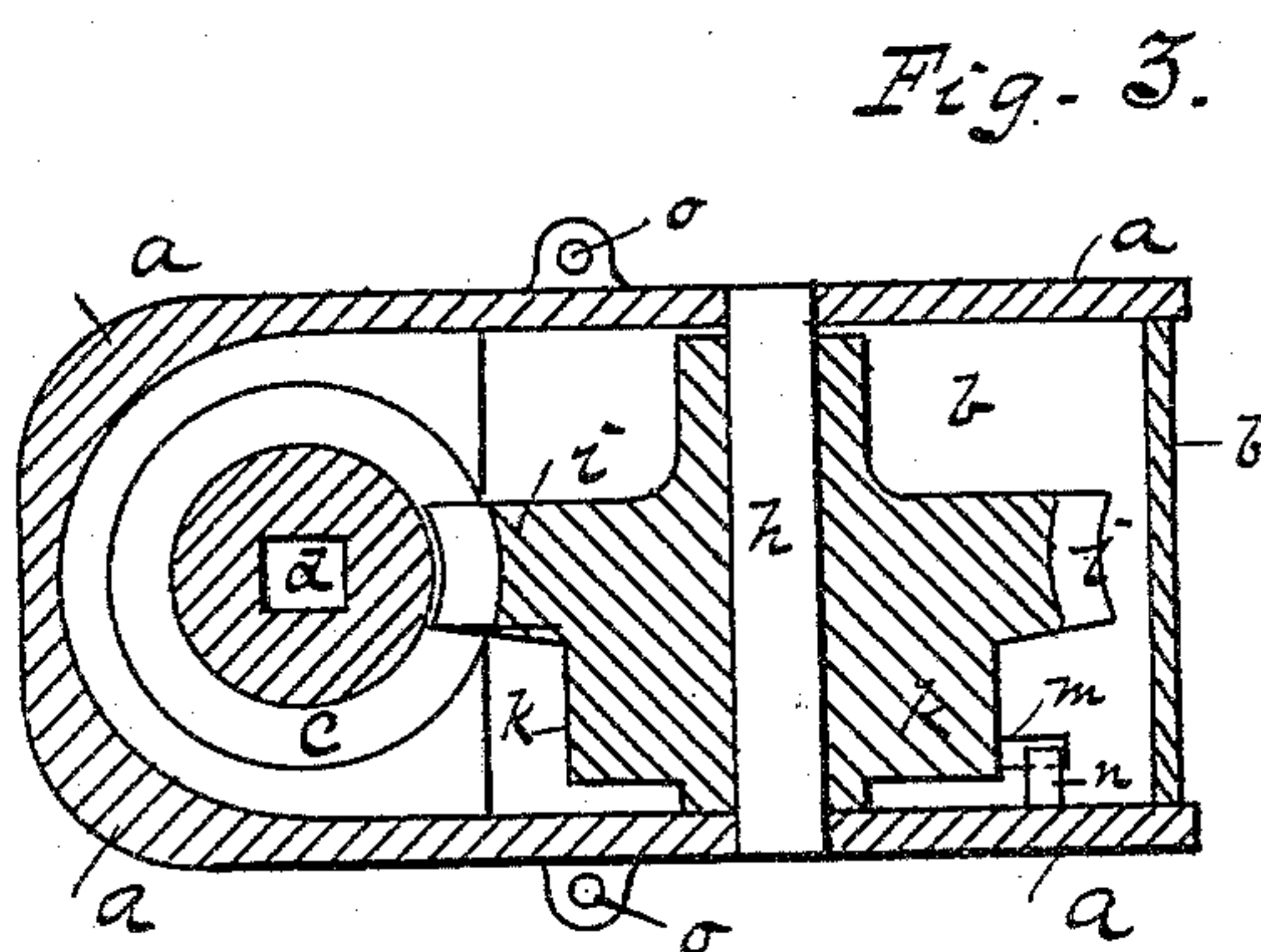
