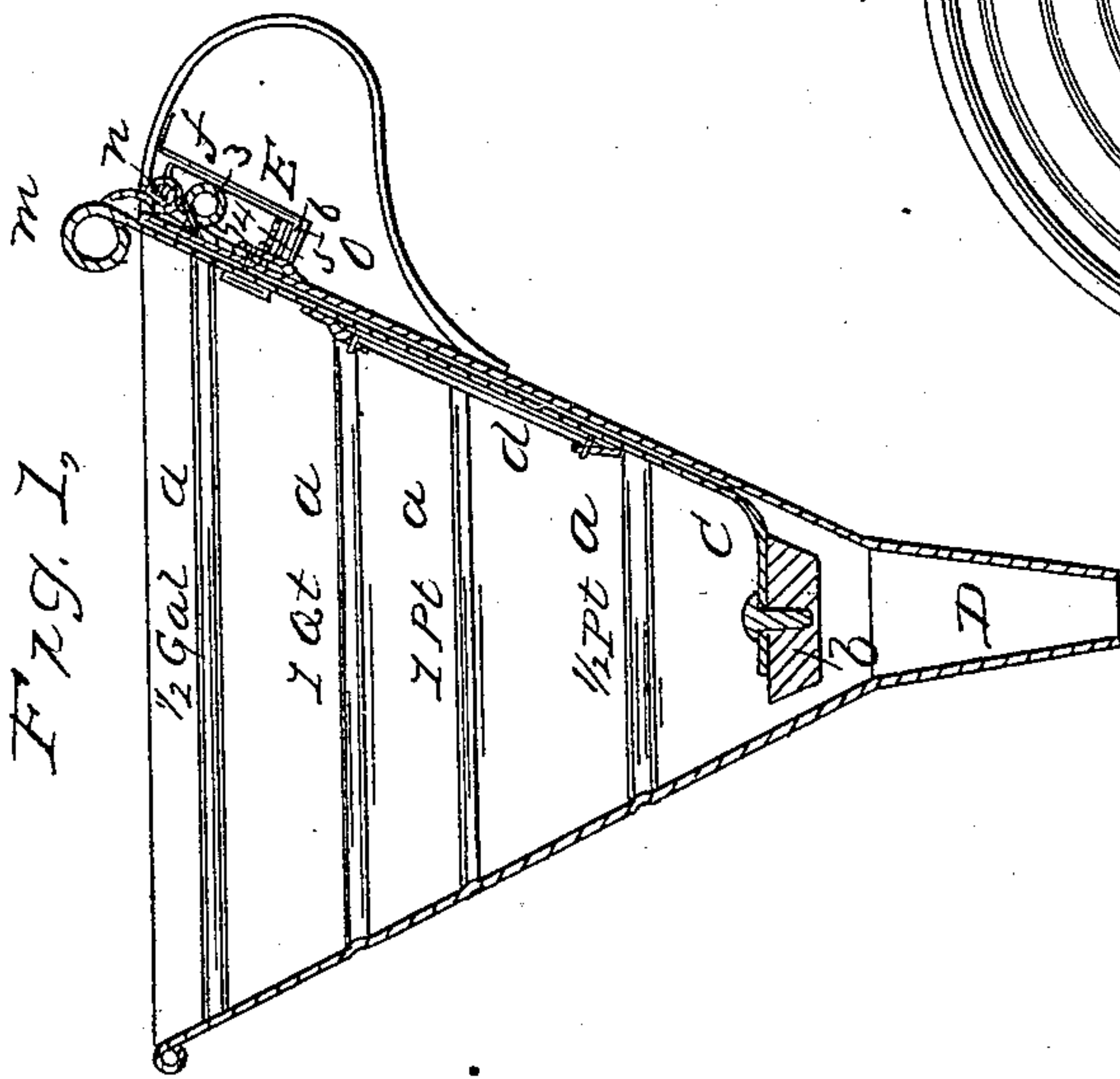
