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THE recent issue of the catalogue of the Institute appears to elicit quite general commendation as superior in style to that of last year. The size of the book is more convenient, and the type is neater, while the change of title, especially in its prominence on the outside of the cover, adds a business aspect which the former charity-school name could not. We regret to note the omission in the present catalogue of one subject which, we had understood, was to be one of its features. We refer to the matter of establishing a four-years’ course, or what would be practically the same thing, a post-graduate course for a higher degree. The discussion concerning a four-years’ course has been brought up so many times that a lengthy consideration of it in these columns, is scarcely demanded. It is an undisputed fact, indeed it is acknowledged in the catalogue of the Institute itself, that our work of three or three and one-half years is equal to the amount of work which any other school of its kind seeks to accomplish in four years. The significance of this fact is appreciated by every graduate of the Institute. It means simply, an everlasting grind throughout the course. We fail to see the wisdom which prompts this state of affairs. It seemed as if a partial solution of the problem bad been reached when it was proposed to lighten the regular course a little, and establish a system of post-graduate studies, which were to carry on in detail, and to practical applications, the subjects taken up in the regular course. In other words the course was to be extended for those who cared to devote a further amount of time to study. We regret that no decided action appears to have been taken either to lengthen the course or establish an additional one for post-graduate study, for either of these plans would make
life worth the living during our stay at the Institute, which at certain points in our course is not the case at present. We hope to see in the next catalogue, at least an outline of some scheme which will secure the desired end.

AGAIN April is here, the vacation is over, and with renewed interest and zeal, we once more take up our books. And now we turn our attention to baseball, and make our preparation for the inter-class games. These games are always interesting to the players and the rest of the school, both on account of the good-natured, though none the less intense, rivalry between the two contesting classes, and also on account of the brilliant (?) plays and laughable errors made at critical points. We hope this last remark will not offend the dignity of the "talent" which will undoubtedly be found in each nine. We really consider such things as necessary accompaniments to games between men who have as little time for practice as we do, and who play chiefly for the fun and exercise it gives them, and, on the whole, we are not sorry it is so. Nevertheless, let us get all the practice we can, and play the best we know how, for of course we must have those badges. And now we are reminded more forcibly than ever before, of our great need of a field for base-ball and foot-ball. We have always relied on the Park for such uses, but this year its management has changed, and it would cost a small fortune to have many games there. Would that some friend might give us a field, but until that happens we must get on as best we can.

THE Harvard Monthly for March gives the place of honor to an interesting article on "Style." While the author has a tendency to refer a little too critically to particular and isolated instances of violations, yet his inferences are excellent, and fit for other than college editors to profit by. One of his paragraphs is so directly to the point that we cannot forbear to clip it entire, and cry amen to every word in it:

"I would next say that he who would write well should know at the outset what he is going to write, so that, of article, essay, or chapter, he can see the end from the beginning. He should have the whole laid out and shaped in his mind before he puts pen to paper, so that when he writes he shall not compose as he goes along, but shall be little more than his own amanuensis. Without this preparation there is always danger of irrelevant digressions, while directness is an essential element of explicitness and force." He further says, "I would have what has been written in haste carefully and critically revised, the writer mentally assuming the place of a reader or hearer, and resting satisfied only with what would seem to him clear, self-coherent and adequate, were it written by another hand."

We think the subject of revision could not be more clearly analyzed than in the manner expressed in the few lines of this paragraph.

WE regret the necessity of calling attention to the fact that there still remain outstanding many unpaid subscriptions to the WPI. It seems hardly necessary to suggest the propriety of an early action in this matter by those from whom payment of subscription is due. The financial backing of the WPI is not what it should be.
Vacation is over. The gentle Prep reluctantly assumes his overalls, and leaning pensively upon his bench in de-lightful reverie, allows his thoughts to bear him into the happy regions of the hitherto. Again he stands upon his native heath, the observed of all observers. Again he stands the centre of an admiring group and discourses on men and things with the rare dignity and lofty condescension befitting his exalted position as a student of the W. P. I. Again he relates to a select and sympathetic audience of one, the old, old tricks of the wood-room and the drawing-room, reveals under strict confidence the Field-day "dark horses" which are to startle the upper class-men and win glory for '91, and confides his hopes in regard to the "first six." Alas for the happy, innocent days of early youth. How soon will he awake to the fact that this is a cold, cold world, that Field-day indications are often delusive, and that, to quote the immortal Caesar, it is easier to be first in a country high school than to be second at the W. P. I.

The Junior is with us again, learned and irrepressible as ever. He has surprised and impressed his doting relatives and admiring friends with the fluency of his German, the profundity of his mathematical knowledge and his general proficiency in theoretical and applied science. The girls have voted him "perfectly lovely" and his former companions are consumed with envy at his superiority. Why should he not survey the world with complacency. The Junior is an interesting specimen of humanity and we would not have him other than what he is. And yet in view of the fact that he will shortly be expected to arrive at years of discretion, it may be well to remind him that Shakspere says, "I do know of those who therefore are reputed wise for saying nothing."

The Middler, experienced man of the world, returns with a smile of satisfaction on his face. You may be very sure that he has improved to the utmost his opportunities for recreation and sustained the reputation of his class in every particular. He is now ready for business again, quietly scheming to obtain eighty-five per cent. of Field-day prizes, occasionally relieving the mental strain of such work by dipping into calculus and German poetry.

The Senior responds to the hearty greeting of his class-mate with an undefined thrill of sadness as he realizes that the end is at hand; that when those who have stood shoulder to shoulder with him for three eventful years separate again, it will be in many cases forever.

And now for the home stretch.

Another class is soon to go out from the Institute. A large majority of that class have no situations in view and will soon be anxiously seeking an opening. Our alumni would aid all such and confer a lasting benefit, by sending us any information that they may be able to collect about the situation in their respective localities. The average salaries of such positions as a Tech graduate might be able to fill, the cost of living, the business outlook and kindred items would be of interest, and possibly profit, to many of the alumni as well as the students. Cast your bread upon the waters, gentlemen. The columns of the W P I are open to you and
it is our earnest wish that you should avail yourselves of them. We feel keenly the absence of that bond of sympathy and mutual good will which seems to unite the graduates of other institutions, but which is apparently wholly wanting among our own alumni. Let us each do our part to establish such a bond.

