(No Model.)

J. F. MAINS.

MACHINE FOR AGITATING LIQUIDS.

No. 377,315. Patented Jan. 31, 1888.

Fig. 1.

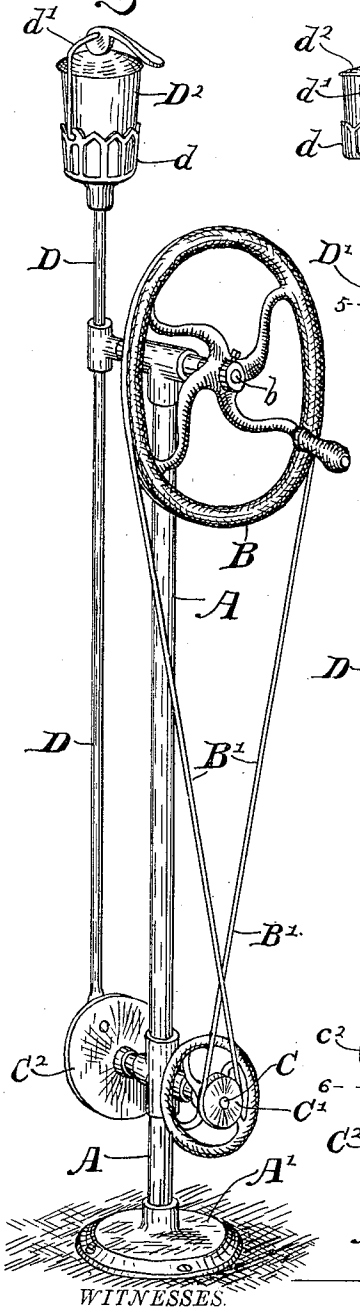


Fig. 3.

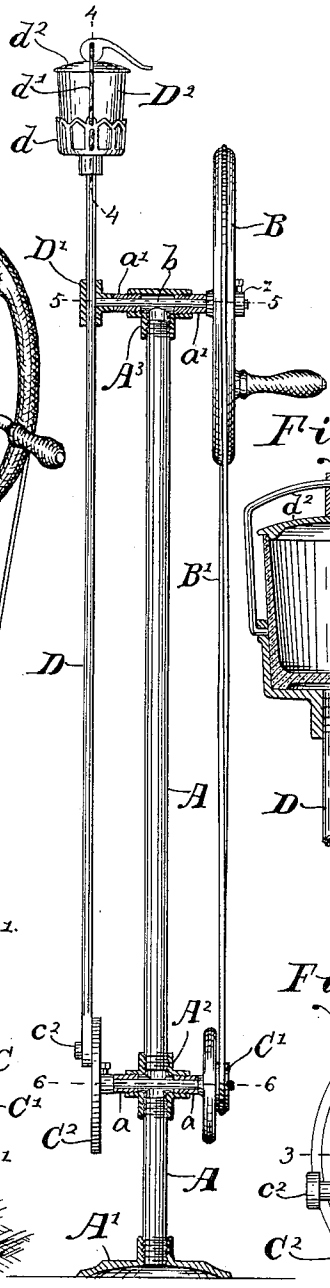


Fig. 2.

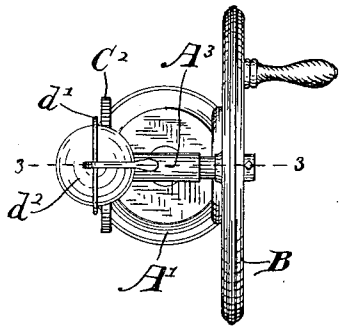


Fig. 4.

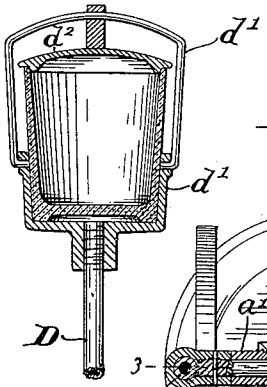


Fig. 5.

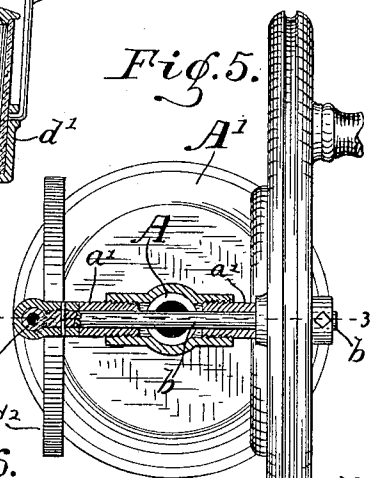
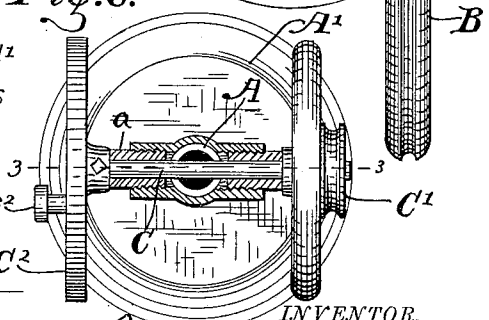


Fig. 6.



WITNESSES.

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UNITED STATES PATENT OFFICE.

