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THE CADET.

NEW SERIES.

VOLUME IX. NOVEMER, 1894. No. 5.

THE SUPREME COURT OF THE UNITED STATES.

Hon. Louis C. Southard.

IN discussing the important and justly venerated branch of the general government known as the United States Supreme Court, it may be useful to briefly outline the events leading up to its establishment.

The thirteen original colonies all owed allegiance to the British Crown, and all except Connecticut and Rhode Island received their governors from the Crown, and in all, causes were carried by appeal from Colonial Courts to the English Privy Council. The colonial governments were wholly independent of each other. Under oppression mutual support was felt necessary, and in 1765 a congress of delegates from nine colonies was held in New York. This was followed by another held in Philadelphia in 1774, at which twelve colonies were represented, and which called itself "continental" and for the first time spoke of "the good people of these colonies" as an entirety. In 1776 Independence was declared and in 1777 "Articles of Confederation and Perpetual Union" were formed. This Confederation was not ratified by all the states until 1781, and had no adequate central authority. There was no Federal executive, judiciary, or means for raising money, except by contributions from the several states, and no power to compel obedience either of states or individuals.

This loose confederation was hardly capable of carrying on the war for Independence, and proved wholly inadequate for times of peace. A convention of delegates from five states met at Annapolis, Maryland, in 1786 and drew up a report which condemned the existing order of things, and suggested that a new convention be held the following year. This report was presented to Congress, and being approved by that body, the several states were recommended to send delegates to a convention which should "revise the Articles of Confederation, and to report to Congress and the several Legislatures such alterations and provisions therein as shall, when agreed to in Congress and confirmed by the States, render the Federal Constitution adequate to the exigencies of Government and the preservation of the Union."

A convention was convened in accordance with this recommendation in Philadelphia May 14th, 1787, and proceeded to business on May 25th, at which time seven states were represented. George Washington was chosen to preside. Delegates finally arrived from every state except Rhode Island and participated in the deliber-

ations of that body, which was composed of the most distinguished and able men of the time.

This Convention was in session nearly five months and elaborated the Constitution of the United States. It was to take effect when ratified by nine States, which event occurred in 1788, but it did not take full effect until March 4th, 1789; the Congress of the Confederation having fixed the first Wednesday of March of that year as the day when it should come into force.

The Supreme Court is directly created by Art. III, Sec. 1, of the Constitution,[1] but no provision was made as to the number of Judges. Originally there were six; afterward increased to ten, and again reduced to nine. One Chief Justice and eight associates now constitute the Court.

The day after the first U. S. Senate was in a condition to act, Oliver Ellsworth, afterwards Chief Justice, then a Senator from Connecticut, was appointed Chairman of a "Committee to bring in a bill for organizing the Judiciary of the United States." The original bill in his handwriting is still preserved in the Archives of the Government. This bill provided for Circuit and District, as well as for the Supreme Court and was remarkable for its lucidity.

Corner in Robing-Room Showing Portrait of Marshall -

There has been recently added to these, by act of Congress, a Circuit Court of Appeals, standing between the inferior Federal Courts above named, and the Supreme Court, and intended to relieve the latter of a portion of the business which had grown to such dimensions as to be a burden, both upon the members of the Court, and upon the suitors, who were obliged to wait, sometimes more than four years, before their cases could be reached in regular order for argument. This often amounted practically to a denial of justice and always entailed hardships difficult to endure.

Since the Court of Appeals was created, the Supreme Court has rapidly reduced its docket and will soon be abreast of current business. The

1. "The Judicial power of the United States shall be vested in one Supreme Court, and in such inferior Courts as the Congress may from time to time ordain and establish."

drawback is that many parties will be deprived of the opinion of the Highest Court, and the various Courts of Appeal may not be uniform in their decisions. The Court of Appeals being inferior, its opinions will have less weight and in this respect be more unsatisfactory than those of the Supreme Court.

The sessions are invariably held in Washington in a beautiful chamber specially provided in the Capitol building and are attended with much ceremony, as befits the high character of that body. The Judges are clothed in black silk gowns when in Court and are attended by pages who move quietly about in the passage immediately behind the Judge's bench and are ever on the alert, to bring or remove, the legal documents, or books, called for by the Justices during the progress of arguments.

"ARCHIE," THE OLD ATTENDANT.

As the sessions of the Court are held continuously during the middle of the day, it is customary for one or more of the members at a time, to quietly withdraw, take his lunch, and as quietly resume his chair, when others follow, and in this way all are enabled to obtain needed refreshment without interrupting the business of the Court.

It must be a matter of pride that the present distinguished, amiable, and talented Chief Justice, Melville W. Fuller, was a State of Maine boy and a graduate of one of our oldest and most highly esteemed institutions, Bowdoin College.

The Constitution provides that "the Judges of both the Supreme and inferior Courts shall hold their offices during good behavior, and shall at stated times, receive for their services a compensation, which shall not be diminished during their continuance in office."[2]

It will be seen that the Judiciary is thus after appointment, removed from dependence on the political whims or passions of parties, or officials, and being removable only by impeachment, are enabled to give their decisions free from the bias which might otherwise exist, and which if it did not exist might yet be suspected. A practical illustration of the benefits of this system is shown by the fact that from the establishment of the Court, to the present day, there has been but one impeachment of a Justice of the Supreme Court and then unsuccessfully.[3]

The Justices are nominated by the President and confirmed by the Senate, and although the political party spirit has actuated to some degree the selection of the candidate for the vacant place, yet the knowledge that the choice is not arbitrary, but must

2. Art. III, Sec. 1, Constitution.

3. This was Samuel Chase, of Maryland, in 1804-5.

be confirmed by the Senate, has tended to relieve the President from the temptation of making unworthy nominations, and where such have been made, the Senate has, by its veto, prevented the mischief which might well be feared from the presence in that high office of one who owed his elevation to other grounds than ability and fitness. If a partisan spirit on the part of the Senate has ever prevented the choice of a thoroughly worthy candidate, it can at least be said that the nomination which followed was usually of a still more satisfactory character, and the public service on the whole has been the gainer in consequence.

The wisdom of this method of selection, and the adoption of the tenure of office during good behavior, has been illustrated by the independence shown by the Judges, of Congress, and of party, and their freedom from adverse criticism, even when the public mind was inflamed by partisan prejudice and passion.

The presence of six Judges is necessary to hold Court, and every case is twice discussed by the whole body in their private chambers; once to arrive at the opinion of the majority, and again to hear and discuss the written judgment prepared by one of their number, and to criticize, amend and adopt it as the judgment of the Court. The opinions thus prepared are printed and read in open Court, usually by the Justice writing them, and are afterwards compiled and published by the official reporter in the volumes known as the U. S. Supreme Court Reports.

On the subject of jurisdiction, the student is referred to the Constitution, Cooley's Constitutional Limitations and Principles of Constitutional Law and Story's Commentaries on the Constitution.

The principal branches of civil government are the legislative, judicial and executive. The legislative authority enacts, the judicial declares, and the executive enforces, the law. The judiciary is a most important branch of the government. To it is committed not only the duty of finding facts, but also of construing legislative acts and pronouncing what the law is.

"On this principle, the construction given by this (the Supreme) Court to the constitution and laws of the United States, is received by all as the true construction; and on the same principle, the construction given by the Courts of the various states to the legislative acts of those states, is received as true, unless they come in conflict with the constitution, laws, or treaties of the United States."[4]

This duty which devolves upon the Supreme Court, of construing the Constitution, has had an effect which cannot be overestimated, and the wisdom and patriotism of the Supreme Court Judges has not only shed lustre upon their names, but has placed the nation and the whole world under a debt of gratitude to them. Enormous difficulties had to be met and overcome by the Court in construing the Constitution, especially in the earlier years of the nation, and conclusions had to be reached where books and authorities could give little aid, and where there were no precedents, or authorities, either in practice or theory.

Among the many judicial lights who have served their country well, John Marshall, of Germantown, Va., Chief Justice from 1801 to 1835, is the most distinguished as a Constitutional

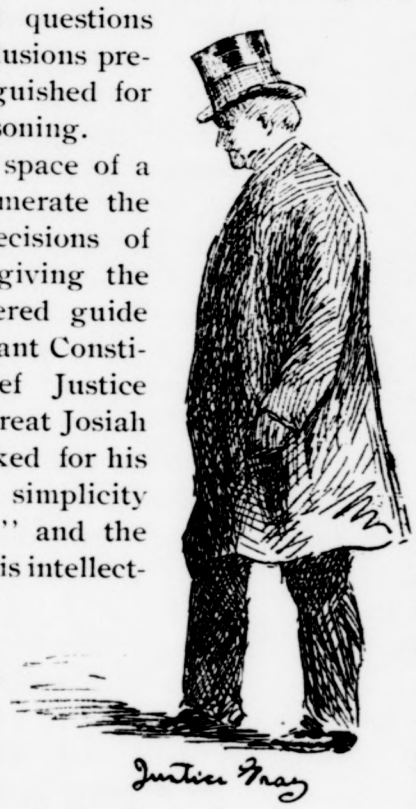
4. Marshall C. J. in Elmendorf vs. Taylor, 10 Wheat. 109.

lawyer. The opinion in the celebrated Dartmouth College case which was argued with so much learning, force and brilliancy by the great Daniel Webster on behalf of his *Alma Mater* and by Attorney General Wirt against it, was delivered by Marshall, C. J.[5] and will forever remain a monument to his wonderful powers of mind. During his term of service the most momentous constitutional questions were solved and his conclusions presented in opinions distinguished for their clear and logical reasoning.

It is impossible in the space of a short article to even enumerate the important causes, the decisions of which have resulted in giving the nation a carefully considered guide on most, if not all, important Constitutional questions. Chief Justice Marshall was said by the great Josiah Quincy to have been marked for his "frank, cordial, child-like simplicity and unpretending manner" and the "strength and breadth of his intellectual power."

In a letter, Mr. Quincy tells an anecdote of the Chief Justice's early life in relation to his athletic powers; at quoits, or in jumping or racing, he excelled all competitors, and was, when in the army, the only man who could with a running jump clear a stick laid over the heads of two men as tall as himself. On one occasion he ran in his stocking feet and his mother in knitting his stockings had the legs of blue and the heels of white. This circumstance combined with his uniform success in the race, led the soldiers to give him the *sobriquet* of "*silver heels*," the name by which he was generally known among them. He enlisted on the breaking out of the Revolutionary War, took an active part in several engagements and in spite of his youth rose to the rank of Captain and was often employed as Deputy Judge Advocate.

In illustration of the depth and fervor of his religious convictions, the following authentic anecdote is of interest. He was once travelling in the northern part of Virginia and after nightfall arrived at the village of Winchester and drove to McGuire's Hotel. What occurred is thus related. As the old gentleman drove up, it was noticed that both shafts of his gig were broken and were held together by withes formed from the bark of a hickory sapling. He was plainly clothed, his knee buckles loosened and something like negligence observable in his dress.



Conceiving him to be one of the honest yeomanry of the land, he was received with the courtesies passed between strangers. In the evening the guests became engaged in a warm and able altercation on the merits of the Christian religion. From six o'clock until eleven a party of three or four young gentlemen wielded the sword of argument. During this protracted period the old gentleman listened with all the meekness and modesty of a child. At

5. Wheaton, Vol. 4, p. 518.

last one of the young men remarking that it was impossible to combat with long established prejudices, wheeled about, and with some familiarity exclaimed, "well, my old gentleman, what think you of these things?"

"If," said a traveller who was present "a streak of vivid lightning had at that moment crossed the room, their amazement could not have been greater than it was with what followed." The most eloquent and unanswerable appeal was made for nearly an hour by the old gentleman that he ever heard or read. So perfect was his recollection, that every argument that had been urged against the Christian religion was met in the order it had been advanced. Hume's sophistry on the subject of miracles was, if possible, more perfectly answered than it had already been by Campbell. And in the whole lecture there was so much simplicity and energy, pathos and sublimity, that not another word was uttered. It was then a matter of curiosity who the old gentleman was. Some concluded he was a preacher; but no—it was the Chief Justice of the United States.[6]

The Supreme Court has steadily refused to intertere in purely political questions. Whenever it finds any discretion given to the President, any executive duty imposed upon him, it considers the manner in which he exercises his discretion and discharges the duty, to be beyond its province. Whenever the Constitution has conferred a power of legislating upon Congress, theCourt declines to enquire whether the use of the power was, in the case of a particular statute, passed by Congress, either necessary or desirable, or whether it was exerted in a prudent manner, for it holds all such matters to be within the exclusive province of Congress.

Occasionally, however, the Court has come into collision with the executive. Occasionally it has been required to give decisions which have worked with tremendous force on politics. The decision in the Dred Scott case[7] did much to precipitate the Civil War. It refuses to decide abstract cases or give opinions in advance by way of advice to the executive. In 1793 the Court refused to give President Washington its opinion on the treaty of 1778 with France. In 1801, it declared itself to have the power to compel an executive officer to fulfil a ministerial duty affecting the rights of individuals. This was angrily denied by President Jefferson, but has been repeatedly re-asserted and is now undoubted law. It has asserted its duty to treat as invalid an Act of Congress inconsistent with the Constitution, its power to pronounce a State statute void, its authority as a Supreme Court of appeal from State Courts on Federal questions, and in 1872 it ordered the State of Georgia to release persons imprisoned under a Georgia statute which the Court declared to be invalid. In 1868 it sustained the Congressional plan of reconstruction which President Johnson was trying to defeat, and in subsequent cases sustained most, but not

6. Howe's Virginia Historical Collections, p. 275.

7. Scott vs. Sandford, 19 How. 393.

all, the statutes passed by Congress under three amendments to the Constitution which abolished slavery and secured the rights of negroes. In 1876 it refused to entertain proceedings instituted for the purpose of forbidding the President to execute the Reconstruction Acts. In 1871 and 1884 it reversed its decision given in 1869 declaring invalid the Act of Congress making government paper a legal tender for debts. The original decision was by a majority of five to three, its reversal in 1871 by a majority of five to four and in 1884 by a majority of eight to one. In 1877 five members of the Supreme Court were included in the electoral commission which declared Hayes elected President. The function was hardly judicial and the members voted on party lines as steadily as the Senators and Representatives who sat on it.

