

No. 872,812.

PATENTED DEC. 3, 1907.

P. GIRON.

APPARATUS FOR CHARGING SIPHONS OR SELTZOGENES.

APPLICATION FILED DEC. 27, 1905.

4 SHEETS—SHEET 1.

Fig.2.

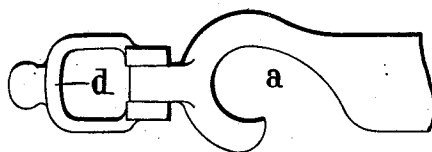


Fig.5.

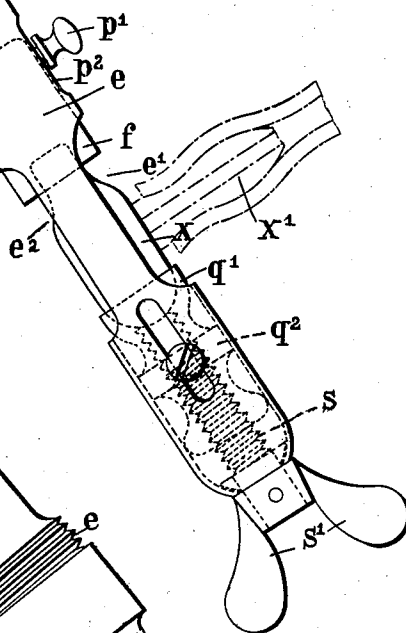
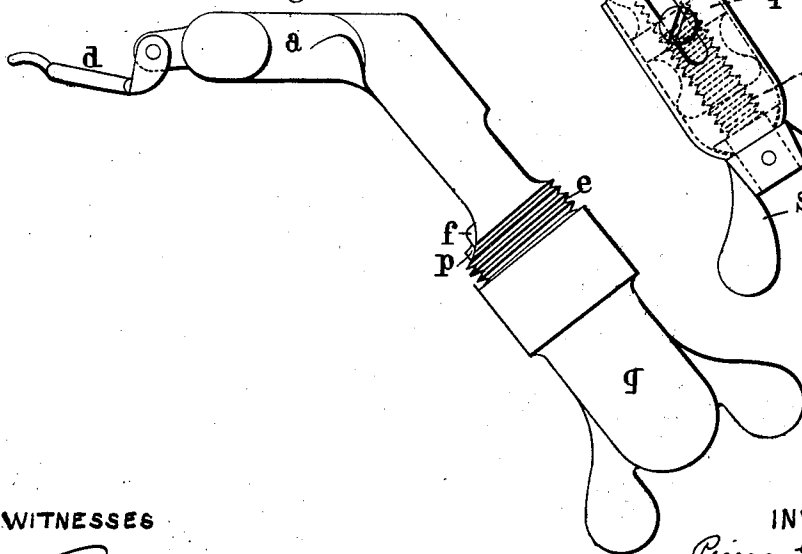


Fig.1.



