For the Scientific American.

Rumsey the first Steamboat Builder.

Mr. Editor :—The history of Fitch and his steamboat in No. 17, reminded me of a conversation I had lately with an old gentleman of the name of Dunham, who has been spending the winter in our place. He said he had seen the first steamboat ever built (as he supposed) and that it was built at Shepardstown, Virginia, by Charles Rumsey. During the time Rumsey was building his boat, Dunham was attending school one or two hundred yards from the river and had an opportunity of seeing it every day. This boat resembled a canal boat, and the only part of the machinery visible on the outside was the top of the boiler, which rose above the deck, and some pipes from the top of the boiler which bent down into the inside. The boiler was made of two hollow half globes with a wide flange on each by which they were bolted together, and holding a barrel or more apiece. One half of the boiler was afterwards used at Shepherd's mill to cook hog feed in, and was still there some ten years ago. Dunham did not see the inside works and could not say any thing about them. The boiler and other castings were made at a furnace just below Harper's Ferry.

He told me the names of the persons who worked the boat, but I do not remember them. He remembers distinctly the time the boat was first started. There were something near five thousand persons collected on the banks of the river to see Rumsey's folly, as it was called. When all was ready to start Rumsey invited all who wished, to get on board, but there were but five who did so, Colonel Morrow, then a member of Congress, Colonel Drake and son, Henry Bedinger, and one other whose name he does not remember. The boat first started down stream but soon turned and went up four or five miles and back at a rate that the people walked up and down stream and kept alongside. A short time after this the river rose suddenly, and the boat breaking from its fastenings, was carried down stream a short distance and dashed to pieces, where parts of it remained for several years. Shortly after this trial Col. Morrow took Rumsey to Congress with him and endeavored to have an appropriation made for him, but did not succeed. Mr. Dunham thinks this boat was built as early as 1784, but is not certain.

Mr. Rumsey was a tall, spare, dark complectioned man, and very sedate.

Yours respectfully, L. G. M.

Bellefontaine, Logan Co., Ohio.

More about Gutta Percha.

The tree from which Gutta Percha is procured, belongs to the natural order *sapotaceæ* found in abundance in the Island of Singapore, and in some dense forests at the extremity of the Malayan Peninsula. It attains a considerable size, even as large as six feet in diameter; is plentiful in Sarawak, and most probably all over the Island of Borneo. The timber is too loose and open for building purposes: but the tree bears a fruit which yields a concrete oil, used for food.

Gutta Percha is contained in the sap and milky juice which quickly coagulates on exposure to the air, from 20 to 30 pounds being about the average produce of one tree. For collecting the sap, the trees used to be felled, barked, and left dry and useless.

This way of getting the sap would soon, from the great demand of the article, have destroyed entirely the source from whence it is procured, but from late accounts the trees are forbid to be felled, and the sap is only taken from them like as from the caoutche tree.

The gutta is received in scraps, or in rolls of thin layers. It is first freed from impurities by deviling or kneading in hot water, when it is left soft and plastic, and of a whitish gray color.

When thus prepared, the Gutta has many curious properties. Below the temperature of 50 degrees, it is as hard as wood, but it will receive an indentation from the finger nail. When softened in hot water, it may easily be cut and moulded; and it will harden, as it cools, to its former rigidity; and it may be softened and hardened any number of times without injury to the material Unlike caoutchouc it has no elasticity; but it has such tenacity, that a slip one eighth of an inch thickness, sustained 42 lbs. weight, and only broke with a pressure of 56 lbs. When drawn out, it remains without contracting.

Coal Field on James River Virginia.

