(No Model.)

O. MÖLLER.

APPARATUS FOR MEASURING AND DRAWING OFF LIQUIDS.

No. 419,340. Patented Jan. 14, 1890.

Fig. I.

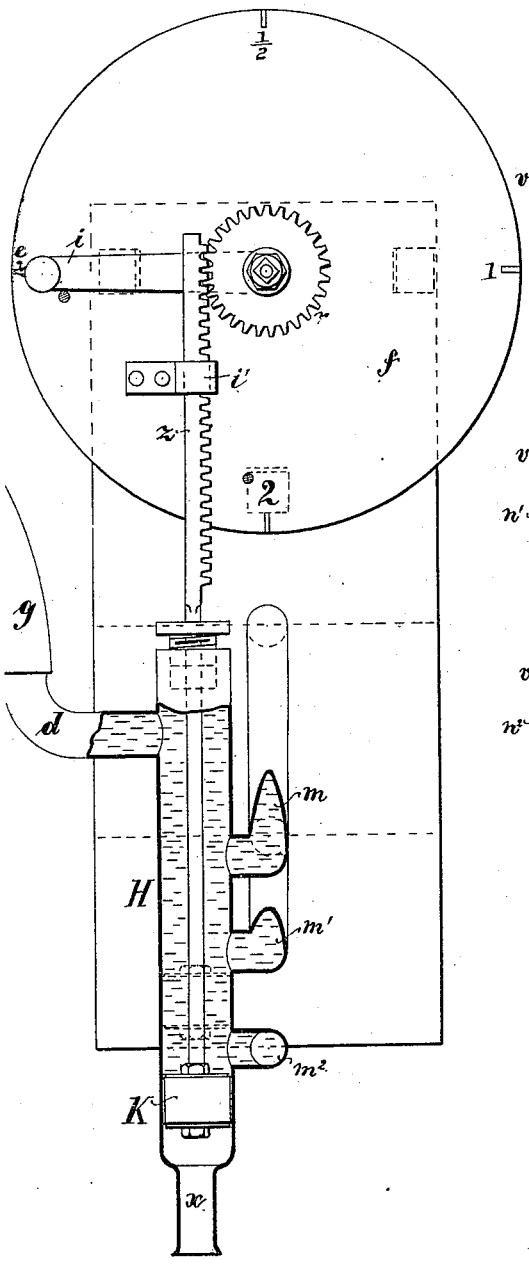
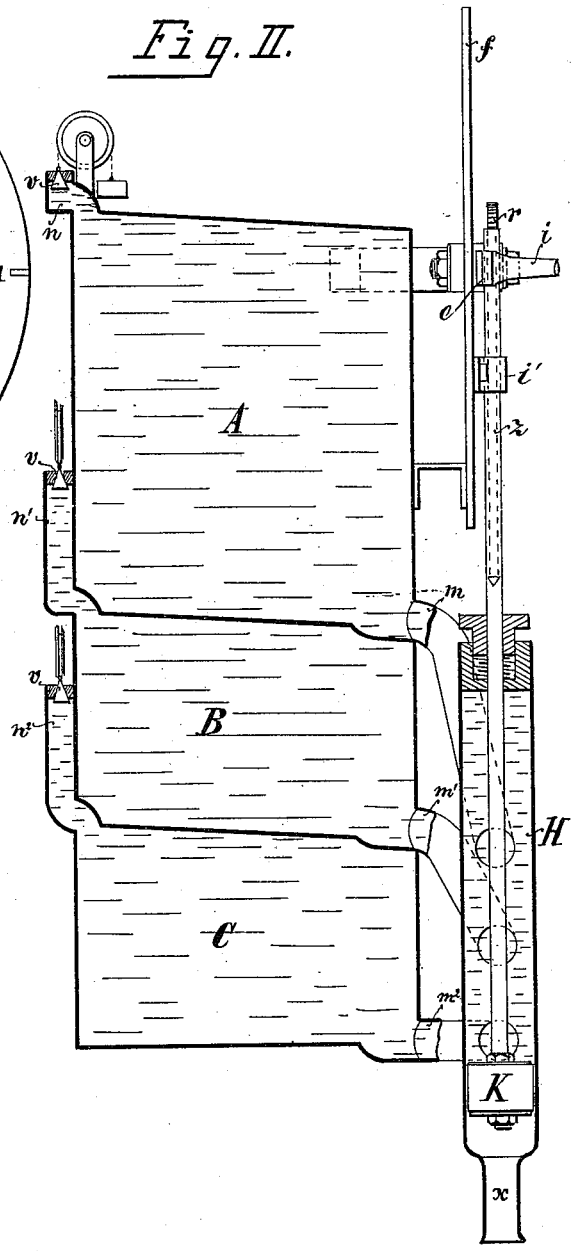


Fig. II.