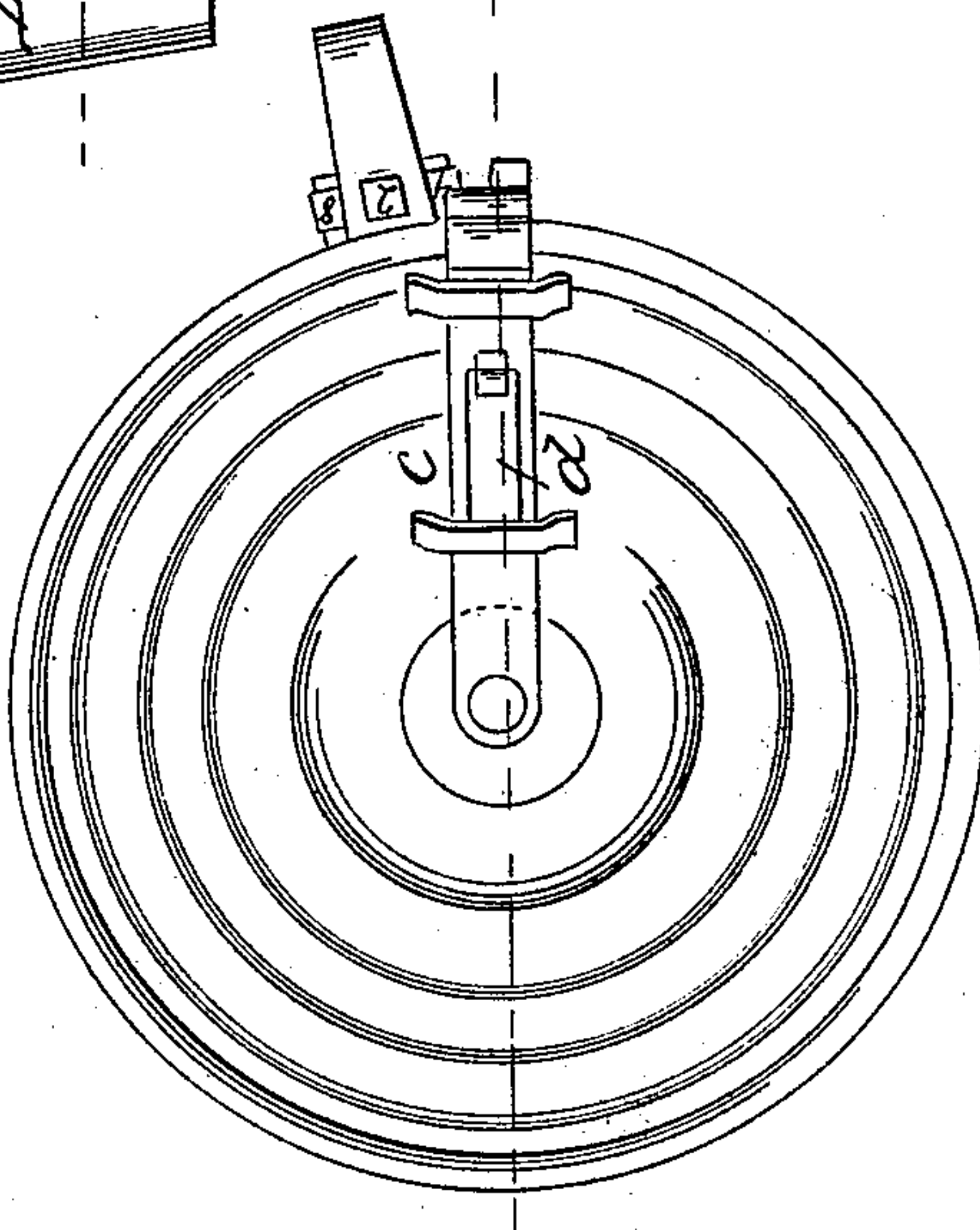
