No. 809,649. PATENTED JAN. 9, 1906.

H. W. VAN DER VAART.

AUTOMATIC ATTACHMENT FOR CARBONATING APPARATUS.

APPLICATION FILED APR. 11, 1905.

Fig. 1.

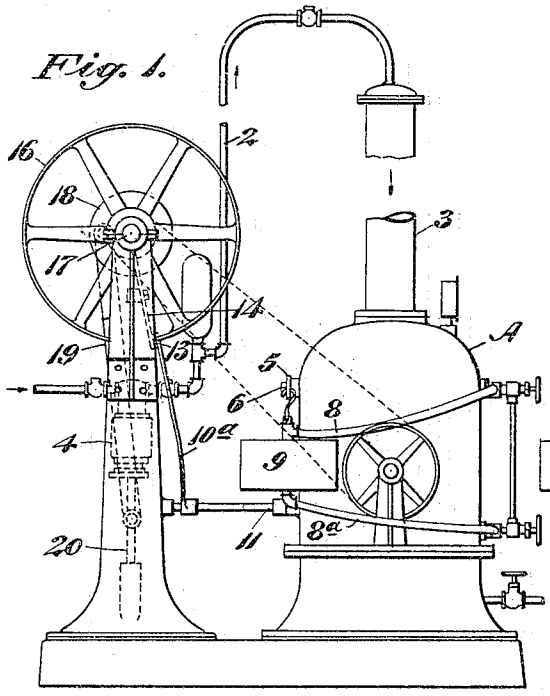


Fig. 2.

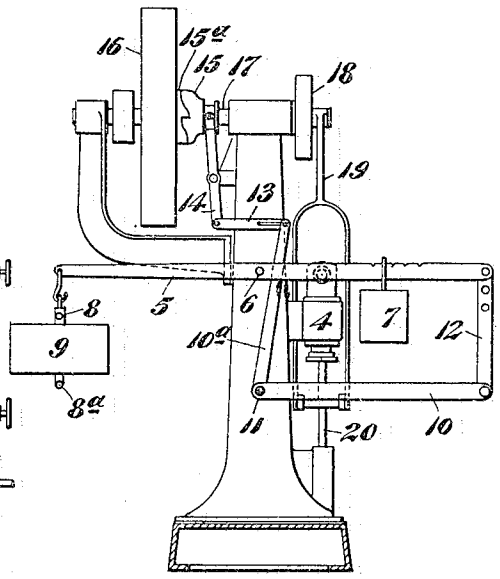


Fig. 3.

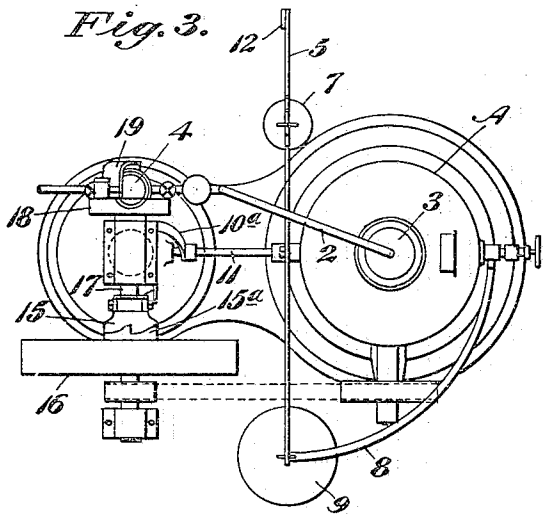
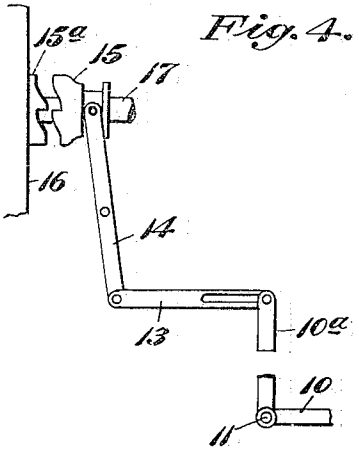


Fig. 4.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC ATTACHMENT FOR CARBONATING APPARATUS.

No. 809,649. Specification of Letters Patent. Patented Jan. 9, 1906.

Application filed April 11, 1905. Serial No. 254,996.

To all whom it may concern:

Be it known that I, HENRY W. VAN DER VAART, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Automatic Attachments for Carbonating Apparatus, of which the following is a specification.