THIS will be our last issue before Field-day. Our May number will be delayed a few days in order that a full account of the sports may be published. In preparation for Field-day we wish to call attention again to the few points in which we failed last fall. Let the ushers remember that their duty is to secure seats for the ladies (please notice that we use the plural), and to see that the programmes are properly distributed. Let some one be appointed to see that the grand stand is in a proper condition for the reception of spectators. Let each director make it his special duty to attend to the events which he has in charge, and see that the men are ready to start promptly. Let the judges be appointed a few days beforehand, and informed of that fact, and let them study the rules to govern the sports, so that if a question arises they may know what they are talking about. Let us make our own sports a training school for the coming Inter-collegiate event, for then we must show our true colors, and to fall below the standard would be a circumstance for which there would be no excuse.

THE Constitution of the W P I has been thoroughly revised, and according to one of its provisions each succeeding Board of Editors will be elected by the retiring Board. In order to facilitate the selection of the men most fitted for the position, by making the choice, as far as possible, a result of competition, we invite contributions from any whose ambition leads them in that direction. This plan agrees substantially with that followed by the best college papers, and is one which has proved efficient in every case. We think that in its adoption by the W P I it will prove no exception.

IN some respects the coming Field-day will be quite different from former ones held here, not so much in the order and list of the events, although they too will have to be somewhat modified, as in the spirit with which the members of the different classes look upon the winners and the records they make. Heretofore the cheering has all been done by classes, but now, in view of the Inter-collegiate sports which come so soon, we expect to see more general satisfaction shown when a good record is made. The first question asked ought to be "What time did he make?" or "How high did he jump?" rather than "What class gets it?" Of course everyone wishes, and rightly too, to see his class lead the school in athletics, but if another class does happen to have the best men in some events, let us give them all the encouragement and support we can. And we hope that the men who take part in the sports will have ambition and school feeling enough to do their very best, not only at the final trial, but also at their training, being willing to sacrifice time and pleasure, if need be, for the sake of winning the championship on May 24.
I HAD been in the employ of Gubbins 
& Co. for nearly three weeks. Gubbins & Co. were manu-
facturers of machine tools, and also transacted a general 
repairing business on all kinds of machinery. A month before, I 
had taken my degree of B. S. at one of our prom-
inent technical institutions, and had 
secured the position of draughtsman in 
the firm above-mentioned, on recom-

dmendation of one of the professors under 
whom I had studied. There was one 
other man in the draughting-room be-
sides myself, but he was a queer old 
fellow, who seemed terribly out of date 
for such a position. He had the worst 
set of instruments, without exception, I 
ever saw. The shop gave employment 
to about forty machinists, most of them 
old hands at the trade. Mr. Gubbins 
was proprietor, superintendent and man-
ger of the business, and owed his suc-

cess chiefly to his clear-headed and 
practical view of the general principles 
of machine design. Of the science of 
mechanics itself he had no knowledge, 
save what he had gained from actual ex-
perience and long-continued usage. He 
designed one machine by referring to 
another which had served its purpose 
well, and which he modified only so far 
as to meet the needs of the present case. 
This was his method, and throughout the 
shop the same plan was followed. 

When I entered the establishment, my 
brain teeming with the principles of the 
science of pure motion and the mysteri-

ous relations of resolved forces and 
resultant actions, I felt that my oppor-
tunity for serving the cause of science 
and disclosing truth to suffering human-

ity had come. The practical basis on 
which the entire work of the concern was 
founded was too unpleasantly common 
for my highly cultivated and theoretical 
tastes, and I determined to devote my-

self to a correction of this state of affairs. 
The first job I had given me was the 
re-designing of an old planer which had 
apparently outlived its usefulness. I 
found many features of its construction 
radically wrong, and after the unremit-
ting toil of many hours spent in looking 
up the principles of the ellipse of stress, 
my first flower of genius blossomed 
forth in the shape of a design for a para-
bolic cross-head. Here, I argued, was 
a point of strength and economy, and it 
doubtless had been waiting for my mas-
sive brain to develop it into practical 
form. Just at this time my employer 
had occasion to leave the city, and the 
shop was placed in charge of his fore-
man. Here was my chance to sow 
abroad the seeds of reform, and I pro-
ceeded to use my opportunity. 
The first day after his departure, I 
spent several hours in calculating the 
ratio of the speed changes on the Gub-
bins lathe. I found that an exact 
geometrical ratio was not preserved 
throughout, and I took it upon myself 
to draw up a sketch of the proper step 
cone to be used; this I showed to the 
foreman and then argued the case with 
him for the rest of the day. 

On the following day I found a man 
stretching a belt over a couple of pulleys 
in order to find the proper length to cut 
off. This was awkwardness itself. I 
stopped him, rushed for my Rankine, 
measured the diameter of the pulleys to 
a sixteenth, solved for L, put my hands
in my pockets, and ordered L feet cut off, a victory of mind over practice. When the belt was tried on the pulleys there was a good foot and a half to spare. I let the man finish the job in his own way, and went at revising Rankine's formula.

My next departure was in the line of screw-threads. I figured out a demonstration, showing that the present V thread is not according to the theoretical ideas of the highest mechanical advantage. I adopted a new form of thread, took it out to the screw man, and argued with him for a day on the subject.

To make a long story short, within a week I had revised half of the tools in the shop, and my chalk sketches were scattered all over the floor and benches; and when Mr. Gubbins returned I had become confident of an immediate raise in salary, and more than half expected to become the confidential adviser of the proprietor himself.

Mr. Gubbins made a tour of inspection through the shop. He talked with the screw man, helped measure a belt in the way I had condemned, glanced at my chalk sketches, came into the draughting-room and put his signature to a drawing which the old fellow in the corner had just completed, and finally came over to my desk. His inspection of my parabolic cross-head was long, careful and minute.

"Come into the office," he said.

My spirits rose, and as Mr. Gubbins lighted the cigar which he had left on his table, I had decided that Superintendent would look about right before my name.

"I see you have been doing quite a little designing during my absence," remarked my employer.

"Well, yes, I studied Rankine, and so—"

"Yes, Rankine is a good, smart man; I've heard of him; used to run a lathe up in Alaska, I believe."

"No," I replied, "that could not have been the man. Rankine was a—"

"Oh, yes, I remember, he was a missionary to the Sandwich Islands."

Here Mr. Gubbins blew a long column of smoke into the air and studied the ceiling for a few moments.

"Which side of a belt should run next the pulley?" he said, waking from his reverie.