JUSTICE FIELD.

This participation of the judiciary as members of a political commission has been strongly condemned by some, but was of such an exceptional character that it is scarcely likely to be repeated.

The Supreme Court has changed its tendencies from time to time according to the political cast of its members. It necessarily changes slowly. From 1789 till 1835 its tendency was in the direction of strengthening the Federal authority. From 1835 till the Civil War its sympathies were with the doctrines of the Democratic party and under Chief Justice Taney opposed further extension of Federal power or of its own jurisdiction. During the Civil War, under the ascendancy of the Republican party, centralization ideas were again powerful, and the vast war powers asserted by Congress were usually supported.

In none of these periods were the judges improperly affected. Their action proceeded naturally from the habits of thought acquired while members of one political party or another, and whose doctrines they were accustomed to defend.

The relations between the bench and the bar are and have been of the most cordial character and is marked by mutual confidence and esteem.

The bar of the Supreme Court has been noted for its brilliancy and accomplishments from the days of William Pickney, John Randolph of Roanoke, Daniel Webster and William Wirt to the present time. Such men form a tribunal, to whose opinions the Judges are sensitive, and all the more because the judges like those of England, but unlike those of continental Europe, have been themselves practicing counsel.

As an example of the professional turn of mind shown while in youth, the following anecdote of Chief Justice Oliver Ellsworth may be cited. At seventeen he entered Yale College where he remained two years when he removed to Princeton. The students were prohibited to wear their hats in the College yard. Ellsworth was on one occasion summoned to appear before the college authorities for violating this law. He defended himself on the

ground that a hat consisted of two parts, a crown and a brim, and as his hat had no brim (he having previously torn it away) it was no hat, and he could therefore have been guilty of no offense. This ingenious plea served to placate his judges and he escaped all punishment. In the olden time when the settled communities were widely scattered and roads were poor, the judges had no easy task in journeying from one part of the country to another.

The manner and style in which Chief Justice Cushing's father, also a judge, made his progress while Massachusetts was still a colony is thus described in John Adams' diary. He overtook, he says, "Judge Cushing in his old curricle, and two lean horses and Dick, his negro on his right hand driving the curricle. This is the way of travelling in 1771; a Judge of the Circuits, a Judge of the Superior Court, a Judge of the King's Bench, Common Pleas and Exchequer, for the province, travels with a pair of wretched old jades of horses, in a wretched old dung cart of a curricle, and a negro on the same seat driving." It is possible that this story owes its raciness in part to the political antipathy which existed on Adams' side towards Judge Cushing.

While the members of the Supreme Court are clothed with great authority and insist on a strict observance of the proprieties, and in all their official relations maintain much dignity of manner, and appearance, yet they have their human side as well and are in private life amiable, loving and considerate, and apt to be fond of a good time and a good joke.

In earlier years, if not now, they were rather a jovial set, especially Judge Story, who used to assert that every man should laugh at least an hour a day, and who had himself a great fund of humorous anecdote.

It is essential that a judge should have his human side, otherwise he would be lacking in the elements which enable him to correctly estimate human passions, and fairly judge his fellow men.

In conclusion, we can be thankful for the wisdom of our forefathers who established our Federal Judiciary and congratulate ourselves upon the characteristics which through good and through evil times have enabled the members of the U. S. S. Court to maintain the judicial ermine without spot or blemish.

EXTEMPORE IN THE COURT OF SESSION.

LORD ADVOCATE.

He clenched his pamphlets in his fist,
He quoted and he hinted,
Till in a declamation-mist,
His argument he tint[1] it:
He gaped for't, he graiped for't,
He fand it was awa', man:
But what his common-sense came short,
He eked out wi' law, man.

MR. ERSKINE.

Collected Harry stood a wee,
Then opened out his arm, man;
His lordship sat wi' ruefu' e'e,
And eyed the gathering storm, man;
Like wind-driven hail, it did assail,
Or torrents owre a linn,[2] man;
The Bench sae wise lift up their eyes,
Half-waukened wi' the din, man.

Burns.

1 Lost. 2 Cascade.

DESIGN FOR AN ELECTRO-MAGNET FOR SPECIFIC DUTY.

By Instructor E. P. Chapin.

AS it becomes necessary to design a steam engine for a certain H. P., or a dynamo for a certain output, so it may be necessary for the engineer to design an electro-magnet for some special kind of work. At the Carnegie Iron Company's works at Pittsburgh, for instance, where huge blocks and plates of iron need to be handled from place to place, powerful electro-magnets are used. These magnets, suspended from cranes, instead of grappling hooks, are let down to the plate of iron to be moved; the current is turned on, and the magnet sustains its weight of iron till it is moved to the proper place and the current is turned off. Such a magnet, however, is different from the kind which is dealt with in this problem.

Suppose it is necessary to design a magnet for operating the heavy semaphore signals used on many railroads. Here it is necessary to use a magnet which shall exert a maximum pull, with a minimum amount of power, which of course is the electric current. A magnet for this duty must be made powerful, for in addition to the heavy counterweights employed to bring the signal to danger should anything about the mechanism break, provision must also be made for power to pull the signal when it may be fast, due to snow and ice gathering at the bearings. But having determined the necessary pull ordinarily, and added a sufficient amount for safety, suppose it is desired to construct a magnet which shall pull 175 lbs. through a space of 3 inches.

The electrical part of the design consists in determining the best form of magnet, and the number of ampere turns necessary to give the required pull. "Ampere turns" is the term employed to represent the product of the number of turns of wire about a magnet core by the number of amperes of current flowing. If s stands for the number of turns of wire, and i for the current flowing, then $s\,i$ is the number of ampere turns.

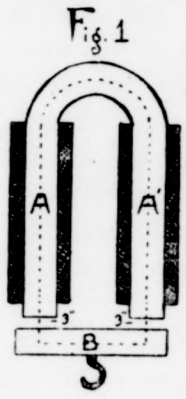
Now suppose the form of the magnet is of the horse-shoe type, as shown in fig. 1. A. A'. are the limbs of the magnet about which are placed coils of wire. B is the armature, 3 in. away. The average path for the lines of force, or lines of magnetization, is shown by the dotted line. It is seen that this path passes through two air spaces each 3″ long. The magneto-motive force—corresponding to the electro-motive force in the formula for Ohms law—necessary to send lines of magnetization through air must be many times greater than that required to send, or produce, the same number of lines in iron, or in any magnetic substance. Indeed it is found that for an air space of three inches, the magneto motive force necessary to send a given number of lines of magnetization through the air space, is so great, that the force necessary to send the same number of lines through the rest of the path, which is iron, being very small in comparison, may be neglected.

Fig. 1 would be a very uneconomical form of magnet, for in order to pull the armature, with weight

attached, 3″, the lines of force must be sent through 3″×2=6″ of air space.

Fig. 2 shows the most economical form of magnet. A is the plunger or armature, which is fastened to the weight to be pulled. It slides in a brass tube, *a*. *a*., about which is wound the coil of wire *w*. *w*.

Fig. 1



The average path of a line of force here is shown by the dotted line, and as is seen, traverses an air space of 3″, which is variable, and a very small air space—say $\frac{1}{8}$″ at *a*, which is constant.

We have practically halved the air space, or made the magnet 4 times as efficient for a given number of ampere turns, as would be the case with a magnet as shown in fig. 1.

In fig. 2, C and B are of wrought iron, and of the same cross section as A.

Having the form of the magnet it is now necessary to find of how many ampere turns the coil *w*.*w*. must consist, that there may be an attraction of 175 lbs. across the air space of 3″. We must assume a certain diam. for the plunger or armature, A, of such magnitude that the iron will not be saturated by the effect of the necessary number of ampere turns. Assume the diam. of A, and therefore C, as 4″, which is really larger than would probably be necessary; but in case of a severe ice storm it might possibly be required to send an excessive current through the line for a very short time to break the ice. Having, therefore, the diam. of the core, and neglecting the M.M.F. necessary to send the lines of force through the iron path, the required determinations can be made.

175lbs=$\frac{175}{2}$kilos.=79.545kilos.=79545grams.

Force of gravity on one gram=981 dynes.

Hence, force between A and A¹ must be

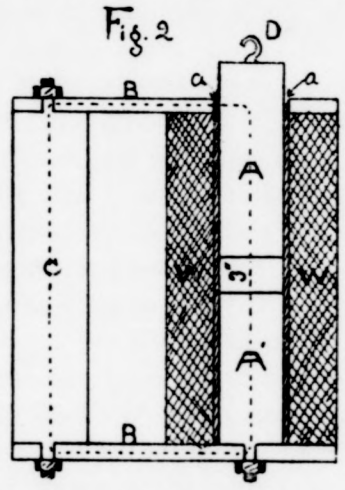
79545×981=78043645 dynes.

Area of plunger=$\pi r^2=\pi\times 4=12.566^{\square''}$

12.556×6.45=81.05 sq. cm.

Lines of force tend to shorten themselves, and in any magnetic field there is a tension in the direction of the lines equal to $\frac{H^2}{8\pi}$ dynes per sq. cm. H represents the induction per sq. cm. In air H and B are equal; but in iron H represents the magnetizing force and B the total magnetization. Hence the curve for H and B will vary for

Fig. 2



every sample of iron tested. Since in this problem, the iron circuit has been neglected, B in the iron is not considered.

The force per sq. cm. being $=\frac{H^2}{8\pi}$ then

$$\frac{H^2}{8\pi}=\frac{78043645}{81.05}$$

$$H^2=24197875$$

$$H=4919$$

Now the total work done in carrying a unit pole once around a wire in which the current, *i*, is flowing, can be proved to be $w=4\pi i$, ergs. If instead of one turn there are *s* turns of wire, and if *i* is measured in amperes

instead of the C. G. S. units, $w=\frac{4\pi si}{10}$ ergs. If l is the length of the path described by the pole, and e the angle at any point in the path between the direction of motion and the direction of the force H, then $w=\int H \cos e\, dl$, $\therefore \int H \cos e\, dl=\frac{4\pi si}{10}$

In this problem the path of the pole is coincident with a line of force, and $\cos e=1$, $\therefore \int H\, dl=\frac{4\pi si}{10}$

But again, in this case H is uniform throughout the air space, and

$\frac{4\pi si}{10}=H l$. $l=3\frac{1}{8}''=7.93$ cm.

$\frac{4\pi si}{10}=1.26 si$ $Hl=4919\times 7.93=39007$

$1.26\, si=39007$ $si=30958$. Hence 30958 amp. turns upon the coil w. w. would pull 175 lbs. attached to D, through 3". These turns could be divided into say, 10 amperes, and 3100 turns of wire.

Professor Ebert has deduced the laws according to which apparatus should be constructed to produce light by means of high frequency electric currents, without converting most of the energy into heat. He has obtained a light of about one-thirteenth of a candle, with an expenditure of only about 1-1500th to 2000th part of the energy required in the amylacetate standard candle lamp. The comparison would, of course, be somewhat less favorable with the incandescent electric light, but nevertheless the difference would still be very great. The light efficiency of an incandescent lamp is said to be about five per cent., which means that ninety-five per cent. is converted into heat and five per cent. into light; from this it would appear that the greatest possible efficiency which can be expected is twenty times as great as that of the incandescent lamp, assuming that the five per cent. which is now converted into light is converted as efficiently as it is in the cold phosphorescent lights. He furthermore expresses the belief that by proportioning the apparatus according to the laws which he gives, very bright lights (how bright is, unfortunately, not stated) can be generated with only an expenditure of some millionth of a watt. Professor Ebert's new lamp is described as consisting of a glass bulb containing paste of a greenish blue luminous paint on a glass tube inserted in the bulb; on the outside of the bulb and symmetical to the paste of paint, were two rings of tinfoil with contact wires to which the circuit was connected; cathode rays perpendicular to the bulb were produced and were almost invisible, but on the surface of the luminous paint a bright phosphorescent light was produced; the candle-power was estimated as one-fortieth to one-thirtieth of a candle, the consumption of energy being extremely small; he estimates it as about 1500 to 2000 times as small as in the amylacetate standard candle lamp; the light is a mixture of greenish blue and yellow, and if the yellow could be obtained by itself the light would be like that from a gas or petroleum lamp. He believes it possible in this way to construct bright lights which consume only some millionths of a watt; these high frequency currents cannot be sent along lines, and must therefore be generated in a small apparatus close to the lamp.

THE INVENTOR OF THE STEAM BOAT.

THERE is an old saying the substance of which is, that some men are born great, some make themselves great, and some have greatness thrust upon them. Perhaps no better case can be adduced as an instance of the latter, than that of the so-called inventor of the steam boat.

By almost general consent, Robert Fulton has been unjustly regarded as such and honor given him alike by speaker and writer, and John Fitch if ever thought of, is regarded as one who knew not how to produce the effects that he was ingenious enough to conjecture were possible.

Fulton's widely heralded triumphs on the Hudson occurred in 1807, or *twenty-one years* after Fitch successfully ran his steam boat on the Delaware.

How almost prophetic were the words of this derided genius written in 1791: "The day will come when *some more powerful man* will get fame and riches from *my* invention; but nobody will believe poor John Fitch can do anything worthy of attention."

A greater part of the facts stated in this sketch were taken from the autobiography of Fitch commenced Jan. 20, 1790, at the earnest solicitation of his warm friend, Rev. Nathaniel Irwin.

