The accompanying engraving is a vertical section of the water wheel of Henry Van Dewater, of the city of Albany, N.Y., embracing an improvement on his patent of October 1883, for which he has just taken measures to secure a patent.

The improvement consists, first, in the employment of a concave guide at the lower part of the casing beneath the wheel, in combination with a gate which surrounds it, to regulate the discharge of water from the casing or wheel. Second, in the employment of a peculiar gate and a series of shutes made and arranged to admit the requisite quantity of water to the wheel. Third, in surrounding the wheel with a chamber (filled with water) which, in connection with the peculiar form of the buckets, makes the water exert an upward pressure to relieve the bearing step of the weight of the wheel.

A is the cylindrical casing of the wheel, which may be made of cast iron. It is secured in its upright position by the rods, a, a, to a flange, B, underneath the casing. This flange is placed at the lower part of the guide or deflector, C, which is a concave conical form, and projects upwards a suitable distance within the casing, A. On the upper end of this guide is the step or bearing of the wheel shaft. This step is secured by an upright head, D. Within the lower part of the casing there is a rim or band, E, which forms a gate. This gate works snugly within the casing, and has four vertical rods, f, f, and at opposite points. The upper ends of these rods are connected to cross bars, F, to which vertical racks, d, d, are attached; these gear with the pinions, e, e, at the end of a drum, G. Within the casing, A, and directly above the guide, C, is the wheel, H. It is fitted between lateral shutes, f, f, which thus form a chamfer or recess, g, around the wheel. The top and bottom edges of the buckets are radial with the wheel, and the intermediate points are gradually curved, so as to leave the spaces between the upper edges of the buckets wider than the spaces between the lower ends; the figure shows the rim of the buckets. Directly above the wheel there is a fixed series of shutes or guides, i, which are placed directly over the buckets, k. The shutes are of a spiral form conforming to that of the buckets, and at the mouth of each there is a slide, j, connected to a circular rim, I, which encompasses the shaft, D. These slides, j, form the gate above the wheel. J and J are two vertical racks attached to the upper surface of the rim, L. Two pinions in a drum (not shown) gear into these racks. By turning the drum, these pinions operate the racks, J and J, and thus raise or lower the slides, j, according to the direction the drum is turned. By turning the drum, G, the pinions, e, e, take into the racks, d, d, and elevate or lower the lower gate, k. The water from the surge flows into the upper part of the casing and the slides, j, being open, pass in and fill the entire casing, and is directed tangentially against the buckets of the wheel, the quantity being regulated by the guides and slides. As the spaces between the lower edges of the buckets are narrower than those between the upper ones, the water presses upward to a certain degree against the under surfaces of the buckets, and stands upon the under step of the shaft, D, from top to bottom, thereby decreasing the friction. The surrounding water in the recess, g, acts upon the wheel when set at work. By regulating the gate, E, the unequal draft of partial vacuum upon the column of water descending from the bottom of the wheel is obviated. It will be observed that when the gate, E, is raised or lowered, there will be an equal pressure all around the deflecting guide, G, so that the draft is equalized at all points around the wheel.

In the ordinary French turbine a valve is used for this purpose, but this causes an unequal draft, and is therefore inferior to the guide, G.

These improvements on the Jevon French water wheel, by Mr. Van Dewater are obvious. His wheels have a high reputation for efficiency. We have now a number of certificates before us, from persons in various parts of our country using his wheels, all satisfactorily, to their highest extent of power and excellent construction.

More information may be obtained by letter addressed to Mr. Van Dewater.

Chief Engineer Ouden—His Creasing and White-washing. § 2 - 2

Subjoined is a particularly definite and telling document, which was picked up in a mutilated condition in front of the State House, which shows up Engineer Ouden with unmistakable clearness. It proves that Ouden, within six months, expended the whole items of appropriations for the entire year; appropriations, too, which were made from his own estimates.

Let it be observed, also, how or on whom they were expended. The Schofield mentioned in the bill below is a brother and partner of the Schofields in Congress—a particular friend and white-washer of Ouden, the Wheaton in the bills is Mr. P. O. Wheaton—the principal outside operator, borer, turner, and manager for Ouden’s re-election. No wonder that Messrs. Schofield, Wheaton, and Allen “went in strong” for Ouden; he goes in strong for them. The bills below show that they received 30 to 50 per cent. above the market price, for their oils and tallow.

The white-washing applied to Engineer Ouden was not well made up. It will not stick. It falls off in big pieces and leaves big blotches exposed to the view. The Engineer has only one resource. He must be mighty particular and square in his dealings and accounts heretofore, or else Cormack, Clymer, and all the rest of the white-washers cannot expect him from the exposures of Haider, the reform broum of uncle Andrew Miller, and the independent strikers of the Transcript.

PROCEEDINGS OF CITY COUNCILS.

The regular stated meeting of Councils was held yesterday afternoon, at the following business transacted:

SELECT COUNCIL—Communications and reports presented in following communications were the Board of Health, asking for copies of "A Digest of the Laws of the city;" accounts rendered to Mr. John McCarthey, Chief Commissioner—Highways, etc., containing names of street-poll; petition for water pipes in 23rd and 23rd streets lower level; Leland be an officer of the Water Department, calling attention to the settlement of a portion of the city: communication from Fried. Graach, late Chief Engineer of the Water Department, calling attention to the settlement of a portion of the city; communication that the City Treasurer, stating the amount of city bonds purchased since the last report—of all which were referred to the appropriate Committee.

The Chair submitted a communication from Federal Brass, Chief Engineer of the Water Department, calling attention to the settlement of the amount of city bonds purchased since the last report—all of which were referred to the appropriate Committee.