"Which side!" I answered; "why, the same side, of course."

Cigar smoke filled the space between us and I lost the effect of my answer. The smoke cleared away and I heard:

"How would you cut a left-handed thread?"

"Simply reverse the lathe," I answered, with the utmost confidence.

"And if you were to design a shaper, which way would you have the work revolve?"

"I believe it is customary to revolve it against the tool," was my reply.

Mr. Gubbins walked across the office, threw his cigar into the cuspidore, and remarked:

"I admire your nerve."

Then he returned to his desk and wrote a short note, and, enclosing it in an envelope, handed it to me, saying:

"Young man, we have no use for you here; your place is in a higher sphere than this. Take this note to your professor, and he will, I am sure, secure
you a better situation than I can afford to give you. Your genius is remarkable."

I walked out, deliberately opened the letter, and read:

Prof. Blank:—Preserve us from any more such. Send him to Keeley, and if his motor will not run then, it never will.

F. GUBBINS.

Then, and not till then, did I appreciate that I was an ass, a conceited ass. I went home and kicked myself regularly each morning for a week. At the end of that time, I put Rankine on an upper shelf, and went to snatching castings in a large establishment in another city. To-day I am Superintendent for the same firm, and although Rankine now reposes on my office desk, yet pasted on the fly-leaf as I open it, where it never fails to catch my eye, is a bit of paper with two lines of writing on it, and at the bottom, the bold signature of F. Gubbins.

---

THE MAN WITH THE CAST-IRON CHEEK.

I am the man with the cast-iron cheek,
  The man of unlimited gaff.
I sponge on my neighbors with countenance meek,
  And am not embarrassed at all.
Advice and opinions unasked-for I give,
  With frankness unmatched among men.
Attempt but to squelch me, and, sure as you live,
  Serenely I'll bob up again.
I've double-adjustable, patented nerve
  Which never has yet been unstrung.
The favors I ask, my convenience to serve,
  Are something like (n−1).
That my rights be regarded with strictest of care,
  I make it a point to demand.
I'll not inconvenience myself by a hair;
  I've such an abundance of sand.
I tell you, my friends, if you wish to succeed,
  And live in the easiest way.
Unlimited brass is the thing that you need,
  I care not what others may say.

TO COMPUTE π.

The following curious method for computing π would rather startle Euclid and other early geometers. It is based upon the calculus of probabilities and was first suggested by Laplace. We begin by giving a definition of mathematical probability. It is expressed by the ratio \( \frac{a}{n} \), where \( a \) is the number of cases favorable to an event, and \( n \) the total number both favorable and unfavorable. For example, suppose there are 4 white balls and 9 black ones in a bag; one is taken out; what is the probability that it is white? Since any one of the 13 balls might be drawn out, the total number of cases is 13, of these only 4 are favorable. The probability is therefore \( \frac{4}{13} \). With this preliminary notion we proceed to the subject of the paper, which involves the solution of the following problem:

A thin rod of length \( c \) is cast at random upon a floor ruled with a system of parallel, lines at a distance \( a \) apart; what is the probability, \( p \), that the rod falls across one of the parallels?

Following the principle stated above, we begin by seeking the total number of positions the rod may assume. Without loss of generality we may simplify the problem by observing that the ratio of the favorable cases to the whole number is unchanged if we consider the middle point, \( P \), of the rod as always lying on any one line perpendicular to the parallels. Let \( x \) be the distance of \( P \) from the nearest parallel, and let the rod make an angle \( \theta \) with the perpendicular. The total number of positions which the rod can assume is given by
\[ \int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} \int_{-a}^{a} d\theta \, dx = \frac{\pi a}{2} \]

since the rod may be inclined at any angle to the perpendicular and \( x \) may vary from \( -\frac{\pi}{2} \) to 0.

Among all these possible cases there will be a certain number in which the rod crosses one of the parallels. In order to do so for a given value of \( x \) we must have

\[ \frac{x}{\cos \theta} < \frac{c}{2} \]

Therefore the favorable cases are given by

\[ \int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} \int_{-c/2}^{c/2} d\theta \, dx = c \]

Dividing we have

\[ p = \frac{2c}{\pi a} \]  \hspace{1cm} (1)

Suppose now we actually take a thin rod and toss it at random upon such a floor, and count the number of times, \( m \), that it falls upon a parallel in a given number of times, \( n \); we shall have at the end of our experiment

\[ p = \frac{m}{n} \]  \hspace{1cm} (2)

This value, which is approximate, will approach more nearly the true value of \( p \) given in (1) the greater the number of throws.

We may for our purpose regard \( \pi \) in (1) as unknown and since we obtain \( p \) from (2) and we may measure \( c \) and \( a \) we have

\[ \pi = \frac{2c}{pa} \]

Laplace has shown that in order to make \( p \) in (2) as accurate as possible for any given value of \( n \) we should take \( c = a \). Hence finally

\[ \pi = \frac{2}{p} \]  \hspace{1cm} (3)

**THE WESTERN OUTLOOK.**

S\textsc{hall} I go West and grow up with the country, or has all the country out there worth going to "grown up?" is the question that now agitates a number of those who next June hope to write their names on the roll of Alumni.

Where is "the West" anyway? For the chemist the usual answer is, any important mining, refining or manufacturing centre west of Chicago, and the prevalent idea is that mining camps in Colorado, Utah, Montana and Idaho hold fortunes for the assayers lucky enough to get there.

The mechanic should look to the great railroad centres and mining camps for his field. After passing the Mississippi and the cities on its banks, a half-dozen points, each centres for a vast, developing country, attract attention; but, because these places are remote and expensive to reach, it does not follow that they lack competent men to fill the paying positions. The "tenderfoot" is very apt to find that he must start at the bottom round in Montana as in Massachusetts.

The Civil is peculiarly at home on the plains of Dakota and Nebraska, or in the mountains further west. Often railroad building is the only work of magnitude going on over such vast regions. When this is active, his services are in demand at decidedly better pay than in the East, but when winter comes, and the corps is cut on a week's notice from a hundred to ten men, as often happens, a chance is offered to figure on the comparative advantages of steady work at fair wages with slow advancement in the East and
the rapid rise and fall and tramp life of the engineer in the West. If the Civil can repress his westward impulse long enough to get a few years' practice under men of established reputation, then come to some growing western town and hang out his shingle, the chances of ultimate success and contentment are much better. The phenomenal success of a few in railroad work should not mislead the many who seek to follow.

