

From the depots the logs are taken as wanted to the saw-mills, which of late years have largely supplanted the old hand-labor saw-pits, and cut up into various classes of squares suitable for the European and Indian markets and into scantlings. Into scantlings also are converted the slabs or round sides of the logs, which are taken off in the process of conversion into squares. After conversion the squares and scantlings are piled to await shipment. Till lately all the moving of the timber in the yards was done by elephants trained for the purpose, but of late years, owing to the enhanced cost of elephants—a good tusker now costs as much as £350 or £400—their liability to epidemic disease, and inability to work at certain seasons, the tendency has been to substitute mechanical appliances and coolly labor for elephant labor. From a sentimental point of view this is much to be regretted, as there are few more interesting sights in the world than the working of a well-trained mill elephant, so wonderful in the intelligence and skill with which he will adapt his great and yet not clumsy strength to the manipulation alike of a square two tons in weight and of a long board half an inch in thickness, which the slightest jar would break.

The modes of payment both to forest owners and to forest workers are many. The British Government keep their forests in their own hands and work out the timber through forest contractors, who deliver the timber at the rafting station on payment of certain rates per log according to size. The government then raft the timber down, and sell it by auction on their own account. The King of Burmah gives leases of his forests for terms of years, either for certain rates per log, according to size and quality, or at a fixed sum annually. The Shan princes sometimes give leases, sometimes work the forests themselves and sell the timber on the river bank or in the forest to dealers, who then float the timber down on their own account, and large amounts of money are taken up every year from Moulmein for the purpose of buying such timber. Girdling and felling are generally paid in Burmah as piecework at so much a tree, but in the Shan States the usual plan is to employ men at wages.

Dragging is done sometimes by the forest leaseholder with his own elephants, he paying monthly wages to the driver and his assistant, and to the various superintendents; and sometimes the dragging is done by contractors owning a few elephants or buffaloes each—three pairs of buffaloes are about equal to one elephant—who are paid so much per log according to size and quality delivered on the river, the logs being thence rafted down by the leaseholder. Raftsmen are generally paid at so much per log, with a deduction at a fixed rate for logs lost on the way. Speaking generally, every one, from the owner of the forest down to the raftsmen, has to get advances, for the Burman or Shan of whatever class is but rarely of a saving nature, and for this reason, as well as owing to the fact that in most forests large quantities of the timber are reaped every year, and that in some, from want of rain, it takes the timber as much as three years from the time it is felled to reach Rangoon or Moulmein, it will be seen that foresting is a business which requires a large capital, with a long lock up, as well as great experience both of the country and people.

NATIVE ANTIMONY.

By GEO. F. KUNZ.

In a letter to Prof. Benj. Silliman, Jr., Dr. L. W. Bailey mentions the discovery of stibnite (see *American Journal Science*, series 2, vol. 35, page 150, 1863) at Prince William Parish, a county of York, about 20 miles west of Frederickton, on the southwest side of the St. John River, New Brunswick.

The lode has been traced for one-fourth of a mile by trial pits. Mention is also made of this locality in the report of Dr. L. W. Bailey (see "Geology of New Brunswick," 1865), and in a report on the Geology of Mr. Brown, by Henry Youle Hind, 1865).

This locality was discovered about 1860, by a workman finding a bowlder in a field. This had the indication of some mineral, and the workman at once sent specimens to be examined by a chemist, who pronounced it an ore of antimony.

After a time the land was found, by a commission from the Crown, to be of considerable extent, and a rich deposit of antimony ore—stibnite.

At the Prince William mine native antimony had been very sparingly observed, but not until operations were carried on to a depth of over one hundred feet were the large deposits of native antimony found. The Prince William Mining Company was formed, veins opened, and a great quantity of ore was shipped to England. But the American civil war coming on changed financial matters so much that all work was suspended until within the last four years. About \$150,000 was wasted by a new company in mining and putting up the reduction works. This company, the Prince William, the Hibbard, and Lake George, were all absorbed in a new company, the Brunswick Antimony Company, who purchased all the adjacent properties that showed indications of antimony, so that at times the company controlled a tract of land three miles by five, containing many veins of the stibnite so conveniently situated that 300 tons of the ore can be mined daily for \$1.50 per ton, and the supply is practically inexhaustible.

The rock is a thick argillate slate, traversed by veins of quartz calcite with stibnite, varying in width from 1 to 30 feet, and at a lower depth with occasional large pockets of the native metal in a remarkably pure state. These pockets often contain over one ton of the native metal, associated with stibnite, valentinite and kermesite.

In its most common form the mineral is very compact and at times finely granular, resembling very closely the native antimony of South Ham, Canada, and in this form it breaks at times with a slightly conoidal fracture, and has a decided steel blue color. The form in which it occurs is rounded and elongated masses, often 10 to 12 inches across. It passes into a finely granular form, a form very closely resembling the Borneo mineral, and it also occurs in apparent radiated masses of crystalline plates. These are single blades, as much as two inches in length and one-eighth of an inch across, and nearly as large as the artificial metal of commerce.

In this form it is unexampled; these radiations seem to form around a common center as if the mineral had cooled or crystallized slowly from without. One fine mass of this thin white metal measured over six inches across. Very small crystals, 1 mm. in size, have been observed by me at the juncture, and mention was made to me that some large ones, said to be one-half inch across, had been observed, but I was unable to find or see any of these. This mineral always contains a trace of arsenic, some gold and silver, and may yet be worked for the two latter components.

