The Greensborough Patriot.

VOLUME X. GREENSBOROUGH, NORTH-CAROLINA, JULY 1, 1848. NUMBER 12

Published Weekly
BY SWAIM & SHERWOOD

PRICE, THREE DOLLARS A YEAR, or $2.50, IF PAID WITHIN ONE MONTH AFTER THE DATE OF SUBSCRIPTION.

A failure on the part of any customer to order a discontinuance within the subscription year, will be considered indicative of his wish to continue the paper.

CORRESPONDENCE OF THE PATRIOT.

No. 1.

Wayside Thoughts and Observations in Western North Carolina.

CHIMNEY ROCK.
Rotherford Co., June 20, 1848.

Messrs. Editors: I promised some of my friends, in leaving home on a flying visit South and West, the favor of such thoughts and observations as should occur to me; and as between us there are often happy exchanges of thoughts and feelings on matters of public and state policy, perhaps I shall not trespass too much on the columns of your journal in making it a private and public medium of intelligence.

In leaving Lincolnton I took the southern or lower route, by Rutherfordton, through the mountain fastnesses, being advised by a friend of its better road and superior beauty in mountain scenery. Of these advantages I cannot at present speak, as I have never travelled previous to this time beyond Lincolnton; but on my return route by Morganton, I hope I shall then be able to write of my own knowledge. Sufficient it is at present to remark, that if there is as good a road and as beautiful and imposing scenery as meet the observation of the traveller or tourist by Rutherfordton,—then why is it, (social friends of the valley and the seaboard,) that you do not awaken from your indifference to the often repeated accounts of the beauties and incidents of travel in Western North Carolina,—and having assumed that State pride which by nature is, and by improvement might be, your inherent right,—visit the North and other places of attraction less, and your own favored State more, and see and learn what my own and other pens can only sketch.

And although I have now attempted a task which I am so incompetent to perform, it is, I assure you, with no vain desire to elicit applause in letter writing; for it is one of those polite accomplishments which, alas, I have too much neglected. But I do so as well to gratify a circle of social friends, as from a patriotic sense of duty to my dear native State—favored by Providence with the choicest gifts of His creation—capable, by the art and ingenuity of man, of becoming the greatest and best of lands—which on account of its extreme modesty and want of State pride and practice of a laudable ambition heretofore, now sleeps, comparatively speaking, in this age of civilization and improvement, as unconscious of the numerous elements of national wealth and greatness which repose in nature's works, as the wild man of the forest that once tracked (to him) this desert wilderness.

And of the force and truth of these sentiments I was never more strikingly reminded than while crossing those large and beautiful bodies of water, the Yadkin and Catawba rivers, over the main highway, passing through valleys watered and fertilized by those rivers and their thousand tributaries, with seasonable inundations depositing the rich soil of the inaccessible hills and mountains, which yield to our present imperfect progress in the science of agriculture a greater variety of staple productions, grains, fruits and grasses than any similar section of country in the world, and more than our population can waste and consume. And in addition to these vegetable favors which have been lavished so profusely upon us to support and nourish our bodies, we have perhaps more specific and in intrinsic mineral wealth for the arts and finances of a highly civilized and refined commonwealth than any other state or people in the world.

But what were my desponding reflections upon the spectacle we exhibit at home and the character we have abroad, for want alone of a proper State pride and spirit of public improvement.—And it seemed to me that the blame should properly rest upon our public men in the management of our state policy, and those of our men in the private relations of life who have received a *bonus* in their collegiate education in the University of our State. For what purpose had our early lawgivers in view, in setting aside such a large fund for the endowment of our University, if it was not to educate and discipline the youthful mind and talents of the State for future noble purposes in the improvement of society and the natural advantages given us.

Here, while passing along the public road, my thoughts would often recur to the two noble streams of water behind me in the distance, still flowing silently on, in the same unimproved channels in which nature directed them—overlooked by beautiful private residences with rich fields of ripe and flourishing grain around them—and which might have long since and now have been wafting thousands of steam and other boats, laden with the rich treasures of the mountains and vallies; but, alas, they flow on with no rudder to plough their virgin surfaces, no sail to make glad the approach to welcoming throngs, crowding on the banks to raise and exchange commodities of trade and produce.