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UNITED STATES PATENT OFFICE.

OSCAR MÖLLER, OF HAMBURG, GERMANY.

APPARATUS FOR MEASURING AND DRAWING OFF LIQUIDS.

SPECIFICATION forming part of Letters Patent No. 419,340, dated January 14, 1890.

Application filed October 17, 1889. Serial No. 327,269. (No model.)

To all whom it may concern:

Be it known that I, OSCAR MÖLLER, of Hamburg, in the Free State of Hamburg and Empire of Germany, have invented certain new and useful Improvements in Apparatus for Drawing Off and Measuring Liquids, of which the following is a full, clear, and exact description.

The invention relates to apparatus for drawing off liquids from barrels and other storage-vessels and delivering the same in any desired quantity to another receptacle; and it consists in the construction, arrangement, and combination of parts, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference designate corresponding parts in both the views.

Figure I is a front elevation of the apparatus, partly broken away and in section; and Fig. II is a sectional side elevation of the same, parts being broken away.

The apparatus is constructed with a series of chambers of varying size, three being shown in the drawings, the chamber A having the capacity of one liter and the chambers B and C each the capacity of one-half a liter. It will be understood, however, that the number of said chambers may be increased or diminished and their relative capacity varied, as may be found desirable in practice and as the exigencies of use may require. Said chambers are respectively provided at the rear of their top with air-pipes n, n', and n^2, respectively closed by counterweighted float-valves v when the chambers are filled with liquid, and the tops and bottoms of said chambers are preferably sloped from front to rear, so that air therein may be thoroughly exhausted at the pipes n, n', and n^2 as the chambers are filled, and the liquid thoroughly discharged when the chambers are emptied. The lower front ends of the chambers are respectively connected by discharge-tubes m m' m^2 with a cylinder H, in which works a piston K, the rod which carries the piston being formed at its upper end as a rack z, which is guided in a suitable keeper i', said rack engaging a pinion r, mounted on the outer extremity of a transverse shaft free to be turned in the center of a circular scale-plate f, supported in front of the upper chamber by suitable brackets attached to the same, said shaft having attached to or integral therewith an arm i, carrying a pointer e, as shown in Fig. I of the drawings.

The lower end of the cylinder H is provided with a discharge-nozzle x, and at its upper part said cylinder is connected by a pipe d with a tube g, leading to the barrel or vessel (not shown) which is to be discharged of its contents, said barrel being located at some little distance higher than the cylinder.

Upon turning the arm i down to the position shown in Fig. I, against a suitable limit-pin, the piston K is carried down to the position shown in the drawings, whereupon the liquid rushes from the barrel, through the tube g and pipe d, into the cylinder H, and forces its way thence, through the pipes m, m', and m^2, up into the chambers until the same are filled, the air therein being forced out at the pipes n, n', and n^2. Upon raising the arm and carrying its pointer e to the points marked $\frac{1}{2}$, 1, and 2 on the scale f, the chambers may be emptied of their contents successively or all at once, the piston being raised above the pipes m, m', and m^2, and opening the same, air entering at the same time at the pipes n, n', and n^2, and aiding the discharge of the liquid into the cylinder, from which it passes through the nozzle x to a receptacle thereunder.

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

1. An apparatus for drawing off and measuring liquids, consisting of a series of chambers of varying size, provided with valved air-pipes, a cylinder having a discharge-nozzle, pipes connecting the cylinder with the chambers and the receptacle to be emptied, a piston working in the cylinder, and means for raising and lowering the piston, substantially as shown and described.

2. In an apparatus for drawing off and measuring liquids, the combination, with a series of chambers of varying size, provided with valved air-pipes and pipes for the inlet and outlet of liquid, of a cylinder having a discharge-nozzle and connected with the liq-

uid-pipes and with the receptacle to be emptied, a piston working in the cylinder, a rack on the upper end of the piston-rod, a pinion meshing with the rack, an arm attached to the shaft of the pinion, and a scale over which the arm travels, substantially as shown and described.

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

OSCAR MÖLLER.

Witnesses:
EDW. PORTER,
GUSTAV S. BECKER.