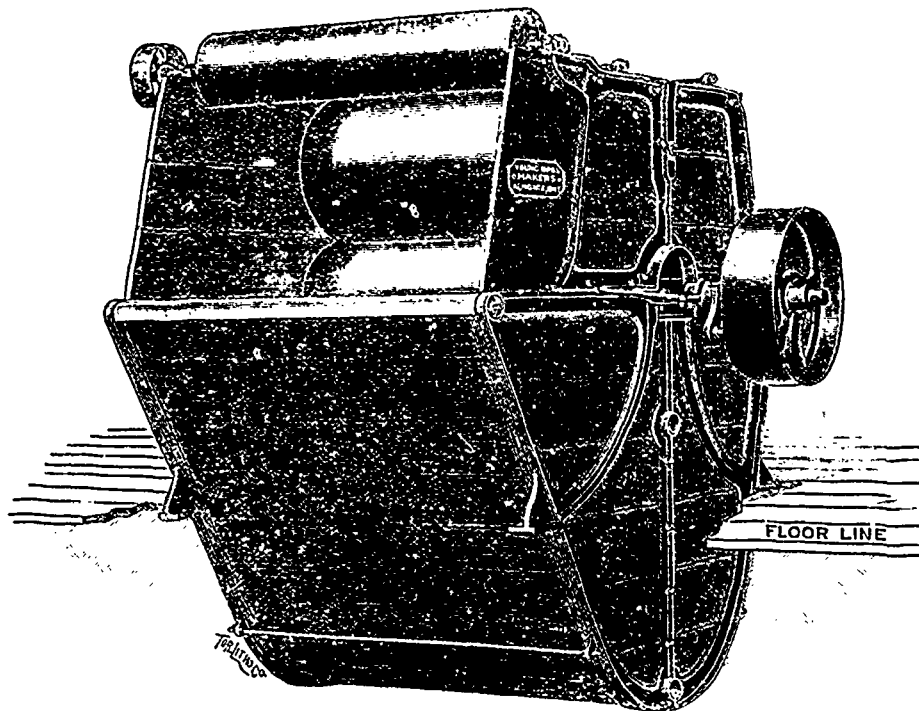


omy of a wheel is the proportion of its discharge area to the quantity of water applied.

As it is certain that no more power can be obtained from the water than the difference between what it has at its application and that retained at its exit from the wheel, and as it is a well established and immutable law of nature that the energy of motion is as the square of its velocity, it is evident that wheels discharging water at nearly or fully one-half of its entering velocity must waste a large percentage of the power of the water in that way; and this is a prolific source of loss in many of the popular varieties of turbines now in the market, which are readily sold to inconsiderate buyers at somewhat less price perhaps than those of more honest proportions, though their cost to the user, who needs the power they waste, is often many times that of properly proportioned wheels.

AN IMPROVED CLOTH WASHER.

We take pleasure in bringing before our readers an improvement in cloth washers for woolen goods. The illustration represents a cloth washer of improved shape and construction, made by Young Bros., Almonte, Ont., who claim with confidence that it is superior to any cloth washer yet put in the market.



The frame is of iron, and is built of a new pattern, designed to prevent knotting and to give the most easy and natural passage of the goods, with greater capacity. The casings are of hard pine. All bearings are outside of the casing to prevent the dripping of oil on the goods.

All main bearings are babbitted and adjustable to take up wear. The main rollers are of hard maple or oak, with heavy flanges on each end, and shafts running clear through the rollers. Below the bottom roller there is a deep box, which catches all the suds

and grease squeezed from the goods. In the bottom of this box there is a gate, which, when open, allows the suds to pass down into the washer among the goods, until they are ready to be washed off, when by opening a valve on the side of the washer the gate in the sud box is closed and the soap passes through a spout to the outside and can be saved for further use if desired. There is also a gate at the bottom of the washer which can be used while rinsing, or to drain the washer at any time. All the greasy suds pass off without mixing with the goods while washing, ensuring, with the pressure from the very heavy rollers used, more expeditious washing and cleaner goods. The gates and valves are all controlled by levers conveniently operated from the front of the machine. The power is transmitted by means of a *Friction Clutch Pulley*, operated by a lever conveniently placed, doing away with tight and loose pulleys and slipping of belts, and enabling the operator to start and stop the washer quicker, without damage to the goods, and a greater saving of belts than by the old method. The washer has a capacity of four strings of goods, double width if desired. Prices and further particulars may be obtained of Young Bros., the manufacturers, Almonte, Ontario.

THE MANUFACTURE OF CHINCHILLAS.

It is well known to finishers of napped goods how essential it is to have the nap in the proper condition while the goods are yet wet, for it is next to impossible to alter the lay of the nap materially from the position it has while in the process of drying. This holds good on all kinds of goods depending upon a nap for the finish, and on chinchillas more than anywhere else. The nap has been obtained only by the utmost care and attention to detail, and everything that will in any