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## A FEW NOVELTIES.

The device represented in Fig. 1 in the engraving is an improved automatic liquid weigher, invented by Mr. Lewis N. Watts, of Indianapolis, Ind. The scales in connection with the weighted elbow lever, A, are placed in the proper relative position to the faucet of the barrel, so that the receptacle into which the liquid is to be drawn may set on the platform of the scales. The receptacle is counterbalanced with weights, and enough more weight is added so that the scale will tip when the desired quantity of liquid has been drawn. The weighted end, B, of the lever, A, is raised to a vertical position, and the faucet opened. When enough of the liquid has run into the receptacle to tip the scale, the scale pan touches the horizontal arm of the lever, A, when the weighted end, B, falls on the handle of the faucet and stops the flow of the liquid.

An improved steam fog alarm, recently patented by Mr. William Leighton, of West Pembroke, Me., is shown partly in section in Fig. 2. It is intended to re-enforce and strengthen the sound of a steam whistle and to project the sound in one direction. It consists of a fog horn containing a steam whistle, behind which there is an adjustable resonance chamber.

The whistle is of peculiar construction, having straight parallel sides and straight orifices to give great volume of sound in a particular direction, instead of expending the force in all directions, as in the case with a whistle having an annular orifice.

Fig. 3 shows two forms of seed package, invented by Mr. Earl O. Wolferts, of Hicksville, N. Y. The novelty of this invention consists in placing the seed in a wrapping of paper at suitable distances apart for planting. For seeds that are to be planted in rows, the packages are made in continuous arrow strips, with the seed fixed between the folds, so that they may be rolled up in compact form for keeping. Such seeds as are usually planted in hills are fixed between disks of

paper in the proper number and distance for forming a hill, and the separate packages are connected by a band or ribbon to secure uniformity in the spacing of the hills. By these means the seeds can be planted uniformly as to depth and distance apart.

The magnets, A, in the electro-magnetic motor shown in Fig. 4 are elongated and notched at B, to increase their attractive surface, and the armature, C, is provided with projecting teeth corresponding with the notches in the magnets. The motor is provided with a resistance coil which assists in demagnetizing the last acting magnet and prevents sparks at the commutator. A device is provided by which the motor may at any time be reversed. This motor is the invention of Mr. John C. Ludwig, of San Francisco, California.

Fig. 5 represents an adjustable wash bowl patented by Messrs. J. L. Knight and S. Smith, of Topeka, Kan. The bowl is provided with hot and cold water supply pipes and with a waste pipe hinged together and provided with the necessary stop cocks.

An improved tap for tin cans, patented by Messrs. John T. Cooper and Julius Wagner, of Silver Reef, Utah Ter., is shown in Figs. 6 and 7. The invention consists of a bell-shaped body, A, provided with a stopcock and having a central spindle extending through it, carrying at one end an arrow-shaped head, B, for puncturing the can and holding the tap, and at the other end a wing-nut for drawing the bell-shaped body against the head of the can. The head, B, is projected some distance beyond the body, A, and forced through the top of the can; it is then turned through a quarter of a revolution and drawn up against the can top by the wing-nut.