It was formerly quite the thing, and presumably is yet, for the Seniors to write about a hundred letters each to leading railroads, manufacturing and mining establishments in the West. The answer was usually a short, but courteous, "Your application filed. No vacancy at present." These applications are not worth the paper they are written on. One application in person gives a better chance of obtaining work than a thousand letters. Find out where work is going on. Write then to the nearest friend or Tech and ask him if there is an even chance of work. Don't ask him if he would advise you to come. If he is level-headed he will do nothing of the kind, but he will give a fair, if brief, answer on the prospect, and then he who longs for the West must act on his own judgment; and if he goes and does not get work, he will at least gain a wider view of his own country and experience, if not dollars.

Thou art unholy to belle me so;
I am not mad; this book I tear is mine;
My work in English, full of diagrams;
I made them when a Prep for criticism.
I am not mad; I would I had been though,
For then 'tis like I had not paid for binding.
O, were they burned, what grief should I forget!

A RETROSPECT.

I'm a Senior and a scholar
With a high and mighty collar,
And a look of wisdom fearful, to wear Commencement day;
But my glances retrospective
At my courses, all elective (?)
Make my courage droop and wither with the frost of blank dismay.

There are molecules and atoms,
Also geometric phantoms,
Which my nurses, when a Junior, instilled into my brain.
And there's Algebra and Low Dutch,
Where my aptness didn't show much,
For to translate old Herr Meister, drove me quite well-nigh insane.

Then more Chemistry and Physics,
Trig. and German, Analytics,
Till I wrote my name E. M., that is, Educated Man.
But when I met Descriptive
With its mysteries delusive,
I added simply N. G., a less-conceited plan.

In Calc. differentiation,
And successive integration,
My store of knowledge decreased at a very rapid rate.
But my notes in Metallurgy,
A fit subject for the clergy,
Left my mind, to speak but mildly, in a most chaotic state.

Thus prepared I took up English,
My last thoughts to quite extinguish,
And Goldsmith and old Shakespeare I quoted by the yard;
But Chemical Technology,
And Historical Geology,
To quote without tautology, I found to be quite hard.

In Mechanics idiotic,
My knowledge embryotic
Was yet not without purpose—it quite amused the class—
While in Steam and likewise Thermo
What I learned, be hanged if I know!
I'm working night and morning to get a mark to pass.
At last I've reached the crisis,  
I am asked to write a thesis,  
To the criticising world my knowledge to lay bare.  
But these glances retrospective  
Show that something's most defective,  
For to all my prayers for wisdom, echo only answers, "Where!"

Canoes and the Art of Canoeing.

Canoeing as a favorite summer pastime is of comparatively recent date, yet perhaps no other modern sport has won its way to popularity with such rapid strides and with such universal commendation and approval. Rowing, the popular standard of aquatic sport, has yielded, within certain limits, to the apparently more fascinating delights of canoeing, and the picturesque craft, figuring so prominently in every Indian legend, seems destined, though perhaps in a more highly perfected form, to regain its supremacy. For pure, unalloyed sport choose the canoe. Such is the verdict of every one who has tried it. And why this preference? Is it the picturesqueness, the romance, the poetry, of the canoe which gives it the peculiar charm? Is it the "plash, plash" of the paddle-blade, or the "musical ripple of the water," that makes canoeing such a delightful pastime? Asking pardon for his rashness in disapproving a popular idea, the writer is yet prone to discard these fanciful qualities, and, at the risk of appearing too prosaic on a truly poetic subject, refer all the pleasures of canoeing to the art itself, making them realities in the body rather than inspirations in the mind. In the inferences which are drawn from the two comparisons which follow, it must not be supposed that the writer overlooks the fact that either method may be specially applicable to a particular circumstance or locality. It is however desired to show that canoeing in its true sense, is the development of a real art, a science, if you choose so to call it, and that therein lies its attractiveness.

The modern canoe is a marvel of workmanship. Indeed, it seems almost too highly polished and delicately constructed to be put into the water. Soft cushions are placed inside for the canoeist to recline upon as he paddles, and the paddles themselves are light and slender, double and usually provided with rubber caps to insure complete protection against water dripping from the blades into the canoe. Nickel-plated trimmings and various contrivances calculated to insure the perfect ease of the occupant, complete the outfit. Thus equipped, the canoeist paddles forth, and truly the ease and speed with which he skims along the surface of the water is marvelous. But where is the art, the art of canoeing before mentioned? Surely there is no art in this method. The art was all with the canoe-maker, and there it ended. The canoeist enjoys his paddling, no doubt, because there is so little work in it, but he knows nothing of the art of canoeing, and his enjoyment stops just where it should begin.

Now for a glance at another method. Did you ever see an Indian paddle? Have you ever seen the canoe which he uses? The "Indian birch bark" canoe, let me explain, is a relic, an antiquated specimen to the Indian who can procure a canvas one. The Indian's nature, above all others, is averse to the labor
of continually "pitching" his canoe, a
practice which is an absolute necessity
for a dry interior. Consequently he
sacrifices romance to comfort and light-
ness, and uses a canvas canoe. The
shape of the birch bark canoe is pre-
served, the bow and stern being high,
and the sides well rounded to withstand
heavy seas. This is the Indian's craft,
pure and simple, there being not even
a seat for him in the stern; he either sit
son one of the cross-braces or, when he
is in a hurry, stands and plies his paddle
in a stooping posture. His paddle is a
single blade, about four feet long, and
with simply a flattened place at the end
to secure a firm grip. Now watch him
as he comes along toward us, making
the water foam at the bow. Sitting
erect almost on the gunwale, so that the
canoe tips slightly, his paddle-blade
makes a graceful sweep, seems to be
held at his side for an instant, then slips
noiselessly out of the water behind him:
again and again with the same regular
swing, his paddle always on the same
side of the canoe, he comes as straight
as if drawn by a hidden cord. Easy,
isn't it? Come on, I'll sit in the bow
for ballast and you can try your hand at
it. Paddle too heavy? Oh, no, not a
bit; you can't paddle with a toothpick.
Now don't change your paddle, and steer
straight for that pine tree on the other
shore. That's good, slowly now, and
steady. Why, what's the matter, man?
You're turning us round in a circle,
you'll never get there in that way. No,
don't change your paddle. What, tired
so soon? Seat too hard? Why, I'd
rather sit on that little stick than on all
the cushions in two of your canoes at
home. Now see how easy it is, perfectly
natural motion, and—science in canoe-
paddling? Well, I thought so. The
canoeist who can handle his craft with a
single paddle in good shape for four or
five miles against a strong head wind has
learned the art of canoeing, and it is no
mean art either. Canoeing on a floating
cushion is doubtless a pleasant pastime,
but half the pleasure is lost in the inert-
ness resulting from the excessive com-
fort, if such a state can be conceived of,
which the canoeist enjoys. Let him,
after a trip in his gilded canoe, lay it
aside for a month. Let him try a trip
to the upper Penobscot, or better yet,
up the Saguenay, let him learn the art
of canoeing as it is taught there, and he
will find that, although his muscles will
be hardly equal to the task at first, as
he grows used to the increased exercise,
there comes a certain charm to the sport
which was never secured by what he had
formerly been pleased to term canoeing.
The writer feels himself incapable of
fully appreciating the poetic qualities
attributed to canoeing, which it is
claimed so heighten its pleasures, but
casting aside all such, the pleasant mem-
ories of a season spent in a canoe so force
themselves upon him that he can but
attribute his enjoyment to the unusually
pleasant form of exercise which he found
in paddling a canoe. And unless he mis-
takes human nature, his recommendation
to try canoeing for a summer's vacation
will win the approval of everyone who
accepts it.

