



Calicoes—This is the name of printed cotton cloth. The art of producing a colored pattern on cloth by the application of coloring substances, appears to be of great antiquity. Homer notices the variegated linen cloths of Sidon, and ancient historians speak of the inhabitants of Caucasus adorning their garments by means of an infusion of the leaves of a tree, and that their colors were permanent. All nations, savage and civilized, have a passion for personal adornment; and nations, too savage to manufacture such clothing, make up for their want of manufacturing art, by tattooing or painting their bodies. It is a little humiliating to those of our own race, "who boast of their ancestry," to be told that their forefathers roamed through the forests of Albion and Caledon, adorned with all the glorious paraphernalia of calico painted bodies, for want of calico-printed clothes. The ancient Britons painted their bodies with the figures of the sun, moon, stars, animals, &c., and looked as fierce-like in battle as the painted Braves of the Blackfeet or Mandan Indians. Since that time we have borrowed and learned from nations which we, the descendants of such progenitors, now call "barbarians." The modern inhabitants of Egypt are dark and benighted and not a yard of printed cloth is made in that country, yet the ancient Egyptians practiced the art when some of our progenitors lived in caves, and wandered about in deer and wolf-skin clothing.

Pliny says of the Egyptians—"They take white cloths and apply to them, not colors, but certain drugs, which have the power of drinking in or absorbing color, and in the cloth so operated on, there is not the slightest appearance of any dye or tincture. These cloths are then put into a cauldron of coloring matter, scalding hot, and after having remained some time therein, are withdrawn all stained and painted in various colors. This is indeed a wonderful process, seeing that there is in the said cauldron, only one kind of coloring matter, yet from it the cloth acquires this and that color, and the boiling liquor itself also changes according to the quality and nature of the dye-absorbing drugs, which were first laid on the white cloth. And these stains or colors are firmly fixed. It is strange that one liquor should thus give a variety of colors." This shows that the ancient Egyptians were well acquainted with what is now termed "Brittan printing."

In India the art of calico printing has been practiced for ages, and it derives its English name from *Calicut*, a town in the province of Malabar, where it was formerly carried on extensively. The large cotton chintz counterpanes, named *palampoors*, which, from an early period have been made in the East Indies, are prepared by placing on the cloth a pattern of wax, and dyeing the parts not so protected. When Mexico was first discovered, the inhabitants wore cotton cloth stained with various colors, but these colors were merely painted or dyed, not printed.

The art of calico printing was practiced in Asia Minor for several centuries before it was introduced into Europe. It was not until about the close of the 17th century that Augsburg, in Germany, became famous for its printed cottons and linens, and that city was a school for many years for the manufacturers of Alsace and Switzerland. The art was introduced into England, in 1676, by a Frenchman, who established works near London, on the river Thames. In 1712 the British Government imposed a duty of 3d (6 cents.) per yard on printed calico, and two years afterwards doubled it, and then two years after that, at the earnest clamors of the silk and woolen weavers—powerful bodies of men, whose trades were injured by the increased consumption of calico—a disgraceful act was passed, prohibiting the wearing of all calico, under a penalty of £5 (about \$25) for each offence on the part of the wearer, and £20 on

the seller. In consequence of this barbarous law against the free rise, progress, and practice of this art in England, the calico printers operations were confined entirely, until 1780, to printing linen. In that year cloth, with a warp of linen and weft of cotton, was allowed to be printed, subject to a duty of 6d. per yard. With such impediments, no wonder the progress of the art in that country was very slow. In 1753, only 50,000 pieces, of about 35 yards long, of the mixed linen and cotton cloth, were printed in all Britain; in 1853, one single print-works in Manchester turned out 400,000 pieces of calico. What a change in the progress of this art; it is one of the mile-stones of trade set up on the highway of the arts. In 1774, an act was passed repealing the former one of 1753, and allowing cloth to be woven and worn composed wholly of cotton, but subject to a duty of 3d. per yard.

This duty was only imposed on the calico consumed in Britain (not Ireland) and no duty was collected on calicoes exported to America, or any other country out of the United Kingdom. In 1830 a revenue of no less than about \$11,400,000 was levied on British-made calicoes—one of the direct taxes upon the people. At that time, we believe, there was no calico print-work in the United States (so far as we have been able to learn.)

This subject will be continued at some length in future numbers of the "Scientific American."

Reports of the Crystal Palace Juries.