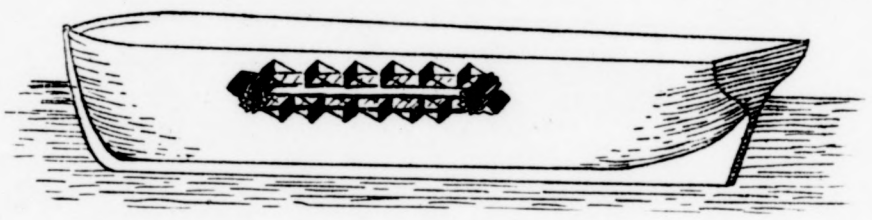
John made his bow to the world, that was to be one of misfortune to him, on January 21, 1743, O. S., in the town of Windsor, Connecticut. After the hardships and struggles usually undergone by the conventional genius in childhood, brightened by the flashes from the "stars" he saw at the hands of a stepmother, he was apprenticed at the age of eighteen years to a clockmaker of a frugal turn of mind, as is well shown in the following anecdote. In the second year of John's service, he bought four old sheep from one of which the master's equally frugal wife made a broth in a large iron pot. Of this our genius ate twice and often three times a day for over a week, when hoping to get rid of it he complained that it was "too salt." But the mistress was equal to any such emergency as this and promptly rose to the occasion by adding a very liberal quantity of water, thus increasing the quantity perceptibly. John struggled bravely until the twelfth day when his stomach refusing any longer intercourse with such familiar fare, it was with many sighs consigned to the swill pail, which would have been regretted probably, by the Oliver Twist of later years. After serving out his term his first venture was that of matrimony, after a short courtship of Lucy Roberts in which in his own words he had "but little opportunity of observing her character." After something over a year of domestic trouble he leaves home forever, to become in turn a silversmith, gunsmith, sutler to the Continental army at Valley Forge, which venture paying well, and deciding to invest the profits in Virginia land scrip, he obtained in 1780, through the influence of the then provost of the University of Pennsylvania, Dr. Ewing, with Dr. James Madison at that time president of William and Mary College, the post of deputy surveyor for Kentucky; he goes there, becomes an Indian captive, is taken to Detroit and held as a prisoner of war until exchanged.

It was in April, 1785, after his release, that the idea came to him of

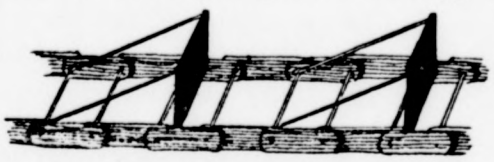
a *land carriage* moved by steam, which was, however, given up because of the general bad condition of the public roads. He at once turned his attention to devising a method to propel boats upon the water. In seeking for the best means of propulsion, paddle wheels similar to those used afterward by Fulton suggested themselves, and were used on the model, and Daniel Longstreth says:

"The model was tried on a small stream on Joseph Longstreth's meadow . . . . and it realized every expectation. The machinery was made of brass, with the exception of the *padale* wheels which were made of wood by Nathaniel B. Boileau, whilst on a visit during vacation from Princeton College."—*Bucks Co. Intelligencer.*

The idea of a steam boat now took sole possession of him and on Sept. 27, 1785, he presented a model and drawings of his boat to the American Philosophical Society at Philadelphia. He had, however, modified his plan by substituting in the place of paddle wheels, an endless chain to which was attached paddles, passing over rollers. Owing to his lack of funds Fitch was very active in soliciting assistance from individuals and legislatures, even calling on Washington at Mount Vernon, who treated him courteously but did not give the assistance expected. He afterwards formed a company to build a large boat and found in Henry Voight, a watch and clock maker, a ready and ingenious helper. After many discouragements and failures the boat was finished and ready for trial. The time set for the trial was August 22, 1787, and occurred in the presence of nearly all the members of the Constitutional Convention then sitting in Philadelphia. In his journal Fitch mentions the presence of all the members "except General Washington," also that Gov. Randolph of Virginia "was pleased to give the invention countenance."

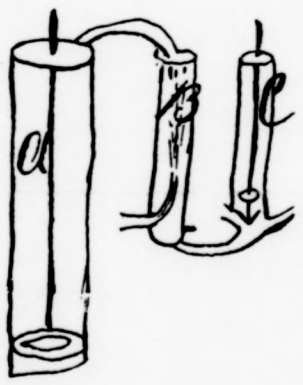


FITCH'S MODEL BOAT OF SEPT., 1785, WITH ENDLESS CHAIN AND FLOATS.



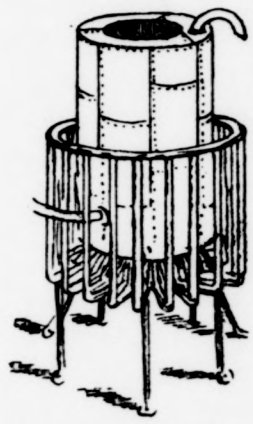
SECTION OF CHAIN AND PADDLE.

We find that in 1788 a second successful boat was made but owing to the ignorance of the right proportions the different parts should bear to one another, also because of imperfect condensers it was not possible to attain a speed satisfactory to those interested. Finally, after trying no less than *seven* different condensers, Fitch devised one of a straight tube, a *fac-simile* of his drawing being shown by our illustration, in which *A* is the cylinder, *B* the condenser and *C* the air pump, and this proved to be that for which they had been groping.



Fitch's Condenser, Cylinder and Air Pump.
(Fac simile of drawings.)

On the 16th of April, 1790, all was ready and a trial made, successful in



Henry Voight's Double Cylinder, Boiler, and Grate.

every respect, and in his journal Fitch says: "We reigned *Lord High Admirals of the Delaware*," and in another place:

"Thus has been effected, by little Johnny Fitch and Harry Voight, one of the greatest and most useful arts that has ever been introduced into the world; and although the world and my country does not thank me for it, yet it gives me heartfelt satisfaction."

It was at this time that the press first condescended to notice the progress of these persevering efforts. On June 16, Gov. Mifflin and his Council took a trip on the boat, and being so well pleased presented her with a suit of colors "costing £5 6s. 11d."

We find further confirmation of the usefulness of the boat in the advertisements in the columns of the papers of that time. The following taken from the *Pennsylvania Packet* of June 15, 1790, and printed also in the *Federal Gazette* of June 14th, 17, 19, 22 and 24th, is a good sample of more than twenty different ones noted:

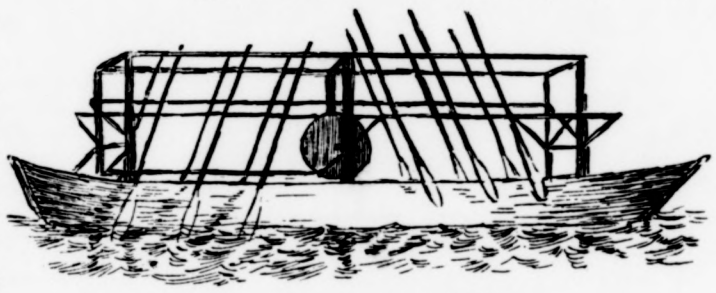
THE STEAMBOAT

is now ready to take passengers, and is intended to set off from Arch street Ferry in Philadelphia, *every Monday, Wednesday,* and *Friaay*, for *Burlington, Bristol, Bordentown, & Trenton*, to return on Tuesdays, Thursdays and Saturdays. Price for passengers, 2–6 to Burlington and Bristol, 3–9 to Bordentown, 5s to Trenton.

tu—th, s—tf.

As a fair example of one of these trips we notice one made from Philadelphia to Lambertsville and return, a distance of ninety miles, with an average speed of seven and one-half miles per hour, and it was probably nine or ten miles on the upward passage going with the tide. A comparison of this with the time made by Fulton's boat on the Hudson seventeen years after is very unfavorable to the latter, as an average speed of only four and three-quarters miles per hour was developed. Whittlesey says: "Had they started together, over the same course, at the same time, Fitch's boat would have reached Albany fifty-two miles in advance."

Fulton told Dr. Thornton, one of the members of the company, "that



FITCH'S STEAM BOAT OF 1786-7.

it was impossible to make a boat go more than *five* miles an hour in dead water." The latter says:*

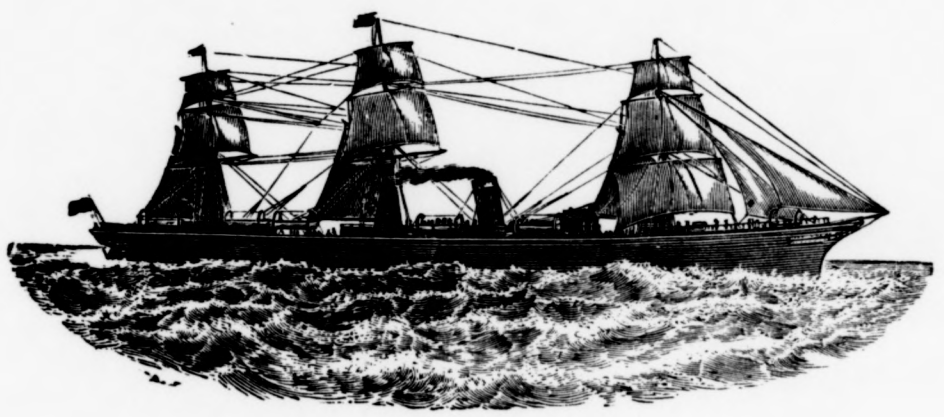
"He offered me $150,000, if I would make one that exceeded it. I agreed to his proposal at once, but he declined to write the terms. Our boat (Fitch's) went at the rate of *eight* miles an hour."

The unlucky destiny that seemed to rule over him, in spite of all these mechanical triumphs, from now on, decreed only misfortune and rebuff, and Fitch's efforts to obtain recognition and aid carried even to the Court of France, were unavailing and we see the man going here and there, but all the time down, until some time between June 25 and July 18, 1798,

* U. S. Pat. Office Report, 1850, part 1, page 370.

this poor, unhappy, derided man took his own life at Bardstown, Kentucky, yet firmly believing in his invention to the last.

It is farthest from the wish of the writer to detract in any degree even in his small sphere, from the credit properly due others for their work, yet it is his hope that some of the readers of this, when they take passage on board the "*City of New York*" perhaps, for their European trip, may be led in their inevitable soliloquy over the contrast between the past and present to give just one little thought to the fact that "Poor John Fitch" *did* "do something worthy of attention." *Frank Damon.*



In a paper read before the American Institute of Electrical Engineers by Mr. W. W. Griscom, on "Some Storage Battery Phenomena," the author arrives at the following conclusions: First—That the chemical reactions in a storage battery cell must be complex, in order to account for the curves of electromotive force, temperature and internal resistance. Second—That the current and electromotive force of the component plates of a cell, and of each part of each plate, are constantly fluctuating, in spite of the fact that no source of electricity can compare with a storage battery for steadiness and constancy. Third—That by reducing the normal output of a battery by about thirty or forty per cent. the discharge can be mainly confined to one set of chemical reactions, thus prolonging the life of the battery. Fourth—That the negative and positive plates are apt to get out of step, therefore the battery should be given an occasional overcharge when necessary, but only when necessary to get them in line again.

DR. HOLMES AS A HYMNIST.

ONE phase of the literary and poetic work of Oliver Wendell Holmes relates to his contributions to hymnology, and to his denominational and representative position in the history of hymnology. He was a Unitarian, and while he did not incorporate into his hymns the distinctive tenets of Unitarianism, except those which are the common doctrines alike of theism, so-called orthodoxy and Unitarianism, yet he was classified, properly enough, by Rev. A. P. Putnam, D.D., of Brooklyn, in 1875, as one of the "Singers of the Liberal Faith."

The great group of early American poets no longer exists. Bryant (1794-1879), Emerson (1803-1882), Longfellow (1807-1882), Lowell (1819-1891), Whittier (1807-1892), and Holmes (1809-1894), constituted that group. All were contributors to hymnology, and all save Whittier were Unitarians. Longfellow was the author of eight hymns, although he never sought to be a hymnist. He was the translator of a German hymn by Simon Dach (1605-1659), of Luther's "Ein Feste Burg," a few of the hymns of Friederich von Logau (1604-1655), a vesper hymn of the Greek Church and a Latin hymn.

Emerson wrote two hymns. James Russell Lowell wrote none, although two selections from his severely intellectual poetry have been used as such. Whittier affirmed that he was not a hymnist, for the reason that he knew nothing of music. Few of his pieces were written for singing. He did not claim that he had succeeded in composing a hymn, yet thirty-three selections have been compiled from his poems as hymns. He outranks in this respect all the greater New England poets. Oliver Wendell Holmes has written seven hymns, and two of them are destined to continued use in British and American Hymnals. The entire list may be annotated as follows:

1. O Love Divine, that stooped to share
   Our sharpest pang, our bitterest tear!

It was "A Hymn of Trust." It is a good specimen of the lyric art of Holmes. Dr. Charles Robinson characterizes it as exquisite. Its Biblical text was Psalm cxix, 151, "Thou art near, O Lord." The words are a refrain in the last line of each stanza. The nearness of God is the ancient phrase for the modern idea of the immanence of God, a God so near as not to be without, but within. It was published in the Atlantic Monthly, in the "Professor at the Breakfast Table" series, November, 1859.

2. Lord of all being, throned afar,
   Thy glory flames from sun and star.

Holmes, in a very characteristic and appropriate way, characterized this as a "Sun-Day Hymn." It deserves to be recalled that he died on Sunday shortly after midday, and, in contrast, that he was buried on a cloudy and rainy day. The hymn was written in 1848 and published in the Atlantic Monthly, December, 1859.

3. "Father of Mercies, Heavenly Friend."

It was a "Prayer during war," a prayer for the soldiers and for the Union:

"From blasts that chill, from suns that smite,
From every plague that harms;
In camp and march, in siege and fight,
Protect our men-at-arms."

4. "O Lord of hosts! Almighty King!"

This became known as the soldiers' "Army Hymn," and was often sung both at home and in camp. It is dated in 1861.

5. "Thou Gracious Power, whose mercy lends."

It was entitled "A family gathering." It is contained in "Hymns of Faith and Life," collected and edited by Rev. John Hunter, D. D., of Trinity Congregational Church, Glasgow, Scotland. It is a rarity among hymns, because there are few that consider the family in its unity.

6. "Though scattered far, the flock may stray."

This likewise occurs in Hunter's "Hymns of Faith and Life." It is a composite arranged by the compiler.

part of it being from "The Word of Promise," a poem by which Holmes wished the school children of Cincinnati to remember him.

7. "Our Father! while our hearts unlearn."

This was of Bostonian origin. It was written for the twenty-fifth anniversary of the reorganization of the Young Men's Christian Union, on Boylston street, June 1, 1892. The *New York Observer* severely criticised its author for bigotry because of the antagonism to creeds and to historic faiths which the hymn expresses. The Rev. Lyman Abbott, D. D., in his Plymouth Collection, 1894, adopts the hymn into Congregational Orthodox fellowship under the heading: "The Fruits of the Spirit."

DR. HOLMES' MEMORIAL HALL POEM.

