

18 May 1880

The Voice
Of the

Phi Sigma

Vol. II

No. 11

Contents

Editorial

Articles

Articles

Letter to Editor

Fred Temple

W. H. Beard

Editor

G. H. Beard

Editorial

The time has very nearly arrived when we are to ajourn for the summer and we look back and see what we have accomplished during the year. Though we have not always taken advantage of every opportunity to improve ourselves we have, I think we have accomplished a great deal. I will not speak of the far past as my predecessors have already touched on that. Looking at the past two weeks then we find we have gone steadily forward.

The question has been agitated whether or not we should have any closing entertainment (exercises) this year. The matter was referred to a committee who decided that we should not have any exercises. It would certainly be very pleasant to meet our friends in a social way and have a nice time before breaking up for the season; instead of simply adjourning as we do at ordinary meetings.

We have not progressed very rapidly in the reading of Guizot in the past two weeks although we have not been backward exactly, the interest has not seemed to be as great as previously.

We are grieved to think that our honored chairman has lost a good and valuable friend and father in the person of Mr. Ovington. Mr. Hulin is absent from us at present having accompanied the remains of Mr. Ovington to New York.

Mr. Ovington has done a great deal for Mr. Hulin and he will consequently feel his loss a great deal. We must do all that is in our power to lighten his troubles when he comes back to us. Although we may not in a great way lessen them we can do a little towards it.

Our paper consists today of an article by Mr. W. H. Beard and one by the editor. Our paper is rather a small paper for we were disappointed in not hearing from our corresponding member, Mr. C. H. Small. We have an article by W. H. Beard and a letter by G. H. Beard and an article by the editor.

Paper

To the people of this busy 19th Century it must seem very strange to think of the condition of man not more than 100 years or even 50 years back.

Without the Steam Engine, or knowledge of the use of steam. Without the Telegraph-Mail service, Gas in the streets, and a multitude of other things, it indeed seems as if commerce, literature, and all else could make but very little progress. Without the "power loom" the "Spinning Mule" the "printing press" we should be deprived of very many of the now necessary conveniences of every-day life. Even now in business it seems we could hardly dispense with the newly found treasure—the telephone. Amongst these interesting inventions and manufactures surely the paper making machines and paper take no unimportant place. Though not so new as many, the paper machine will not be least in its influence on the condition of man.

We are apt—when speaking of paper to think of it simply as a writing or printing material, but we cover very little of the ground. The uses of paper are daily becoming more numerous, from the heavy car-wheels to the finest tissue paper it is constantly taking the place of other materials. For car wheels it is considered by some to be superior and stronger than iron, that it will stand more strain without the chance of breaking. For small boats or canoes it is sometimes used on account of its strength and lightness. But we can only mention a few of the many uses to which paper is put—first and foremost are perhaps paper boxes, paper fancy goods in papier-mache & etc, of which there are endless variety, in the ways of trays, boxes, card cases & etc. These goods are sometimes very highly ornamental and are susceptible of a very high polish with the aid of varnishes. The French excel all others in the manufacture of all fancy articles made of paper. Large quantities of paper are used in all kinds of printing. Engravings, Chromos, lithographs, Wall-papers, photographs, largely also for all kinds of commercial papers & currency, book & newspaper printing. Of all the commoner grades large quantities are used in the manufacture of paper boxes of all kinds, and for wrapping & packing.

Various articles have been & are used in the manufacture of paper. Those most used are as follows, Linen & Cotton rags, old paper, string & cordage, wood, straw, Esparto grass & Hemp.

The name paper as most know came from the word papyrus which is a plant growing on the banks of the Nile, and from which paper was first made. The method used in making the ancient paper was to lay out the pith of the plant in flakes or small sheets, and then lay on these sheets in the opposite direction, glueing these together & so on till of the required thickness. The art of making paper from pulp was first known to the Chinese as early as the second century from whom the Arabs learnt the manufacture, and it is to the Arabs that the people of Europe are indebted for this useful article. The primitive method of working was to beat the rags to a pulp in a mortar with the addition of water. This material was placed in a sieve and carefully shaken to and fro. In this way the water was removed and the fibres were interlaced; it was then removed from the sieve & placed between pieces of felt & subjected to pressure. In about eight days it was fit for use. We will now try and give a short description of the present mode.

The rags are first thoroughly sorted placing each piece in a separate lot; this is very essential, as in the tearing machine in which they are afterwards placed to be reduced to pulp, it would be impossible to get the rags evenly torn or broken up, one part being reduced to pulp in much less time than the rest. After this sorting they are boiled under steam pressure for 2+(?) hours. Next comes the tearing or breaking machine of which we have just spoken; it is a large tank with a wheel or cylinder arranged with teeth placed so that the rags must pass through, during which they are thoroughly torn in shreds. A stream of clear water is constantly flowing to clean the rags and to assist in reducing them. This pulp of rags & water has next to be bleached, which is accomplished by the aid of chloride of lime. The lime & water are then removed by submitting the pulp to hydraulic pressure. Again they are

washed as before. They are next placed in a beating engine(?) which completes the separation of the fibres. The pulp is now ready for the paper machine. A quantity is placed in a large tub or vat where it is kept constantly agitated by means of a wooden arrangement called a hog.