The Juries selected to examine into the merits of the machines, articles of manufacture, and works of art, and award medals for those possessing superior merit, have made their Reports. The number of Prizes is so great that we cannot publish the list with the names of the persons who obtained them, there being no less than 115 silver and 1,186 bronze medals awarded. We will only present those, at present, which have been illustrated in our columns:—

Silver Medals—George W. Beardslee, Albany, N. Y., machine for planing and matching boards.

L. S. Chichester, Brooklyn, N. Y., hemp and flax machine.

Gwynne & Sheffield, Urbana, Ohio, stave-making machinery.

C. B. Hutchinson & Co., of Syracuse, N. Y., stave machinery.

Wells & Hills, Milwaukee, Wis., for Hawkins' stave-dressing machinery.

Joseph Greely, Nashua, N. H., for Eastman's patent stone dressing machine.

James T. Ames, Chicopee, Mass., Eccle's gingham loom [an engraving of this loom will appear in our next number.]

Prof. Morse, for his Telegraph.

Jearum Atkins, Chicago, Illinois, for his automaton reaper and raker.

Slater & Steele, Jersey City, N. J.; spike weighing and packing machine.

Bronze Medals—Adams & Son, Amherst, Mass., felly machine.

Jearum Atkins, Chicago, Ill., automatic mechanical device.

Nelson Barlow, New York City, wood planing machine.

Messrs. Buck, Lebanon, N. H., Daniel's planing machine.

David Dick, Meadville, Pa., anti-friction press, punch, and metal shears.

A. C. Gallahue, of Pittsburg, Pa., shoe pegging machine.

Charles F. Mann, of Troy, N. Y., portable steam engine.

Alfred A. Parker, St. Louis, Mo., tobacco plug pressing machine.

I. M. Singer, New York City, for sewing machine.

Union Power Company, New York City, Gwynne's centrifugal pump.

Wheeler, Wilson & Co., 265 Broadway, N. Y., sewing machine.

W. Crosskill, of Hull, Eng., Archimedean potatoe washing machine.

C. H. McCormick, of Chicago, Ill., for reaping machine.

Smith & Fenwick, New York, for apple paring and coring machine.

C. Sharp, Hartford, Conn., breech-loading rifle.

Massachusetts Shovel Co., Worcester, Mass., Kimball's patent shovel.

J. B. Tillinghast, Point Harmer, Ohio, centrifugal churn,

A. C. Carey, New York City, Rotary Pump.

G. A. Gardiner, New York City, a power drilling machine.

Otis & Cottle, Syracuse, N. Y., power mortising machine.

J. M. Bottom, of Bridgeport, Conn., watch-maker's lathes.

Foster & Bros. Cincinnati, Ohio, hand printing press.

J. Gibson, of Albany, N. Y., Woodworth's machine.

Harris & Son, Elizabethtown, N. J., smut machine.

J. Laidlaw, Jr., New York City, wet gas meter.

Joshua Woodward, Haverhill, N. H., corn and seed planter.

J. A. Ross, St. Louis, Mo., Miller's sewing machine.

The silver medal for Steam Engines was awarded to the "Southern Belle," J. S. Winter, Montgomery, Ala.

A silver medal was also awarded to the Architects of the Palace, Messrs. Carstensen and Gildermeister. Also one to Gail Borden, Jr., for his Meat Biscuit; one to B. F. Palmer, of Philadelphia, for his Artificial Leg, and one to J. A. Whipple, of Boston, for beautiful Crystallotypes.

Cotton in the United States.

Messrs. Editors—A friend noticing some allusion in one of the late numbers of the "Scientific American," to the subject of cotton, has requested me to send you the following statement. The compiler of these statistics was for many years connected with the Custom House in this city, and has abundant facilities to insure correctness, while his great interest in such matters has led him to keep them up for a number of years:—

From 1826 to 1835 (10 years), cotton used per year, 425,000,000 lbs.

From 1836 to 1845 (10 years) there was used per year 801,000,000.

Of every 100 bales England receives 57, France 17, Holland and the North 6½, Trieste and the South 6½, the United States 13.

Of the amount exported from the United States seventy-hundredths goes to England.

Of the whole amount raised (or made) in the United States, for 1853, fully twenty-two-hundredths of every bale are consumed in this country.

C. W. FELT.

Salem, Mass., Jan. 16th, 1854.

Foreign Scientific Memoranda.