L.

"Planets govern not the soul, nor guide
the destinies of man,
But trifles, lighter than straws, are levers in the
building up of character."
LOCAL SKETCHES.

"The pen is mightier than the paste-pot and shears."

MECHANICAL DRAWING NOTE.

"Hatching" is very fine work. Hence it is first necessary to lay all over the board.

SOME THINGS WERE OMITTED.

A '90 man who recently took an involuntary seat on the icy sidewalk just as he was about to bow to his best girl, complains that the recent lecture on "What to do in an Emergency" didn't cover the whole subject.

BITTER SARCASM.

Professor: "Now, Mr. X, describe the metal sodium so that a person entirely ignorant of chemistry would recognize it when he saw a specimen. Describe it so that even the class would know what it was."

DIDN'T KNOW IT WAS LOADED.

Scene in the model-room.

Middler, who in carelessly handling one of the fire-arms has blown the fingers off an inquisitive Junior: "I beg your pardon, my dear sir, I thought it was unloaded, having once been fired from the patent office."

TECHNICAL HUMOR.

An exchange says, "Little women will be the fashion this year." This will give somebody a chance to say that there is but little difference between finishing a piece of lathe work and going to church Sunday evening. In one case you take a light chip and in the other a light chippy.

A REASONABLE SUPPOSITION.

At the theatre.

First Young Lady (glancing upward): "Who is that handsome child in the gallery, leaning over the railing?"

Second Young Lady: "The one with his hat on and in his shirt sleeves?"

F. Y. L.: "Yes."

S. Y. L.: "I do not know his name, but I am certain that he is a member of '91, W. P. I."

F. Y. L.: "Why are you so positive?"

S. Y. L.: "Because every time the policeman shakes him a cloud of sawdust floats down into the orchestra."

GERMAN JOKE.

The author of "Studien und Plaudereien," makes but one effort at jocularity in the whole book. This is the famous "A. Hagen and B. Hagen" joke. If he wishes to enliven the next edition of his work with another, he can have this one and no questions will be asked:

Fraulein Bella: "Good morning, Herr Meister, and where this evening are you certainly been?"

Herr Meister: "I am, my dearie, on the walk through the forest been."
Fräulein Bella: "And yet was not appearing the moon so beautiful and bright?"

Herr Meister: "Ah my, oh yes. The moon was schein en very beautiful and bright."

Communications.

Mr. Editor:
A paragraph in the March number of the WPI states that it is proposed to make a continuous rail a quarter of a mile in length. This is quite a striking statement, and the project is no doubt feasible, but could the rail be used? Ganot gives the linear coefficient of expansion for steel as .000010788 for one degree C. As a range of eighty-five degrees C. is not too large to assume, it appears that a rail a quarter of a mile in length would expand and contract about one foot, two and a half inches. According to Trautwine, a thirty-feet rail varies seven-sixteenths of an inch under our extremes of temperature. At this rate a rail a quarter of a mile long would vary one foot, seven and one-fourth inches. It seems as if it would be impossible to keep the rail in place, and the open joints would probably inconvenience the passengers to say the least.

G. H.

[We beg leave to quote from an article in the Mining and Scientific Press of the issue of Jan. 28, 1888. "The expansion joints are placed at intervals of one quarter of a mile, the rails being securely fastened at the centre and expanding in both directions, so that the variations produced on a length of one-eighth of a mile only require to be compensated for." Neither the expansion joint nor the method of securing the rail to the ties is described in this article. The sentence above quoted leaves us to infer that a device which allows for expansion is used to fasten rail and tie together, and that the necessarily wide space between rails is bridged by the expansion joints. The project seems perfectly practicable under these conditions.—Ed.]

ATHLETICS.

In the boat race between Cambridge and Oxford, March 24, Cambridge won by five lengths.

There are seventeen men training for the Yale nine.

At the second winter meeting at Harvard, Lund cleared 4 ft. 8½ in. in the standing high jump.

At Exeter, March 10, Hayward kicked 8 ft. 7½ in.

Dartmouth students have subscribed $1,700 for the support of the nine.

There will be no boat race between Harvard and Columbia this year.

The second Harvard-Yale freshman base-ball game will be played in New Haven on May 26th.

There are seventeen men practising for the Harvard crew.

The trainer for Yale's Mott Haven team began work March 26, and will keep the men in strict training, as it is considered that the coming contest will be closer than any yet held. A training table will be opened about ten days after the recess.

Harvard is to have a second 'Varsity nine this year, under separate management, the object being to supply substitutes and practice for the first nine.

Brown, Tufts and Boston University have formed a base-ball league.

There is a strong movement on foot at Harvard, which is also supported by the Harvard Club of New York, to get the Faculty to allow the nine to play with professionals, which at present is not allowed.

The Harvard 'Varsity crew took their first spin on the Charles, March 28, in
their new English eight-oared boat. There are several new men in the crew this year and their work on that day was very encouraging to the committee. Yale has the advantage of Harvard, as her men can practise all winter in the "tank," while the Cambridge fellows have to wait for the ice to break up on the river.

The Harvard Varsity nine practised for the first time out-doors March 30, their work consisting chiefly in pitching and batting.