[To the minds of many people one of the finest poems Dr. Holmes produced was the hymn for the celebration at the laying of the corner stone of Harvard Memorial Hall, Cambridge, Oct. 6, 1870.

Not with the anguish of hearts that are breaking
Come we as mourners to weep for our dead;
Grief in our hearts has grown weary of aching,
Green is the turf where our tears we have shed.

While o'er their marbles the mosses are creeping,
Stealing each name and its legend away,
Give their proud story to Memory's keeping,
Shrined in the temple we hallow today.

Hushed are their battle-fields, ended their marches,
Deaf are their ears to the drum-beats of morn;
Rise from the sod, ye fair columns and arches!
Tell their bright deeds to the ages unborn.

Emblem and legend may fade from the portal,
Keystone may crumble and pillar may fall:
They were the builders whose work is immortal,
Crowned with the dome that is over us all!

OLIVER WENDELL HOLMES.

Prof. H. M. Estabrooke.

THERE are writers whom we admire but do not love. Their genius is brilliant, sparkling, showy; but cold, unsympathatic. It is like the beauty of the iceberg—splendor without heat. There are others whom we love more than we admire. Without great talents they have sung themselves into the hearts of all men because their own hearts were full of love and sympathy for humanity. There are still others whom we both admire and love. Theirs is a royal endowment; they rule by divine right over head and heart alike. To the latter class belongs Dr. O.W. Holmes, whose death occurred on Oct. 7, at the ripe age of eighty-five years. Brilliant, witty, genial, sympathetic, he had all the qualities which we like to ascribe to our literary idols, and now that he is gone we have a feeling of personal loss. The literary sky seems to have grown darker since this light ceased to shine, and our hearts cry out like the weeping women of Granada,

"A tower is fallen, a star is set."

Dr. Holmes was the last of a brilliant group of New England authors, a group which included Lowell, Emerson, Bryant, Bancroft, Hawthorne, Prescott, and Motley, the men who have made American literature respected throughout the world. One by one they have been dropping away till only Lowell and Holmes were left. Lowell went from us only a little while ago, and now Holmes, the last and most genial of them all, has gone to rejoin them on the other side. Like the lonely old man of whom he sang in the half humorous, half pathetic ballad, *The Last Leaf*, he lived to see

. . . "the mossy marbles rest
On the lips that he had pressed
In their bloom:
And the names he loved to hear
Had been carved for many a year
On the tomb."

But unlike most men who outlive all their early friends and associates, his mind took on no gloomy tinge with advancing age. He did not

. . . "sit by the raked up ashes of the past;"

he could not do so. Cheerfulness was of the very essence of his nature, and this cheerfulness he retained to the last. He dearly loved a laugh, and few have done more to make the world merry.

Most fun makers exhibit a touch of malice at times. The power they possess is so great, the weapon so keen, that the temptation to use them is almost irresistible. Not so with Holmes. In all the range of his writings one may search in vain for malicious thrusts, stiletto-like stabs. His fun was the expression of a nature unusually elastic and buoyant. He could no more help being mirthful than the robin can keep from singing. Mirth was his natural language, a gift bestowed upon him by the Creator, and right royally he used his endowment to brighten a care-ridden world.

In the spontaneity of his fun Holmes differs from most humorists. He is never forced, he is never tiresome. You always laugh with him,

never at him. In reading most humorous writers we are sometimes conscious of a certain straining for effect, a feeling that the author forced himself to take a grotesque view of his subject. With Holmes, on the contrary, the feeling is one of delight and surprise—delight at the novel point of view presented to us, surprise that we hadn't seen it before. This spontaneous ebullition of fun was of the greatest service to Dr. Holmes in his capacity as a lecturer on anatomy. The anatomical class-room is usually a very dry place, but he managed to weave so much of humor and fancy into his lectures that the hour was never tiresome, the interest never flagged. Holmes has been compared to Hood; but as Whittier says, "There is little in common between them, save the power of combining fancy and sentiment with grotesque drollery and humor. Hood, under all his whims and oddities, conceals the vehement intensity of a reformer. . . . . There is an undertone of sorrow in his lyrics. His sarcasm directed against oppression and bigotry, at times betrays the earnestness of one whose own withers have been wrung. Holmes writes simply for the amusement of himself and his readers. He deals only with the vanities, the foibles, and the minor faults of mankind, good naturedly and almost sympathetically suggesting excuses for folly which he tosses about on the horns of his ridicule." He has also been compared to Pope; but he resembles Pope in nothing except the "concise, apt and effective" way in which he clothes his thought.

One of the greatest charms of Holmes's writings is their cleanness. He was no "laughing Rabelais" shaking the sides of his readers with some absurd tale which they would afterwards be ashamed to confess that they had read. There is nothing in all his books which one must read only in the privacy of his study; every line is purity. Those who compare Holmes to Pope should set this down to the genial Autocrat's credit.

His naturalness was the despair of imitators. When he says

> "I know it is a sin
> For me to sit and grin
> At him here,
> But his old three-cornered hat,
> And his breeches, and all that,
> Are so queer!"

though fettered by the shackles of rhyme and rythm, he writes with as little apparent effort as though verse were the natural language of man. This naturalness of style was the result of much self-criticism and revision. Nearly all his work was voluntary; that is, it was not done to satisfy the demand for more copy. Consequently he sent nothing to the press till he had brought it into a form which met his critical approval. His style is very deceptive. In reading him we are almost ready to exclaim, "I could have written that myself!" when, in fact, to have written it would have been the very hardest task possible. In this quality of naturalness of style Holmes and Barham bear close resemblance.

We most frequently think of Holmes as the exponent of humor, but he was also capable of very serious verse. His stirring lyrics, *Old Ironsides* and *Union and Liberty*, his noble *Hymn of Peace*, *The Iron Gate*, *The Chambered Nautilus*, and many poems attest the depth of feeling which was underlying all his bubbling humor. Even in many of his most mirth provoking pieces a pathetic line

or stanza will sometimes crop out unexpectedly, showing that in him was "a well of laughter close by a fount of tears."

What are Holmes's best poems? Nobody can decide the question for another. Criticism is not an exact science, and taste varies. The best poem for the reader is always the one which affects him most deeply. As his culture increases he may dethrone one favorite and crown another, which, in turn, may give way to yet another that had long lain unnoticed. Even critics of ripe culture and long experience often vary widely in their judgment of an author's best works. This is true in the case of Dr. Holmes. Bryant, himself one of the best poets America has yet produced, selects the following as the best representatives of the Autocrat's work: *The Comet*, *Contentment*, *Evening*, *Hymn of Peace*, *Katydid*, *The Last Leaf*, *Ode for a Social Meeting*, *The One Hoss Shay*, *The Ploughman*, *Questions and Answers* and *Under the Violets*. Charles A. Dana, who is considered one of the best judges of poetry in the country, prefers *The Steamboat*, *The Last Leaf*, *The Crowded Street*, *Contentment*, *Dorothy Q.*, *Never or Now*, *Old Ironsides*, *Rudolph the Headsman*, *One Hoss Shay*, *To George Peabody*. E. C. Stedman, the well known poet and critic, makes choice of *The Meeting of the Dryads*, *My Aunt*, *The Dilemma*, *Parson Turell's Legacy*, *How the Old Horse Won the Bet*, *The Living Temple*, *The Chambered Nautilus*. Dr. Holmes himself preferred *The Chambered Nautilus* to all his other poems. Of this piece he says: "If you will remember me by the 'Chambered Nautilus,' your memory will be a monument I shall think more of than any bronze or marble."

JAMES ANTHONY FROUDE.

It seems that scarcely a week passes but that we hear of the death of some well known character at home or abroad. One of the latest to go is the historian Froude.

The son of a clergyman, Venerable Archdeacon Froude of Totnes, Devonshire, and youngest of three brothers, each of them men of distinction as years came to them, James Anthony Froude was born in Darlington, in Devon, in April, 1818, and educated at Westminster and Oxford, becoming at Oriel College the chancellor prizeman. Deeply interested in the religious movement at Oxford, associated with John Henry Newman and other leaders in it, Mr. Froude not only contributed to its literature (through the "Lives of the Saints"), but was ordained a deacon in 1847. A sudden change came to him, or what seemed such to many. The literary evidence of it showed itself in 1847, when as "Zeta" he published "Shadows of the Clouds," with its two stories, "The Spirit's Trials" and "The Lieutenant's Daughter," followed in 1848 by the "Nemesis of Fate." Ecclesiastical condemnation of both books, Mr. Froude's withdrawal from his theological course, the loss of an Exeter fellowship, of a valuable educational post in Tasmania, and of much besides—all were circumstances that threw him from his religious life into literature as his elect work.

His distinction was early won and it has been uninterrupted. The famous "History of England, from the Fall of Wolsey to the Defeat of the Spanish Armada," completed and published between 1856 and 1870, fastened attention on its author by the novel views of personages and events expressed in it, the critical controversies it induced and the splendors of its masterly and persuasive literary style. The attractive "Short Studies on Great Subjects," in volumes which began to appear in 1867; another notable historical contribution, "The English in Ireland in the Eighteenth Century," and the superbly written monograph, "Caesar," are lesser works that followed.

Between 1881 and 1883 Mr. Froude won broad recognition as a biographer and biographical editor, by the manner of his fulfilment of his responsibilities as friend and literary executor of Mr. Carlyle, embodied in the publication of his "Reminiscences" of the volumes presenting Mr. Carlyle's life, compiled from the rich stock of materials committed to Mr. Froude's discretionary use, and of Mrs. Carlyle's correspondence.

Not to be passed over in a résumé of Mr. Froude's additions to travel-record, biography and to political or other classes of essays are the charming "Oceana," descriptive of observations in the Pacific; his "English in the West Indies," the study, "Lord Beaconsfield," in the Prime Ministers of Queen Victoria Series, and his "John Bunyan," in the English Men of Letters Series. In 1888 also was published that very spirited and dramatic novel of eighteenth-century life in Ireland, "Two Chief of Dunboy." The latest of Mr. Froude's complete undertakings had won him not less esteem or attention than would be expected for him in returning to the period of Henry the Eighth for an historical argument and study.

In "The Divorce of Catherine of Aragon," Mr. Froude again utilized State documents and rare personal memoranda in the manner most effective from him toward influencing popular opinion, stimulating critical analysis of his subject, and setting it in an unconventional situation.

Mr. Froude twice visited the United States—conspicuously in 1872, when he lectured widely throughout the country. He had twice filled university posts of high responsibility—as the rector of St. Andrews, in 1869, and through the more eminent honor of the Regius professorship of modern history at Oxford, following upon the death of Professor Freeman.

Personally, Mr. Froude was known as a man engrossed with his literary and educational work; given to the society of only a limited group of personal friends; avoiding the reportorial intrusions and exploitations and gossipry tolerated by many authors; and almost as retired a resident of his native England as was Carlyle himself.

THE LAST OF THE GREAT POETS OF FRANCE.

AT the burial of Leconte de Lisle in the Paris cemetery of Montparnasse, on Saturday, July 21 of this year, French letters seemed to be mourning the century's end. In the name of the French Academy, where eight years before Leconte de Lisle had taken the seat of Victor Hugo, his champion and friend, M. Gaston Boissier, uttered the melancholy of a passing age: "Before its end, the century sees disappearing, one after the other, all those who made its glory. Shall they be worthily replaced? and what is in store for us in the century which is soon to begin? Who can say?" Yet more pronounced in the same sense was the third brief panegyric, by M. de Heredia, the latest successful French poet, though not the youngest either in matter or in form: "France has lost the last of her great poets. None shall take up the scepter which he received from the failing hands of Victor Hugo." Perhaps only the Olympians become immortal in the after-life of literary fame. Certainly, nothing could have been more remote from the doings of the everyday world than the career of Leconte de Lisle. Born and reared in an island of the southern seas, there was no creole softness of human sympathy manifest in him.

A lifetime in Paris had not destroyed this charm of early dreams that came in a land where no great city was, and few dwellers to break outwardly the solitude which resounded interiorly with the mighty echoes of Homer. Those who can appreciate, to their own satisfaction, the qualities of a poet only when they can label them diversely make out Leconte de Lisle at once a pessimist and a Buddhist. But remembering his enchanted youth and the rude independence of character he had inherited from his Breton ancestors, it is not necessary to seek for names before understanding the threefold quality of his work. His youth was scarcely over when he was first confronted with the great world. Sainte-Beuve, to whom he had a

favorable introduction, invited him to dine, and recite some of his verses before two of the literary celebrities of the day, now utterly forgotten. One of these, an old man forgetful of his cue, surprised the young poet, who had not yet published a line, by greeting him effusively—"Happy to press the hand that has written such beautiful things!" In spite of his revolt at such manifest incincerity, Leconte de Lisle went through his part, and with the dessert, recited his first, and, as time has proved, his most famous piece, "Midi roi des étés épandu sur la plaine!" The noonday splendor of such verse at least won the sincere admiration of the great critic, and Sainte-Beuve's Causerie of the next Monday was given over to the new poet. The praise passed unheeded by a generation that was everywhere drunk with the revolutionary wine of 1848. It should, perhaps, be noted that, in later years of comparative fame, Leconte de Lisle could never hear without a quiver of revulsion that first piece, which even young ladies had now learned to recite as a compliment to his presence. The climax was reached when Alexandre Dumas, *fils*, who had been appointed to receive him into the French Academy, found nothing better in his work wherewith to adorn the solemn discourse of reception.

From disappointment and grinding poverty, and a sad irony that often goes along with such timidity as made the poet almost fiercely haughty at first approach, came the pessimism which astonishes in so uneventful a life.

But it must have been that early and almost exclusive reading of Homer which gave to Leconte de Lisle's verse its savagely classical character. He remitted never an iota in the strictest rules of French versification, and the resonant roll of his alexandrines would have pleased the severest classicist of them all. "Marmorean verse" was his own special praise of what he admired in Victor Hugo, whose romanticism was not carried into the form of his best lines. Leconte de Lisle could not endure the fantastic meddling of the younger school with French prosody. Yet his own language had an Oriental richness under all its Greek emphasis; and Theodore de Banville said truly that "he forged gold in his workshop." Fortune and popular fame could never come to such a poet. But something better happened to him. A choice circle of disciples gathered round him in the seventies, and from them came the last renaissance of poetry in France.