WITNESSES

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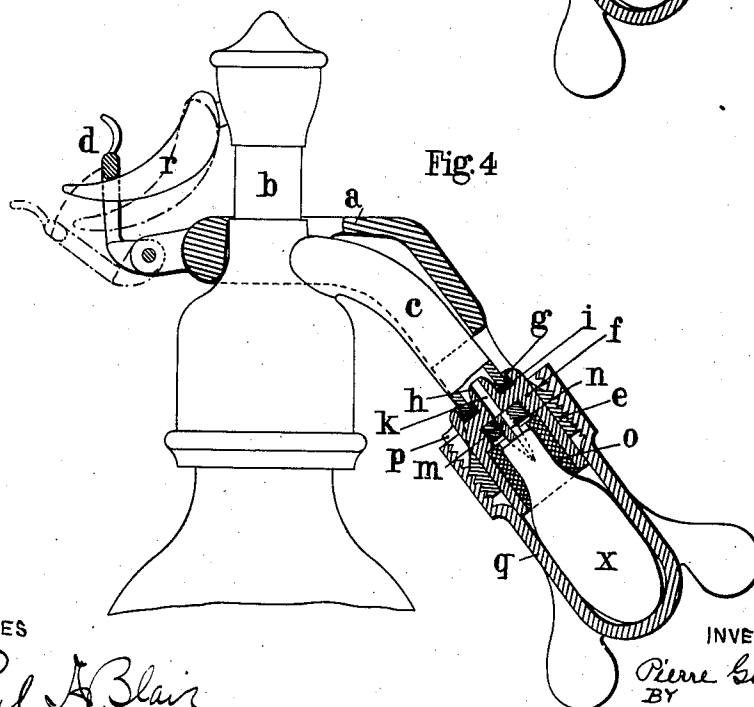
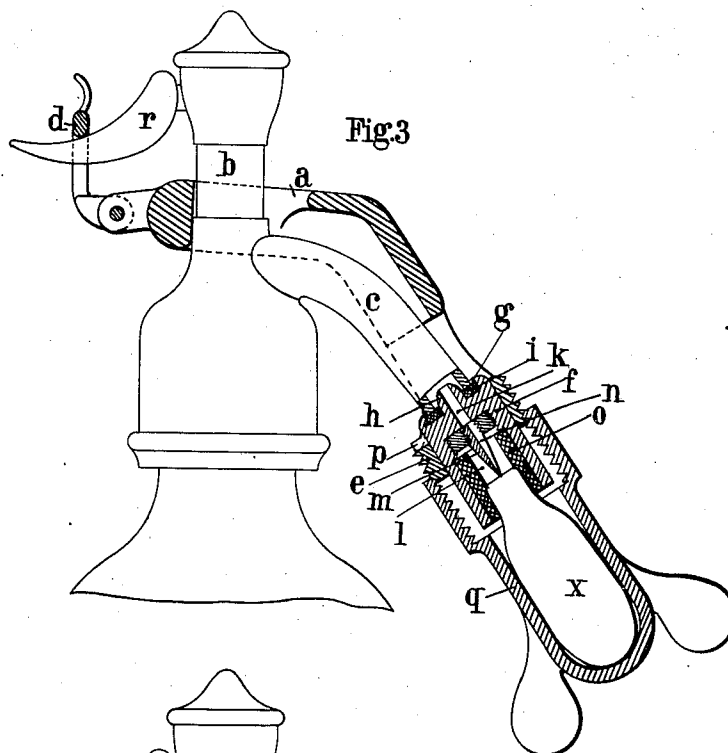
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4 SHEETS—SHEET 2.



