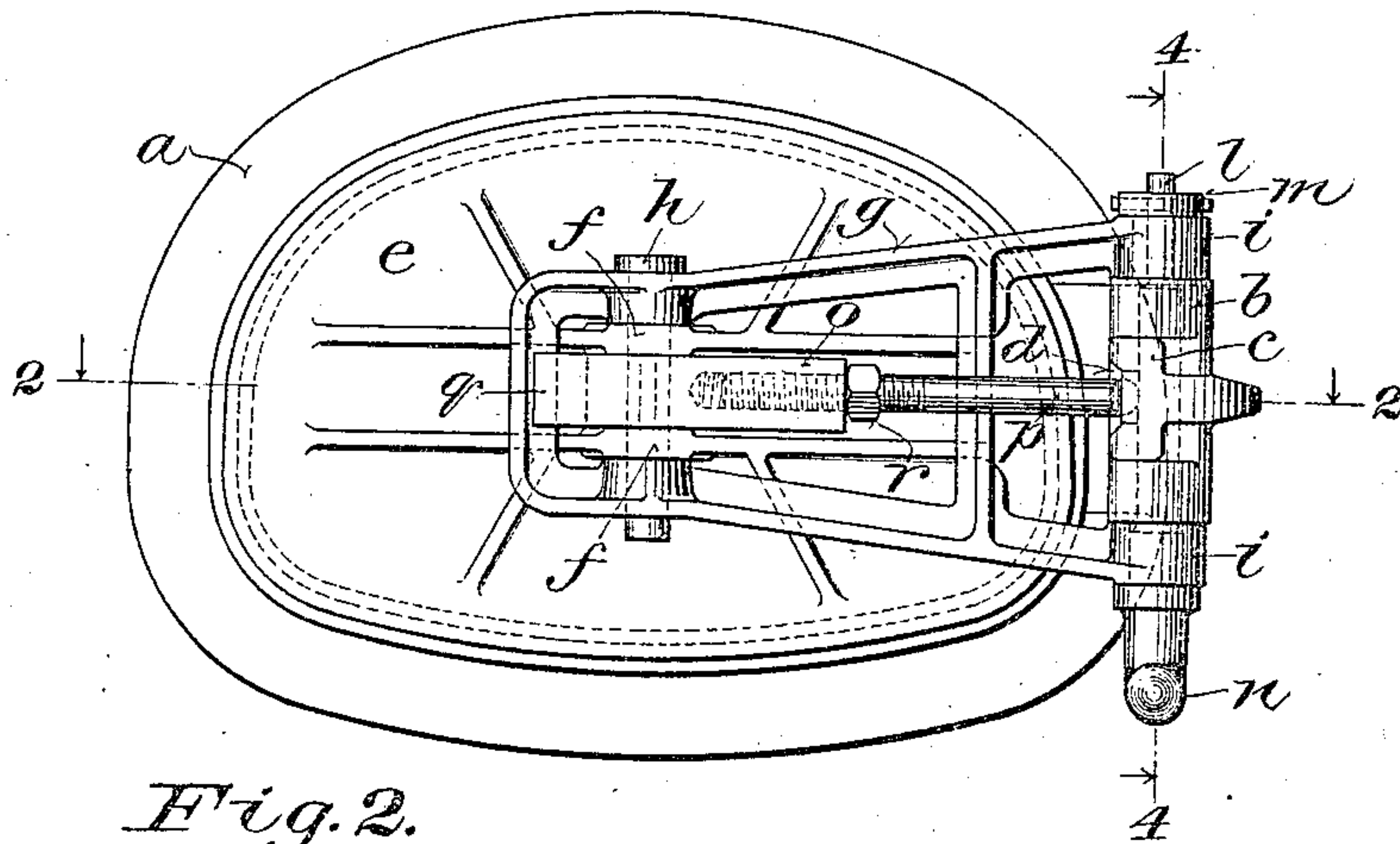


Fig. 2.