—*Atlantic Monthly for November.*

THE PROGRESS OF SCIENCE.

"The work of Science is to substitute facts for appearances and demonstrations for impressions."
—RUSKIN.

IN the opinion of leading electricians one of the next great steps forward in electrical development will be the doing away with wires for the transmission of electricity. Our present methods for the transmission of electric energy are held to belong to a primitive stage of the science. All the paraphernalia of wires, poles, etc., that are now necessary, are regarded as crude, clumsy and wasteful; belonging to a period of development corresponding to that in the growth of a child where it cannot walk without support. In the coming period all necessity for these things will be done away with, and the methods for the transmission of the marvelous energy that has been harnessed to do the work of the world will be as invisible as the flow of the fluid itself. The harness will disappear, and Ariel will do his subtle service with no outward token of his existence save in the effects produced. That such will be the case is held by electricians to be no wild fancy. Men like Dolbeare, Thomson and Tesla look forward to it with confidence—a confidence which would seem to be justified by the fact that, to a limited extent, its feasibility has already been demonstrated. And, when the theoretical soundness of any proposed method has once been demonstrated, its practicability is pretty certain to follow. Experience with the more familiar forces has accustomed us to look for tangible instrumentalities as a necessity in the transmission of any power. We see that water cannot be carried except in something to hold it, as in pipes, and in the same way we think it must be necessary to have wires for conducting electricity. But the field in which electricity operates belongs to an entirely different realm from that where other mechanical forces work. Water power proceeds from the operation of a liquid upon solids, and steam and wind powers from gaseous substance upon solids. But the field of electricity is in the mysterious element of the ether—an element that is as material as the others in a manner, pervading as well as enfolding all other substances, but in itself absolutely intangible to our senses, and known only by the effects which it produces, or for the production of which it forms the medium.

While sound is transmitted in the air, light and heat, as well as electricity, are transmitted in the ether, and the laws governing them have been discovered to be identical. So for the transmission of electrical energy only the medium of the ether is essential, and how to utilize this medium directly, without the intervention of wires or other conducting agencies, will be the great task of the

future for electricians. Electrical impulses imparted to the ether may be conveyed to an indefinite distance. The capacity to receive and transmit them depends upon the delicacy of the instrument used. With a mechanism sufficiently responsive, it is conceivable that such impulses might be received between distances as far apart as the ends of the earth. The flashes of the aurora borealis, sweeping instantly from horizon to zenith, give us an idea of the vastness of space which such impulses may be made to cover. The telephone has been used for a considerable distance without wire, and in the same way telegraphic communication has been carried on over a distance of several miles. It is only necessary to systematize these methods to apply them in regular practice.

It seems probable that the transmission of intelligence without wires will be the first result in this direction, and that the transmission of light, heat and power will follow. The saving will be something immense. The operation of the mechanism employed for these purposes will probably be analogous to that of tuning forks, where one responds to the vibrations set up in another. With dynamos running at a certain pitch, electric lights, heating apparatus and motors at a distance, attuned to that pitch, will be set in operation. The economy of such a system would naturally be immense. The supply of electricity from a central station is at present a wasteful method, on account of the cost of the copper wire necessary to conduct it. The interest on the cost of this portion of the plant forms one of the greatest items of expense in the transmission of electricity from a central station. It is, therefore, much more economical, in cases where many lights are used, to depend upon an isolated plant in the building itself than upon a supply from a central station. But with the use of wires dispensed with, the generation of electricity at a central station, where fuel could be concentrated and converted into energy on a large scale, would naturally be the most economical for the entire community. The increase in the standard of living, and in the world's wealth, consequent upon the decreased cost of such a system, would be inestimable.—*Boston Herald.*

Some experiments were recently made by the building inspection department of Vienna on the protection against fire afforded to iron columns by a casing of brick built around them. A wrought-iron column twelve feet long, built of two channel beams connected by a lattice of flat bars, was set up in a small brick chamber and subjected to a load by means of a system of levers. A brick wall four and a half inches thick laid in fireclay mortar was then built around the column; there was a small air space between the column and the casing, and in this were hung several pieces of various alloys melting at different temperatures. A number of samples of stone, concrete and other building materials were also placed within the room. Then the chamber was filled with split firewood, which was lighted and the doors immediately walled up with slabs of plaster of paris. After the fire had burned out the doors were broken in and a stream of water from a steam fire engine was turned into the room for a while. When the examination was made it was found that the walls of the brick

laid in Portland cement retained their strength, while most of the natural stones left in the chamber had been destroyed. The ceiling had been lined partly with plaster of paris and partly with terra cotta tiles, both of which were damaged. The enclosure around the iron pillars was still standing firm, though corners of the brick-work were chipped an inch or so and the fireclay mortar was largely washed out of the joints. On removing the casing, however, the column inside was found to be uninjured, even the paint being unscorched, and the fusible alloys indicated that the temperature had not been much if any higher than 150° Fahrenheit.

The Busk tunnel, 9394 feet long, which was recently completed at Hagerman Pass in Colorado, has furnished in the few months of its operation some interesting phenomena in ventilation. According to recent statements by Chief Engineer B. H. Bryant of the Busk Tunnel Railroad Company, the west end of the tunnel is 132 feet higher than the other. Consequently it acts as a chimney and unless a strong wind is blowing from the west the draught is from east to west. As a result the tunnel will be free from smoke in forty to sixty minutes after a west-bound train enters it; and after sufficient time has elapsed for it to clear, the east portal can be seen when entering the west end. All engines handling west-bound trains burn coke in passing through the tunnel; but notwithstanding this precaution men are sometimes overcome with smoke or gas. This results from the fact that when a train passes through the tunnel west-bound, with the engine working hard and throwing off large quantities of smoke and gas, if men are working within a thousand feet or so of the west end of the tunnel, all smoke and gas thrown off by the engine is carried along by the air current past the men to the outlet. Sometimes an engine throws off an unusual quantity of injurious gas, and an entire gang of men will be rendered unconscious by it, as has happened three or four times since the line was opened last December. No satisfactory explanation of the cause has yet been secured.

THE ENCAMPMENT.

IT has been the custom for some years past to take a week in October for an encampment. This year having received invitations from several places it was decided to go to Portland and the delightful week spent there proved the wisdom of the choice. Special rates over the M. C. R. R. were obtained, and on the morning of the 5th the battalion under the command of Major Boardman started out in a pouring rain. Long before we had reached Portland, however, the sky had cleared and Old Sol looked down as pleasantly as ever. The Portland

High School Cadets met us at the Union Station and escorted us to our camping place on Munjoy Hill where we arrived about 3 P. M. The remainder of the day was consumed in pitching tents and getting ready for night. That night all "slept the sleep of the innocent." The next morning the following orders were read:

"To mark our appreciation of the interest and assistance of the distinguished Adjutant General of Maine, in the work of the Maine State College and especially in its endeavors to qualify the young men of the State to respond with ability to the country's call, in her possible hour of need, this camp will be known as Camp Selden Connor.

The following service call will be observed till further orders:

Reveille—5.50 A. M.
Assembly—6.00 A. M.
Setting up exercises for ten minutes.
Police Call—6.20 A. M.
Breakfast—6.40 A. M.
Company Drill—First call, 7.15 A. M.; assembly, 7.20 A. M.; recall, 7.40 A. M.
Troop Parade—First call, 7.55 A. M; assembly, 8.00 A. M.
Orderly Hour—8.30 A. M.
Guard Mounting—First call, 8.55 A. M.; assembly, 9.00 A. M.
Band Practice—9.45 to 11.40 A. M.
Company Drill—First call, 10.45 A. M.; assembly, 10.50 A. M.; recall, 11.40.
First Sergeants Call—11.55 A. M.
Dinner—12.00 M.
Battalion Drill—First call, 2.25 P. M.; assembly, 2.30 P. M.; recall, 4.00 P. M.
Retreat Parade—First call, 4.25 P. M.; assembly, 4.30 P. M.
Supper—5.15 P. M.
Tattoo—First call, 8.55 P. M.; assembly, 9.00 P. M.
Taps—10.00 P. M."

Sunday all attended church. Drills were suspended for the day with the exception of retreat parade which occurred at the usual hour and was witness by over six thousand people. After the companies had passed in review they were formed into a hollow square and stood at parade rest while prayer was offered by Rev. M. Hughes.

Monday was rather an eventful day. In the morning a six mile march was taken for exercise; at 2 P. M. the battalion was reviewed by Mayor Baxter and the City Government followed by an inspection of the camp. Retreat parade was witnessed by Governor Cleaves accompanied by Col. Thomas P. Shaw and Major Albert G. Rollins of his staff. In the evening there was a meeting in City

Hall for the purpose of introducing the College to the city of Portland. The program was as follows:

Music.
Prayer, Rev. Charles F. Allen
Introductory Remarks,
Bates, '75, Pres. Alumni Asso.
Address of Welcome, Mr. Randall
Response, Pres. A. W. Harris
Music.
Illustrated Lecture on the College,
Prof. A. E. Rogers
Music.
Exhibition Drill, Picked Squad

On account of the late hour at which the cadets returned to camp, all drills were suspended Tuesday until 2.30 P.M., when the High School Cadets joined us in a battalion drill and later in retreat parade and supper. Wednesday was not an ideal day for camping. The rain fell in torrents and was accompanied by a heavy wind. At noon it was decided to move into Congress Rink, which was promptly done. That evening, in spite of the bad weather and the wetting they had received, about a hundred attended the reception given at the Y. M. C. A. rooms.

Thursday morning we visited Fort Preble. It was interesting to inspect the barracks and watch the artillery drill. In the afternoon after a dress parade at the ball grounds, a game of base ball was won from the home team. After a sham battle the battalion took cars for camp. In the evening Chandler's band gave a free concert in the Rink, a kindness which was very much appreciated. Friday morning dawned clear and at an early hour all were astir. One might expect to find all anxious to return to the regular routine of college life after seven days of hours of guard duty and camping with at least forty-eight numerous drills, but quite the reverse was the case. Lieutenant Hersey was greatly annoyed by applicants for permits to stop a day or two longer.

The most of the tents were packed and sent away the previous day. Those remaining and the baggage was now packed and sent. Soon the battalion was moving down Congress street en route for Union Station.

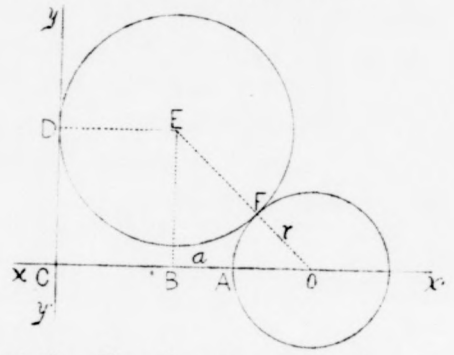
We arrived in Waterville shortly after noon and took dinner at the Elmwood. By invitation of President Whitman a dress parade was to be given on the Colby campus, but owing to the apparently insulting actions of the foot ball team the parade was not finished. Taking a special train we arrived in Orono tired but well satisfied with the week's outing. The good conduct of the cadets while in Portland has caused comment on all sides. Few colleges, we think, could take 180 students to a large city for a week's outing and return with such a clear record as has the Maine State College.

Camp Selden Connor was a great success from a military as well as a social point of view, and all that we can ask is that the good people of Portland think as kindly of us as we do of them.

MATHEMATICAL NOTES.

SOLUTION OF PROBLEM 1.

Find the locus of the center of a circle which touches a given circle and also a given straight line.



Let the line be the axis of y, and let the center of the circle be in a line perpendicular to the axis of y. Let the radius of the circle equal r and the distance of its center from the line equal a.

Then the locus will be the parabola

$$y^2 = 2(a x + r) x + r^2 - a^2$$

For in figure, $CB = X = DE = EF$

and $FB = y$

$$OC = a$$

$$AO = r$$

$$\overline{EO}^2 = \overline{EB}^2 + \overline{BO}^2$$

but $EB = y$, and $BO = a - x$

and $EO = x + r$

$$\therefore (x+r)^2 = y^2 + (a-x)^2$$

$$\text{or } y^2 = x^2 + 2rx + r^2 - a^2 + 2ax - x^2$$

$$y^2 = 2(r+a)x + r^2 - a^2$$

SOLUTION OF PROBLEM 2.

$$x^{\frac{1}{2}} + y^{\frac{1}{2}} = 4(x^{\frac{1}{2}} - y^{\frac{1}{2}}) \quad (1)$$

$$x - y = 16 \quad (2)$$

$$\text{Simplifying (1) } 3x^{\frac{1}{2}} = 5y^{\frac{1}{2}} \quad (3)$$

$$x = \frac{25y}{9} \quad (4)$$

$$\text{Substituting (4) in (2) } \frac{25y}{9} - y = 16 \quad (5)$$

$$y = 9 \quad (6)$$

$$x = 25 \quad (7)$$

PROB. 3. Prove that if a triangle is circumscribed about a given triangle by drawing lines through the vertices of the given triangle and parallel to the opposite sides, the area of the circumscribed triangle is four times that of the given triangle.

PROB. 4. Two trains start at the same time from the same station, and move along straight tracks that form an angle of 45 degrees, one train at the rate of 24 miles per hour, the other at the rate of 44 per hour. How far apart are the trains at the end of three-quarters of an hour?

MR. WINGATE'S EIGHTY-FIFTH ANNIVERSARY.

There was a notable gathering at the residence of Hon. and Mrs. William P. Wingate on State street. It was the occasion of an informal reception to Mr. Wingate, being the 85th anniversary of his birth, he having been born in the town of Milton, N.H., Oct. 30, 1809.

There were many callers including city officials and ex-mayors and former members of the city government.

In 1822 Mr. Wingate moved from New Hampshire to Sebec and in 1836 he came to Bangor and has made the Queen city his home ever since. He built the house in which he now resides, fifty-eight years ago, and all his children were born and married therein.

Mr. Wingate has filled many important offices and has been an official that has held the respect and esteem of all who knew or have had dealings with him. He was elected as street commissioner of Bangor in 1856 and off and on he has held that position for over twenty-five years. He was city marshal for one year and made an enviable record while in that office. He has served as collector of the port of Bangor for over two terms, having been appointed by President Lincoln in 1861 and serving till '67. Again under the administration of President Grant he filled that important position, winning the esteem of all. Mr. Wingate has served with credit in both branches of the city government, being in the council for six years and a member of the board of aldermen for three.