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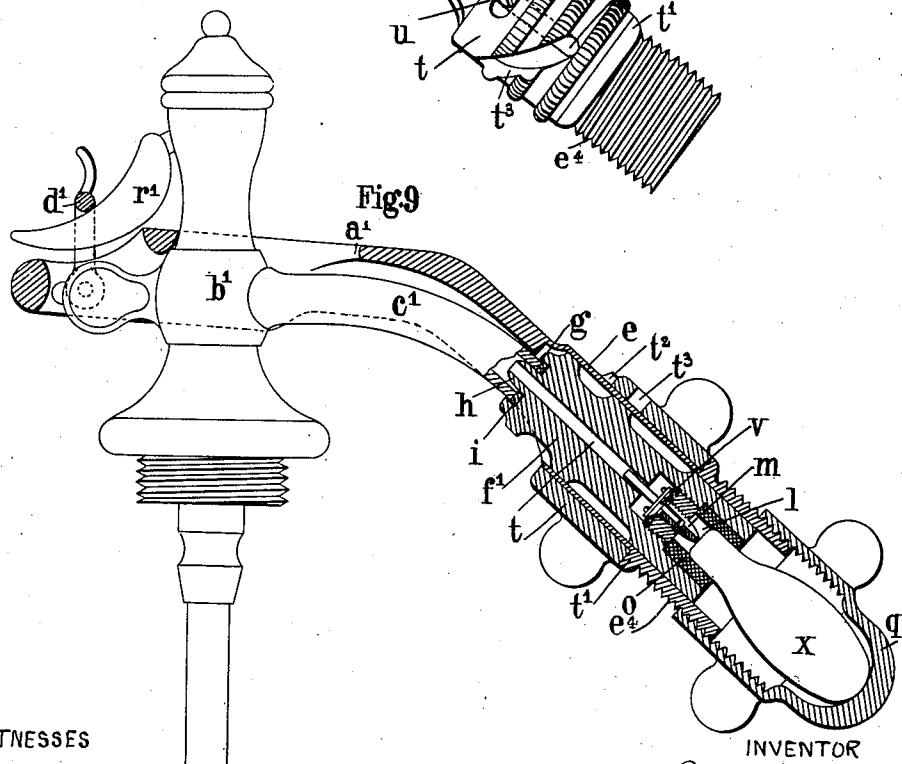
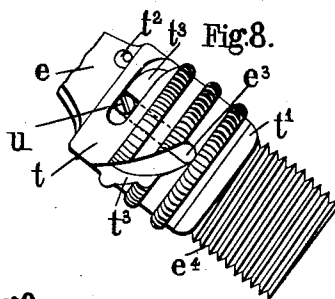
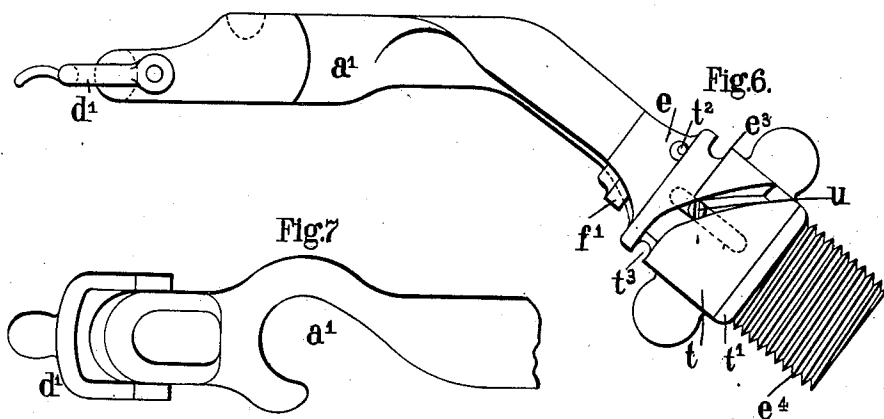
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4 SHEETS—SHEET 3.