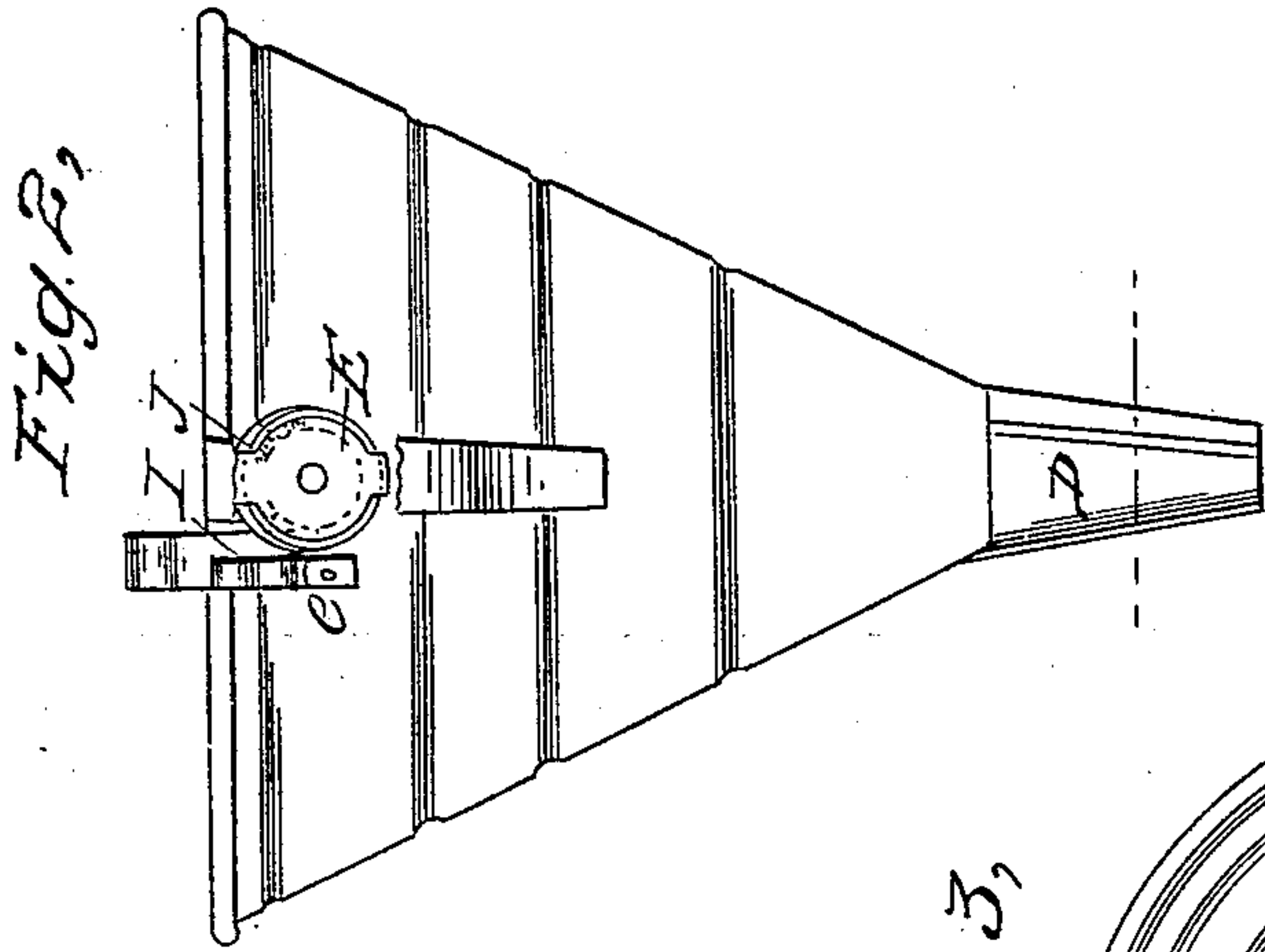