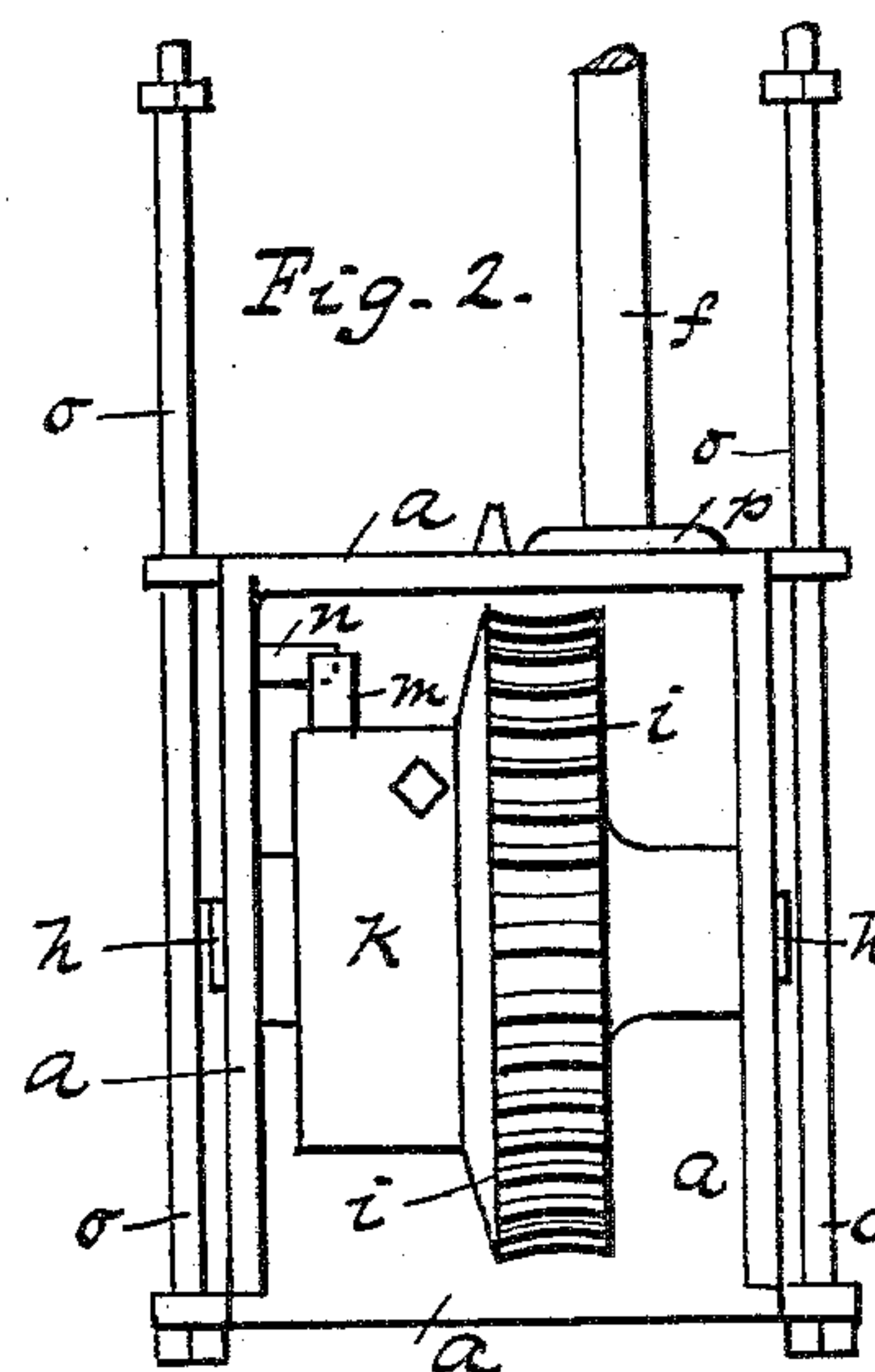