This coal field, which is about twenty miles long from north to south, and from 4 to 12 miles in breadth from east to west, is situated 12 miles west of Richmond, in Virginia, in the midst of a granitic region. The rocks consisting of quartzose grits, sandstones and shales, precisely agree in character with the ordinary coal-measures of Europe. Several rich seams of bituminous coal (the principal one being occasionally from 30 to 40 ft. thick,) occur in the lower division of the strata, which are arranged in a trough, and are much disturbed and dislocated on the margin of the basin, where they have a steep dip, while they are horizontal towards the centre. The fossil plants which have been determined by Mr. C. Bunberry, differ specifically, and most of them generically, from those found fossil in the older or paleozoic coal formations of Europe and North America, and resemble the plants of the oolite, of Whitby, in Yorkshire: some few, however, being allied, to fossils of the European trias. From the upright position of the Calamite and Equiseta, it has been inferred that the vegetables which produced the coal, grew on the spots where the coal is now found, and that the strata were formed during the continued subsidence and repeated submergence of this part of Virginia. The shells consist of countless individuals, of a species of Possidonomya, much resembling *P. minuta*, of the English trias. The fossil fish are nomocercal, and differ from those previously found in the new red sandstone (trias) of the United States. Two of them belong to a new genus, and one to Tetragonolepis, and they are considered by Prof. Agassiz, and Sir P. Egerton, to indicate the liassic period. The analysis of the coal made by Dr. Percy, and Mr. Henry, shows that it contains the same elements —carbon, oxygen, hydrogen, and nitrogen, in the same proportions as the older bituminous coal, of Europe and North America. Alternating layers of crystalline coal, and others like charcoal, are observed in many places, and in the charcoal Dr. Booker has detected vegetable structure, not of Ferns or Zamites, or any Conifer, but perhaps of Calamites. The coal yields abundance of gas used for lighting the streets of New York and Philadelphia, and some fatal explosions have taken place in the mines, some of which are 900 feet deep. Volcanic rocks, dikes, and beds of intrusive green stone, intersect the coal measures, in several places, hardening the shales, and hardening the associated coal, the latter being in some places turned into a coke used largely for furnaces.

An Alabama Coal Field.

Near Mr. Camp's bloomery a few miles below Scottsville, the junction of the coal may be seen, the latter being almost vertical while the coal measures are inclined at an angle of 20 degrees. Near this place fragments of coal are imbedded in the sandstone.

My examination of the Cahawba coal field extended as high up as Lacy's ferry, about thirty miles above Centreville. In this distance its greatest breadth is directly west of Montevallo and is about twelve miles. From the little Cahawba which is its southern boundary, to Lacy's ferry, is 20 miles An undulating line drawn from Shultz's creek near Scottsville, and following the ridge east of the limestone to Roup's creek, will mark its western boundary. On the east it extends to within one or two miles of Montevello, from which point it gradually contracts till it reaches within three miles of the ferry.

The coal of the Cahawba differs in many respects from that of the Warrior. It is more lamellar in its structure, seldom breaking up into fragments of regular form like the latter. The beds are generally more highly inclined, being often vertical, and they are also much thicker than any I have yet seen on the Warrior. On the right bank of the Cahawba, I have determined the super-position of at least four beds, varying in thickness between ten and four feet, and within one or two miles of the river. These beds are low in the series—some of them below the millstone grit, which leads me to think we have not yet reached the corresponding thick beds on the Warrior.

Between the coal and iron ore I had the pleasure to find an excellent fire-stone that must one day be of great value. You have, then, limestone, iron ore, fire-proof stone, coal and water power side by side and within the limits of a few miles.—*Professor Tuoney.*

Customs and Things.

In the twelfth and thirteenth centuries, good manners required that persons of different sexes, when invited to parties, should sit down in couples, and each couple should have one plate between them. In families, one goblet was deemed sufficient for all; and St. Bertrand was disinherited by his father, who was afflicted with the leprosy, for having wiped the edge of the goblet before he drank.

Beds, now such indispensable pieces of furniture, were to the Greeks and Romans articles of great luxury. When they exchanged the leaves, and skins of beasts, on which their heroic ancestors reposed, for matresses, and feather birds, the bedsteads were sometimes ivory, sometimes of cedar, and sometimes of silver. It would be difficult, now-a-days, in the middle ranks of life, to find beds such as our ancestors slept on, not only with their wives and their children, but with their dogs and their friends. An invitation to such a couch was then considered the strongest proof of affection and confidence that could be given.

The first mirrors were made of metal. Cicero carries the origin of them up to Esculapius. Moses, too, makes mention of them. It was in the time of Pompey that the first mirror was made of silver at Rome. Pliny mentions a brilliant stone, probably talc, thin slices of which being fixed upon a bright metal reflected objects with great perfection. The first mirror of glass appeared in Europe in the latter end of the Crusades.

Active Pursuits the best Cure of Grief.