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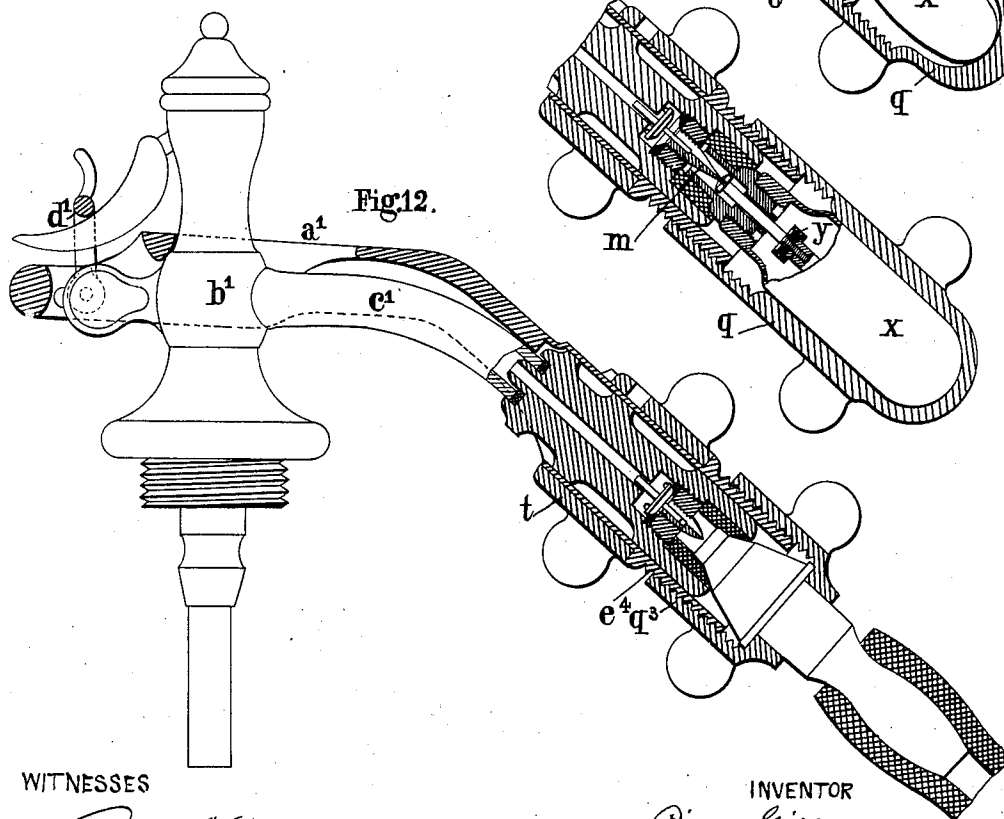
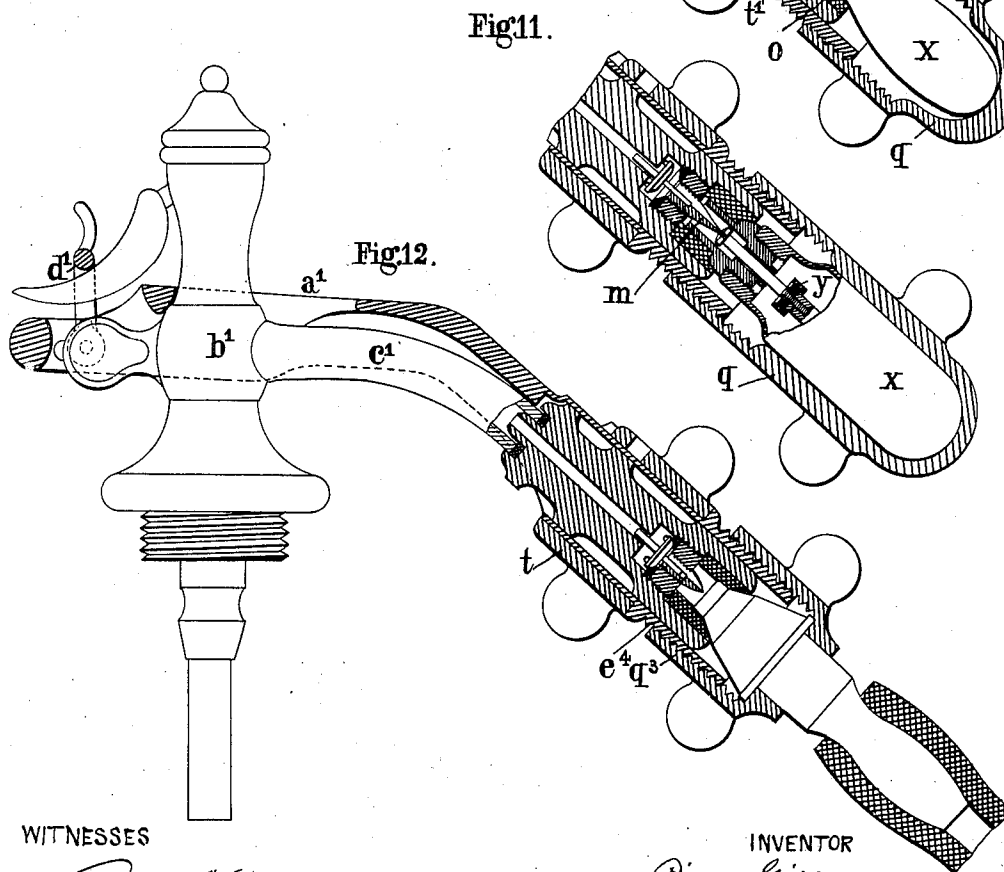
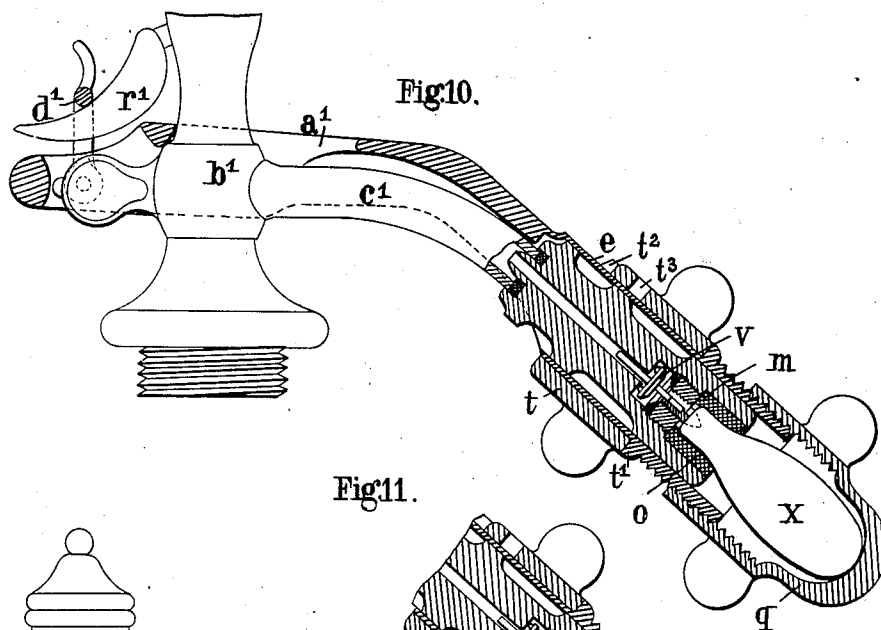
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4 SHEETS—SHEET 4.



