

(No Model.)

J. CONNER.
SIRUP GAGE.

No. 384,680.

Patented June 19, 1888.

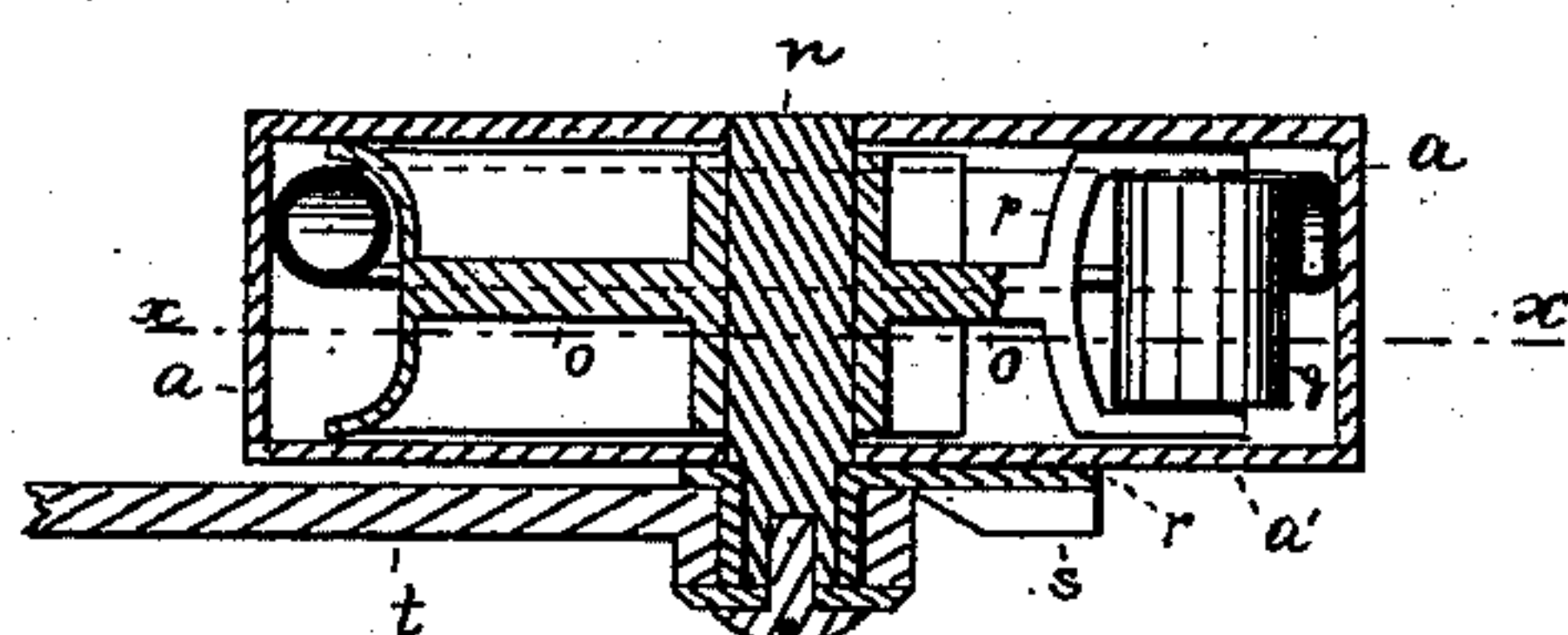