CHINESE GRASS.—The rhea fibre, or the true Chinese grass, is already cultivated by the natives of Assam to make fishing lines and nets. Its shoots can be cut down several times a year, and its fibers they know how to separate. Major Hannay has been able to improve the process by the assistance of the Chinese in Assam. Captain Thompson of the house of Thompson & Co., ropemakers, of Calcutta, found the rhea fibre from Rungpore to be three times stronger than the Russian hemp, and the wild rhea everything that could be desired for ropemaking, though the cultivated kind, probably from a difference in the preparation, he thought a little too rigid for the running rigging of ships. But as there is no doubt of the strength and flexibility of their fibres, it is to be hoped that they will, when more generally known, be more extensively employed for rope-making, especially as they can be produced at a price under that of Russian hemp.

NEW LOCOMOTIVE.—The Stuttgart journals give the following details of the locomotive which has just been constructed at Esslingen (Warttemberg), for the Mont Soemmering railway in Austria:—"This locomotive, which is called the Kappelen, has ten wheels; its boiler is twice as large as that of the ordinary engines; the tender is not separate, but forms an integral part of the engine. It is in the form of a horseshoe, and advances on each side of the boiler.

HUGE ZOOLOGICAL REMAINS.—A discovery of great interest to the science of paleontology

has lately been made at the gates of Constantina (Algeria), while making a cutting for the improvement of the approaches to that city, where a great part of the skeleton of some gigantic animal was found. The thigh and leg bones, the vertebrae, the ribs, the upper part of the head, and several teeth were in a very good state of preservation. The head is not less than 85 centimetres from the teeth to the nape, and 48 across the bone of the forehead. The front part of the upper jaw has long teeth, and also tusks similar to those of a wild boar. The legs of the animal are about the size of those of a horse, and, from the bend of the ribs, it is supposed that its size must have been about four times that of an ordinary ox. Its head is somewhat similar to that of the hippopotamus, and its mouth must have been of extraordinary power. No name can be assigned to this animal, but it is considered probable that it may belong to the numerous family of antediluvian pachydermes. The ground wherein it was found is composed of a soft calcareous rock of tertiary formation.

EFFECT OF SNOW UPON THE EYES.—In an account by Jacques Balmot, of the effects produced on the eyes by the glare of the snow, when he and Dr. Paccord were ascending Mont Blanca, they had not the green veils on them which had been recommended, and he states that when he arrived at the grand plateau, he was so dazzled that he was nearly blind, and whichever way he looked he only saw big drops of blood. He sat down and closed his eyes for half an hour, and was then able to go on. They passed the night in the snow. On the following morning Dr. Paccord exclaimed, "I hear the birds singing, and it is quite dark;" but his eyes were open, and he was blind for the time, and only recovered after careful management for a considerable period.

EYELASHES.—In Circassia, Georgia, Persia, and India, one of the mother's earliest cares is to promote the growth of her children's eyelashes, by tipping and removing the fine gossamer like points with a pair of scissors, when they are asleep. By repeating this every month or six weeks, they become, in time, long, close, finely curved, and of a silky gloss. The practice never fails to produce the desired effect, and it is particularly useful when, owing to inflammation of the eyes, the lashes have been thinned or stunted.

WALL OF CHINA.—In a lecture on China, which he delivered at Bolton, recently, Dr. Brownrigg said it had been calculated that if all the bricks, stones, and masonry of Great Britain were gathered together, they would not be able to furnish materials enough for the Wall of China; and that all the buildings in London put together would not make the towers and turrets which adorn it.

Adulteration of Drugs and Medicines.

At the commencement of the present session of Congress, a report from the U. S. Surgeon General was presented, from which it appears that the adulteration of drugs and medicines is carried on more extensively in the country since the passage of the act of Congress to suppress the importation of such articles, so that it is now alleged to be difficult to procure medicines which are not either mixed with some foreign substance, or from which some portion of the active principal has not been subtracted by chemical process. Thus it would seem that the effort to suppress the foreign trade has resulted in imparting an extraordinary stimulus to the home manufacture of the spurious commodities.

The Mackerel Fisheries.

By the returns of the deputy inspectors of mackerel in Massachusetts, for the year 1853, we learn that the catch by fishermen from that State has fallen off nearly one-third from 1852. Provincetown and Truro seem to have nearly withdrawn from the business, and Yarmouth and Chatham have done much less than formerly. In most of the towns where there is an increase of tonnage, there is a falling off of returns.—We are sorry for this, as mackerel is getting very high in price. We go for the annexation of the Bay of Fundy and the Gulph of St. Lawrence.