And then again, the public highway, more particularly from Lincolnton by Rutherfordton to this place, (Mr. Harris',) at the foot of Hickorynut Gap, a distance of sixty miles, is perhaps by nature as good a natural road,—excepting a few long hills which are by no means formidable to market wagons or pleasure carriages,—as any road in the world. It is a most erroneous opinion which is prevalent in the middle and eastern parts of the State, that the mountain country is almost inaccessible to travelling conveyances. I feel warranted in saying, that the route I have travelled over from Lincolnton is a better road than the one to Fayetteville from Salisbury or Raleigh from Greensboro'.

At the distance of five miles from Lincolnton we ascend a flight of inclined hills; then travel over a hard, level, plain road which is varied with these steps of hills at equi-distant spaces of four and five miles for a distance of thirty miles. At the distance of eleven miles we have the first view of South Blue Ridge, which, to one who has never seen mountains of a similar class, excites feelings of as thrilling an interest—ascending from the valley—as Xenophon in his Anabysis tells us excited his ten thousand Greeks, when they had the first view from the mountain peak of the distant seashore, their native and long-wished-for home.

With my knowledge of turnpikes, I think I can safely say, I have seen few roads the material of which (silica and quartz) are more desirable for the construction of a cheap, durable and easily kept up turnpike. At present little work is done on the road; and as long stages can be made on it as upon any of our roads. I think the time is near at hand when some such work as this will engage the attention of State or individual enterprize—more especially when the connecting link between Danville and Charlotte is formed by a railroad, which work—the noblest yet in contemplation in North Carolina—will be as certainly built, to the pride of the rising generation, as the noble waters of the Yadkin and Catawba yet roll on a silent but eloquent rebuke to the theories and efforts of impractical statesmen of the past, and unpatriotic politicians and apathetic and lethargic citizens now passing off the stage of action. When this work shall be accomplished, our mountain friends and citizens, (as *pure* North Carolinians as the element of the air which they breathe and the water which they drink are from insalubrious properties,) will have an outlet to this railroad—will greet us as brothers, and cast at the several depots their surplus and excellent products of husbandry,—which they can never do without some such way—as their mountain streams rush down through the gaps, tumbling over large masses of rock, and offering natural and insuperable obstacles to the art and ingenuity of man.

But while indulging such thoughts and making such observations as these on the wayside the last day of travel to this place, I found that night was approaching, and dark and threatning clouds were rolling in wild and terrific grandeur, as a scroll cast from the mountain tops; and four miles (after crossing main Broad river, down whose banks I had travelled near two miles with scarce enough road for one vehicle to pass safely between it and the perpendicular shelves of rock opposite its left bank,) were yet before me, and near one and a half mile of similar road, with the mountains opposite the right bank was to be traversed, and the storm rumbling in the distance, and the rain falling thick and fast,—my thoughts very naturally digressed from their criticism on patriotism and want of State pride, and were abstractly bent on a safe and comfortable retreat at Harris's Cove. But the darkness increased, the rain fell in quickening and repeated torrents, as we drove into main Broad a second time to cross; and not being able to see our way across, we turned back to inquire the way at a cabin some hundred yards behind us—drew up on the small hill near the house, hallooed and jumped from our buggies, while torrents of rain fell upon our bewildered heads. When the door opened a bright light illumined our faces, and the hospitable cove-men came out to receive and sympathise with us—when, in an instant, a bright shaft of lightning fell near our feet, stunning my legal compeer and friend in distress, and completely eclipsing our vision—followed instantly by an awful peal of thunder, at which my horse darted with electric speed, with buggy and all, down the hill and rocks into the river, dragging me a short distance and then wresting the reins from my hands and going pellmell I knew not where. I soon pursued as some wandering bewildered spirit, found my horse trembling in his tracks, disengaged him from what I supposed a wreck of matter, when to my infinite surprise a shaft only was broken.

I hastened back to the cabin, my friend was safe and indulging melancholy thoughts of me. We soon took shelter as wet as fresh sponges from the sea; a bright fire welcomed us; we talked of the awful and terrific storm, which the cove-men pronounced unusual, of the hair-breadth escapes, and then laid down supperless—slept as living men never slept, and came over to Mr. Harris's Sunday morning; from which place we will soon leave for Asheville, twenty-three miles over the mountain.

