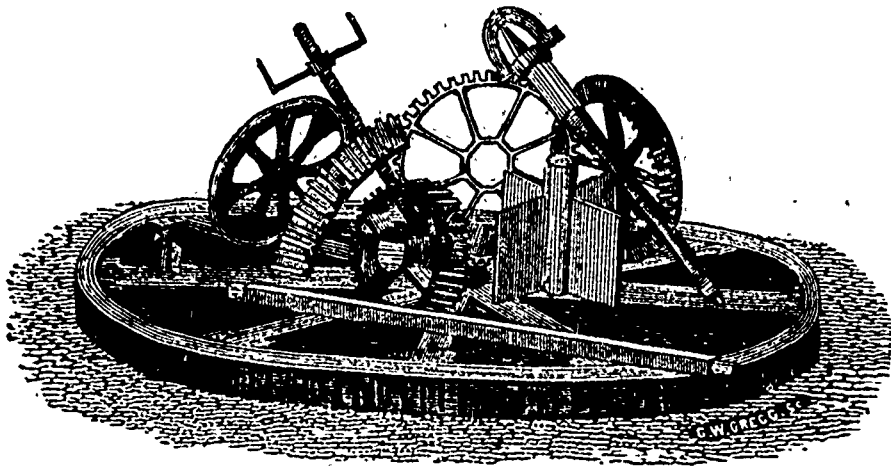


MECHANICS.



It is too much the practice with our farmers to call in the aid of the mechanic when they require that to be done which they could and ought to do themselves. We do not wish to advise anything which may tend to the injury of the mechanic, but we would at the same time endeavor to urge on the farmer the necessity of his *helping himself* in those small jobs which are quite within his reach, without having recourse to the mechanic; for instance, making or repairing a gate, a fence, or any other of the multitude of small jobs which are constantly required about a farm-yard. The mechanic will have quite sufficient work to do if he only gets the more difficult pieces of work. A farmer cannot be expected to make wheels or springs for his wagon; a farmer cannot be expected to make a window sash, a tub, a churn, a mangle, or any article which requires that skill which the mechanic acquires by practice and experience. No, we would not wish to see the farmer attempt these things, because we know he would be wasting both time and money; but we would decidedly wish to see the farmer and his sons shingle their own house, lath on the framing, and leave it ready for the plaisterer. It may be said that by this we would advise the dispensing with tradesmen or mechanics as much as possible. To this we answer that *we do*. And our reasons are—first, that the expense of employing carpenters and plasterers, except where they cannot possibly be done without, makes the farmer too often put up with great inconvenience in his domestic management rather than face that expense—second, that by the farmer and his assistants doing the plain and easy work, which is often three-fourths of the entire, the expense attending the employment of tradesmen becomes comparatively light—third, that our farm-houses, offices, &c. would at once assume a neat and elegant appearance without waiting for the accumulation of wealth to attain so desirable an object. These are our reasons, and for these reasons we would strongly urge on every farmer in the province the absolute necessity of having a set of carpenter's tools by him, such as a good hand-saw, lock-saw, jack-plane, smoothing-plane, and half-inch and quarter-inch chisels, a square and rule, a hammer and gimblet, together with a good supply of large and small-sized nails, screws, &c. &c. Let our farmers but follow our advice and employ their leisure time in repairing, improving and ornamenting their houses, and we can

promise them that they will soon acquire a love for the work; a taste will be created which will amply repay their future years in the neatness and trimness around them, and above all the feeling of worthy pride that it is the work of their own hands.

BRIDGE BUILDING.

