

No. 1.

Easthampton, Dec. 7, 1859,

"I have examined with no little interest an instrument called 'The Protracting Trigonometer', patented by Josiah Lyman A.M., of Lenox, Mass. It seems to me to be admirably adapted to its purpose - to secure accuracy, to save time and labor in measuring angles and distances, 'in plotting outlines and in trigonometrical calculations'.

Mr Lyman has also written a work upon 'Land Surveying' to accompany the 'Trigonometer'. From the hasty examination I have been able to give the work in manuscript, I should think it accurate and concise, and sufficiently full for practical purposes. The instrument renders the book necessary, and wherever the instrument is used, and I think its use will become general, the book must surely accompany it. I do not hesitate to commend both the instrument and the book to the favorable notice of scientific men.

C. A. Hubbard Teacher Math.
Wiliston Seminary."

No. 2.

Amherst College, Dec. 12th, 1859

I have had the pleasure of examining an instrument called the Protracting Trigonometer, invented by Mr Josiah Lyman of Lenox, Mass. With this instrument angles and lines may be laid down with an accuracy far surpassing that attainable with any other instrument

P.S. Please keep these communications for reference. J.H.

I have ever seen). It is so perfect in its work that areas may be obtained mechanically by it with as much satisfaction as by the use of the Traverse Table, and, I doubt not, with one third or one quarter of the labor.

For the practical Surveyor this instrument will be invaluable; and I shall be greatly surprised if it does not come into very general use. I had the opportunity also of examining the manuscript of a work on Practical Land Surveying, prepared by Mr Lyman. It seemed to me to be a clear and concise treatise and sufficiently full for the ordinary purposes of Engineering. All the cases usually found in elementary books are introduced and satisfactorily disposed of by the use of the Trigonometron alone. The book and the instrument should go together, and I am confident that they will be greatly valued by a large class of students, and especially by practical men, for they obviate the necessity of a knowledge of Logarithms and Trigonometry, and wholly dispense with the use of Tables. I shall have them both as soon as possible. Henry S Kelsey, Instructor in Math.

No. 3.

Amherst College."

"I have made a brief examination of Mr Lyman's instrument and book, and feel disposed to concur fully in the foregoing statements of Mr Kelsey."

Chas. J. Snell,

Prof. Math. & Natural Phil., &c.

Williams College, Jan 3rd 1860.

My dear Friend,

I was glad of the opportunity furnished by your call, to examine your new instrument—the Trigonometer—of which I had before heard. It strikes me as a decided advance upon anything I have seen intended to answer the same purpose. I were able by its aid to lay down angles and lines with an exactness limited only by the nicety of the graduation, and of the adjustments, which latter I seem to be quite under your control—

The former of course must depend on the artist, whom I should judge to be extremely competent from the specimen I saw of his work. Your instrument in fact enables the operator to introduce into the business of plotting an accuracy like that ~~that~~ which the astronomer attains in determining his data, certainly if you apply the microscope, which you might easily do. In addition to the uses for which you primarily intended it, I think your instrument will be found ~~useful~~ of essential service in the projection of eclipses, and other delicate operations of a like kind.

From a cursory view I should think your treatise on Surveying eminently practical, and likely to come into general use.

Very sincerely yours
Albert Hopkins.

No. 5.

Williams College, Jan 3rd 1860.

I have examined a new instrument invented by J Lyman of Lenox, called a Trigonometer, and a work on Surveying to accompany and explain the instrument.

For laying down angles and distances, the instrument seems as perfect as possible; an angle can be laid down to a minute and a line to a link. It is capable also of shortening the process of finding areas, and all the work connected with surveying. All scientific work is dependent upon good, accurate instruments, and Mr Lyman has done for the Surveyor what others have done for the Astronomer, Chemist, Navigator, &c. No Surveyor will be willing to be without a Trigonometer, when he knows its value.

John Tatlock, Prof. Math.

No. 6.

"I have examined an instrument patented by Mr Lyman, of Lenox, Mass. and called by him the Trigonometer. As an instrument for plotting surveys and calculating areas it possesses great accuracy and in the hands of a careful draughtsman would save a great deal of time and labor. It ~~is in~~ should be in the office of every Surveyor.

H. L. Custis

Prof. Eng^y Lawrence Sci. School.

Harvard University.

Cambridge. Jan. 9th 1860.

No. 7.

Yale College, Jan 12th 1860.

The plotting instrument of Mr Lyman seems to me after a full examination of it very valuable to Surveyors and one that will save a vast amount of labor in computing the areas of fields and other tedious operations. The book which goes with it seems to contain in itself a full and yet simple treatise on Surveying so far as will be needed by one who has the instrument.

H. A. Newton.

No. 8.