I have been thus tedious, dear reader, on this incident in a mountain storm, to impress you with the importance, should you ever visit the mountains, (and be it to your shame if you never do,) to think and drive fast before night, and be comfortably stowed away before the storm comes on.

In my next I propose giving an account of the mountain scenery, &c., of Harris's Cove.

MISCELLANY

Common Schools in Agricultural Districts.

Here as well as elsewhere, the agricultural population will never cease to be of the highest importance to the dignity and strength of the State. It is from the rural districts, that the manufacturing population recruits its waste, and draws the bone and muscle of its laborers, and much of the energy of its directing force. It is from the country, that the city is ever deriving its fresh supply of men of talent and energy, to stand foremost among its mechanics, merchants, and professional men. It is on the country that the other interests of society fall back in critical seasons, and as a forlorn hope in moments of imminent peril. Just in proportion as the means of intellectual improvement abound in the country, and co-operate with the healthy forces of nature and occupation to build up men of strong minds, and pure purposes in strong bodies, do her sons fill the high places of profit, enterprise, and influence in the city and the manufacturing village.

In respect to education, the country has advantages and disadvantages peculiar to itself. The sparseness of the population forbids the concentration of scholars into large districts and the consequent gradation of schools which is so desirable, and even essential to thoroughness of school instruction. The limited means and frugal habits of the country preclude the employment of teachers or professional men, of the highest order of talent and attainments, and thus, both the direct and indirect benefits of their educational influences are not felt. The secluded situation and pressing cares of daily life, foster a stagnation of mind, and want of sensibility to the refinements and practical advantages of education.

On the other hand, country life has its advantages. There is the bodily energy and the freshness and force of mind which are consequent upon it. These are secured by the pure air, the rough exposure, the healthy sports and the laborious toils of the country. Hence the boys bred in the country endure longest the wear and waste of hard study, and the more exciting scenes of life. There is the calmness and seclusion which is favorable to studious habits, and to that reflection which appropriates knowledge into the very substance of the mind. There is freshness of imagination, nurtured by wandering over hill and dale, and looking at all things growing and living, which, unsoiled and untired as yet in its wing, takes long and delighted flights. There is ardor and eagerness after eminence, which gathers strength like a long pent fire, and breaks out with greater energy when it has room to show itself. Above all, there is often, and may be always, a more perfect domestic education, as parents have their children more entirely within their control, and the home is more completely, for the time being, the whole world to the family. Wherever these favorable circumstances are combined with the advantages of good teachers, good books, and the personal influence of educated men, there will boyhood and youth receive its best training for a long life of useful and honorable effort. But in these agencies of education, the country portion of the State are greatly deficient,—relatively more deficient than manufacturing villages. The teachers are almost universally young men, with no education beyond what can be obtained in ordinary district schools, inexperienced in life, and in their own profession, with no expectation of continuing in the same school more than three or four months, or in the business any longer than they can accomplish some temporary object, and without any of that interest and pride in their schools, which springs from local and State attachments. Even when they are well qualified, by knowledge, age and experience, and feel a more than ordinary interest in improving the schools, because they are the schools of their town or State, their connection with them is so transient, and the impediments from poor school-houses, backward scholars, irregular attendance, diversity of ages, studies and books, want of interest in parents and committees, are so great, they can accomplish but very little good. The deficiencies of the schools are not supplied to any great extent, by school, or town, or circulating libraries, or by courses of popular lectures. In 1844, there were but three libraries, containing twelve hundred volumes, in the agricultural districts of the State.* These belonged to proprietors, and were accessible to less than one hundred families. There was not a single lyceum, or course of lectures open to the agricultural population, distinct from those which were established in a few of the manufacturing villages. From the want of such facilities for nurturing the popular mind, and the fact that clergymen and professional men from the city and large villages are seldom called into the country, there is less of that intellectual activity, of that spirit of inquiry, and desire for knowledge, and of that improved tone of conversation which the discussions and addresses of able and distinguished men, in the lecture room and the pulpit are sure to awaken, and which constitute an educating influence of a powerful and extensive character, in large places.