Yale was defeated 25 to 4, March 31, by the Athletics at Philadelphia. Stagg pitched, but was hit often and hard, while the fielding was very poor at times.

Holden, '88, will captain Harvard's second nine.

F. J. K. Cross, an amateur runner of Oxford, Eng., has broken the record by running a half mile in 1 min. 54 2-5 sec.

TECH NOTES.

The tug-of-war cleats have been put down in the cellar of Boynton Hall, and here the team will practise till the ground outside is dry. The team has not been selected definitely as yet, but will be immediately after the vacation.

Capt. White has a list of about thirty candidates for next year's foot-ball team, and from these he hopes to be able to select a team which will make a good showing, although it will be hard to fill the places of those who graduate this year. This spring he intends to practise the men to some extent in passing, dropping on the ball, etc., so as to be able to go promptly to work next fall.

The Prep class is going to make a new set of regulation hurdles to replace the old ones, which are worn out, besides being too low.

"Therefore see thou that thine aim reacheth unto higher than thyself. Beware that the standard of thy soul wave from the loftiest battlement."

---

College News.

The Y. M. C. A. at Cornell is to have a new building to cost $50,000.

Vassar has received $20,000 for a gymnasiunm which will be built in the spring.

Wm. B. Forbush, a Dartmouth senior, has recently published a volume of poems.

The University of Pennsylvania has built a $1,100 greenhouse, for the cultivation of plants for botanical work.

The class of '79 of Princeton, has been considering the project of presenting that institution with a statue of Dr. McCosh, which is to be life-size and to cost $25,000.

No Harvard man can witness the H. A. A. winter games unless he is a member of the association and has paid the $3 dues.

The largest observatory dome in the world is being built for the University of Michigan. It weighs ten tons and has a diameter of 45 ft. 4 in. at the base.

Before a student of Hanover College is allowed to engage in athletics, he must present to its Faculty a certificate of the permission of his parents.

The authorities of the University of Iowa have asked the legislature for an appropriation of $20,000 to buy a baseball field for the students.

The College Graduate Base-Ball team, which was to start from Chicago in the latter part of April, to play all the prominent American colleges, has collapsed.

More than one hundred students at Cornell have signed a pledge not to patronize any store or market in Ithaca, as the town authorities have forbidden them to give the college cry on any street.
President Hyde spends some of his leisure time in playing tennis in the Town Hall. He is an expert player, and the man with a feminine "serve" must not mix in with the "Prex."—Bowdoin Orient.

The Massachusetts Legislature has been obliged to refuse the petition for more funds, presented by the Institute of Technology. Lack of disposable funds is assigned as the reason.

Troy Polytechnic has been without a president for nearly two years. The students are seriously considering the step recently taken by the students of Union College in forcing their trustees to elect a president.—Ex.

The Leland Stanford, Jr., University is rapidly approaching completion. It is situated in the foot-hills of the Coast Range mountains about thirty miles south of San Francisco. It is expected that the University, when completed, will be to the Pacific Coast what Harvard and Yale are to the East. Its buildings will be numerous and of a handsome though solid design.

Every class at Yale has in it four or five monitors, whose duty it is to record the absence or tardiness of students at recitation or morning prayers. A monitor receives $35 a year from the faculty. The same amount is paid each year to the man who rings the college bell. Of late years the college press has been a fruitful source of revenue to its editors. The Literary Magazine pays to each editor from $140 to $150 a year. The financial editor receives from $180 to $190. The News pays to each senior editor from $250 to $275, and the financial editor receives from $325 to $350. The Record and Courant ought to pay to each senior editor $150 yearly, but often, through poor management, barely cover expenses. The Yale Banner clears to the publisher from $200 to $250, and the Pot-Pourri somewhat less than this sum.—New Haven News.

**Scientific Notes.**

It is estimated that 35,000 cubic miles of rain falls upon the globe yearly. Judging from late local observations, we should say that the estimate is well inside the limit.

The Royal Geographical Society has decided to admit women to fellowship. Several prominent scientific societies are following this example and recognizing women's contributions to science by opening their doors to them.

A series of careful experiments to determine the delicacy of the special senses has disclosed the following facts in regard to the sense of taste. A bitter flavor was most easily detected, followed in order by acid, salt, sugar and alkali. Save in the single test of detecting salt, women proved to have much greater delicacy of taste than men. In the case of salt a curious exception was found, the average man discovering its presence in a much weaker solution than did the average woman.

Prof. Webber described two delicate instruments in a lecture before the Helvetic Society of Science. The first was an instrument, called the micro-radiometer, by means of which the heat radiated from the moon may be accurately measured. A tube containing air is immersed in a solution of zinc sulphate which forms part of a Wheatstone bridge. The expansion of the air alters the resistance of an electric circuit by changing the position of the solution on the bridge. The change of resistance is compared with that for a known difference of temperature and the heat producing the change thus determined. He also described the microphone, an instrument which enables one to hear distinctly the footstep of a fly.

A paper read before the French Society of Surgeons by the head physician of the Creusot Steel Works, is of great interest to students of human organism,
entering as it does upon a new field of research. It is found that the workmen using the powerful electric forges employed in the manufacture of steel are subject to a sort of sunstroke, caused by the intensity of the light. This intensity can be imagined from the estimate that 100,000 candle-power proceeds from a few square-centimeters of area. The paper describes minutely the symptoms and effects of the electric sunstroke, if it may be so called, and is the first step toward the complete investigation of a very imperfectly understood subject.

Herodotus described an artificial lake 450 miles in circumference which he said was located in Egypt. Until recently it was supposed that this lake existed only in the imagination of the great historian. The Egyptian government has caused the supposed site of the ancient lake to be surveyed and has found that a depressed region 60 miles long, 20 miles broad and from 250 to 300 feet below high-water mark of the Nile really exists. The river may be admitted to this by a canal eleven miles in length. If this is done, a vast tract of country will be restored to fertility, water can be stored for the dry season and the flow of the Nile may be equalized to some extent.