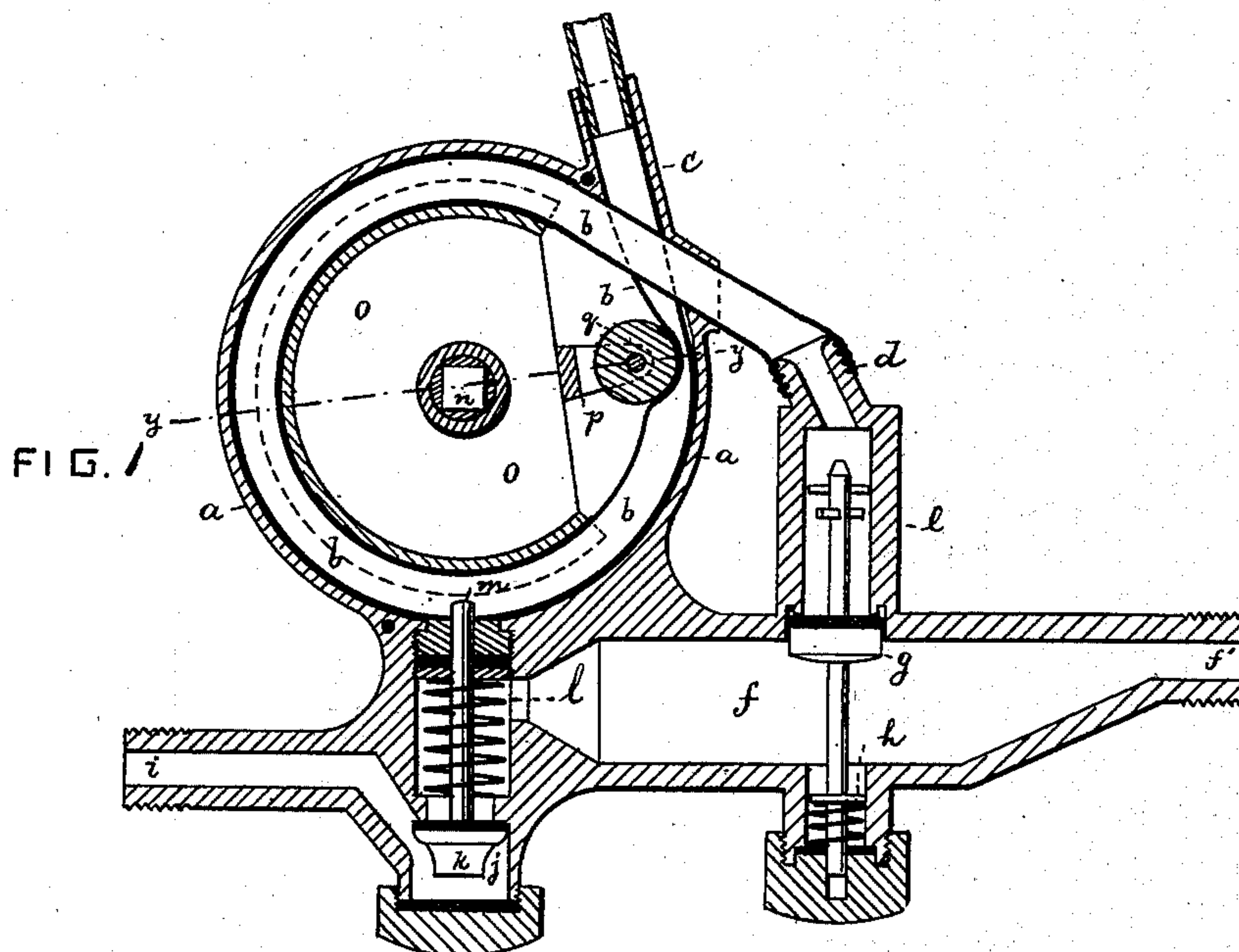
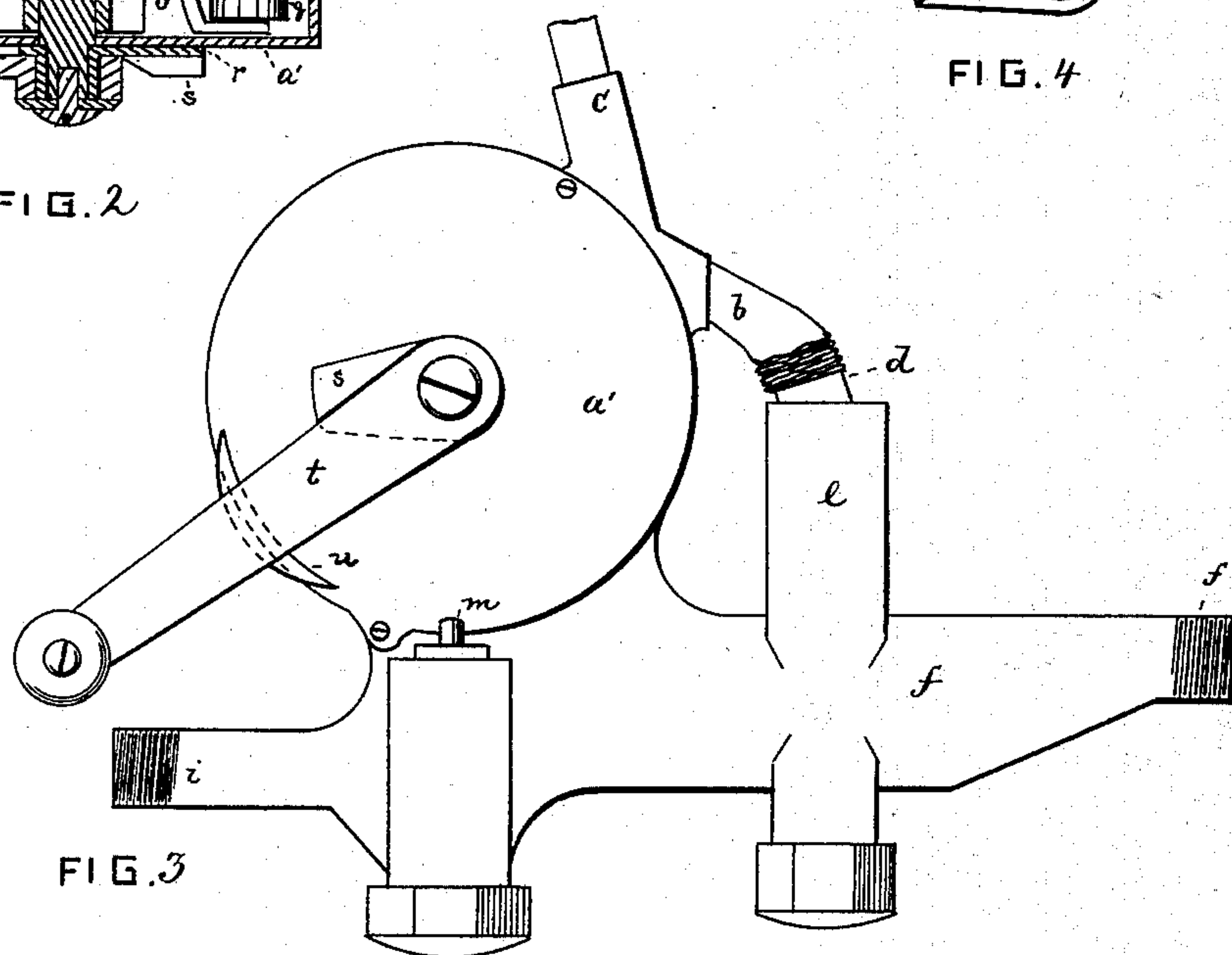