In 1836 he was a member of the electoral college that nominated Fremont for the presidency. Mr. Wingate was a promoter of our college, and in fact it is said that it was due almost entirely to his efforts that it was located at Orono. He was a trustee of the institution for sixteen years and was president of the board for several of them. Wingate hall was named in his honor.

WINGATE HALL.

Mr. Wingate married Miss Phœbe Cook, daughter of Capt. Cook, of Newburyport, Mass., fifty-eight years ago. Six children have blessed their union and five of them were present on this occasion. The firstborn was a son who died in infancy, the other five were daughters. They are Mrs. W. P. Hubbard, Mrs. F. W. Cram, Mrs. Charles B. Wyman, Mrs. C. F. Bragg and Mrs. Silas B. Treat.

The occasion was one of much interest to the friends of Mr. Wingate and he received the heartiest of congratulations and the best of well wishes.

EASY CHAIR

THE CADET.

EDITORIAL STAFF.

FRANK DAMON, '95.

ALBION MOULTON, '95, E. E. GIBBS, '96,
L. R. FOLSOM, '95. P. D. SARGENT, '96.
W. W. CHASE, '95. H. A. WHITE, '97.

BUSINESS STAFF.

I. G. CALDERWOOD, '95, S. J. STEWARD, '96.

THE *Easy Chair* takes this opportunity to express to our many readers and friends the thanks of the board of editors for the appreciation that has been shown of their efforts and the many kind things said of the October number, in particular. When the present board of editors was organized but one rule of procedure was made, and that was: "To make each number the best;" short but to the point. And this rule has not been repealed.

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WE want, however, to ask one favor of our readers (besides that they will pay their subscriptions promptly), and that is that they will criticise us, severely if necessary, and square to our faces. If we have any good points our very human nature will discover them at once. The best way to remedy our failings is to show them to us. If that does not reform us, heap coals of fire upon our heads by sending us an occasional article. It will take a good many coals to keep us warm on College street this winter when that wind direct from Prof. Dewar's absolute zero manufactory, and increasing in direct proportion to the cube of the distance, strikes here.

How reluctant we are to say "the late" Dr. Holmes, but it is now true. The last link in that literary chain made up of Emerson, Lowell, Longfellow, Holmes, Whittier and the others, is now broken. It has been well said: "The school, which is now dead, was typically American, free, genial, optimistic, democratic, moral." We recognize in Dr. Holmes above all else, the common sense philosopher, to whom we were always ready to listen, who though taken from us has left a rich, pure, comforting legacy—his works.

***

WE wish to extend to Houghton, Mifflin & Co., Publishers, our thanks for the favor granted us in the loan of the plate from which our frontispiece was made, and we would assure them that their courtesy is fully appreciated. It is no small matter to conduct a college magazine down here on "the farm" as one should be conducted, so when substantial help like this is received, and from those on whom we have no claim, it is a broad hint to those on whom we *do* have a claim and from whom we receive only pats on the shoulder.

***

THE great event of the fall term, the Encampment, is now only a pleasant memory. It is a matter of great satisfaction to us as a college, and as individuals, to reflect upon the invariable courtesy and kindness shown by the people with whom we have come

in contact, with but one conspicuous exception. We appreciate the kindness shown us and thank the good people who have spared no pains to make the trip as pleasant as it could be.

***

WHY would it not be a good scheme for the students to follow the example set by the Faculty and organize one or more co-operative book clubs? By means of an organization of this kind and with enough members the twenty-five or fifty cents of each individual would give him access to many times the value of the sum invested. Our Faculty is a pretty safe example to follow, you know.

***

A CHANGE that has proved popular with the student body is that of the chapel hour from 7.45 to 8.45. This is fully appreciated, especially by those students who live at some distance from the College and who have no recitations the first hour, for an hour's snooze in the morning is worth everything, as all young men will testify. And *of course* the Faculty approve of the whole idea or we should not have had it in operation.

***

THE occupant of the *Easy Chair* is a very inquisitive person, as those acquainted with him will agree, and it has occurred to him to wonder why it would not be a good scheme for the illustrious class of '75 to hold a reunion on the Campus at next commencement time. It is a fact that the members of the class are somewhat scattered, but it is for this reason that a reunion would be all the more desirable. They would be thrice welcome, and '95 could have no better inspiration to take with them in their life work than contact with our alumni of '75.

OUR reading room in Oak Hall has proved a very great convenience and it has also furnished a good theme for what is apparently a waste of printer's ink, in railing at the abuse of the privileges of the room. One can hardly decide which is the worst, the

mutilation or the wholesale approriation of the papers, which belong to no *one* but to all equally. But when it comes to a continued combination of the two as at present, patience almost ceases to be commendable.

***

ONE hundred years ago, or on the third of November, 1794, there was born in Cummington, a little village in Massachusetts, one whom we can in the true and most lasting sense of the word, say was our first poet, William Cullen Bryant. That hateful slur of the Abbè Raynal that "America had not produced a single man of genius," went unanswered until the grand answer made by Bryant's "Thanatopsis," written in 1811. Bryant was an interpreter of nature and more than that, he interpreted morally, soberly. Nature delighted him of herself, but beyond this she always suggested some new parallel between herself and the human life and from her laws could he deduce rules for our right living. There runs through his handiwork that vein of soberness, elevating soberness, if w

may use the term, which gives to his verse that enduring quality that was lacking in those before him and hence we may say he was our first poet. Bryant was a workman whose first production was his masterpiece, yet we can hardly say he was not progressive, for his work was all well calculated to lead us in a path of progress.

***

WHETHER a man becomes an aggressive Christian or not depends largely upon his conscience, perhaps to some extent upon his environment. Whether he gives to wholesome Christian work his sanction and support is a matter of conscience, strengthened, however, by a moral obligation which binds him in a way to give at least some support to a movement of which he can and does approve, as for instance that of the college Y. M. C. A. Our Association here has its weak points to be sure, but it has some commendable ones and even these are sufficient to claim to some extent our regard. The latch string is always out to new men and others, and one can hardly make a mistake in identifying himself with this work.

The plan of lengthening the course of instruction at the Annapolis Naval Academy has often been discussed and it is now recommended by the board of visitors to abolish sea service and to substitute a six years' term at Annapolis, and also to reduce the maximum age of admission from 20 years to 18. This proposal had been recommended to Secretary Tracy by Superintendent Robert L. Phythian, who still has charge of the institution. Some years ago, a proposition was made to reduce the course from six years to four years, allowing the cadet to be commissioned at once at the end of the latter period, as is the custom of the army. That, however, was rejected by the House Naval Committee. It is believed that by conducting the entire six years' course at the academy, and in practice vessels connected with it, that the studies of the last two years will be prosecuted more vigorously and to greater advantage. It is not proposed to increase greatly the amount of book education but to spread it over the six years and to give longer practice cruises under professional instruction. A criticism upon the new proposal is that it would probably yield less sea service. If the plan is carried out, one result will be to avoid the expense of sending cadets home from stations, perhaps distant, for final examination and graduation. On the other hand, there might be additional expenses for education at the academy.

LOCAL NOTES.

"Master, Master! News, old news, and such news as you never heard of."
—The Taming of the Shrew.—Act III, Sc. 2.

"What do you mean?"

Portland is surely a white town.

And the band played "de Molay."

Jeffery's dancing pumps have arrived.

The "Heavenly Twins"—E. D. and D. T. Merrill.

Here's hoping that the coming Legislature will be generous towards us.

Chase, '97, has received an appointment as Corporal and is assigned to Co A.

Heywood, '96, has not yet returned to college. He is greatly missed in athletics.

Rumball, '94, and Urann, ex-96, have been recent visitors on the campus.

The Freshmen have completed Solid Geometry and will now take up Higher Algebra.

Walker, '96, and Niles, '96 have already left college for the term to teach school.

Among those who did not go on the encampment were Damon, '95, Farrell, '96, and Flint, '97.

And still another new Freshman appears on the campus. Will they ever stop coming?

Haley, '97, is not present at college this term. He is teaching school at Buxton.

The new athletic field was used for the first time on Oct. 29th when '98 lined up against '97.

Anderson, of the '98 eleven, has ordered a nose guard built expressly for himself. It is expected to arrive about next February.

Quite a number of the Sophomore class who formerly roomed in Oak Hall are now rooming elsewhere.

Among the many funny incidents of "Selden Connor's Camp" was the cry of the facetious sentinel: "Number one, ten o'clock and all's salubrious."

One of the students in Field Engineering recently asked how rails on a vertical curve were usually bent.

The Eastern Promenade of Portland can boast of a *premier danseuse* who should have no trouble in obtaining a situation in most any dime museum.

There is a rumor afloat that a new local society is to be formed here. There are lots of good "non frat" men who could form a good basis for such a society.

The Seniors have been notified that they will soon be expected to declaim their themes from the chapel stage before the entire student body.

The camera fiends were most abundant about Camp Connor. One Freshman who was making himself quite numerous while one feminine artist of the Kodak was pressing the button on various scenes, asked of the fair one if his "physog" could be photographed and received the crushing reply: "Thanks, I wish to use my camera again."

Taylor and Libby, '98, recently took part in a musical entertainment given in Town Hall by the St. John's Guild connected with the Universalist church.

The number of Merrills, Libbys and Tolmans now in college is quite alarming and it is extremely difficult to designate them, especially when they have partial alphabets for initials.

Among the former Maine State students who visited Camp Selden Connor during the Cadets' stay in Portland, were Lee, '96, Haley, '96, Knights, '97, Bartlette, '96 and Lord, '96.

The Sophomore Prize Declamations which have formerly been a part of the commencement exercises in June, are now to occur in the fall term. They will take place this term either the last of November or the first of December.

The Freshman foot ball eleven did not show up as strong as was expected in their game with the Sophomores. They have, however, some excellent foot ball material in their class and with practice would be a strong aggregation.

Among the recent social events was the reception given at Prof. Gowell's to the members of the faculty and their wives on the evening of October 18, and that of President and Mrs. Harris on Thursday evening, Oct. 25.

In order that the singing of the chapel service may be improved to some extent, a chapel choir has been organized consisting of the following named students: Damon, Robinson, H. G., Randlette, Sargent, Page, Farrell, Gibbs, Patten, Cowan, Taylor, Day and Whittemore.

The '96 Prism board has been chosen and will get to work at once. It is made up of the following: E. Everett Gibbs, Editor in Chief; Joseph W. Randlette, Paul D. Sargent, Lore A. Rogers, Chas. P. Weston and Fred A. Hobbs.

One of the "Freshies" who recently mourned the loss of a moustache is now, by the aid of Ayer's Hair Vigor, being able to cultivate a luxuriant growth and, barring accident, will soon be recognized as his former self.

Among those who accompanied the Cadets to Portland were President and Mrs. Harris, Prof. Rogers, Mrs. Hersey and Mr. Colby. The latter obtained some good pictures of the camp including some of the battalion on dress parade Sunday night.

Co. A's Mascot.

In some unaccountable way a kitten became attached to Co. A in Portland and was immediately claimed by the company as a mascot. "Topsy," as she is called, makes her headquarters with Capt. Moulton in Oak Hall, but is a welcome visitor at all the neighboring rooms.

The chapel seats are now divided into three sections. In the middle section is seated the chapel choir, the young ladies, the Seniors and Juniors. The Sophomores and Specials occupy the right section and the Freshmen the left section.

To the manager of the foot ball eleven—Don't pay big money for a coach this fall when we have such a man as Marks, '98, right in college, who stands ready to instruct the men for almost no financial recompense. Likewise to the base ball manager. Remember next spring, that Small, '98, is the father of base ball instead of Henry Chadwick as formerly thought, and that he can give the nine, more information about the game than any professional coach in the State of Maine.

A college orchestra has recently been organized, and as there is some excellent musical talent in the men who are playing in it, we shall expect at no distant day to hear some enlivening airs. The instrumentation is as follows: Stanwood H. Cosmey, pianist and leader; George A. Whittemore, 1st violin, W. R. Page, 2nd violin, A. H. Buck, cornet, J. W. Martin, flute, P. F. Goodrich, clarinet, F. B. Gooch, trombone, Walter Dolley, horn.

Since the last issue of THE CADET the following named students have been initiated into the mysteries of Greek life: Frank Damon, '95, Hampden, B. Θ. Π.; Walter J. Morrill, '98, Madison, and Lene E. Ryther, '98, Bondsville, Mass., K. Σ.; Edwin A. Sturgis, '98, Lewiston, and Walter Dolley, '98, Gorham, A. T. Ω. Over forty of the Freshmen are members of no fraternity.

"Uncle Ben" accompanied the Cadets on the encampment as usual, and wherever he was wont to go, there you would be sure to find a group of admirers listening to the weird tales of Maine State life, or perhaps to funny incidents of his own career. "Uncle" made lots of friends among the "dear girls," in fact "Uncle" may be said to be cut out for a "ladies' man." Many were the Cadets who envied him in his numerous pretty acquaintances and wished that they might rest him awhile in being the centre of attraction.

The students interested in electricity, are keeping up their enthusiasm to quite an extent, by the meetings of the electrical society held every Monday evening. Mr. Chapin, the new instructor in the electrical course, personally conducts the meetings and at every session, papers which have been previously prepared by the different members are read and discussed. Among those that are especially interested in the work, are Damon, Wilkins, Tolman, Randlette, Whitcomb, Gooch, Morse, Goodrich, Blanchard, Atwood G. G., Libby.

Friday evening, October 26, the Q. T. V. Fraternity entertained a few of their friends at their Chapter House on the campus. The feature of the evening was an Observation Party. Miss Webster and Mr. Bunker scored the highest number of points and were awarded the prizes. After refreshments were served, Messers. Libby and Taylor rendered a few selections on the mandolin and banjo which were heartily received. The party broke up near the small hours, everyone having passed a pleasant evening.

In order that people may be kept posted on the doings at Maine State through the columns of the newspapers, a Press Club is to be formed consisting of all the students in college who are correspondents for some paper, either in this State or elsewhere. The object is to furnish the newspaper readers with reliable infor-

mation; and not only will it give the writers excellent practice in reporting, but it will advertise the college to no small extent. At a meeting held in President Harris' office, Gibbs, '96, was chosen chairman and a committee of Glidden, Hobbs and Palmer, '96, were appointed to work up a basis of organization and report later.