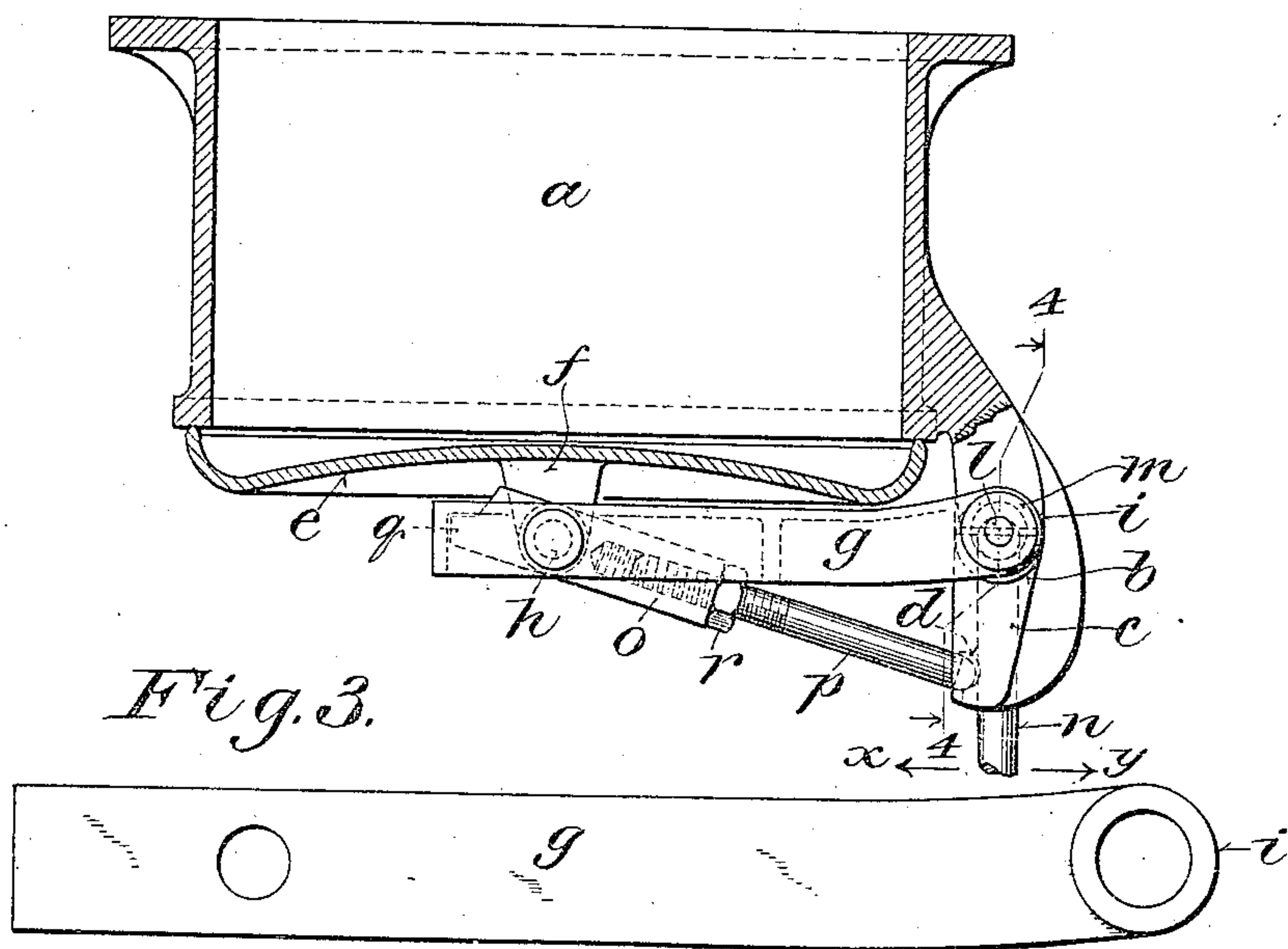


Fig. 3.