This vat stands at one end of the machine, and from it runs the pulp through a tap on to a sort of tray which passes it to a sieve. The object of the sieve is to retain any lumps or knots that would otherwise spoil the machine. A leather apron then conducts the pulp to an endless wire web or cloth, which works on rollers. An idea of the fineness of this cloth can be gained from the fact that there are 3600 holes in every square inch. This web has slight shaking motion which facilitates the escape of the water from the pulp, and also renders it more compact, or in other words assists the fibres to adhere together. The water that thus escapes is conducted back to the vat where it again mixes with the pulp. After passing with the cloth the distance of about 28 in. the pulp comes to the first rollers which are called "wet press rollers."

These are covered with felt, and are kept constantly wet to prevent the pulp adhering to them. They press out a great deal of the water remaining. Having passed two sets of these rollers, the wire cloth leaves the paper, which is carried forward on an endless felt or blanket under a set of rollers which are of iron. The paper is now sufficiently compact & dry to pass on its way without the assistance of the blanket. Passing under more rollers the mark made on the under side of the paper by the felt is pressed out. It is now made paper but of course quite wet. It is therefore run through several hot steam cylinders by which means the paper is thoroughly dried. These machines work at about the rate of 30 to 40 feet per minute, taking only two minutes for the pulp to leave the vat, till the time it passes from the last cylinder. When the paper is taken from the machine it is ready to be finished. This work of course depends on the use for which it is intended.

First the cutting machine, by which it is cut into the different sizes necessary. Then the sizing in which work several different chemicals may be used, gelatine, rosin farina & etc. It is then glazed or calendered in various ways according to the kind of paper, but which we have time to describe here.(?) It may be interesting before closing this sketch to give a few statistics on the subject. In reference to the material used in the manufacture of paper we find that best rags yield about 75% their weight in paper. Straw yields about 30% and wood 30% or about 1,000 lbs. Of paper can be made from 1 cord of wood.

The paper mills of Great Britain turn out every-day an average of 4 miles a day each on an aggregate of 6,000,000 yds. or 3,400 miles daily. The united States has about 900 machines working, employing 13,427 men, 7,700 women and 922 children. A total of 22,049 people employed in this one branch of manufacture. Besides this there [are] probably as many more working in article[s] manufactured solely of paper, such [as] boxes & etc. 3,800 tons of paper are used in the manufacture of paper collars. 20,000 tons of wood pulp are used yearly. In 1873 the mills of the world numbered 2,309. The machines 3,031. And the numbers of tons manufactured annually amounted to the enormous weight of 1,198,000 tons.

Who Will be Our Next President?

This is the great and exciting question which occupies the minds of all true Americans at this time. It is especially interesting to those who live in this great city where the republican convention is to be held.

There have been five candidates for the nomination thought of namely: Blain, Grant, Washborne, Sherman, and Edmonds. It seems as if it lay between Grant and Blain but if looked at more closely, it will be seen that of the two Grant has by far (the) less chance than Blain. Washborne if he would acknowledge himself as a candidate would sweep the whole country. Every German would vote for him and a large majority of the Americans also. But as it stands Grant and Blain are at the front.

Who will vote for Grant? Only the office seekers with very few exceptions. There are some people who honestly believe Grant to be the only man for the place, but they are greatly in the minority. The machine politicians are all that hold Grant up.

The speakers in eulogizing Grant carefully avoid touching on his presidency but dwell with great stress upon his military career. Because Grant has been a good general is that any sign that he is fit for the presidency? They talk of the great duty we owe to Grant. Is Grant better than Washington that he should take a third term when Washington thought it would be better for the country to have a change? Look at the two terms that he served and see if they are so very much in advance of Washington's that they must needs be rewarded by a third time. It is a very bad state of affairs if out of the Fourty [sic] Millions of people in the United State[sic] only one can be found for the office, and he, one who has served two times before.

How long will the great republican form of government about which we boast last if we elect Grant for a third time? About two years. In about two years after he is elected, if he should be elected, we may look for a monarchical form of government. But Grant can't be elected. It is an impossibility. There are many of our strongest republicans who will for for any democrat who is put up rather than vote for Grant and others not so strong will not vote if Grant is the nominee. You may talk with almost any of the democrats you meet and they all say "I don't see what there is bad about Grant. Why don't you vote for him?" Now why is this? Because the democrats know that Grant is the easiest man to defeat, that we could put up. Now, if for no other reason than that of the party it is policy for us not to nominate Grant. If the Republican party wants to be defeated then the easiest way to do it would be to nominate General Grant.

Now for Blain! Has anyone formed anything like scandal to say of Senator Blain if so he is the first (time) one on the list. Who has heard of Blain's leaving his seat in the Senate in the past two months while Grant has scoured the country trying to drum up voters. All this is going to improve Blain's chance and hurt Grant's. Grant cannot carry his own state while Blain will carry his own and Grant's too. Blain is universally liked by most of the Northwestern States. If Blain is (elected) nominated it will save the party. If Grant is nominated it will kill the party.

Editor