The Seniors have met and chosen the men who will take the parts in the Class Day exercises next June. The following is the result of the class' choice:

Marshal—Harold S. Boardman, Bangor.
Oration—Frank Damon, Hampden.
Statistician—Leroy R. Folsom, Corinna.
Prophecy—Albion Moulton, Hiram.
Address to Undergraduates—Charles A. Frost, Monmouth.
Valedictory—Earl C. Merrill, East Eddington.

The officers of the class are:

President—Earl C. Merrill.
Vice President—Oscar L. Grover.
Executive Committee—Wendall W. Chase, A. Howard Buck, Oscar L. Grover.

The following, headed "Too Good to Keep," is taken from the *Portland Daily Press:* The following story would interest any one, but especially Portland people at this time, because President Harris of the State College, and Lieut. Hersey have so recently been guests of the city, together with the Coburn Cadets. It seems that each of these gentlemen has a little son about four or five years old, and these boys are great friends. Lieut. Hersey's son was visiting at the President's house when the following event occurred: The little Harris boy got some water and watching his chance threw it down stairs on top of his companion and shouted in baby glee, "That's what the Sophomores do."

Rifle practice began on Oct. 22nd. The band, commissioned and non-commissioned staff officers and signal corps form one company and shoot Mondays. Co. A, Co. B and Co. C shoot Tuesdays, Wednesdays and Thursdays respectively and on Friday occurs a battalion inspection, weather permitting. This has been the order of exercises in military drill since the encampment and it will probably be kept up until cold weather. An average of fifteen or more at each range procures the marksman's buttons and an average of twenty or more at each range procures a sharpshooter's badge.

The poor Sophs having discovered in some way that the authorities object to throwing water in Oak Hall, have tried the hydrants with disastrous effects. While the Freshmen were holding a class meeting in the old chapel the Sophomores arranged the hose and waited for their victims to come forth. But the class meeting was prolonged and the '97 men did not keep their guard posted in a strictly military manner. When the victims did come out they came so suddenly and in such numbers that they soon had possession of the hose and the "Sophs" were caught in their own trap.

Sergeant Tolman and Cadet Private Vernon K. Gould, both of Milo, Me., owing to the alert, active and most vigilant manner in which they discharged their guard duty on the recent encampment, have been formally complimented by the military department and are being congratulated on all hands by their envious friends of all classes. If volume of voice counted for anything, when the customary "Halt! who goes there?" resounded from his vocal organs,

"Jamie" should not only be highly complimented, but presented with a silver mounted lung tester as a souvenir of his guard duty; as several people who were crossing Monument Square on the night of Cadet Gould's tour of guard duty, were seen to halt suddenly, and then pass on when they found that the sentinel which they heard was not posted in the Square, but nearly a mile away on the Eastern Promenade.

During the last vacation Heywood, '96, and Gibbs, '96, received very pretty medals from L. C. Southard, they being the winners of the college tennis tournament held last spring. Heywood received two, one for championship in singles and the other for same in doubles, while Gibbs received one for first in doubles, he being Heywood's partner. The beautiful cup won by Heywood at Portland last June for second place in the intercollegiate tournament was offered by the same gentleman and for that reason we are more proud that Maine State should be the holder of it for this year, as Mr. Southard is an alumnus who is doing a most commendable work in his efforts to promote the interests of athletics at Maine State.

Rogers, '96, who has been absent from college since last June, has returned and immediately upon his arrival was elected captain of the foot ball eleven. He feels very much honored by the notice the *Lewiston Journal* gives him by printing a picture of Maine State's foot ball captain in its columns, but he wishes that they had not taken one of their Sarsaparilla cuts and labeled it "L. A. Rogers," as people expect when reading the accompanying history of his life, to have it end up with the story of how "that tired feeling" was overcome, or perhaps the tale of the many virtues of "Dana's," and are surprised when they find that the subject of their study is not a testimonial of some miraculous cure but simply a sketch of Mr. Rogers' twenty years of existence.

Chapel service is now held at 8.45 A.M. instead of 7.45 A.M. as formerly, the first recitation coming at quarter before eight. This arrangement was made so that no one could have any excuse for being absent from this service, and now all students who live both far and near are obliged to attend. The Faculty also seem to be included in this edict, as their attendance, which has been heretofore quite irregular, has suddenly become quite uniform, until now it is no uncommon sight to see nearly all of the seats reserved for the Faculty filled. Some, however, if we mistake not, have already absented themselves more than the allowed number, and without their percentage of cuts exceeds that of the students, they will have to "play the limit" for the rest of the term in order to be eligible for the examination.

After holding quite a series of meetings to elect class officers, the Freshmen have at last succeeded in chosing the following named men, who will direct the affairs of '98 for the ensuing year:

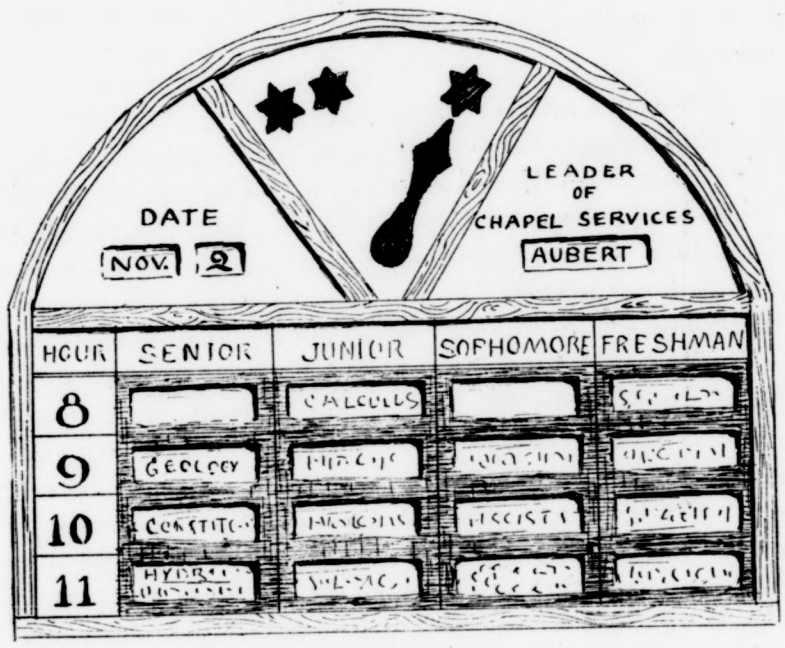
President—Albro L. Burnell.
1st Vice President—Walter J. Morrill.
2d Vice President—Walter L. Ellis.
Secretary—Arthur H. Taylor.
Treasurer—George A. Whittemore.
Executive Committee—Walter J. Morrill, Samuel C. Dillingham, Lee M. Watson, Chas. S. Webster, Edwin A. Sturgis.

Contrary to the custom of former years the class waited until they became somewhat acquainted before electing officers, and although this

resulted in considerable wire pulling the holding of the election six or more weeks after the beginning of the term enabled the members to select their officers with a better knowledge of each's ability than the short acquaintance of a week or two could possibly result in.

The story of how six poor Freshies were rescued from the top of the water tower in the rear of the Beta House after the Sophomore-Freshman foot ball game, reminds one of the story we used to read in our reading books, of how a workman at the completion of a high chimney was left on the top by an accident, and how by his presence of mind he was rescued by unraveling his stocking and pulling up a rope. While these innocent Freshmen just referred to, who had climbed the tower to obtain a better sight of the struggle, were shouting their cries for '98, some brave Sophs removed the ladder which was their only means of descending. Undaunted, however, '98 rallied at the foot of the tower and after some smart scrapping managed to send up a rope which was the means of their descent. One by one, Freshie by Freshie, they came down the rope hand over hand amid the jeers of the Sophs who were, however, able to do nothing, until they were all on terra firma, pleased but frightened boys. We would advise them not to do anything so rash again, especially when there are so many evil minded ones present who would plot their disaster, and besides we are not so sure but that their mammas would object if they saw them up so high.

The civil engineering section of the Senior class, acting under the direction of Prof. Hamlin and Instructor Grover, started for Pushaw lake Tuesday morning, Oct. 23, to accomplish some practical work in hydraulics, in the measurement of the flow of water from the lake into the stream. Arriving at the lake by noon, arrangements were at once made for camping, after which the current meter and transits, with other necessary apparatus, were taken to a still nook in the lake where considerable practice was obtained in rating the current meter; this taking the remainder of Tuesday and all day Wednesday. Thursday morning the party started in boats for the outlet of the lake, which was about five miles distant from the place of camping. Here the velocity of the current at different points on the surface of the stream was obtained by the aid of transits and floats. The velocity of the stream at different depths was also taken. A few other necessary measurements and cross sections completed the work. The class returned very much fatigued from the work necessary to obtain the required data, but feel amply repaid for their trouble by knowing that the data which was needed to obtain the required result, was obtained from their own practical application.



EDISON'S LATEST!!

For the use of Professor and Student.—Automatic Electrical Bulletin Board soon to be placed in the Chapel.—One of the most complicated Mechanisms of the Nineteenth Century.—Find Yourself.

Ye Alumni.

'72.

Heddle Hilliard is now Superintendent of bridge construction on the Bangor and Aroostook R. R.

'73.

The recent visit of F. W. Holt and family at the home of Dea. W. C. Holt of Hampden, his father, reminds us of another of our successful and prominent alumni. Mr. Holt has been in New Brunswick and vicinity almost continuously since his graduation and is at present superintending the construction of the International bridge over the St. Croix river connecting Calais with the other side. The entire structure is practically his own design, the substructure of granite is completed and ready for the superstructure of steel to expedite the delivery of which was the object of Mr. Holt's trip to Boston and New York and incidentally to his old home. Mr. Holt has just finished his labors on the board of arbitration of the famous Moncton Water, Electric Light and Gas Co. vs. City of Moncton. He was appointed by the government of New Brunswick, his colleagues being Walter Shanley who built the Hoosac tunnel, by the company, and Chief Engineer Sistees of Ottawa, by the city. The task has been a complicated one and the board been organized since July 4. By means of a survey of the Bay of Fundy undertaken at the instigation of the government, Mr. Holt has demonstrated the feasibility of the construction of a bridge across the Bay, a fact that, owing to the enormous rise and fall of the tide, has not been attempted up to this time. Certainly with these works and the valuable inventions he has nearly completed Mr. Holt may be called a busy man.

'75.

We understand that Hon. L. C. Southard is a candidate for State Senator from his district.

'76.

We are very glad to receive the catalogue and circular for this year of the Madawaska Training School, of which our Vetal Cyr is the Principal. We had heard much that was favorable about this school but we were not prepared to know of so large a school as the catalogue shows. We find the number of ladies in attendance to be 49 and that of the gentlemen 39 at the present time. This of itself is a good showing, but furthermore the number of graduates since 1882, or eight classes, is 69; and it is safe to assume these young men and women have done an important work for the cause of education in that part of the State. As is well known, this school was established by an act of the legislature of 1878 for the purpose of educating French teachers in the English language, especially those of the Madawaska territory.

'81.

Oscar L. Pease and wife, of Gila Bend, Arizona, who have been visiting friends in different parts of the State, were on the campus some time since.

'85.

Fred Butler is in charge of the office of the civil engineering division of the B. and A. R. R. at Houlton.

'87.

James D. Lazell is the president of a publishing company in Roanoke, Va.

'88.

Ralph H. Marsh, M. D., is now located at Guilford, Maine.

E. H. Elwell made us a flying visit recently from Portland.

'89.

E. E. Greenwood is now in charge of the section of the B. and A. R. R. at Presque Isle.

J. W. Edgerly is rodman of the Fort Fairfield branch of the same road.

There was an error in our last, concerning Gould. He has gone into business under the name of C. B. Gould & Co., at Caribou instead of Houlton as reported.

It is with regret that we learn of the enforced rest taken by F. P. Briggs because of poor health. He will be obliged to give up, for the present at least, all business cares and will spend some time in Hudson, Me. Since Mr. Briggs commenced business in Bangor he has made for himself a very secure place among the solid men of that city and placed his business on a very firm footing, and it is sincerely hoped he may recover fully soon.

'90.

We are informed that W. S. Webb is in the office of the B. and A.

Frank W. Sawyer is now practicing medicine in Everett, Mass.

Ralph H. Blackington is on the road introducing an advertising system.

Leon H. Jones is visiting friends in Rockland. He has just recovered from an illness.

George P. Gould is in the U. S. Mail service.

Allie M. Hastings is on the road for J. Littaner, Boston.

Hugo Clark has formed a law partnership with Ira Bronson under the firm name of Bronson & Clark, Rooms 2, 3 and 4, Coleman Building, Seattle, Wash.

On Wednesday, Octo. 17, occurred the wedding of Clarence B. Swan with Miss Mabel Clare Pease, daughter of Dr. Ora S. Pease and one of the city of Oldtown's most talented young ladies. The service was performed in the Universalist church by the pastor, Rev. Mr. Andrews, after which the happy couple took a short wedding tour.

'91.

Leslie A. Boardway is in the clothing business at Madison, Me.

George Thompson is rodman on the B. and A. R. R. and when last heard from was at Monticello.

We clip the following from the Rockland *Tribune:* "Wallace R. Farrington, who has been editor of the Star since that luminary began to twinkle, and whose correct journalistic tastes and graceful pen have done so much to give character to Rockland's daily, is to leave our city the last of this month, going to the Sandwich Islands, where he will assume editorial charge of the Daily Pacific Commercial Advertiser, a paper of fifty years existence, now supporting the new republican government. Mr. Farrington has demonstrated his ability as a most excellent journalist during his six months' stay in our city, and has besides made many warm personal friends. His newspaper contemporaries, with whom his relations have been of the pleasantest, will join in wishing him a safe journey to the land of the Sandwiches and a prosperous career after he gets there." And from another paper: "The engage-

ment is announced of Mr. Wallace R. Farrington, until recently editor of the Rockland Daily Star, and Miss Mary Fogler, one of the leading young ladies of Rockland."

Edmund Clark is connected now with the iron works at Homestead, Pa.