FIG. 2



FIG. 4



WITNESSES.

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SIRUP-GAGE.

SPECIFICATION forming part of Letters Patent No. 384,680, dated June 19, 1888.

Application filed January 27, 1888. Serial No. 262,142. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH CONNER, of New York city, New York, have invented a new and Improved Sirup-Gage, of which the following is a specification.

This invention relates to a sirup-gage adapted to be attached to a bottle-filling machine, and so constructed that the sirup and the charged fluid are received within a common chamber of the gage before being discharged.

The invention consists in the various features of improvement, more fully pointed out in the claims.

In the accompanying drawings, Figure 1 is vertical central section of my improved sirup-gage on the line *xx*, Fig. 2. Fig. 2 is a cross-section on line *yy*, Fig. 1, partly in side view. Fig. 3 is a side elevation of the gage. Fig. 4 is a face view of block *r*.

The letter *a* represents a cylindrical case or drum that may be closed by a cover, *a'*. Within the drum there is placed a coil of a flexible tube, *b*, one end of which is secured to an inlet, *c*, and the other being connected to an outlet, *d*. The inlet *c* communicates with the vessel containing sirup. The outlet *d* communicates with a tubular projection, *e*, that in turn connects with an enlarged receiving-chamber, *f*, as shown. This receiving-chamber is adapted to be connected at its end *f'* with the filling-machine. The mouth of tube *e*, where it enters chamber *f*, is closed by a suitable check-valve, *g*, that is held against its seat by spring *h*.

i is the inlet for the charged fluid. This inlet communicates by passage *j* with chamber *f*, the mouth of passage *j* being closed by a check-valve, *k*, pressed against its seat by spring *l*. The stem *m* of valve *k* projects above the circumference of drum *a*, as shown in Fig. 3.

Diametrically across the drum *a* there is hung a shaft, *n*, to which there is secured, within the drum *a*, a disk, *o*, having bearings *p* for a roller, *q*. This roller compresses tube *b* on rotation of shaft *n*. The shaft *n* is provided with a squared end, upon which there is set a block, *r*, having squared opening to turn with the shaft, and provided with a laterally-projecting nose, *s*, having an inclined surface.

t is a crank-handle loosely surrounding shaft *n*, or a tubular sleeve on block *r*. This

handle is provided with a cam, *u*, which is placed at such a point that it will depress the valve-stem *m*, when in line therewith, against action of spring *l*.

The operation of the device is as follows: The crank-handle *t*, being revolved toward the left in the ordinary manner, will swing loosely on the shaft *n* until it strikes the nose *s*. On a further revolution of the handle it will now, by nose *s*, (keyed, as described, to shaft *n*,) revolve the shaft *n* with it. The revolution of shaft *n* will cause roller *q* to travel along and compress the tube *b*, and thus the sirup will be forced along tube *b* in front of roller *q* until the sirup is finally discharged into tube *e*, with a pressure that will open valve *g* and force the sirup into chamber *f*. When the cam *u* comes in line with valve-stem *m*, it will depress valve *k* against the action of its spring, and it will permit charged liquid to likewise enter chamber *f*. From the chamber *f* both the sirup and the charged liquid will be discharged through the outlet *f'* by the pressure of the charged liquid. If the crank-handle *t* is revolved in the opposite direction—that is, toward the right for a limited distance—it will open valve *k*; but it will not rotate shaft *n*, because the handle will not, for almost a complete revolution, come into contact with nose *s*. Thus the charged liquid may be admitted to the chamber *f* without admitting the sirup, which is frequently desirable.

It will be seen that by my invention I dispense with the pistons usually required in sirup-gages, and which are objectionable on account of the lubricants required and on account of friction and packing. Moreover, my gage causes the sirup and charged liquid to thoroughly mix before they enter the filling-machine.

What I claim is—

1. The combination of drum *a* with the flexible tube *b* contained therein, and with a revolving shaft carrying roller *q* and provided with handle *t*, carrying cam *u*, and with a mixing-chamber, *f*, having a pair of inlet-ports, the port for admitting sirup communicating with the flexible tube *b*, and with a pair of valves controlling the inlet-ports, the valve in the port for admitting charged liquid being operated by cam *u* on the revolving handle *t*, substantially as specified.

2. The combination of a drum having a central shaft with a handle for rotating said shaft and carrying a cam, and with a flexible tube and a roller for compressing said tube, and
5 with a mixing-chamber having two inlet-ports, one of which communicates with the flexible tube, while the other port is provided with a valve having a projecting valve-stem that is engaged by the cam, substantially as
10 specified.

3. The combination of drum *a* with the flexible tube *b*, and with central squared shaft *n*, hung-across the drum and carrying roller *q*, and with the block *r*, having nose *s*, and
15 fitted on shaft *n*, and with the handle *t*, hung loosely on said shaft, and with a mixing cham-

ber having two inlet-ports, one of which communicates with the flexible tube, while the other port is provided with a valve having a projecting stem that is engaged by the cam, 20 substantially as specified.

4. The combination of a roller with a crank-axle and revolving cam, and with a flexible tube, and with a mixing-chamber connected therewith, and having an inlet-port and valve 25 that is operated by the revolving cam, substantially as specified.

JOSEPH CONNER.

Witnesses:

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