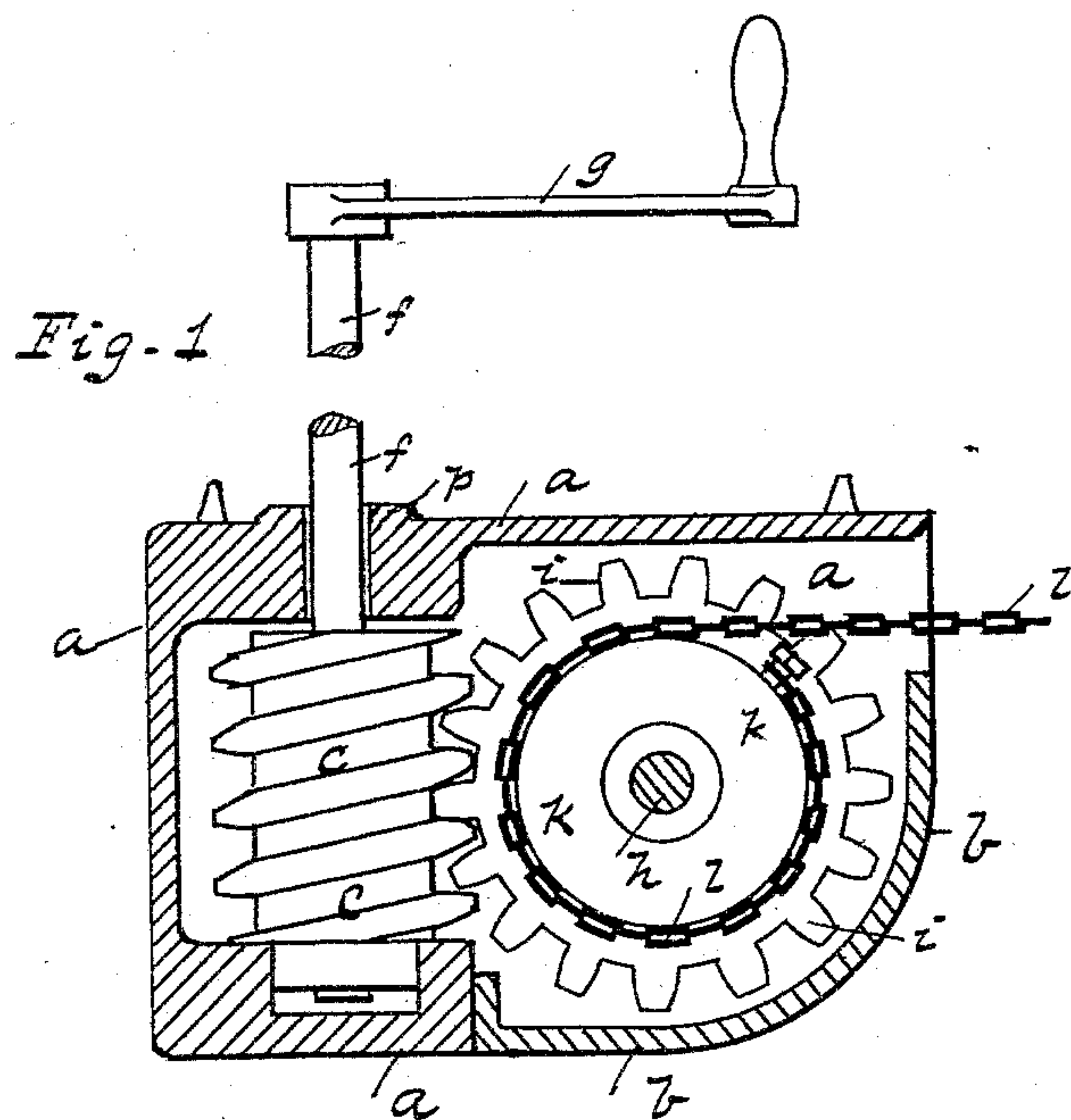