JOHN F. MAINS, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF ONE-HALF TO WILLARD N. SHORT, OF SAME PLACE.

MACHINE FOR AGITATING LIQUIDS.

SPECIFICATION forming part of Letters Patent No. 377,315, dated January 31, 1888.

Application filed July 26, 1887. Serial No. 245,326. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. MAINS, of the city of Indianapolis, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Machines for Agitating Liquids, of which the following is a specification.

My said invention relates to that class of machines by which a glass of liquid is rapidly reciprocated, and which are used in producing the various cool drinks used in the hot seasons, among which are those known as "milk-shake," "lemonade," &c.

Said invention consists in certain improvements in the construction of such machines, whereby said machines are cheapened in cost; and it further consists of such a construction that an oscillatory as well as a reciprocating motion is imparted to the glass containing the liquid, all as will be hereinafter more particularly described and claimed.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view of a machine embodying my said invention, a glass being shown thereon as when said machine is in operation; Fig. 2, a top or plan view of the same; Fig. 3, a view partly in elevation and partly in central vertical section; Fig. 4, a central sectional view of the glass and immediately adjacent parts on the dotted line 4 4 in Fig. 3, on an enlarged scale; Fig. 5, a horizontal sectional view looking downwardly from the dotted line 5 5 in Fig. 3, and Fig. 6 a similar view looking downwardly from the dotted line 6 6.

In said drawings the portions marked A represent the standard or frame-work of the machine; B, the hand crank-wheel, by which the machine is primarily driven; C, the crank-shaft of said machine, and D the reciprocating rod on which the glass is mounted.

The frame A consists of a main central rod, formed of gas-pipe and mounted in a base, A′. It is divided at the point where the shaft C passes through, and a four-way coupling, A^2, inserted, in the two horizontal portions of which are secured short pieces of smaller pipe, *a*, which serve as bearings for said shaft C. At its upper end it enters a three-way coupling, A^3, in which other short pieces of small pipe, *a′*, are secured, which serve as bearings for a rod which carries the crank-wheel B and the upper bearing-block, through which the rod D passes. This frame-work, as will be readily seen, is thus made very simple and cheap, it being formed wholly of common gas-pipe and pipe-couplings, which are very inexpensive.

The wheel B is an ordinary hand crank-wheel loosely mounted on the rod *b*, and held thereon by a collar and set-screw, Z. It is provided with a groove in its periphery to receive a belt, B′, through which and a pulley, C′, on the shaft C said shaft C is driven. On the opposite end of the shaft C is the crank-wheel C^2, having a wrist-pin, c^2, upon which the reciprocating rod D is mounted. Said rod D is mounted at one end on the wrist-pin c^2, as just stated, and near its other or upper end passes through a bearing-block, D′, which is fastened on the end of the rod *b*, upon which the crank-wheel B is mounted, and said rod D in operation slides loosely through this bearing-block, which, together with said rod *b*, rocks in the bearings in the pipe-sections *a′*, and thus an oscillating as well as reciprocating motion is given the upper end of this rod D, which carries the glass D^2. This glass D^2 is mounted in a suitable socket, *d*, on the upper end of the rod, and is provided with a cover, d^2. It is held in position by a bail or loop, *d′*, and a cam-lever thereon, which rests upon said cover, as shown in the drawings. The rod D is also, preferably, a small gas-pipe, which is lighter and less expensive than a solid rod. The attachment on the top of the rod D, in which the glass rests, may of course, if desired, be in the form of a cross-head carrying two or more sockets to receive glasses, and thus two or more glasses of liquid may be agitated or mixed at the same time, as will be readily understood.

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

1. In a machine for agitating liquids, the combination of the frame, the crank-shaft, a pivoted bearing on said frame, and a rod car-

rying the receptacle for the liquid, connected at one end to said crank shaft and passing through said pivoted bearing near the other end, whereby an oscillating as well as reciprocating motion is given the vessel containing the liquid, substantially as set forth.

2. A frame-work for a machine for agitating liquids, consisting of a standard, A, composed of gas-pipe divided into two pieces and connected by a four-way coupling and mounted in a foot or base, and provided with a three-way coupling at its upper end, whereby bearings are provided for a crank-shaft and for a rod or shaft for the mechanism at the upper end, substantially as set forth.

3. The combination, in a machine for agitating liquids, of the standard or frame A, the hand crank-wheel B, the crank-shaft C, a pulley thereon, a belt connecting said pulley and said crank-wheel, a crank-wheel, C^2, on the other end of said shaft C, a rod, D, connected to a wrist-pin thereon, and an oscillating bearing, D′, through which said rod passes.

4. The combination, in a machine for agitating liquids, of a frame consisting of a standard provided with an upper and a lower set of bearings, a shaft mounted in the upper set, having a hand crank-wheel loosely mounted on one end and a bearing-block rigidly secured to the other, a rod for carrying a receptacle mounted in said bearing-block, and the means for operating said rod mounted in said lower set of bearings and geared to be driven from said hand crank-wheel, substantially as shown and described.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 23d day of July, A. D. 1887.

JOHN F. MAINS. [L. S.]

In presence of—

C. BRADFORD,

CHARLES L. THURBER.