**Exchanges.**

The Bowdoin Orient and the Tech explain in recent issues why they maintain no exchange column. In a lengthy editorial in the Orient the average exchange editor is charged with "thirsting for blood," "ferreting out and exposing faults," "condemning and not praising," "ridiculing," "exchanging stereotyped commonplace," and other vicious acts. We are sorry to see this in a conservative sheet like the Orient. Its editor has been misinformed, or has accidentally read a copy of the Niagara Index. If he would carefully examine his exchanges he would find a long list of reputable journals with bright, clean, ably-conducted exchange departments. These writers may not be able to give a "trustworthy review of any publication," but, pray, why should they? The well-trained exchange editor doesn't give his readers reviews, or air his personal preferences for certain articles he may see; neither does he feel in duty bound to ladle out "stereotyped commonplace," vulgarly known as "taffy," to his contemporaries. He lightly pens comments and suggestions, satirically sketches follies and foibles, and strenuously strives to be as original and entertaining as nature and the editor-in-chief will let him. Sometimes he does this, and at other times he clips poetry. When he clips poetry, the Tech thinks he approaches nearest to perfection. Let us now leave the Tech and talk about curiosities.

There are curiosities in college journalism, as in everything else. The latest find is in the columns of a Missouri monthly, the exchange editor of which makes this extraordinary attempt at facetiousness:

"With this issue again we enter the exchange room, and taking off our plug hat, slide into a seat as near as possible to our fair friend, the College Gem, with the usual remark about the weather."

We do not know what he said about the weather, but as a blizzard swooped down from the northwest soon after the issuing of the paper, it must have been an awfully irritating remark.

A statement has lately appeared in a number of college papers to the effect that R. C. Campbell, of Williams, is the champion amateur base-ball thrower of the world, having a record of 381 feet, 24 inches. This is a very good throw, but there is one better. John Harkins, of Boston University, has a record of 387 feet, 8 inches, made while a student at Holy Cross College in this city, and we have never heard any doubts expressed concerning either the record or Mr. Harkins's amateur standing.
The Polytechnic from the Rensselaer Polytech. is a valued exchange. Its editorials are readable, its local column bright and catchy, and its reportorial work prompt and accurate. In addition to these virtues the paper has a pleasing personal appearance, and generally speaking exhibits a determination to "get there," which is indicative of commendable energy and zeal.

The funny man of the newspapers is often pleased to point out the utter unadaptability of the higher-educated girl to the prosaic pursuit of housekeeping. If we may judge by this paragraph from the Lassell Leaves he will soon be obliged to invent a new brand of jest:

"LAURA MUNGER is housekeeping at home, and continuing studies in German literature."

**Personals.**

J. W. Kendrick, '73, St. Paul, Minn., has been appointed chief engineer of the Northern Pacific Railroad. His jurisdiction covers the whole line from Lake Superior to Puget Sound.

P. J. Donahue, '81, is doing a flourishing real estate business at Tribune, Kansas. Donnie's friends in '80, '81 and '82 will be glad to hear of his success.

H. W. Curran, '82, Denver, Col., is chief draughtsman with the Colorado Railway Company.

J. Q. Barlow, '82, division engineer, U. P. R. R. Colorado, who located the switchback, now working so successfully, over the Cascade Mountains, on the Northern Pacific, has a letter on Switchbacks in a recent Engineering News, to which the editor gives a three-column reply.

A. F. Walker, '86, is doing good work on the Helena, Boulder and Madison Railroad, in Montana.

Prof. Eaton has obtained a year's leave of absence that he may indulge in a much needed rest. He intends to spend the summer in Washington Territory, and will probably go to southern California for the winter.

We are requested to publish the following names as supplementary to the catalogue list of graduates, the addresses having been omitted from the register:

Ezra E. Clark, '80, with the Deane Steam Pump Company, Holyoke, Mass.
Frederick W. Moore, '82, draughtsman, Milwaukee Bridge and Iron Company, Milwaukee, Wis.
Lowell E. Blake is at present in Costa Rica.
Fred W. Morse, '87, is assistant in chemistry to Prof. Goessmann, Amherst Agricultural College.

**Technicalities.**

Work on the new building has really begun.

Query: "Can a man confess what he does not know?"

"Music hath charms." Subscribe liberally for a band on Field-day.

Don't fail to secure a copy of John's photograph.

Several Seniors put in thesis work in the shop during vacation.

Gilbert, '89, made up practice by working with Mr. Walls at Hartford.

A. T. Marshall, who was forced to leave '88 at the end of the Middle year on account of his health, joins '89 after vacation.

The Middlers have finished Thurston's "Steam Engines," and will take up Indicator practice the rest of the term.

The Seniors are strongly contemplating the offering of their services to the country for a revision of the Constitution.
Alas, for the course of study at the W. P. I.! Middler (reading German, comes to the motto, "Honi soit qui mal y pense"), "What language is that, Professor?"

The Middlers have elected W. E. Hartwell manager and captain of their base-ball team, which will soon go into training.

The Faculty have decided, after long and serious deliberation, that gum-chewing shall be placed upon the list with bonfires, as an exercise too untoward for a Tech to indulge in.

The fondness for pets manifested by our honored friend in the tool-room is remarkable. In an open box under the bench are several good-sized wood-chucks. They seem quite tame and are allowed to roam about the shop.

The American Machinist and the Scientific American are to be found in the W P I reading-room.

We wonder if any of the girls have begun that silk banner for the Inter-collegiate Field-day. The colors are steel-gray and crimson.

We regret to announce that the Preps are departing from the custom of their predecessors in the matter of towels at the shop. The quality of those furnished for upper class men is very poor. We hope this evil will not continue.

'89 is finishing '87's cabinet lathe. We respectfully suggest that the catalogue statement that the Seniors "will build one or more complete machines from their own drawings," be eliminated or amended.

A sigh of relief greeted the announcement in chapel that the cut for the back page of the catalogue had been lost. Unhappily the loss was not permanent, for the artistic design smiles serenely upon us from the new catalogue. "A bad penny," &c.

Penniman, '89, recently met with a painful accident in the shop. One of his fingers was caught in the milling machine and badly torn by the cutter. It is hoped that the finger will be saved. As usual several of the Preps wear bandages upon their hands, but happily no serious accident has occurred. It is a matter of congratulation, and withal somewhat remarkable, that we have so few accidents to record where so many inexperienced men handle machinery. It speaks well for the management of the shop.

"Variety is the very spice of life." Let us for the sake of variety, if for nothing else, forbear to criticise the efforts of our overworked Athletic Directors to make the approaching Field-days successful, and try to make them feel that we stand ready to work with them and to lend them the support of our enthusiasm and our pocket-books.

The time has arrived for '91 to adopt and practise a class yell. Never mind if its foreordained fate is innocuous desuetude. It is the regular thing and the Institute expects '91 to do its duty.