(No Model.)

H. N. COFFIN.
CAR BRAKE.

No. 401,252.

Patented Apr. 9, 1889.



Witnesses:
M. E. Harrison.
John H. Rousey.

Inventor.
Harry N. Coffin.
Per. O. D. Lewis.

Attorney.

UNITED STATES PATENT OFFICE.

HARRY N. COFFIN, OF PITTSBURG, PENNSYLVANIA.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 401,252, dated April 9, 1889.

Application filed June 15, 1888. Serial No. 277,273. (No model.)

To all whom it may concern:

Be it known that I, HARRY N. COFFIN, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful improvements in a device that has for its object the setting, releasing, and adjusting the brakes of a car; 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improvement in a device for setting and releasing the brakes of a car by means of a worm or perpetual screw operating in a toothed wheel secured to a cylinder or drum carrying a chain connected to the lever of the brakes, so that by revolving the perpetual screw in one direction the chain will be wound around the drum in such a manner as to draw the brakes tightly against the wheels of the car and there rigidly hold them without relaxation or sudden release until so required, when by turning the screw in a reverse direction the chain will be unwound, whereby the brakes recede or fall back from the wheels. A projection placed on the outer edge of the drum, together with another on the wall of the box, acts as a stop, which prevents the drum from revolving further than necessary, thereby endangering the safety of the working parts, together with certain other details of construction and combination of parts, as will be more fully described hereinafter.

In the accompanying drawings, Figure 1 is a sectional elevation of my improved brake-operating device constructed in accordance with my invention. Fig. 2 is an end elevation of the same, having the apron or under side removed therefrom the better to show the working parts. Fig. 3 is a sectional plan view of the same.

To put my invention into practice, I construct a strong metallic box, *a*, of suitable size and form of construction, having a portion of its under side and rear end fitted with

a bent plate or apron, *b*, which prevents dust or other substance from entering the box *a* when secured in position beneath the platform of a car. At the forward end of the box *a*, I arrange in a vertical position a worm or perpetual screw, *c*, having a square opening, *d*, through its center, in which a vertical rod or shaft, *f*, is placed, projecting some distance above the floor of the car and provided with a crank or the ordinary hand-winch, *g*. Loosely mounted on a short horizontal shaft, *h*, fixed within the metallic box *a*, is a small gear or toothed wheel, *i*, meshing with the perpetual screw *c*, and having attached thereto a small cylinder or drum, *k*, having secured thereto one end of a suitable chain, *l*, the other end of which is connected to a long rod made fast to the lever which operates the brakes. To the outer edge of the drum *k* is secured a short projection, *m*, which, in conjunction with a similar projection, *n*, secured to one side of the box *a*, limits the rotation of the drum *k* to a single revolution on its axis, which prevents any excessive strain on the brake-lever to which the chain *l* is attached. Two or more vertical bolts, *o*, attached to the box *a*, serve as a means for securing the same beneath the platform of the car. About the circular opening through which the vertical rod or shaft *f* is placed I form a boss, *p*, which prevents dirt or dust from entering the box *a*. By this construction it is an effective device in the hands of a brakeman, it being obvious that on turning the screw *c* in one direction the toothed wheel *i* will rotate and wind the chain *l* about the drum *k*, and thus draw the brakes against the wheels and there hold them, without the use of a clutch or other contrivance, until released by a reverse movement of the screw *c*.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

A brake-operating device substantially as described, consisting of an inclosing case or shell, *a*, having a curved apron, *b*, forming one of the sides thereof and leaving an opening for the passage of the brake-lever chain, a worm-screw, *c*, carried by a shaft, *f*, and

housed within said case, a fixed shaft, *h*, a
gear-wheel fitted loosely on said shaft and
having a drum, a projection, *m*, fixed to the
periphery *n* on the interior of the case or shell
5 and arranged in the path of the projection *m*
to limit the drum to a single complete rota-
tion on its axis, and a chain connected to the

drum and passing through the opening in the
case between the apron *b* and one side of the
drum, as and for the purpose described.

HARRY N. COFFIN.

Witnesses:

S. P. TOMER,
C. C. LEE.