To supply these deficiencies in the agricultural districts, public education in all its bearings, must be continually held up and discussed before the people. The lecturer, the editor, the preacher, educated men in public and private life, should do all in their power to cherish and sustain an interest on this subject.—*Henry Barnard.*

* One of the N. E. States.

LYNCHING.—An infamous case of lynching occurred at Vicksburg recently. A man named McQuade was whipped nearly to death on suspicion of having committed a theft, of which he was entirely innocent. Public indignation has been aroused against the lynchers, and some have fled. The citizens owe it to themselves to see amends made to McQuade, and those who outraged him brought to justice

The Cast Iron Plough.

A bill has recently passed the Senate of the United States, and is now pending in the House of Representatives, to extend the patent of Jethro Wood for seven years, which he obtained in 1814 and renewed in 1819, claiming to have invented the cast iron Plowshare. This bill proposes to grant to the heirs of Jethro Wood, the privilege of exacting fifty cents from the manufacturer for every Cast Iron Plough made in the United States for seven years after the passage of the said bill.

As there are about four millions of farmers and planters at present in the United States, as each would require on an average at least one plow every four years, this privilege would be worth *half a million of dollars annually*, all of which would be taken from the hard earnings of the farmer and planter. And what makes the matter more unjust is, that the interest of the heirs of Wood have been purchased for a mere song; thus nearly the whole benefit of it will inure to a company of greedy speculators.

But Jethro Wood as I shall proceed to show, was not the original inventor of the Cast Iron Plowshare, nor did he ever improve the Plow in the slightest degree; he was consequently entitled to no merit in this thing, and much less to a patent; and had the fact been known by the Commissioner of Patents, in 1814, he would not have granted him one, or renewed it in 1819 neither would the United States Court confirmed him in it after it had been granted.

The Cast Iron Plowshare was invented by Robert Ransom, of Ipswich, England, and he obtained a patent for it in 1785, twenty-nine years before Jethro Wood obtained his. The Cast Iron Plow, with the share and mould board in two parts, was kept for sale by Peter T. Curtenius in this city, as early as 1800; and in use in this neighborhood. Jethro Wood undoubtedly obtained his knowledge of the cast iron share from one or the other of these, for the Cast Iron Plow as a whole, and in separate parts, will be found figured and described in almost every Encyclopedia, and work on agricultural implements, published in Great Britain, since 1790. These works soon found their way into the United States, and it can be proved by the testimony of the intimate friends of Jethro Wood, that he was familiar with these publications.

The history of the Cast Iron Plow and improvements are simply this.

James Small, a Scotchman, constructed a Cast Iron Plow on true mechanical principles as early as 1740, and was the first inventor of the cast iron land side shortly after, so that as early as 1790, the Cast Iron Plow complete, in three distinct parts was well known and in use in Great Britain and figured and described in nearly every work of any value since published on the subject of plows and agricultural implements.

Without any knowledge of these improvements of the Cast Iron Plow in England, Charles Newbold of New Jersey, about the year 1790, took up the plow with a view of improving it in the United States. On the 17th of June 1797, he obtained a patent for the Cast Iron Plow skeleton, in one piece complete. Subsequently he made his plows with a cast-iron mould board and land side, and attached a wrought iron share to it. Shortly after this, he still often spoke of farther improving his plow, by substituting the cast iron share.—But having spent upwards of $20 000 in his improvements and efforts to introduce it into use in the United States and elsewhere, he got discouraged and gave up the business.

Peter T. Curtenius, as stated above, kept the Cast Iron Plow for sale in this City, the share and mould boards in separate parts, as early as 1800. Who was the manufacturer of these I am unable to learn.

In 1804, I think, David Peacock, of New Jersey, obtained a patent for a plow, the mould board and land side of cast iron and in separate parts, the share of wrought iron steel-edged. He copied Mr. Newbold's plow in part, and for the privilege of which he paid him $1.000.

In 1814 Jethro Wood obtained a patent for a plow, the mould board land-side and share in three parts and of cast iron. He was familiar with Newbold's and Peacock's plows, and his was a bungling imitation of theirs, and not near so perfect in form and construction as the old Rotherham plow, which had been in use in Great Britain upwards of seventy years before ever Wood obtained his patent.

