

Dover, are now making capital linens, towellings, bagging, cordage, etc. At the recent Upper Canada Exhibition, samples of these linen goods were shown, and frequent were the expressions of surprise and delight that we could now work up our home grown flax into such excellent and beautiful articles. Our principal cotton mills are situated in Dundas, Thorold, Hastings County, and this city. We may mention here, that there is also a successful cotton factory in St. John's, New Brunswick. The proprietors are Park and Son, who commenced operations in 1861. Cotton cloths, yarn, and batting are made by our mills to a considerable extent, and now that the cotton crop of the Southern States is beginning to increase again, we may reasonably expect that the goods which Canada requires will be fully supplied by our own workmen.

Large sums were wont to be annually spent by Canada abroad for machinery of different kinds. Machinery for mills, and even agricultural machinery, we had to go over to Brother Jonathan's dominions to procure. Thanks to a moderate Legislative encouragement—now, unfortunately, partly taken off—the Province abounds in machine shops, which can supply nearly all our wants. Besides the extensive works of Messrs. Morland, Watson & Co., Frothingham & Workman, Mr. George Brush, John McDougall & Co., and other well-known establishments in Montreal and vicinity, there are those of McGee & Hamilton, Toronto; Goldie, McCulloch & Co., Galt; the Canadian Engine and Machinery Company, Kingston; Gartshore & Co., Dundas; Ganson, Waterhouse & Co., Brantford; Hall & Co., Oshawa, and many others of equal merit. In 1861 we made agricultural implements alone to the value of \$723,220. We hope the day is not distant when we will buy no machinery from the United States which we can profitably make ourselves.

Among many successful branches of manufactures which call for mention at our hands, are the following: Tobacco and cigars, axes and other edge tools, glass and wooden-ware, soap and candles, paper, cards, and envelopes, starch, locks and nails, &c. The effect of Legislative encouragement in promoting industrial pursuits, has been well illustrated in the case of tobacco manufacturers. As if by magic, several large factories have sprung up, giving employment to a considerable number of both men and women. The existence of this branch of industry in our midst is directly attributable to the duties imposed on foreign tobacco and cigars by the tariffs of '58 and '59. As early as 1861, there were 31 factories in existence, whose produce amounted to \$354,586 during the twelve months.

Our Provincial paper market is now about wholly supplied by Canadian manufacturers. The principal mills are those owned by Messrs. A. Buntin & Co., situated at the head of the Beauharnois Canal. This paper-mill, or, more accurately speaking, these two mills, afford remunerative employment to some hundred and forty workmen. They are furnished with the most improved modern machinery, and are capable of producing paper of every description—writing, printing, coloured and wrapping. The demand upon the productive power of these mills is very large—still it is supplied with facility, and most of the journals of both sections of the Province are furnished with paper from the establishment. In addition to the manufacture of all descriptions of paper, this firm is engaged in the production of the same material for the making of shirt collars, a branch of industry which is successfully carried on by a house in this city. The manufacture of all classes of envelopes is also carried on extensively at these works. The machinery employed in this branch of the business is capable of turning out about half a million of envelopes a week. In addition to these are the mills of Messrs. Angus & Logan, of this city; of Messrs. Barber, at Georgetown, and Messrs. Taylor Bros., Toronto.

At Gananoque, Galt, and elsewhere, edge tools, waggon springs, and hand presses are produced of first-class quality, whilst this city has become noted for its glass-ware, nails, spikes, sprigs, and similar articles. There is still room for progress in all these departments of industry, but there is much cause for congratulation at the steady advancement which takes place from year to year.