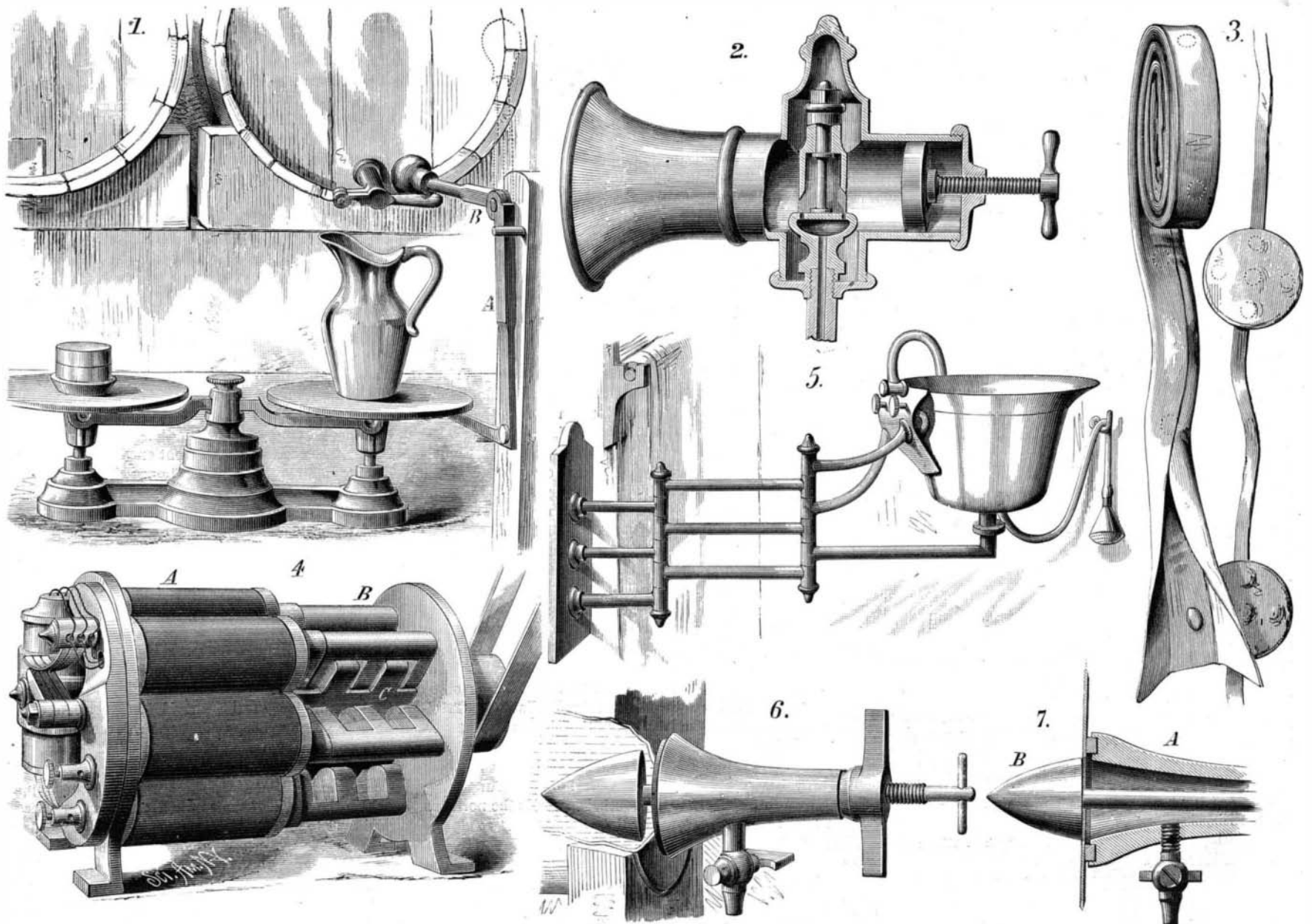
The body, A, is provided with a packing at each end to prevent the escape of the liquid. When the device is once in place the contents of the can may at any time be drawn out through the stopcock.

## Still Another Letter Copying Process.

Herr Adler has communicated to the Vienna Photographic Society a multiplying process based upon the use of the *glue plate*, consisting of gelatine, glycerine, and water (though the last-mentioned ingredient is present in a smaller quantity than usual), used in the hektograph and other similar processes. For writing or drawing Herr Adler uses a concentrated solution of alum, to which, in order to render the writing or drawing visible upon the paper, a few drops of some aniline color is added. Before laying the writing or drawing upon the gelatine surface pass a damp sponge over the latter, and allow the moisture to sink in for a few minutes so as to have a greater effect upon the alum. Then lay the written side downward upon the gelatine, and, after the lapse of a few minutes, on removing it the writing will be found reversed and eaten into the gelatine film as if it were engraved. By means of an India-rubber roller a little common printing ink is spread over the plate and absorbed by the lines sunk by the alum, and again rejected on the application of moisture upon the paper laid down upon it, and smoothed over it by the flat hand. When removed this paper will have upon it the first impression of the writing or drawing. For each succeeding impression the plate must be inked, as in lithography, by the India-rubber roller. A considerable number of impressions can be taken.

## Fusibility of Metals.

By means of extremely delicate processes, M. Violle has lately determined the fusing points of the more refractory metals. The following are given as the exact temperatures for five of these metals in the order of their fusibility: Silver, 1,749° Fah.; gold, 1,863°; copper, 1,890°; platinum, 3,195°; iridium, 3,510°. It will be seen that pure copper requires a higher temperature to fuse it than gold; ordinary commercial copper, however, melts below 1,035°. Iridium is the most difficult of all metals.



## RECENTLY PATENTED NOVELTIES.

FIG. 1.—Automatic Liquid Weigher. FIG. 2.—Steam Fog Alarm. FIG. 3.—Improved Seed Package. FIG. 4.—Electro-Magnetic Motor. FIG. 5.—Adjustable Wash Bowl. FIGS. 6 and 7.—Tap for Tin Cans.