It is said that the Cast Iron Plow, in three parts, viz: mould board, land side and share was in use in Virginia previous to 1814, and that Wood was aware of it.

With these facts before them, the public will now see how great an injustice it would be for Congress to extend the patent of Jethro Wood, and give his heirs or rather a company of greedy speculators, the privilege for seven years, of exacting fifty cents per plow from every one engaged in their manufacture.

I hope these facts will be widely disseminated by the press throughout the United States; for the hard working farmers and planters ought to be immediately apprized of what so vitally concerns them. As the bill is still pending before the House of Representatives let all those opposed to injustice and special privileges take pains to call the attention of every member to the subject, so that the iniquitous measure may be defeated.

A. R. ALLEN.

A Chapter of Disappointments.

In the month of November, 1794, I went up to the Park in New York, (then out of town,) to see a man hung. There was probably ten or fifteen thousand persons present,—the majority of them *bigger fools* than myself. After gazing for two long hours on the bare poles, the square cross-tree, the swinging rope and prow hook at its extremity, the sheriff arrived and announced a reprieve. There was hissing, groaning grumbling, and every sign of disappointment. I must confess I was very much disappointed myself.

This man was Noah Gardiner. He kept an extensive boot and shoe factory in New York.—He had committed forgery, (then death by our laws,) and so was condemned to be hung. At this time the State's prison in New York, (the first erected in America,) was building and nearly finished. The Friends (Quakers) who were the first promoters of this system of humanity, induced the Governor to remit his punishment from hanging to imprisonment for life. He thus became the first convict under the State's prison department. Being a shoemaker by trade they gave him a bench, lasts, and leather. Thus, from Noah Gardiner, sprang the whole generation of shoemakers who have peopled the prisons in our various States—from Plymouth Rock to the North East point of the Rocky Mountains. Having been intimate with Noah in days gone by, I one day entered the prison to see how matters prospered. In a large room there sat on their *last* legs above three hundred shoemakers, while Mr. Noah, with cane in hand, and all the consequential airs of an office-holder, strode through the ranks of his motley regiment, instructing and correcting such as were sinners above all men in the room. In this department Noah behaved like an honest man; (for as a Scotch woman remarked, "the de'il tank 'em, he can'na help't.") In process of time having served another apprenticeship of seven years, the Friends induced our Governor to give him an *unconditional pardon*; the prison door was opened, and he went forth.

"Now," remarked our *worthy* (though in this case *mistaken*,) friend, "you see the utility of our humane system, you would have hanged that man seven years ago—here is a valuable life saved; he's a *reformed man*," &c. They procured a store for him; advanced money, and gave him employment. From *gratitude* (we may presume,) he joined the society; it was *thee* and *thou*, like the best of them; he prospered in the world—his eyes stood out in fatness—he had more than heart could wish; the most of his work was done by journeymen, who wrought in their houses, wherein dwelt their families. On a certain day Friend Noah gave into one of his workingmen to make for him a pair of boots; "now, friend," says Noah, "thee must bring me them boots properly finished on fourth-day evening," says the man, "you shall get them." The boots, however, were not forth coming until sixth-day evening; Noah was wroth, and commenced a violent dissertation on the unpardonable crime of disappointment. As soon as the man could edge in a word, says he, "sir, I'm a poor man, I've a wife and three children; my wife took sick, I nursed her, cooked for the children, and wrought day and night; but could not make a finish any sooner." Noah would admit of no excuse, still insisting on the heinous sin of *disappointment*; the patience of the man was at its climax; with his fist he placed a thundering knock on the counter; says he, "sir I know it's a dreadful thing to get *disappointed*. I remember, one day, about ten years ago, I went up to the Park *to see you hung*, and I never was so bitterly *disappointed* in my life, when you did not come out." Well, now this was speaking to the *point*, as the Yankee says, "it was a *knock down* argument," as an Irishman would say, "it was making out a *strong case*," as we have it among lawyers, and as they say in Congress, "it was *unanswerable argument*," and so Noah took it; he was dumb; he opened not his mouth; but like a *wise man*, (the devil never employs a fool when he wants a journeyman) he made the *amend honorable*; paid for the work; gave the man another pair to make, and kept him in employment till he closed the concern. So far so good.