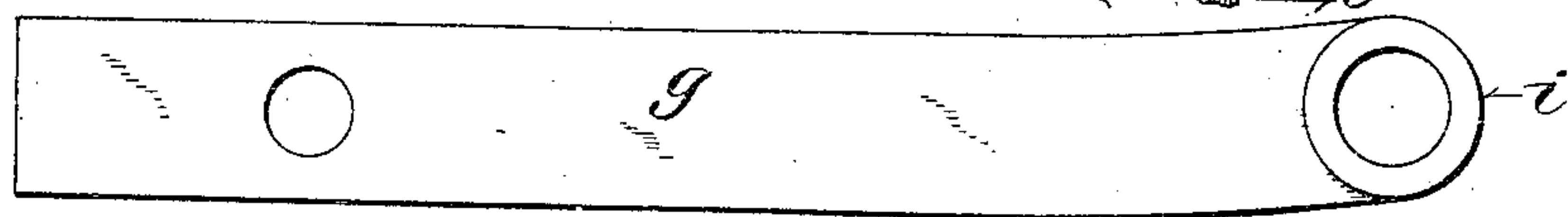
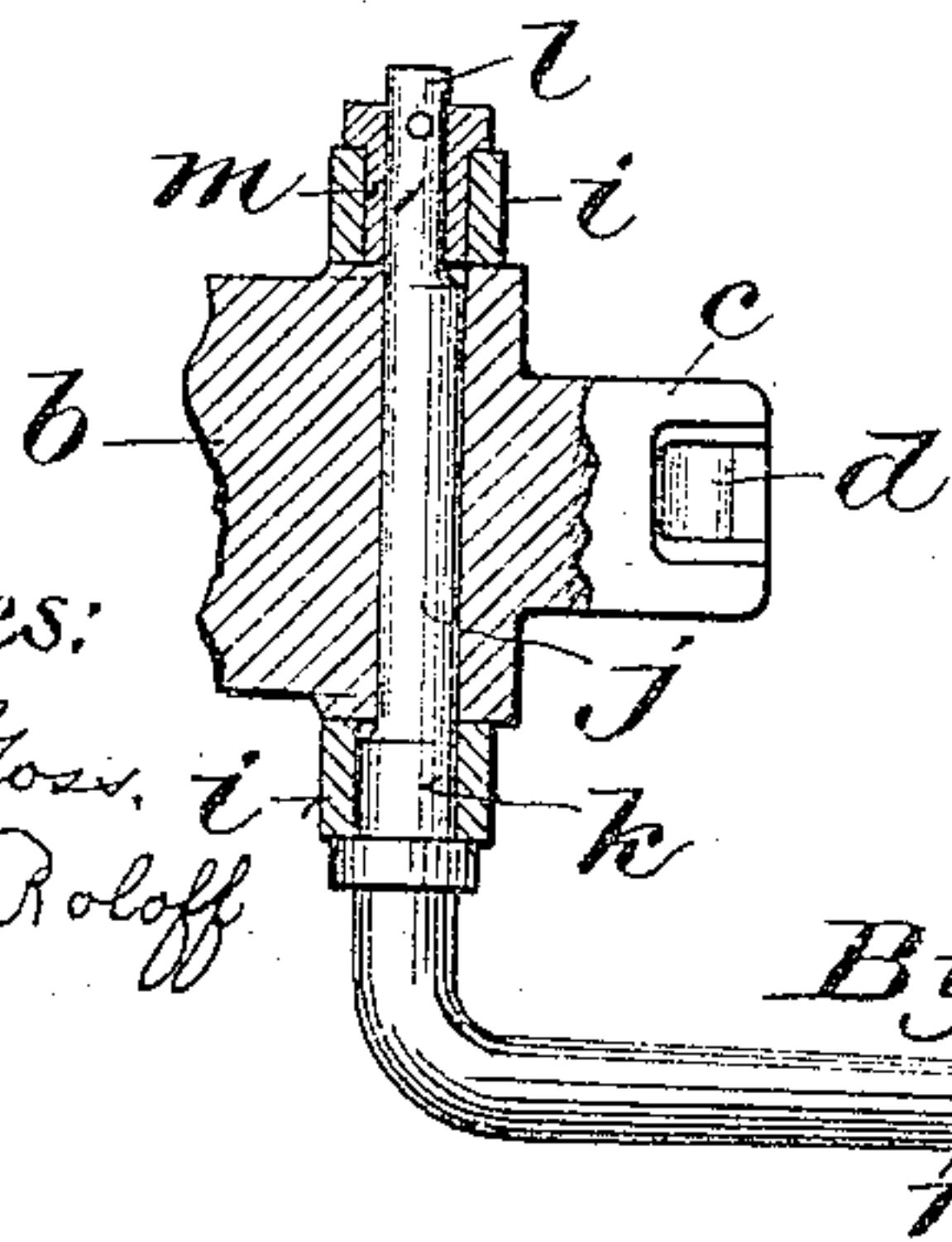


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

FREDERICK BREDEL, OF MILWAUKEE, WISCONSIN.

COVER-CLOSURE.

No. 870,540.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDERICK BREDEL, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have
5 invented certain new and useful Improvements in Cover-Closures, of which the following is a specification, reference being had to the accompanying drawing, forming a part thereof.

The main objects of this invention are to seal or
10 tightly close a cover or lid without packing; to bring the door into proper position with relation to the frame for closing; to facilitate opening and closing the cover; and generally to improve the construction and operation of devices of this class.

15 It consists in certain novel features of construction and in the peculiar arrangement and combination of parts as hereinafter particularly described and pointed out in the claims.

In the accompanying drawing like characters design-
20 nate the same parts in the several figures.

Figure 1 is a front elevation of a cover closure embodying the present invention; Fig. 2 is a plan view of the closure and a horizontal section of the cover and frame or body to which it is applied; Fig. 3 is a plan
25 view on an enlarged scale of the hinged arm of the closure; and Fig. 4 is a longitudinal section on the line 4 4, Fig. 2, of the eccentric hinge forming a part of the closure.

For the purpose of illustration and explanation the
30 closure is shown and particularly described as applied to a gas retort mouth piece and cover, but without material change in its essential features it is applicable to other structures.