Stibnite occurs largely in massive form and in small diverging blades, and also in large masses with these blades, from four to six inches in length and one-quarter of an inch across, and occasionally in small crystals in cavities, and usually all this mineral is of a very dark graphite color.

The valentinite occurs in massive and granular forms; also in beautiful radiations. Between the seams in the native antimony these radiations measure over one and one-half inches across, and at times in small hemispheres and also in small distinct crystals not over one-eighth of an inch in length.

Kermesite occurs in cavities in small tufts of crystals. None were observed over one-half inch in length. Also in small hemispheres, as a rule, in the cavities in the native antimony. The color is from a dark cherry red to nearly black, and the fractured antimony is often streaked with this mineral.

The writer is much indebted to Mr. C. E. Parsons of the Brunswick Antimony Company for his kindness in furnishing information.

Dyscrasite, allemontite, seramontite, and native arsenic were not observed, although it is highly probable some of these may yet be found.

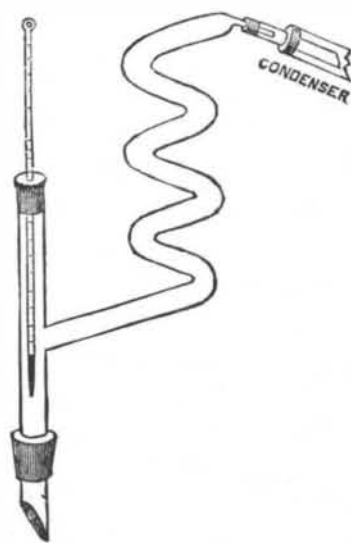
[AMERICAN CHEMICAL JOURNAL.]

NEW FORMS OF LABORATORY APPARATUS.

By EDWARD HART.

I. APPARATUS FOR FRACTIONAL DISTILLATION.

THE apparatus has the form shown in the figure. The bent tub before bending should be at least 2 feet long, but may be of any length with a corresponding number of bends (the greater the length, the more perfect the separation), and an internal diameter of at least $\frac{3}{8}$ inch. The principle is



the familiar one of the "dephlegmator." The condensed portion here runs down, and at each bend passes around the inside of the tube, the vapor passing upward through the ring of descending liquid. A comparison with a Le Bel and Henniger tube* with 4 bulbs showed very little difference in the rate of separation. The apparatus is preferable to that of Le Bel and Henniger by reason of its simplicity and small cost. It can be made by an amateur glassblower, while the former can be made only by a skilled workman.

II. A VALVE FOR USE IN STANDARDIZING PERMANGANATE.

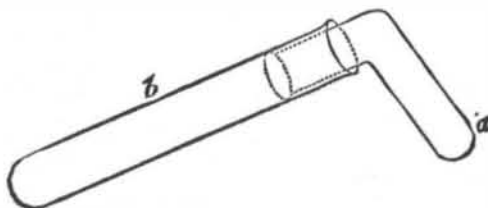
The valve shown has been in use for several years in this laboratory, and proves perfectly satisfactory. The trouble with the old forms (in one of which a slit is made in the side of a rubber tube, and in the second a piece of rubber is pinned over a hole in a cork, and this slipped over a tube leading from the flask) is that however carefully they are made, they get out of order very soon and become a nuisance. The li-



quid in the flask is rapidly heated as soon as the iron wire is introduced, and as soon as the wire is dissolved, boiled to expel all air, and the tube pushed down so that the opening, *a*, in the tube is inside the opening of the rubber cork, which prevents the air from flowing back into the flask as it cools. The tube is closed at *b*. The opening, *a*, is made either by filing crosswise with a rat-tail file or, better, by heating with a pointed flame and blowing an opening in the side of the tube.

III. A RETORT AND RECEIVER FOR SMALL DISTILLATIONS.

It is oftentimes inconvenient to use a retort in making small distillations, chiefly because it takes considerable time to fit up a retort stand. For such small distillations as the preparation of chlorochromic acid in testing for chlorine, the following arrangement is convenient:



The retort tube, *a*, is made by bending a 6 inch test tube. If the tube is heated to redness and blown into while bend-

ing, a neat and strong bend is easily made. In use, the receiver tube, *b*, is held in the hand while the retort tube is placed above a small flame. For a retort tube made from a 4 inch test tube, a 6 inch test tube makes a receiver of the proper size. For a 6 inch retort tube an 8 inch test tube is needed.

TREATMENT OF BOILS.

DR. SHOEMAKER:

DEAR SIR: Will you oblige an old student of yours by giving him through the columns of *The Bulletin* the methods you employ at the Philadelphia Hospital for Skin Diseases for the treatment of "boils"? I find the ordinary methods very unsatisfactory. By so doing, you will confer a favor on

JAS. R. MONTGOMERY, M.D.

Buckham, Pa.

[The exciting cause should receive attention. Boils are often due to general debility or an impoverished state of the blood. Iron, quinine, and the potassium salts have been found in such cases, used either alone or combined, most advantageous. For local application, strong carbolic acid will arrest the pain and relieve all irritability. Naphthol ointment, balsam of Peru, or a strong solution of the mercurial corrosive chloride can be used with great benefit to the parts.—Ed.]—*Phila. Bulletin*, July.

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