A few months after this, Noah borrowed among the Friends "considerable sums of money; and obtained a number of extra endorsements," the former he changed for field, and the latter he got *shaved* in Wall street on the same night.—Noah left the city, his wife and children, (some of them grown to maturity) and took with him, for company on the road, a young married female; since then he has not been heard from, now upwards of twenty years.

So you see, Mr. Printer, it was nothing but disappointment all round; the Friends were disappointed in his *reformation*; the borrowed money not *returned*, and the notes dishonored. Two more disappointments—the man not finding his wife when he came home, was another disappointment; and worse than all, the gallows was disappointed of *its due*. A strong case is this in favor of capital punishment. This is no romance, it's a simple tale of truth; I knew all the parties, and was conversant with every one of the circumstances.

GRANT THORBURN.

February 29, 1848.

Facts in the Vegetable Kingdom.

Vegetation converts the gas of the atmosphere into an equal bulk of carbonic acid gas, without affecting the azote. When no oxygen is present, they either form carbureted nitrogen or carbureted hydrogen, always evolving carbon.

Light is unfavorable to the formation of saccharine matter in vegetation. Their juices are alike, and they are not inflammable when they grow in the dark. Light produces the varieties of their qualities as well as their colors, becoming white in the dark.

Leaves are colored in the proportion in which acids and alkalies prevail in them; green indicates an excess of alkali. Solar light is the agent by which the carbonic acid in gas is decomposed. The oxygen is thus expelled, and the alkali produces green.

All fruits consist, in various proportions, of water, sugar, potash, malick acid, mucilage, tannin, gelatin, and a flavoring and coloring principle.—The essentials in making wine from them are the sugar, tartarous acid, mucilage, and water.—Flavor, color, and tannin are not essential. The tartarous acid distinguishes wine, and the malick, cider. The sugar, by fermentation, yields the alcohol, with extractive vegetable matter.

The colors of flowers depend on light; and the coloring matter which they yield becomes red when an acid is added to it, and violet, blue, or green, when an alkali is added. Flowers decompose no carbonic acid, but they convert the oxygen in the air into carbonic acid.

The odorous matter of flowers is inflammable, and arises from an essential oil. When growing in the dark their odor is diminished, but restored in the light; and it is strongest in sunny climates.

The sap of plants is mucilaginous, albuminous, and saccharine, in the alburnum; and astringent, or tannin, in the bark. The cambium, between the wood and bark, is a mixture of both.

A retention of the oxygen for want of light, renders plants white; and its excess produces the same effect.

Fleshy leaves absorb oxygen in the night, and give it out in the sunshine. They produce carbonic acid, and also decompose it; and, therefore, do not vitiate the air. In a close vessel they deteriorate and restore the air.

Fruit put into an atmosphere that contains no oxygen, does not ripen; but the ripening process commences when oxygen is supplied. The total weight of fruit in ripening is very little diminished. Heat produces saccharine matter in fruits; and heat without light will mature them.

A chestnut tree grew at Tamworth, which was fifty-two feet round; it was planted in the year 800; and in the reign of Stephen, 1135, was made a boundary, and called the Great Chestnut Tree. In 1759 it bore nuts which produced young trees.

In a pear shut in a close vessel for seventeen days, the ingredients were much changed; the sugar was doubled; and the gum, water and woody fibre, had decreased. 100 parts of the air contained 13¼ of carbonic acid, 7¼ of oxygen, and 79 of azote.

There are twenty-one species of the pine; among which the cedar is the largest, and the wild, or Scotch, the most important, producing yellow deal, and trunks sixty or eighty feet high. The silver fir is not less valuable for its quick growth and vast size. The larch is another species of rapid growth.

There are sixty species of the pepper tree.

There are 100 species of heaths, and four natives of England. In the Highlands they are used in building, for beds, and for malt liquor.—They dye an orange color, with a mordant of alum.

There are 216 species of lichen; of which the *orchall* is purple or crimson dye; the *omphalodes*, paler, but more lasting; and *islanditus*, used as bread, and in medicine.