New Haven Connecticut

Jan 12th 1860,

Mr Josiah Lyman, Senox, Mass.

Dear Sir.

The demand for accuracy in graphical processes and delineations is constantly increasing; so that instruments which ten years ago would have been considered mere beautiful exhibitions of skill and nicety will now be esteemed of great practical value. On the other hand a universal protractor as I may term it, such as you have invented and patented, which is far more nice and accurate than any hitherto employed will both satisfy the demand and augment it. Every man who has constant occasion for plotting and calculating areas or distances for ordinary purposes will, I think, find it an object to possess your Protractor.

Of course the demand for your book will keep pace with the same for your instrument, and, even without the

instrument the book will be found a valuable practical treatise

Respectfully yours
Alex. C. Twining
Civil Engineer.

No. 9.

I have examined Mr Josiah Lyman's Protracting
Trigonometer and am satisfied that it is admirably adapted
to the purposes for which it is designed. It is compact and
every way convenient for use, and appears to correspond in
accuracy, as a protracting instrument, to the surveying
instruments used in the field. Many of the determinations
in which numerical calculations are now found necessary
can be effected graphically and much more expeditiously
by the use of this new instrument which combines the ordinary
protractor, T square, and linear scale. The treatise ^{on surveying} which
Mr Lyman has prepared, gives full accounts of the methods
of employing the Protractor, in determining areas, and in
various other operations.

W. A. Norton
Prof. of Civil Engineering
in Yale College.

No. 10.

I fully concur with Prof. Norton in his opinion, as
above expressed, of the new protracting instrument invented
by Mr Lyman.

C. S. Lyman
Prof. of Indust. Mech. & Physics
in Yale College.

No. 11.

New York Free Academy, Jan. 1860,

Mr Gayman

Dear Sir,

I have examined with much satisfaction your Protractor for the use of surveyors and engineers. It is better adapted to the accurate measurement of angles, lines and areas than any instrument with which I am acquainted. I would cordially recommend it to the attention of Practical Surveyors, as an instrument by which they can make their delineations with both expedition and accuracy. The protractor with the book you propose to publish to illustrate its uses will satisfy a long existing demand.

Very respectfully yours

J. T. Benedict.
Prof. Civil Engineering.

I have never before seen so clearly the application of God's promises to my own case & that of my family; the glory & wonders of his word, his redemption & his providence; and the blessedness of entire consecration of all that we have to his service.

Unexpectedly I was able by offering 10 per cent to defer paying my machinists till next summer. And by offering them 50¢ on each

a copy of my instrument. I shall be able to give you some future time to help you. Should I not be able, I assure you the money will be forthcoming. your br. T. Lyman

instrument above their own price of 25¢ per
hour for their work if they would have the
first hundred finished by the 1st of April next
the work is going on vigorously.

Thus every thing about my enterprise
is in the most cheering & encouraging con-
dition. I think the prospect now is that
the demand will soon exceed the ability of the
workmen to supply. Probably Swason &
Whimsey of New-York will publish my book
& this will do more than any thing else
to create a demand for my instrument.
I hope to get those gentlemen to publish my book in its entire
form, & besides to incorporate that part of it which applies
specifically to my instrument into Robinson's Surveying &
Navigation. I hope also to get other publishers to do the
same with the books on surveying which they pub-
lish. If such an arrangement can be made a great
demand must soon be created for my instrument.
I expect also to commence traveling as early as the 1st of
April for selling instruments, & continue almost con-
stantly till winter.

We had a severe time of cold weather 3 weeks since,
but in general the winter thus far has been mild, &
is quite so now.

A word about the pictures. And let me say
in the first place, we do not think them the happiest
effort of the artist, for he has a good reputation, is
always ^{employed} by the W. College Classes, & his specimens
are generally equal to the best except in the large
cities. The ~~difficult~~ faults with the pictures, ^{are the following} At the
time we were taken I was quite ~~quite~~ warm & my
face red, & badly tanned by surveying; this made
my picture too dark & Maria's too light. Her picture
is also too much of a front view. But the chief trouble
with hers is its being taken with her hair over her ears.
This changes her appearance entirely. The difficulty
with Sarah's is that her position was very uncomf-
ortable & she was stumbling. Another important thing
is the pictures are not intended to be held near the
eye. They should be held 3 or 4 feet from the eye. If
besides, you place them against one of the window panes
shutting out all light on the border of the picture
the back of the picture it merely being illuminated,
you will find it to be an entirely new picture.
My best love to the dear children. Please keep on writ-
ing once a quarter & I will try to keep pace with you.
Mr. May has visited me & the other brothers at East-Hampton.
I believe he has raised \$10000 or \$15000 though there may be