Student (translating German): "She then hung herself on his neck."

Prof.: "Isn't that rather literal? A little freer, please."

Student: "She committed suicide."

By the way some of the students are practising at the gym, it can be judged how brittle the records are becoming. We prophesy the fracture of many of them on Field-day. The more the merrier.

At the regular meeting of the Athletic Association the following officers were elected: Pres., F. W. Speirs, '88; Vice-Pres., A. P. Allen, '89; Sec., E. G. Penniman, '89; Treas., E. J. Lake, '90. In view of the increased demand on the funds of the Association, incident to joining the Inter-collegiate Association, it was voted to increase the semi-annual assessment to one dollar.

The following extract from the minutes of a Senior civil government recitation
attests the value of a course at the Institute in enabling one to make subtle distinctions: "The term bankrupt was formerly used to designate a man who did not pay his debts because he wasn't able to do so; now it is applied to a man who don't pay his debts because—because he can't." Political economists will be delighted with a gem in the way of a definition of money, for which they are indebted to the same class: "Money is a legal document which may be made of paper or metal."

The Lord High Custodian of Manners and Morals for the Class of '88 has been notified of the appearance of the class pin at the Normal School. As yet isolated cases only have been observed, but it is feared that the appearance will become epidemic. We wish to call attention to Art. VII., Sect. IV., Cl. 28, of the Class Constitution which prohibits such action under the severest penalties. In this connection it might be well to observe that "at least five evenings a week ought to be devoted to the preparation of lessons assigned in the different departments of instruction." (See Catalogue, p. 35).

It you are studying German late at night, always go to bed when the business ends of the zeitworter commence to chase themselves over the page.

Professor in English:—"What are the elements of style, Mr. Job Lot?"

Job Lot:—"A pair of Plymouth Rock pants and a plug hat."

The Senior class has chosen C. L. Griffin as valedictorian and J. B. Chittenden as class orator. It is hoped that a Class Day may be arranged for, to relieve the pressure of Graduation Day. Two formal dinners, two receptions, the reading of abstracts, class-tree exercises and the exercises at Mechanics Hall, rather more than comfortably fill thirty-six hours.

'90 is originating lots of chemical humor. The latest is to ask the profes-sor if shaving soap is stearate of shavings. This style of humor is printed solely to pacify the Prep subscribers.

Scene in German recitation. Professor:—"Translate the last paragraph, Mr. X."

Mr. X.:—"English or German?"

Professor:—"How would you render, 'I have my lesson?"

Student (who cannot tell a lie): "Ich habe meine Lektion nicht."

The Preps are now permitted to use the circular saws and the buzz planer. They will soon find that it is awfully discouraging to play ball with indispensable sections of their anatomy lying beneath the saw-tables.

CATALOGUE NEWS.

"At least five evenings a week ought to be devoted to the preparation of lessons."

"As a general rule students cannot earn money in term time."

"The Class of 1888 will complete a No. 1 Cabinet Turret Lathe."

"Recently the capacity of the Shop has been nearly doubled."

Etc., etc., etc.

Museum of Antiquity.

SA CARTE DES DANSES.

A DAINTY trifle, silk and lace,
All white and palest blue;
A pencil hangs below the place
Where it is bent in two.

A silken cord upon her arm
So soft, and round, and white,
Suspends, secure from every harm,
This little book to-night.

Within the tiny tome I glance;
The ball has just begun,
But someone's taken every dance.
She might have saved me one.

I look along the list of names,
And looking there I see
That every waltz some fellow claims
Whose name begins with D.
I'm hurt, and say so in a way
I fear is scarce polite.
But, as I turn, I hear her say,
"Don't leave me so to-night!"

Then, with a sudden, tender smile,
She whispers, "Don't look blue;
You might have known it all the while,
The D was meant for U!" — Life.

REPARTCEE.

THEY had whirl'd around in the steps of the
waltz,
And dismay had spread o'er his face,
For he found just then at the end of the dance,
A button was caught in her face.

He colored, and then in embarrassed tones,
When the dance they had gone quite through,
"Pray pardon my boldness," he said with a smile,
"But you see I'm attached to you."

Then roughly glancing, she answered at once,
"Don't let that worry you so,
For quickly you'd see if you'd only half try,
This attachment is mutual, you know." — Yale Record.

CUT AND TRY.

IF now I only had a knife,
I'd cut my throat and end my life;
For then, in truth, I'd surely know,
Which way when dead, I've got to know.

A FRAGMENT.

Suddenly the burglar paused, and,
resting on his Jimmy, gazed upon the
sign "Cashier," and on the safe beyond.
Then, as a sigh escaped him, he murmured with an effort:
"How sweet the moonlight sleeps upon this bank!

IN THE ENGINE-ROOM.

"Hark! I think I heard the piston ring," said the valve, moving nervously in its seat. "No, that was the door bell," replied the steam, putting on his jacket and fastening it with a crank pin. "The indicator has come and is sending up his card." And before the caller could make a turn, he heard a familiar voice exclaim, "Criticisms on the Indicator's diagram."

TO ——.

THE swan, considerate bird and passing wise,
Sings only once—then just before it dies.
Surely it were a very happy thing
If some we know might die before they sing.

— Detroit Free Press.

LIKES SOMETHING LIVELY.

She: "Did you see Henry Irving in 'Faust' while abroad, Mr. Breezy?"

Mr. Breezy (of Chicago): "No; I find most of Shakespeare's plays rather dull and uninteresting, although 'Adonis' is not so bad." — Life.

A COMPLETE STOP.

Conductor.—"Here my good fellow! don't you know that if you pull that strap in the middle you will ring both bells?"

Mike.—"Faith, an' Oi know that as well as yerself. But it is both inds ov the car Oi wan ter stop." — The Judge.

At the Club. — Jones.—"Look at Brown over there in the corner."

Smith.—"Yes, buried in thought."

Jones.—"Mighty shallow grave, ain't it." — Washington Critic.

A thief was about to relieve a Wall Street operator of his handkerchief, when a bystander called the latter's attention to what was going on. "Let him alone," said the broker good-humoredly; "we all have to begin in a small way down here." — The Judge.

COMBINES THEM ALL.

THERE was once a young man quite unique,
Forty-four tongues he could spin;
But one day for one,
He put them in one,
And he christened that one "Volapique."

— Washington Critic.
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