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# UNITED STATES PATENT OFFICE.

PIERRE GIRON, OF PARIS, FRANCE.

## APPARATUS FOR CHARGING SIPHONS OR SELTZOGENES.

No. 872,812.

Specification of Letters Patent.

Patented Dec. 3, 1907.

Application filed December 27, 1905. Serial No. 293,519.

*To all whom it may concern:*

Be it known that I, PIERRE GIRON, a citizen of the Republic of France, residing at Paris, France, (whose post-office address is 9 Rue Castex, Paris, France,) manufacturer, have invented an Apparatus for Charging Siphons or Seltzogenes, for which I have obtained a French Patent, 14th January, 1905, No. 350,775; Austria, 25th May, 1905, (not yet issued;) Germany, 5th December, 1905, (not yet issued;) Belgium, 2d December, 1905, (not yet issued;) Great Britain, 1st December, 1905, (not yet issued.)

This invention relates to an apparatus by means of which it is possible to introduce into a vessel of any kind carbonic acid or other gas for the purpose of saturating therewith any liquid contained in the said vessel, said gas being contained in one or more capsules or bulbs, provided either with a non-refillable stopper, or plug or with a valve, or again coming from a carbonic acid gas tube which may serve for example, for drawing beer or any similar purpose, by adapting thereto a pressure reducer; the said apparatus being absolutely independent of the vessel to be charged and of the receptacle containing the gas.