There are few branches of mechanics which require more consideration, particularly in this country, than that of bridge-building. A good road is curtailed of its utility by bad bridges; and the danger to human life which rotten or ill contrived structures of this class present, as well as the injury to horses, springs and wheels, must make it a matter of extreme importance to the entire province. We have many designs in our possession for the erection of bridges, and we would always recommend that the bressumers or sleepers go quite across, bearing on stone buttments on each bank of the river, and, if possible, having no supporters or piers in the stream; for, when the winter sets in, the ice coming in contact with those posts must injure them and the bridge which bears upon them. We therefore consider that a bridge so constructed must be infinitely more subject to ruin than one which is made independent of such support. It is of great consequence also that the roadway of a bridge be as perfectly flat as it can be. To accomplish this end and at the same time give the requisite strength, it becomes necessary that the timbers be supported from above, and to this end we would propose the following plan:—Form two principals as for a truss-roof, and set them across the river on good sound stone buttments distant from each other the required breadth of the intended bridge. Across from tie-beam to tie-beam lay joists of sufficient depth and about four feet apart from each other, having bridging-pieces between their ends, so as to prevent the necessity for rabbeting and thereby weakening the tie-beams. Across these joists, again, are to be laid other joists one foot apart, having bridging-pieces at every four feet. Now take your joists square ended and the length of the full breadth of the bridge, and saw them all in their thickness *diagonally*: by this means you will have them all *three-sided*. Lay them down flat and close to each other, until you have covered the whole roadway; then lay the remainder with their angles downwards, between, so as to present one uniform surface for a roadway. Spikes may be used to make

them firm as the work proceeds, and the whole may be coated over with pitch, tar, lime, and gravel, which, when hard, will make a most durable and even floor.

Having the bridge fit for travelling on, we would now proceed to *roof it in*; thereby protecting the bridge and the traveller from the effects of the weather.

BRIDGE BUILDING is a subject on which we could dilate forever; but we are well aware that our readers must agree with us that *there is a will if there was a way*. Let the Parliament but vote sums for the erection of good bridges, and no doubt there will be numerous and excellent plans devised, having for their end strength, durability, accommodation, and economy.

ARCHITECTURE.

The science of Architecture has at all times, and in all civilized countries, been considered not only a pleasing but a highly useful branch of knowledge.

The great utility of this science and the elegant accomplishments connected with its study, have almost rendered a knowledge of its rules and principles necessary to complete a liberal education. But it is not our intention to bestow encomiums on the science nor to give anything like a detailed history of it, but to present our readers with a plain and condensed account of what may be termed its elementary principles.

Architecture is usually divided, with respect to its objects, into three branches, civil, military, and naval.

Civil Architecture called also absolute, and by way of eminence, Architecture, is the art of contriving and executing commodious buildings for the use of civil life, as houses, temples, theatres, halls, bridges, porticos, &c.

Architecture is scarcely inferior to any of the fine arts in point of antiquity. Nature and necessity taught the first inhabitants of the earth to build themselves huts, tents and cottages; from which, in course of time, they gradually advanced to more regular and stately habitations, with a variety of ornaments, proportions, &c. To what a pitch of magnificence the Tyrians and Egyptians carried Architecture, before it came to the Greeks, may be learned from Isaiah xxiii, 8, and from Vitruvius's account of the Egyptian Oeci; their pyramids, obelisks, &c.

Yet in the common account, Architecture should be almost wholly Grecian original: three of the most regular orders or manners of building are denominated from them, viz: *Corinthian*, *Ionian*, and *Doric*: and there is scarcely a single number, or moulding but comes to us with a Greek name.

Be this as it may, it is certain the Romans, from whom we derive it, borrowed what they had entirely from the Greeks; nor do they seem, till then, to have had any other notion of the grandeur and beauty of buildings besides what arises from their magnitude, strength &c. Thus far they are unacquainted with any other besides the *Fuscan*.

Under Augustus, Architecture arrived at its glory; Tiberius neglected it as well as the other polite arts. Nero, amongst a heap of horrible vices, still retained an uncommon passion for building; but luxury and dissoluteness had a greater share in it than true magnificence. Apollodorus excelled in Architecture, under the emperor Trajan, by which he merited the favor of that prince; and it was he who raised the famous Trojan column, existing to this day.

After this, Architecture began to dwindle again; and through the care and magnificence of Alexander Severus supported it for some time, yet it fell with the western empire and sunk into a corruption, from whence