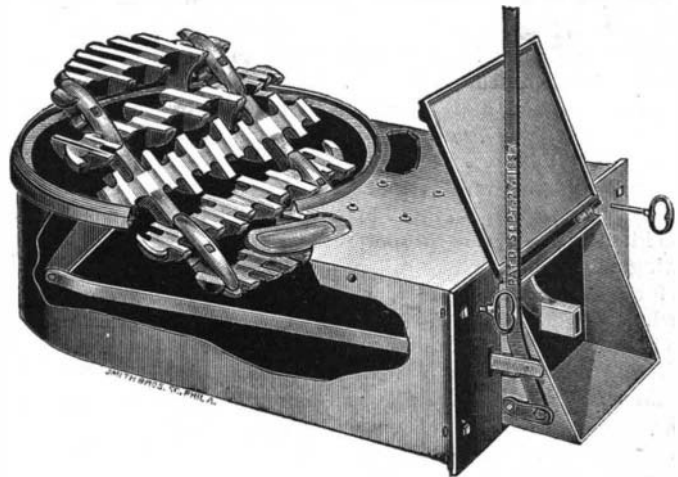
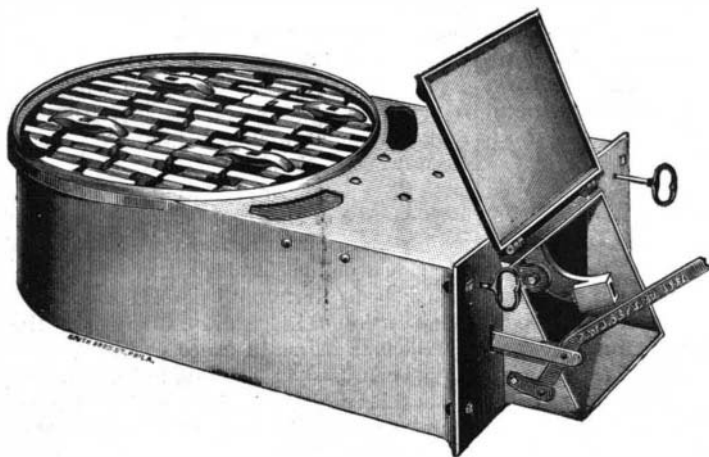


AN IMPROVED ROCKING AND DUMPING GRATE.

A recently patented grate, especially suitable for steam-heating boilers, and easily adjustable to an anti-dust base on which the boiler rests, is represented in the accompanying illustrations, one view showing the grate in its normal fire-holding position and the other its position in dumping the fire. This grate, as will be

less than during normal speech; in one particular case it amounted to only 900 c. c., whereas during normal speech the volume expired was 1,300 c. c. Dr. Benda expressed his idea that when ventriloquizing, the Eustachian tubes are open, and the cavity of the tympanum, together with the tympanic membrane, are set into simultaneous vibration. He had not been able to

size to hold a "cheese" of the material upon each end. The material to be pressed is inclosed in cloths and placed in layers three to four inches thick, a rack of narrow strips of wood being placed between each layer, affording channels for the water and grease to run off. The platform being mounted upon trucks has a movement sufficient to bring either cheese under the press,

**DUNNING'S ROCKING AND DUMPING GRATE.**

seen, removes the ashes from every part of the fire pot evenly, for which purpose the grate is rocked by the lever while the operator is standing up, clinkers being dropped into the bars and readily broken as the lever is worked, so that they are carried into the ash pit below. It will be noticed also that this grate does not require the use of the ring heretofore necessary for suspending the grate bars, thus preventing the accumulation of ashes at this point.

With the anti-dust base the grate can be shaken without making any outside dust or dirt whatever. It is simple in construction, and should one of the parts give out, it can be readily replaced by any one. These grates are manufactured by William B. Dunning, of Geneva, N. Y., and are used in all the wellknown patent steam-heating boilers made at his establishment.

Colored Mortar for Brickwork.