In the accompanying drawing, which shows by way of example various applications of this apparatus to charging a siphon and a seltzogene by means of one or more capsules or bulbs, with a plug or valve, or tube of carbonic acid gas. Figure 1 represents, in elevation, an external view of the apparatus arranged for charging by means of a single capsule. Fig. 2 is a partial plan corresponding thereto, showing the conformation of the claw permitting of fitting the apparatus to the head of a siphon. Fig. 3 shows in section the apparatus fitted to a siphon before charging. Fig. 4 is a similar view showing the parts of the apparatus occupying the charging position for charging the siphon by means of a stoppered capsule. Fig. 5 represents a modification of this apparatus. Fig. 6 represents in external elevation an apparatus arranged for charging either by means of one capsule or of several successive capsules. Fig. 7 is a corresponding partial plan showing the conformation of the claw for fitting the apparatus to the head of a seltzogene. Fig. 8 is a detail of a modified form of this apparatus. Fig. 9 is a sectional view showing the apparatus mounted upon the head of a seltzogene. Fig. 10

shows its parts in position for charging, by means of stoppered capsules. Fig. 11 is a similar view, the charging being effected by means of a capsule provided with a valve. Fig. 12 shows the charging by means of a carbonic acid gas tube, provided with a pressure reducer.

The apparatus represented in Figs. 1 to 4, comprises a claw *a*, formed in such a manner as to embrace the head *b* of the siphon and its spout *c*; this claw is provided at its extremity with a rocking strap *d*. The claw *a* terminates opposite the strap *d* in a screw threaded tubular part *e*. In this tubular part there moves freely a cylindrical part *f* comprising a cup *g* at the center of which there projects the socket *h*; this cup is provided with a ring of india rubber or other elastic material *i*. The nozzle *h* is provided with a central opening *k* in communication with a circular chamber *l* by means of a steel pin *m* in which a slot *n* is formed, the chamber *l* is provided with an india rubber tube or sleeve *o*. Externally, near the cup *g*, the part *f* is provided with a stud *p* which stud is flush with the external diameter of the threads of the tubular part *e*, upon which is screwed a winged cap *q*. The operation of this form of the apparatus is as follows: The siphon having been filled with the predetermined quantity of liquid to be gasified, the claw *a* is engaged upon the head *b* of the siphon so as to embrace the spout *c* in such a manner that the nozzle *h* enters this latter; the strap *d* is engaged upon the lever *r* of the siphon, whereupon a capsule *x* filled with gas is inserted in the india rubber sleeve *o* and the winged cap *q* is screwed up. As the capsule *x* rests upon the bottom of the cap *q* (Fig. 3), on continuance of the screwing up of this latter upon the part *e*, the point *m* will be caused to gradually enter the plug of the capsule, then, the edge of the cap *q* displacing the stud *p* on the part *f*, the edge of the spout *c* of the siphon will be pressed hard onto the washer *i* of the cup *g*. Further upward movement of the part *q* over the end *e* of the arm being prevented by the studs *p* on the part *f* which is now solid against the end of the siphon spout, a continued rotation of the part *q* upon the screw threaded end *e* of the arm operates to pull this end down into the cap *q* and thus to depress the whole arm *a*. By this movement the strap *d* depresses the lever *r* until the parts have reached the position shown in Fig. 4; at this moment the si-

phon being open and the stopper of the capsule having been perforated, the gas rushes into the siphon through the slot *n*, the hole *k* and the spout *c*. All the gas in the capsule having passed into the siphon the cap *q* is unscrewed, which gradually produces the closing of the lever *r*, the spring of which causes the claw *a* to rise upon the head *b* of the siphon in proportion as the unscrewing proceeds; then in continuing the unscrewing the spout *c* is released from the cup *g* and the apparatus may be disengaged from the siphon by releasing the claw *a*, the empty capsule *x* is disengaged from the cap *q* and the apparatus may be arranged upon another siphon for charging it by means of another capsule. The siphon may also be closed immediately after charging by first of all disengaging the strap *d* from the lever *r*, the cap then being unscrewed and the apparatus removed from the head of the siphon.