Among new manufacturing enterprises into which our people are entering, are several well worthy of attention. Among these we give a prominent place to cheese factories. It is a singular fact that, up to this time, we have imported largely of cheese from the United States. This anomalous state of things is fast disappearing, for throughout Western Canada, in the Eastern Townships, and elsewhere, the production of cheese is being entered upon with great energy and spirit. One of the most successful factories is situated near Ingersoll, C.W., and its proprietors showed its capacity at the Provincial Exhibition at Toronto, by exhibiting a monster cheese, weighing no less than 7,000 lbs. ! We understand it is to be sent to the Paris Exhibition. In Toronto and Hamilton two large establishments for manufacturing pork into bacon, have been for some time doing a large business. We believe they ship to Britain, and handsome profits are made. At other places besides these

two cities, such factories would be profitable; being at the head of ocean navigation, Montreal appears to us an admirable point for commencing one. Besides these, we hear of new manufactories for making bent stuff for carriages and waggons, platform and counter scales, iron safes, looking-glasses, glnes, and wire-work of various kinds. Paper collars are now being made in Montreal and in Galt; the manufacture of Indianrubber combs has recently begun in Toronto, and at Dundas a screw manufactory lately commenced business. No little enterprise is at present being manifested by our citizens in taking up new trades which can be rendered profitable. This is a gratifying "sign of the times," and bids us hope that Canada may yet become as important as a manufacturing country as it now is as an agricultural one.—*Montreal Transcript*.

## 2. COMPOSITION OF THE PYRAMIDS.

Professor Unger has lately obtained some tiles from the well-known pyramids of Dashur, the building of which dates between 3300 and 3400 B.C. These, like all the Egyptian bricks, have been made with an addition of desert sand, and chopped straw, in order to give them greater cohesion and durability. Seeds of various plants, animal remains, and artificial products, were accidentally introduced with the materials used in the manufacture; and these bodies, encased in clay and secluded from the air have remained unaltered to the present time, and can be recognised distinctly. A careful examination shows the presence, at the remote period of the building of the pyramid, of five different cultivated plants, seven field weeds, and some local plants, together with several fresh-water mollusca, and remains of fishes and insects. Most of the organisms still occur in Egypt, and have remained unchanged. Besides the two cereals (wheat and barley), there were found the teff, the field pea, and the flax. (*Linum usitatissimum*), the last being, in all probability, employed as a food-plant as well as for textile purposes. Great interest attaches to the weeds, which belong to the commonest kinds, and have migrated with the cultivated plants, not only over all Europe, but over the greater part of the earth. Of artificial products there were found fragments of burnt bricks and earthen vessels, a small piece of linen thread, and one of woollen thread—all of which indicate a tolerably advanced civilization at the time of the building of the pyramid. Moreover, the condition in which all these objects—especially the chopped straw—occurred, proves that brick-making was really carried on in the manner stated by Herodotus, and described in Exodus v. 11.—*London Review*.

## 3. ANECDOTES OF THE MICROSCOPE.

The telescope, which resolves nebulae into stars, and stars into suns, which peoples the firmament with myriad worlds, is not more wonderful than the little microscope which reveals "the grand immensity of littleness." When it came into man's possession, it was as though a second Columbus had appeared, announcing the existence of a new world; and not one merely. The microscope reveals in a single drop of water a globe, peopled, according to Ehrenberg, with five hundred millions of living creatures, different from everything which man has seen before.—It shows us in every bit of clay or stone, every leaf, bud and flower, a world crowded with its busy multitudes. The substance of these animalculae is usually so transparent, that the internal structure is visible,—even the act of digestion can be watched, and the food traced from its mouth to its passage into the internal cavities. The eggs also can be seen within the bodies. Thus the microscope has silently overthrown man's theories for the explanation for vital phenomena, and has furnished materials for their true elucidation.

The microscope teaches man the structure of trees, and the uses they best serve in the affairs of life. By it he learns the elements entering into particular soils, and is enabled to supply those fertilizers necessary to the production of the desired crop. The accuracy with which the microscope detects counterfeit bills and forged manuscripts, adulterations in food and liquors, renders this instrument a valuable ally of justice.

In connection with this celebrated instrument, the following curious anecdote is related. Some years since in England, barrels containing gold dust were emptied of their precious contents and filled with sand. The party robbed not being entirely satisfied with the exchange, submitted the case to the microscopist, Ehrenberg. The latter, by examining with the microscope specimens of sand from the several stations on that part of the road traversed by the barrels, was enabled by the peculiarities of its appearance to designate the place at which the barrels had been filled. The officers of justice were thus put upon the right track, and the thieves captured.

In our own country, not many years since, a most curious and interesting case of murder was decided by this wonderful silent witness. The individual towards whom the whole circumstantial evidence was pointed as the guilty man, claimed that the blood-