Referring to the drawing, *a* designates the body of a
35 gas retort mouth piece which constitutes the cover frame. It is formed on one side with a perforated ear *b* and a lug *c* projecting transversely to the plane of the opening in the frame *a* beyond said ear and formed with a recessed seat *d* to receive one end of a strut or
40 brace, as hereinafter explained.

A cover *e* having an inturned rim accurately faced to fit the outer face of the frame *a* against which it closes, is formed on its outer side near the center with perforated ears *f*.

45 A looped or open arm *g* pivotally connected near one end by a pin *h* with the ears *f* on the cover, is formed at the opposite end with hinge ears *i* spaced to correspond with the hinge ear *b* on the cover frame. The ears *i* have cylindrical bores in line with each
50 other and somewhat larger than the bore of the ear *b*.

The hinge pin *j* connecting the arm *g* with the frame *a* is formed at its ends with eccentrics *k* and *l*, the eccentric *l* being coaxial with and somewhat smaller than the eccentric *k*, to facilitate the assemblage of
55 the parts.

To provide wearing surfaces of the same area in both of the hinge ears *i*, a sleeve *m* corresponding in

diameter with the eccentric *k* is preferably fitted and pinned or otherwise secured on the eccentric *l*. At one end the hinge pin is formed or provided with a
60 laterally projecting arm *n* for turning it in the hinge ears.

An extensible strut composed of two adjustably connected members *o* and *p*, is adapted to be inter-
posed between the cover and the lug *c* on the frame
65 at an angle to the arm *g*. Member *o* is pivoted between the ears *f* on the pin *h* and is formed at one end with a nose *q*, which by engagement with the arm *g* holds the outer end of the strut in position to engage with the recessed seat *d* in the lug *c* when the cover is
70 closed. Member *p* is rounded at one end to fit and turn in the seat *d* and is threaded at the other end in member *o*, so that by screwing it in or out the strut may be lengthened or shortened to take up wear and play and to hold the cover tightly closed. Member *p*
75 is locked in its adjusted relation to member *o* by a jam nut *r*.

In operation, to close the cover, the arm *n* of the hinge pin is turned to the left or in the direction of the
arrow *x*, Fig. 2. This tends to move the arm *g* end-
80 wise to the right, shortening the distance between the pivot pin *h* and the fixed ear *b* of the hinge, and as a result causing the strut *p* to force the cover towards and tightly against the frame or body *a*, the distance between the seat *d* in lug *c* and the pivot
85 pin *h* being constant.

To release and open the cover, the arm *n* is turned back to the right or in the direction of the arrow *y*, Fig. 2. This tends to move the arm *g* endwise to the
left and to increase the distance between the fixed
90 ear *b* and the pivot pin *h*, thereby taking the strain off from the strut and relieving the cover of its pressure. The outer end of the strut may now be swung out of engagement with the seat *d*, permitting the cover to be swung with it and the arm *g* on the hinge
95 pin *j* away from the frame or body *a*. By applying the eccentric to the hinge on which the cover swings at one side of the frame or body *a*, particularly when the device is used in connection with a gas retort, its operation is unaffected by the heat to which it would
100 be subjected if it were applied to the pivot connection between the swinging arm and the cover. Furthermore, by providing the hinge or pivot connection between the arm *g* and frame with the eccentric, the cover is brought into proper position when closed
105 against the frame *a*, even if the hinge pin is worn or has considerable play in the hinge ears or connected parts when the cover is open.

I claim:

1. The combination with a cover and frame, of an arm
110 pivoted to the cover and connected with the frame by an eccentric hinge pin, and a strut interposed between the cover and frame at an angle to said arm, substantially as described.

2. The combination with a cover and frame, of an arm
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pivoted to the central portion of the cover, an eccentric hinge pin connecting said arm with the frame at one side and an adjustable strut interposed between the frame and cover at an angle to said arm, substantially as described.

5 3. The combination with a cover and its frame, of an arm pivoted to the cover and connected with the frame by an eccentric hinge pin, and a strut pivoted to the cover and having a seat projecting from the frame transversely to the opening therein and beyond the cover hinge, substantially as described.

10 4. The combination with a cover and a frame having a hinge ear on one side, of an arm pivoted at one end to the outside of the central portion of the cover and having hinge ears at the other end, a hinge pin fitted to turn in the ear on the frame and having corresponding eccentrics fitted to turn in the ears of said arm, and a strut inter-

posed between the cover and frame at an angle to said arm, substantially as described.

5. The combination with a cover and its frame, of an arm pivoted to the cover and connected with one side of the frame by an eccentric hinge pin, said arm being bent inwardly towards the frame and hinge pin, and a strut interposed between the cover and a bearing on the frame adjacent to and outside of the hinge, substantially as described.

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

FREDERICK BREDEL.

Witnesses:

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