Fig. 5 is a modification of the device described above; the claw *a* is absolutely similar and also comprises a tubular part *e*, (which is not screw threaded) in which a cylindrical part *f* is able to move, this part being absolutely similar to the foregoing except that the stud *p* is replaced by an operating stud or knob *p*<sup>1</sup> which is made solid with the part *f* and slides in the groove *p*<sup>2</sup> so as to act as a guide for the part *f* and also to permit the manipulation of the latter for the purpose of inserting the capsule between it and the cup *q*<sup>1</sup>. Two recesses *e*<sup>1</sup> and *e*<sup>2</sup> situated one above the other are also provided in the tubular part *e*; one of them *e*<sup>1</sup> is wider than the other and serves for the introduction of the capsule into the tubular part *e*, the recess *e*<sup>2</sup> being smaller in order to support it; these two recesses permit of the introduction of this capsule into the india rubber tube or socket *o* as before described but instead of being inclosed in the cap the base of the capsule merely rests in a cup *q*<sup>1</sup> of a part *q*<sup>2</sup> forming a nut upon the endless screw *s* operated by means of a winged head *s*<sup>1</sup>. This arrangement operates in the same manner as before, with the difference that instead of screwing the cap *q* the head *s*<sup>1</sup> is rotated and the nut *q*<sup>2</sup> by means of its cup *q*<sup>1</sup> presses the capsule *x* which is perforated on the point *m* at the same time that the claw *a* descends upon the head *b*, depressing by means of its strap *d* the lever *r* which opens the siphon.

The two arrangements described above are only adapted for use for the charging of receptacles which require but a single capsule, which is the case with an ordinary siphon. For charging larger vessels, however, such as seltzogenes, the means represented in Figs. 6 to 12 may be employed. In these means the claw *a*<sup>1</sup> is adapted for application to the head of a seltzogene. Upon the tubular part *e* is fitted a winged ring *t*

adapted to rotate between a bearing flange *t*<sup>1</sup> and a stud *t*<sup>2</sup>, this ring is provided with two helicoidal slots *t*<sup>3</sup> in which are placed two screws *u*, securely fixed in the part *f*<sup>1</sup> and passing through two slots *e*<sup>3</sup> formed in the tubular part *e*. In the part *f*<sup>1</sup> there is mounted a non-return valve *v*; it also comprises a cup *g*, a socket *h*, an india rubber washer *i*, a pin *m*, a chamber *l* and an india rubber sleeve *o*; a winged cap *q* is screwed upon the screw threaded tubular part *e*<sup>4</sup>.

The operation of the apparatus represented in Figs. 6 to 10 is as follows: The claw *a*<sup>1</sup> being engaged upon the head *b*<sup>1</sup> and the strap *d*<sup>1</sup> upon the lever *r*<sup>1</sup>, the winged collar *t* is rotated, its helicoidal slots *t*<sup>3</sup> by the intermediary of the screws *u* pressing the cup of the part *f*<sup>1</sup> against the spout *c*; by this movement the strap *d*<sup>1</sup> opens the seltzogene. A capsule is then placed in the rubber sleeve *o* and the cap *q* being screwed up, the capsule *x* is perforated, the gas that it contains opens the non-return valve *v* (Fig. 9) and enters the seltzogene; the internal pressure of the seltzogene then returns the valve *v* to its seat, whereupon the cap *q* may be unscrewed and a second capsule placed in position; as soon as this latter is perforated by the point *m* the pressure of the gas that it contains opens the valve until the gas has passed into the seltzogene and the non-return valve again closes automatically by the pressure within the seltzogene; this procedure may be repeated by adding as many capsules as necessary for the contents of the vessel to be charged. When charging has been completed, the strap *d*<sup>1</sup> is released from the lever *r*<sup>1</sup> and the seltzogene is closed; the winged collar *t* may then be rotated in order to release the spout *c*<sup>1</sup> from the cup *g* of the part *f*<sup>1</sup> and remove the apparatus from the head of the seltzogene, the last capsule then being removed by unscrewing the cap *q*.