Grief, of whatever measure it may exist, will always be most obstinate and dangerous in those unengaged in active pursuits, and who have consequently leisure to brood over their troubles. Bodily and mental activity, and more especially, when the result of necessity must, by creating fresh trains of association, and diverting the thoughts into new channels, tend to weaken the poignancy of affliction. Nothing in truth, serves more effectively to lighten the calamities of life, than steady and interesting employment. It is, as we conceive for the reason that females are generally exempt from the cares and excitements of business, and confined at home to their own relatively tranquil domestic duties, that they so much oftener pine and sicken under wounded affections than our own more active and busy sex. Dr. Good observes that "suicide is frequent in the distress of sieges, in the first alarm of civil commotions, or where they have subsided into a state of calmness, and the mischiefs they induced are well pondered; but it seldom takes place in the activity of a campaign, whatever may be the fatigue, the privations, or the sufferings endured. On the fall of the Roman empire, and throughout the revolution of France, self-destruction was so common at home, as at last to excite but little attention. It does not appear, however, to have stained the retreat of the ten thousand under Xenophon, and according to M Falret, was rare in the French army during its flight from Moscow."

Geological.

Mr. W. B Findlay, a farmer near Columbus, Illinois, in digging a well on his premises, at the distance of sixty-two feet below the surface came upon two pieces or portions of a log, of what was once no doubt a large tree. The bark upon it resembled that of the pine of the northern latitudes. The ground on which the well was sunk, is a high rolling prairie, and it would appear that the whole country was once covered with water, for before coming upon the piece of timber, about 55 feet below the surface, the diggers came upon what appeared to be a new soil, composed of dead leaves and decayed vegetable matter.

The Clasp Coupling Joint.

This invention of Messrs. West & Thompson, is creating no small excitement among our most eminent engineers and scientific men. The British Attorney General has signed his name to an English Patent, and we shall soon be able to herald one from our own Patent Office. This would have been done already had Congress granted at an earlier date the necessary increase of force in the Patent Office. This joint has just been experimented with at the navy yard at Washington, and the following testimonials and opinions regarding the qualities, is something of which the inventors may well feel proud. Coming as they do from men who are so justly able to form correct opinions, and who are above uttering anything but unbiassed opinions.

U. S. Navy Yard, Washington.
March 28, 1848.

This is to certify that by order of the Hon. Secretary of the Navy I have applied one of West & Thompsons newly invented "Clasp Coupling Joint" on the steam pipe of one of the steam engines of the yard, for the purpose of testing its merits. It gives me pleasure to state that its application has been entirely successful, and also, that it is in my opinion, far superior to any method of connecting pipes that I am acquainted with. Its great superiority consists in the facility of its application and the entire certainty of its efficacy, as well as in the economy of its manufacture, the saving of material in its construction, and of time in its application in any situation where it may be used, compared with any of the old methods.

I would further state that I subjected one of these joints (2 1-2 inches diameter) connecting two pieces of English cap welded tube to hydrostatic pressure for the purpose of ascertaining its strength and efficiency, and do also certify that the joint so connected stood a pressure without leaking or giving way, of 2,566 lbs. to the square inch.

Wm. M. Ellis, Chief Eng'r. & Machinist.

I agree with the above statement.

C. S. McCauly, Commandant.

Having witnessed the trial of the above named joint when subjected to the pressure named above, I certify to its correctness.

Wm. Sewel, Jr., Chief Eng'r. U. S. N.

Sound Visible.

In this age of wonders, what will the world think when we assure it that a method has been discovered and matured by which sound will be made visible to the human eye, its various forms and ways demonstrated to sight and the power to discriminate between the tones of one musical instrument and another be as complete as to observe the action of water when disturbed by any material cause? The experiments, we believe, are likely to be, ere long, repeated in the Royal Society. The exhibition of effects on fine sand has probably led to this astonishing issue.—*Literary Gaz.*

[Wonders will indeed, never cease, and truths can never be forgotten, and verily the fact of sound becoming visible reminds us of "sounding brass and a tinkling cymbal."

TO CORRESPONDENTS.

"M. C. of Lebannon."—We have not been able to get what you desired, or we should have been happy to do so. We may be able at some other time, but then it may be too late for your purpose.

"S. K. of Mass."—For the relative strength of pillars see Tredgold and Hodgkisson's work, and make out the calculations for yourself.—The experiments of Hodgkisson are valuable.

"S. W. of N. Y."—The tinned lead pipe can be had for the same as the other kind.—Address Lowber & Leroy, No. 261 Water st. New York.

"R. S. W. of S. C."—The cement for Mill stones can be made of plaster of Paris, ground marble and soda, mixed together in a suitable quantity of hot water and applied hot or dried in an oven.

"A R. of N. H."—You were answered by mail on the 31st ult.

"J. M. of Mass."—There was a machine patented in England in 1816 for rolling iron pipes. What difference there may be between yours and it we cannot tell.

"E. A. D. of N. Y."—Your plan for saw-