N. OTIS.  
Measuring Funnel.

No. 42,684.

Patented May 10, 1864.



Witnesses  
Charles Abornum  
John P Jacobs

Fig. 4,  
Inventor  
Nathaniel Otis  
R. C. M. Alexander atty

# UNITED STATES PATENT OFFICE.

NATHANIEL OTIS, OF COOK COUNTY, ILLINOIS.

## IMPROVEMENT IN MEASURING-FUNNELS.

Specification forming part of Letters Patent No. 42,684, dated May 10, 1864.

*To all whom it may concern:*

Be it known that I, NATHANIEL OTIS, of the county of Cook, in the State of Illinois, have invented certain new and useful Improvements in Funnels; and I hereby declare that the following is a true and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 in the annexed drawings represents a vertical section of my funnel. Fig. 2 represents a side elevation of the same, with register attached. Fig. 3 represents an interior view showing the ribs and slide with valve attached.

In Fig. 1, the letter *a* designates the ribs or concentric elevations around the interior of the funnel, which are designed to gage the quantity of liquor poured into it. To ascertain this quantity with certainty, the ribs are marked with raised letters, if preferred, commencing with a half a pint, the next in order indicating a pint, the third a quart, and the fourth half a gallon. This gradation can be continued by increasing the capacity of the funnel. In order that the liquor may not escape until the quantity is indicated by the marks on the ribs, the valve *b* is made to cover the opening in the upper part of the spout *D*. The valve *b* is regulated in its action by the slide *c*, to the lower end of which it is attached. The slide *c* ascends from the valve to the top of the funnel, and is confined by two broad staples in its position, but allowed to play sufficiently to open and close the valve, as the case may require. The action of slide *c* is controlled by a gum-elastic spring, *d*, one end of which is secured to the staple nearest the valve *b*, and the other end riveted to the slide *c*, near the upper staple. The slide *c* is formed of two thicknesses of plate metal. The upper plate is bent at top in the form of a circular knob, *m*, for operating the slide *c*, and the other plate bent in the opposite direction and forming the knob *n* on the outside of the funnel.

*e* represents an adjustable latch, its office being to hold the slide *c* and valve *b* up while the liquor is escaping through the spout *D*.

*E* represents the register, which in size will be adapted to the capacity of the funnel. The register *E* is placed a little below the rim of the funnel and underneath the upper part of the handle. *E* works on a pivot,

which attaches it to its outside casing, *f*. On the inner surface of register *E* there are a number of teeth, their distance apart corresponding with the distance between the numbers marked on the periphery of the wheel *E*.

*i* represents a pawl fastened at its upper end to slide *c*, near the knob *n*, and the lower end bent outward, so as to rest against the inner side of register *E*. On the same side of *E* there is another pawl, *j*, which is also designed to act on the teeth in register *E* and hold it in position.

The operation of the two pawls *i* and *j* is as follows: When the slide *c* is raised and its end supported by the latch *e*, the pawls *i* and *j* at the lower ends press against the register *E*, and move it the distance equal to that between the figures on the periphery of the register *E*. The valve *b* being now up for the discharge of the liquor, the quantity having been gaged by the marked ribs in the funnel is now registered by turning *E* from left to right until the figure reached indicates the quantity above mentioned. The latch *e* is now turned to the left and disengaged from knob *n*, and the spring *d* draws down the slide *c* and valve *b*, thus stopping the spout of the funnel, which can be again replenished and the same process of registering gone through with. By this simple arrangement an accurate account is kept of the quantity of liquor decanted into a barrel or other vessel without trusting to memory to keep the reckoning. As there is an opening made in the top of the handle opposite the periphery of register *E*, the numbers on it can be seen by the tapster without change of position.

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

1. The register *E*, constructed as and for the purpose herein set forth.

2. The slide *c*, the spring *d*, the latch *e*, the pawls *i* and *j*, and the register *E*, the whole arranged and constructed as and for the purpose herein set forth.

In testimony that I claim the foregoing I hereby affix my signature in the presence of two witnesses.

NATHANIEL OTIS.

Witnesses:

C. L. JENK,  
J. A. HOISINGTON.