My invention relates to improvements in supply-regulating apparatus, and is especially applicable to an apparatus in which fluid and gas are supplied to a corbonating-drum and in which it is desired to automatically regulate the supply of fluid.

My invention consists in the combination of mechanism and in details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a side elevation of carbonating apparatus showing my attachment. Fig. 2 is an end elevation of same with drum removed. Fig. 3 is a plan view of apparatus. Fig. 4 is a view of levers, showing clutch open.

In apparatus of this character it has been the practice to drive a pump by which fluid is supplied to the carbonating-drum by a belt, and by means of fast and loose pulleys and a shifting device the belt is transferred to either of the pulleys in accordance with the requirements of the apparatus. In my invention I have shown a novel means for engaging and disengaging the supply mechanism, in which by means of a clutch actuated by a balanced water-receptacle and weight the clutch is automatically operated by the change of level of the fluid within the drum and the balanced fluid-chamber.

As shown in the drawings, A is a carbonating chamber or drum which is adapted to contain fluid and within which is a suitable agitator, not here shown, but well known in this class of machines. The carbonic-acid gas is brought by a pipe 2 and delivered through a tubular chamber 3 into the top of the chamber A. The fluid-supply is furnished by a pump 4.

5 is a lever fulcrumed upon a standard or support and extending horizontally in each direction from the fulcrum-point 6. From one end of this lever 5 is adjustably suspended a weight, as at 7, and from the other end is suspended a hollow chamber 9. This chamber has both top and bottom connected with the containing-chamber A by flexible hose or equivalent connections, as at 8 8^a, and when the apparatus is in proper condition the position of the chamber 9 is such that being partially filled with fluid from its connection with the chamber A the level of fluid in the two chambers will correspond. In this condition the chamber 9 and the weight 7 balance each other.

10 is a bell-crank lever fulcrumed at 11 and having one arm connected by a link 12 with the balance-arm 5. The other arm 10^a of the bell-crank lever is connected by a link 13 with one end of a clutch-actuating lever 14, which lever is here shown as being centrally pivoted. The other end of this lever 14 engages the collar or channel of a clutch member 15. The other member of this clutch 15^a is carried by the driving wheel or pulley 16, which is fixed to a shaft 17. This shaft is suitably journaled, as shown, and carries upon its outer end the crank-disk 18, with which the pitman is connected. This pitman is connected with and actuates the pump plunger-rod 20.

The operation of the apparatus will then be as follows: When the fluid in the chamber A is at the desired level, it will also have fluid in the suspended chamber 9, so that the latter will just balance with the weight 7 and the connected levers and mechanism will hold the clutch 15 out of engagement. The pulley 16 is constantly driven by a belt and when the fluid within the chamber A falls low and needs replenishing the fluid in the chamber 9 will also have been correspondingly lowered, and this chamber being lighter than the weight 7 the latter will cause the balance-arm 5 to sink, thus acting through the various connecting levers and links to move the clutch 15 into engagement with its member upon the driving-wheel 16, and this transmits motion to the shaft 17, which carries the clutch member 15, and through this the pump will be set in motion, thus again supplying the tank or chamber A until the level of the fluid in this chamber is high enough. The fluid will simultaneously rise in the chamber 9 until its weight is sufficient to more than counterbalance the weight 7, when the lever-arm 5 will be tilted in the opposite direction and the clutch will be disengaged and the pump stopped. In this construction the driving-wheel is constantly running and there is no need of shifting the belt.

The clutch provides a positive engagement which is easily moved, and when engaged the pump will be started. It is as easily disen-

gaged when the requirements of the apparatus render such disengagement necessary.

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

A carbonating apparatus having in combination a fluid-chamber, a pump supplying said chamber, a lever fulcrumed between its ends, a weight adjustable on the lever at one side of its fulcrum-point, a chamber suspended from the lever at the opposite side of its fulcrum-point, pipes connecting the carbonating-chamber with opposite portions of the suspended chamber, a crank-shaft and connections by which the pump is driven, a pulley loose on said shaft and provided with a clutch member, a companion clutch member slidable on the shaft, a lever fulcrumed between its ends having one end engaging the slidable clutch member, a link connected to the opposite end of the last lever, a bell-crank lever having one arm connected to said link, and a link connecting the opposite arm of the bell-crank lever with an arm of the first lever.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HENRY W. VAN DER VAART.

Witnesses:

A. K. DAGGETT,

H. W. EISERT.