The *Real Estate Review and Record* (Brooklyn) says that common bricks of almost any district may be so sorted as to produce contrast in tint or "tone"—red, and yellow or "cream color." This tint of the bricks may be preserved and heightened by using mortar of the same tone or tint. Furnace ashes and lime will produce a dark mortar, pounded red brick or red tile mixed with lime will give a red tone to mortar, and cheap mineral colors may be added to mortar for pointing. The color of mortar is sadly neglected, as generally the same white lime and sands are used for all tones of color in brick, and not unfrequently white putty mortar is used for pointing the reddest as well as the lightest colored bricks—the light colored work having harmony of breadth and keeping, the red portion being frittered and broken up by the contrast between bricks and beds and joints.

Ventriloquism.

At a recent meeting of the Physiological Society, Berlin, Herr Meyer, from Hamburg, discussed the nature of ventriloquism, and combated the opinion, so widely spread among physiologists, that it consists in speaking while inspiring, and without the cavity of the mouth acting in any way as a resonator; on the contrary, ventriloquists speak while expiring, and do move their mouths. An extended series of laryngoscopic observations on the speaker, who has practiced ventriloquism for many years, has shown that in ventriloquizing the vocal opening of the larynx is shortened as it is when producing the falsetto, and that the soft palate is pressed back and that the uvula becomes invisible. Everybody who naturally possesses a high voice can easily learn to ventriloquize. One most important factor in the deception of the listeners is the contrast between the loud, full, and metallic tone in which the question is asked and the answer which immediately follows in a high and gentle falsetto. Sibilants and the high *I* should be as far as possible avoided. The speaker then gave a series of extremely successful examples of ventriloquism, which did not presuppose any particular training, and showed that it is never accompanied by any special action of the abdominal muscles. Prof. Gad has made some experiments on Herr Meyer, and by graphically recording the variations in pressure of the air, has shown that the curve obtained when a certain sentence is spoken in the ordinary way is in all respects identical with the one which is described when the same sentence is spoken ventriloquially. In the latter case the volume of air expired was considerably

detect any resonance of the tympanic membrane in Herr Meyer; but he believes that this explanation of the curiously veiled tones emitted is not thereby invalidated, since they closely resemble the tones produced by speaking while yawning, in which case the Eustachian tubes are certainly open and the tympanic cavity acts as a resonator.

HAND AND POWER PRESSES FOR INDUSTRIAL USES.

The variety of uses for which hand and power presses can be advantageously employed is being constantly enlarged by the great improvements which inventors and manufacturers have made in this line within a comparatively recent period. In the accompanying illustration is represented a power screw press, largely used in packing houses for pressing the water and grease from offal preparatory to drying for the manu-

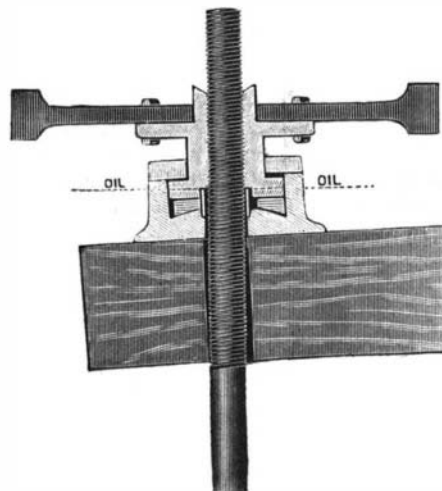
permitting the laying up of one while the other is being pressed.

A feature recently introduced by the company is shown in the sectional view of one end of the head beam of a screw press, being a patent concave washer and oil reservoir. This concave washer is self-adjusting, so that the springing or warping of the head beam has no effect on the screws or on the bearings for the nuts, while a flange projects upward from the seat through the washer and into the nut, which is recessed to receive it loosely, forming a cup or reservoir filled with oil, in which the screw nut turns. A small groove planed across the face of the nut allows the oil to cover the whole surface at each revolution, thus keeping the surfaces constantly lubricated.