Fig. 8 shows a modification of the collar *t* which instead of being formed with wings is milled.

Obviously it is possible to employ capsules comprising a valve or plug with an apparatus which is or is not provided with a valve. Fig. 11 shows the arrangement of the apparatus when using a valved capsule; the pin *m* instead of perforating the plug forces back the valve *y* when the cap *q* is screwed up thus permitting the escape of the gas. It will be noted that it is equally possible to employ a tube containing carbonic acid gas at high pressure, like those employed for drawing beer or for any other purposes, by providing these tubes with a pressure-reducing apparatus which is adjusted to the pressure that it is desired to obtain in the vessel to be charged. In this case the cap *q* is replaced by a socket *q*<sup>3</sup> which is screwed onto the part *e*<sup>4</sup> after the apparatus (furnished with a valve or not) has been fitted to

the vessel to be charged, and after having opened this latter; the cock of the pressure reducer is opened and the vessel becomes charged; the gas admission cock is then  
 5 closed, the strap  $d^1$  is disengaged from the lever  $r^1$ , the ring  $t$  is turned and the apparatus is removed; it may then be arranged upon another vessel without necessitating the unscrewing of the socket  $q^1$ . It is also possible  
 10 to employ with the apparatus of Fig. 5 a capsule (with or without a valve) provided with an olive-shaped connection piece  $x^1$  as shown in broken lines in Fig. 5.

It will of course be understood that it is possible to charge any kind of vessel capable of containing liquids of any kind which it is desired to saturate with carbonic acid or other gas; for this purpose it is only necessary to adapt the claw  $a$  for the different applications. The form of the claw is therefore essentially variable in accordance with the numerous applications of the apparatus; this latter may or may not be provided with a non-return valve of any appropriate kind  
 25 and it may be employed for charging vessels of any kind with carbonic acid or other gas contained in receptacles or coming from any source.

What I claim and desire to secure by Letters Patent of the United States is:—

1. In apparatus for charging siphons and the like, an arm adapted to be slidably secured at the neck of the receptacle to be charged, a catch mounted on said arm to engage the operating lever of the discharge valve of said receptacle, in combination with means to hold the charging vessel and secure its discharge into the discharge spout of the receptacle to be charged, together with  
 40 means to depress said arm and open the charging vessel by the same operation, substantially as described.

2. In apparatus for charging siphons and the like, an arm adapted to be slidably secured at the neck of the receptacle to be  
 45 charged, a catch mounted on said arm to engage the operating lever of the discharge valve of said receptacle, in combination with a part having limited and guided movement upon said arm cooperating with a cap to hold  
 50 a charging vessel, means to secure the discharge of the latter into the discharge spout of the receptacle to be charged, and means to depress said arm and open the charging vessel by the same operation, substantially as  
 55 described.

3. For charging a siphon or the like, having a discharge valve and a lever for operating said valve, an apparatus of the character described having an arm adapted to be  
 60 secured at the neck of the siphon, means to hold the charging vessel and secure its discharge into the discharge spout of the siphon, together with means for simultaneously opening the charging vessel and the entrance  
 65 to the siphon, substantially as described.

4. For charging a siphon or the like having a discharge valve and means for operating the same, an apparatus of the character described having a body part, means for supporting a charging vessel in connection therewith and means for opening the siphon valve and the charging vessel by the same operation so that the latter charges the siphon through the siphon spout, substantially  
 75 as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses.

PIERRE GIRON.

Witnesses:

LOUIS BEMELMANS,  
 LÉON FRANCKEN.