Bamboo is, in the torrid zone, and in the East, a production of various most important uses, and grows from fifteen to sixty feet high, being from five to fifteen inches in diameter. It is well known by its hollowness and its joints; it grows rapidly, as much as twenty feet in a few weeks. It flourishes wild in many places; and in China, and other countries, is carefully cultivated in plantations. The soft shoots are cut and eaten like asparagus, and sometimes salted, and ate with rice. The hollow joints afford a liquid, drank by the people; and if not drawn off, a concrete medicinal substance is formed, and much valued. Decoctions of the leaves and bark are also prescribed. Its seeds are eaten as a delicacy; its large joints are used as buckets; and, in many countries, no other wood is used for building houses. Ships are framed out of it, and it furnishes masts and yards. Its leaves make fans. It is also used to make bows, and instead of lead pipes to convey water to great distances. It also forms writing pens, and is woven into baskets, cages, hats, &c.—bruised into pulp it makes fine paper; it is also used for every kind of furniture, and is imitated in Europe by painting the knots of chairs and tables.

The cotton plant or genus gassypium contains 10 species and is extensively cultivated in warm climates. It belongs to the class monodelphia, and the order polyandria. The seeds are enclosed in a capsule and involved in the filaments called cotton. The plant is raised from seed sown in holes in the spring months. The superfluous plants are pulled up, and the others pruned to the height of four feet. There are annual plants, but the perennial species is cultivated in South America. The seeds spring up in a few days in showery weather, and the cluster of plants is weeded when they are a few inches high.—The tops are pruned to increase the branches.—They yield in seven or eight months, and the crops improve for two or three years, and every four or five years the plants are renewed. The blossoms, a double calyx exteriorly, three cleft, appear in July and August, the pods opening in a few weeks, and the first crop being picked in November and December. The rainy season then produces a second crop, picked in March and April. The pods are then dried in the sun until the seed becomes hard, and the seed is then separated from the cotton by a gin. It is then picked and packed for market. Its great enemy is the caterpillar called the chenille. An acre of cotton trees, under favorable circumstances, yields 400 lbs. of cotton. The pods are the size of apples, and filled with cotton, surrounding the seeds.

Four only of the species of cotton or gossypium are important to commerce. The herbaceous is is about two feet high, with capsules full of seeds wrapt in cotton wool. The hirsutum, same size, with hairy stalks and leaves, and American,—The Barbadoes four to five feet high.

The mahogany tree is a native of Cuba, Jamaica, &c., and grows from 60 to 100 feet high with deep green foliage, orange-colored flowers, and fruit the size of a large egg.

Cork, whose specific gravity is 240, or one fourth that of water, is the bark of of a tree called *guercus super*, which flourishes in southern Europe, and northern Asia. It falls from the tree at 12 or fifteen years old; but for commerce they are stript for several years successively and then allowed an interval of 2 or 3 years. The young trees are stript only every third year. It is flattened by being piled up in damp places, and loaded with weights, it is then dried over fires for use.—As a bad conductor of heat it is used to increase the warmth of apartments, and as the lightest and most elastic of the woods no substance is more generally useful.

The *morus* or mulberry tree has several species. The white, feeds silk worms in China, the leaves shep, and the branches make fire-wood.—The black produces the best fruit. The bark of the *papyrifero* species is employed in Japan to make paper, and it also makes fine white cloth.

The cinnamon tree is a species of laurel, and is a native of Ceylon. It grows to 20 or 30 feet and its trunk and branches produce the bark.

Indian arrow root is a native plant of South America and cultivated in the West Indies. It is a creeping root, with stalks about two feet high, and the roots pounded and bleached make the starch which is used as nutricious food. It was supposed to be an antidote to the poison of Indian arows, and hence its odd name. Linnæus calls it *maranta*.

The bannian is the sacred tree of the Hindoos. Every branch shoots a new root to the ground, so that they spread indefinitely and afford shady retreats for comfort and religion.

The date in all tropical countries, is one of the most common trees, and grows from 50 to 100 feet, affording food clothing &c.

The banana or plantain is the most useful of trees. Its fruit 12 inches long and two thick serves for bread; the leaves serve for cloth and covering; the root is perrennial, but the stalk is annual, and grows to 15 or 20 feet.