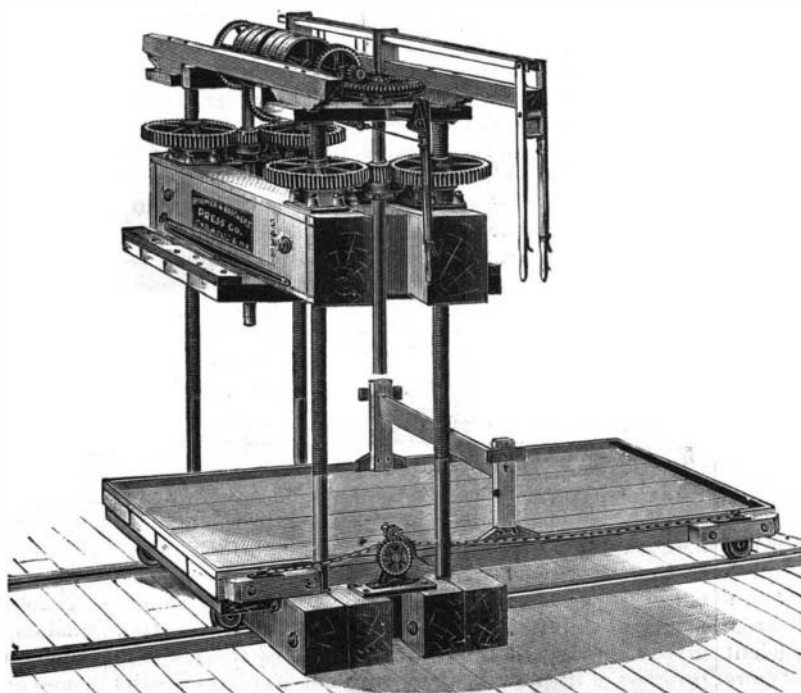
All the presses made by the Boomer & Boschert Press Co. have an indicator by which the operator is enabled to put on more or less pressure as desired, according to the material in the press, and can always measure the pressure used as accurately as it could be determined by steelyards or scales. The company make a great variety of presses for many different purposes, prominent among which we may mention those for oleo, lard, and paraffine oils, cottonseed, castor, and coconut oils, leather belting, for tanners' and curriers' use in preparing the leather for splitting, or in the after manipulation in making imitation pebble goat, glove grain, etc., also for knit goods, paper and book presses, baling cotton and woolen goods, vulcanizing rubber, and for many other uses. Having been established in 1874, they have had large experience in the pressing of different products. A very extensive branch of their business is the manufacture of cider machinery.

Electric "Sunstroke."

M. Defontaine, doctor in chief to the Creusot Steel Works, in a paper read before the French Society of Surgeons, states that workmen employed in operating the electric forges at Creusot are subject to a form of sunstroke, which he attributes to the intense light radiated from the focus of the forge. Ordinary arc lamps are incapable of producing such effects, as the light is not sufficiently intense, but these forges emit a light of more than 100,000 candles from a few square centimeters of surface, producing on men exposed to their glare physiological consequences previously unheard of. Frequently, after two or three hours' work, the men complain of pains more or less intense in the neck, the face, and the forehead, simultaneously with which the color of the skin is changed to reddish brown. Further, in spite of the precaution taken by the men of shielding their eyes with dark glasses, the retina is affected to such a degree that for some minutes after ceasing work the operatives are totally blind to all objects illumined with common daylight, nor is perfect vision restored till nearly an hour after. The conjunctiva are irritated, and remain in a state of congestion for forty-eight hours, and this is accompanied by a painful feeling, as of some foreign body introduced under the eyelids. The secretion of tears is augmented, a constant flow being kept up for twenty-four hours, during which the patient suffers from insomnia, due to pain and the abnormal flow of tears, and possibly also to fever. During the following days the skin peels off the face and neck, which become of a deep red color, fading away about the fifth day. In cases of ordinary sunstroke, heat may have some influence, but in those considered above, the whole effect is due solely to the action of an intense light.

**SELF-OILING CONCAVE WASHER.**

facture of fertilizers. It is made by the Boomer & Boschert Press Co., of Syracuse, N. Y., and has been adapted to a line of work for which presses of this character have not hitherto been considered available. It gives the same pressure at any point, thus pressing a small as well as large amount of material without blocking, and is made with double platform of sufficient

**BOOMER & BOSCHERT'S POWER SCREW TANKAGE PRESS.**