F. C. Moulton has been at his old tricks, too hard study, and is suffering the consequences. We wish him a speedy recovery.

R. J. Arey and Bert A. Hall have formed a partnership and have a store in Prescott, Arizona. Arey has immediate charge, as Hall has recently received an appointment of inspector of works on a dam extension, and at an increased salary.

Messrs. Clarence Scott and W. H. Waterhouse, of Oldtown, Me., have formed a copartnership under the firm name of Scott & Waterhouse, and will do an insurance, real estate, mortgage and loan business. They have leased the office in Masonic block formerly occupied by the Democratic club, and the friends of the new firm wish them success. Mr. Scott will also continue his law practice.

'92.

J. A. Tyler has been appointed U. S. Government Inspector of harbor improvement at Portland, Me.

'93.

Work on the survey of the St. Croix and Penobscot railroad from Princeton to some point on the Maine Central near Danforth was commenced the 25th of last month. T. R. Atkinson will be chief engineer and C. I. Haynes will be the leveler.

W. W. Crosby has been home for a short visit from Gardiner.

W. E. Keith, Esq., who contemplated moving to Massachusetts, has decided to remain in Old Town, and Clarence Scott, Esq., who has occupied Mr. Keith's office for a short time, has moved to the new Masonic block in consequence of Mr. Keith's change of plans.

The statement in our last issue to the effect that Jarrard & Smith were in the hardware business in Caribou, is incorrect, as the following clipping from the Bangor News will show: The control and management of the big seed business, which George W. P. Jerrard of Caribou has built up and conducted so successfully, has passed from his hands, and a stock company known as the George W. P. Jerrard Company, has been formed, with ample capital to conduct the business. The members of the new company as formed, are Mr. John F. Jerrard and Mr. Harry M. Smith, two young men who were raised in Bangor and educated at Maine State College, Orono. Both are well connected, and have the requisite push and energy to carry the new firm to the front rank among the seed distributing firms of the nation. Meanwhile, Mr. George W. P. Jerrard, the founder of the business, is going south, hoping to restore his shattered health, but he will continue to hold advisory control of the trade for some time to come. The seed potato business which Mr. Jerrard started about twelve years ago has been an unqualified success from the very start.

* * * * * *

This season the Jerrard company will send out three novelties that have been grown under Mr. Jerrard's rigid supervision, and no doubt they will meet with more favor than that accorded to their predecessors.

Meanwhile, Mr. Jerrard's thousands of customers, knowing how reliable he had proved in dealing out seed potatoes, urged him to send out other kinds of garden and field seeds. To this he reluctantly consented, and for the past few years he has shipped from his Cari-

bou warehouses all kinds of seeds that the farmer or gardener needs. They too have given absolute satisfaction, so that the new Jerrard company now holds rank among the most reliable seed firms in the United States.

With an untarnished name and unbounded success as a heritage from Mr. Jerrard, with Mr. Jerrard's name and advice to assist them, with ample means and youth and push and energy, the young men who have taken hold of the work go in with every prospect of success.

'94.

The present address of Jas. M. Kimball is Presque Isle, where he is at work on the railroad bridge across the Aroostook river.

F. C. Bowler was on the campus a few days ago.

E. B. Wood has tendered his resignation as freight clerk on the steamer Lewiston of the B. & B. S. S. Co.

Mr. E. M. Wood, who has acted so efficiently as purser on the steamer Lewiston for several seasons past, severed his connection with the Boston & Bangor Steamship Co. upon the arrival of the Lewiston in Boston Saturday. Mr. Wood has been in the employ of the company off and on since 1880, and by his gentlemanly disposition has made himself very popular with the other officers on the line and its patrons. After taking a week's vacation at his home in Camden, Mr. Wood will enter the office of a Boston architect as draughtsman.

'96.

F. L. Holmes is serving as rodman on the Presque Isle section of the B. & A. R. R.

ATHLETICS

Through the efforts of Manager Calderwood we had the pleasure, while in camp, of watching a very interesting game of base ball on the Portland grounds. Our team assisted by Libby of the Portland Athletic Club and Madden of the Portlands defeated the Murphy Balsams before an audience of seven hundred people. Madden pitched a fine game and was well supported. Palmer behind the bat and deHaseth at first each put up his usual steady game. Cowan made an excellent catch in left.

For the Balsams, Webb was rather wild, but was excellently supported. Edgar played well as did also Woodbury and Webster.

Hasset umpired in an impartial manner. The runs were made as follows:

In the first, Burns took first on Frost's poor handling of a grounder, advanced to third on Flavin's single and scored on Ross' out at first.

In the fifth with two out J. Libby made a single and scored on Palmer's two-bagger. Score one to one.

In the sixth, Flavin took first on Dolley's error, advanced to second on a wild pitch and scored on Edgar's single.

In the seventh, Brann led off with a

single, and scored on J. Libby's two-bagger. Libby stole third and scored on Madden's single and the game was over, being called at the end of the seventh, by agreement. The score:

M. S. C.

	AB.	R.	B.	TB.	PO.	A.	E.
Palmer, c	3	0	1	2	2	1	0
de Haseth, 1b	3	0	0	0	12	0	1
Clark, lf	3	0	0	0	1	0	0
Welch, ss	3	0	0	0	3	2	1
Frost, 3b	3	0	0	0	1	3	2
Dolley, 2b	3	0	0	0	0	3	2
Brann, cf	3	1	2	2	0	0	0
J. Libby, rf	3	2	2	3	1	0	0
Madden, p	3	0	3	3	1	2	0
Totals	27	3	8	10	21	11	6

MURPHY BALSAMS.

	AB.	R.	B.	TB.	PO.	A.	E.
Burns, ss	4	1	0	0	3	1	1
Webster, 3b	4	0	1	1	3	2	1
Flavin, 1b	3	1	1	1	9	1	0
Ross, cf	2	0	0	0	0	0	0
Edgar, c	3	0	1	1	3	1	0
McGovern, rf	3	0	0	0	0	0	0
Webb, p	3	0	1	1	1	3	1
Woodbury, 2b	3	0	0	0	2	2	0
Wilson, lf	3	0	0	0	0	0	0
Totals	29	2	4	4	21	10	3

SCORE BY INNINGS.

Innings	1	2	3	4	5	6	7
M. S. C.	0	0	0	0	1	0	2—3
Murphys	1	0	0	0	0	1	0—2

Earned runs - M. S. C.'s, 3. Two base hits—J. Libby, Palmer. Stolen bases—J. Libby, Brann, Edgar, Burns, 2. Sacrifice hits—Ross. First base on called balls—off Webb, 2. First base on errors—M. S. C.'s, 2; Murphys, 6. Struck out—by Webb, Welch. Wild pitches—by Madden. Left on bases—M. S. C.'s, 4; Murphys, 5. Time—1h. 10m. Umpire—Hassett.

FOOT BALL.

B. H. S., 6; M. S. C., 0.

In a practice game with Bangor High School October 18 Bangor won by a score of 6—0. This was not very surprising as it was the second time our team had lined up this season and few of the team were familiar with the signals. A number of new men were tried. The fact that our team played a better game in the second half showed that they are made of proper material and only need training. At one time in the second half our team had the ball at Bangor's fifteen yard line, but a misunderstanding of the signals lost the ball. In the line Oaks and Weymouth did good work, and behind the line Dow and Ellis tackled well and did good offensive work considering the poor blocking. One feature of the game that we hope will not be seen here again was the "guying" of the visiting team by the spectators. The boys should remember that a visiting team is our guest and it should be treated as such. Because they "do it at other places" is no excuse for such ungentlemanly conduct.

NINETY-EIGHT, 10; NINETY-SEVEN, 0.

The first game of the class series was played Monday, Oct. 29, and resulted in a victory for the Freshmen by a score of 10—0. The playing of both teams was rather loose and the blocking poor. More than the usual amount of kicking was done both as regards the ball and the officials. Bunker and Bass played a good game for the Sophomores and the running of Higgins was one of the features of the game.

The players lined up as follows:

'97.	'98.
Bunker, r e,	l e, Webber
Rogers, r t,	l t, Libbey
Dalot, r g,	l g, Merrill
Coburn, c,	c, Sturgis
Bryer, l g.	r g, Files
Leavitt, l t,	r g, Bryant
Gorham, l e.	r t, Anderson
Bass, q b,	r e, Pearce
White, l h,	q b, Seavey
Dow, r h,	l h, Ellis
Farnham, f b,	r h, Higgins
	f b, Dow

In the October *Outing* are found two articles which must be of interest to every foot ball player—"Foot Ball of 93" by Walter Camp, and "Training for Foot Ball" by James G. Lathrop, trainer of the '94 Harvard team. In the first article the championship games of '93 are reviewed in the author's usual pleasing style. He notes the new plays brought forth by each of the great college teams of last year and comments upon the probable outcome of the sev-

eral games. The article is illustrated with cuts of the Princeton, Yale and Harvard teams of '93. In the second article the author gives his views on training for foot ball, based on twenty years experience. The one prominent point he makes is that ordinary foot ball men are over trained in actual hard play. Thus the pure sport of the game is apt to be lost and the men do not play with the snap they should.

EXCHANGES

The October number of our valued contemporary, the *Pratt Institute Monthly*, is a "Founder's Day Number." One of the principal articles is "A Memorial" or an account of the entombment of the body of Charles Pratt, the generous founder, in the memorial chapel erected by his family on the estate at Dosororis, L. I. Their beautiful art piece this month is called Ra-Hotep and Lady Nefert.

Vol. XX, No. 1, of *The University Beacon*, (October number), is one that will well repay the reading. The article, "Some characteristics of American Classical Scholarship is of great interest.

The last number of the ever reliable *Fisk Herald* is fully up to its standard.

The St. Albans *Academic* for October, is surely a fine High school paper.

The *Philosophian Review* is full of good Things.

In the *Aggie Life* the question "Will Science supplant Religion?" is very fully discussed.

We congratulate the *Academy Bell* upon its improved form and appearance. We are glad to see them go into illustrations.

The October number of the *Ellsworth High School Recorder*, which is Vol. II, No. 1, was very welcome.

When the *Polytechnic* comes, we at once prepare to be interested and instructed. The last number did not disappoint us.

The Student Record for this month contains a cut of the new president, J. E. Stubbs, D. D., LL. D.

Judging from the W. P. I., one would say the new president Dr. Mendenhall has been received with no small enthusiasm.

We want to shake hands with "*The New Hampshire College Monthly*. The last issue is one after our own heart and has many pleasing features.

The *Kent's Hill Breeze* has blown a very creditable copy of a school paper to our desk. We can say with truth, well done good and faithful editors.

There must be something in Bangor air that makes people hustle; anyway, when a High school gets out a paper like the *Oracle*, somebody has got to wake up and move around "already yet."

The last magazine to be added to our list is *The Integral* of the Case School, Cleveland, Ohio. We are greatly pleased, and can surely count this among the elite of our exchanges.

One of our valued old friends is the *Dickinson Seminary Journal* which comes to us regularly and promptly each month. We would call attention to the excellent article in Nos. 1 and 2 of the present volume on "The Great American Journey."

COLLEGE WORLD

About sixty per cent. of the college men of this country belong to Greek-letter fraternities.

Quite an innovation has been made at the Leland Stanford, Jr., University by the institution of a laundry run by the students.

University of Chicago offered President Andrews of Brown, a salary of $10,000 per year to take charge of the department of philosophy at that place. The offer was refused.

The Russian language has been added to Cornell's large language curriculum.

There is a proposition in the September number of the Harvard graduates' magazine to divide that university into several smaller colleges, similar to the Oxford plan, each division to consist of five hundred students, to have its own dean and to be governed by its own administrative board. Each will also have its own dormitories, its own dining hall and reading room. Several names have already been suggested, as Holworthy College, Wadsworth College, Nuncy College and Agassiz College. This idea was proposed by Frank Bolles, the late secretary of Harvard, shortly before his death.

Since the death of Holmes there are only four surviving members of the class of 1820 of Harvard, namely, Dr. Edward L. Cunningham of Newport, R. I.; the Rev. Samuel May (the class secretary), of Leicester; the Rev. Samuel F. Smith of Newton, the author of "America," and Charles S. Storrow of Boston.

The students of Chicago University have adopted scarlet as their color.

Frank Neumann of Konigsberg University, who is now ninety-six years old, is said to be the oldest university professor in active work in Germany. He has been lecturing continuously for the last sixty-six years, his subjects being physics and mineralogy.

The Rev. Sabine Baring-Gould, the author of the popular hymn, "Onward Christian Soldier," is at once a country parson, a country squire, a lord of the manor, a sermon writer, a student of comparative religion, a popular novelist and a poet. He has written fifty books, is deeply versed in mediaeval myths and legends, and at the same time is in sympathy with modern life and progress. He is sixty years old and lives in the beautiful old Elizabethan Manor House at Lew Frenchard, where the Gould family have lived ever since the days of James I.

According to Dean Patterson's last report to Provost Harrison, there are now 253 men in the Law School, distributed as follows: Third year, 76; second year, 76; first year, 97, and 8 specials. It is expected that before the year is much further advanced the first year class will number one hundred or over.

Dartmouth College has graduated forty college presidents, two hundred professors, sixty members of Congress and twenty-four governors.

Vassar students are proud to say that not one of their graduates has ever been divorced.—*Ex.*

At New Haven a "Graduate Club" has been formed, to membership of which the alumni of any American university are eligible.

The two literary societies of the University of North Carolina have donated their joint libraries of 30,000 volumes to the university library.

Prizes amounting to fifty dollars have just been given at the University of Wisconsin for the three best university songs composed during the year.

Of the 195 professors, instructors and tutors of Yale University, 164 are Yale graduates.

Olivia Sage, wife of Russell Sage, the banker and speculator, has been elected the first woman trustee of the Troy Female Seminary, of which she was a pupil in Mrs. Emma Willard's days, and of which Mr. Sage has been a lavish benefactor. Both his present and his first wife were educated there. "Russell Sage Hall," which is not quite finished, is "to perpetuate the name and fame of Mrs. Emma Willard, the pioneer in higher education for women."

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Three witches they were 'neath the gallows tree,
Old, and haggard, and thin, and gray,
And they gibbered and laughed in ghoulish glee,
As they watched the corpses swing and sway.