

meal, or chop from twenty to thirty bushels of corn and cob, per hour. The price of it is \$40.

If we are correctly informed, this company have achieved a most enviable reputation for their steam grist and saw mills, of which we have seen very flattering testimonials from good authority. The opinion entertained by the company is that their steam mills are cheaper than the average of water mills. We share with them and many others the belief that the steam engine is destined to supersede the water wheel; and from what we have seen, we are constrained to do Messrs. G.W. & Co. the justice to record our belief, that their improvements have greatly reduced the difference in point of economy heretofore existing between the two motive powers in question, especially in the application of steam power to the manufacture of flour and lumber. If, as they say, they can apply all their improvements wherever steam is used as a motive power, the manufacturing industry of the country must be benefited in proportion as they are introduced. If they shall succeed in convincing capitalists that they can make good their promise to construct effective and durable steam mills, which would be better investments than the average of water mills, no one will hesitate between water and steam, for it is understood that water power is becoming less and less certain from clearings at its sources; besides which, the advantages in favour of steam power in the choice of a site are so manifest that, other things being equal, every sane person would pronounce for it.

These gentlemen have put forth a statement to the public, to the effect that their steam mills can be, and are, worked with less cost for fuel than the ordinary water mills cost, say for extra interest on first investment in water privilege, and keeping up dam, &c.

Speaking in reference to steam grist mills, they state positively that there is not one in Canada or North America capable of grinding one hundred barrels of flour with six cords of wood; but if they could do so, that at \$2 50 per cord, not reckoning expense of labour in firing, it would cost, running 275 days a year, \$4,125, or simple interest on \$68,750. Whereas they undertake to build a steam grist mill, which they will guarantee to grind one hundred barrels of flour for every one and a half cords of wood, say \$3 75, or \$1,031 25 for a working year of 275 days, making a difference in their favour of \$3,093 75.

If these statements are correct, then has this establishment contributed largely to the interests of the country. If they can be impugned, let it be so; and our columns will be as open to the refuta-

tion of error, as they are to accord the meed of praise where it is due.

Mr. R. Vansickle, Leyden P. O., who runs Ganson, Waterous & Co.'s saw and grist mills, and who raised objections to the smallness of the boiler (less than the old one, which was not large enough), found it amply sufficient to drive his mill of muley saw, 4 feet circular, edging, stabbing and lath saws, and gristing mill of two runs of 44 in. stones, at the same time, frequently grinding 200 bushels or more a day. In answer to a question as to fuel, he says, "I cannot tell you what amount of fuel we consume; but when our circular saw alone is running, with the grist mill in full operation, grinding 16 or 18 bushels an hour, we burn no more than the saw dust, leaving the slabs for future use." The circular saw, he says, will cut 2,010 feet of lumber in 45 minutes, with the grist mill in full operation.

Mr. J. C. Geddes, manager of the Bank of British North America, proprietor of the steam flouring mills of Burford, states, in reference to certain improvements made for him in those mills, that they have accomplished more than was promised, and believes they will grind three times the quantity with the same quantity of fuel.

Mr. D. D. Hay, of Listowell, C.W., had an engine that was hardly capable of driving one run of 30 in. stones, and now has a new engine from the above works, which, with the old boiler, can drive two run of stones and a five feet circular saw, quadrupling the work with the same quantity of fuel.

Of the patent direct action circular saw, similar to the one exhibited at Hamilton, Mr. Potter, of Brantford, who has had great experience in saw mills and lumber, says it is the best he has any knowledge of in any country, for quantity and quality of work.

If these statements are correct, and the names given are highly respectable, then the requirements of theory, which are that three fourths less fuel should accomplish the work commonly done, are very nearly approximated. So close indeed is this approximation, that if it is true, that "physical conditions of perfection cannot be secured under any circumstances," new data may be furnished by the results here arrived at for further theoretical investigation. We have been told that "Every question connected with steam has been determined with sufficient accuracy to satisfy most practical purposes, and with this we have every reason to rest content for the present;" but if it shall be proved that we have fulfilled the conditions indicated by theory, and physical perfection being impossible, may we not require that science should