

**FARNSWORTH'S  
NEW SYSTEM OF  
ADDITION**

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Farnsworth's New System of Addition by Seth T. Farnsworth

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**SETH T. FARNSWORTH**

**FARNSWORTH'S  
NEW SYSTEM OF  
ADDITION**



## Gasoline Stoves, &c.

If you desire a Gasoline Stove which is safe and sure, buy the

**"SAFETY STOVE."**

If you want an Oven which retains the heat inside instead of wasting it in the room, buy the

**"ASBESTOS OVEN."**

If you desire a Gasoline Lighting Machine which will give a uniform light, buy the

**"ENGLISH GAS MACHINE."**

If you want a regenerative Lamp which will give a light 200 per cent. brighter than any other, buy the

**"ENGLISH LAMP."**

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**THE A. J. ENGLISH CO.,**

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## P R E F A C E .

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The object of this work is to place in the hands of all persons, young and old, who make use of figures, information and instruction which will give them the highest speed, accuracy, and ease in their work.

It explains in language and illustrations so plain as to be understood easily by any one the methods by which "Lightning Calculators" do their work.

The "NEW SYSTEM" will be found, on investigation, certainly no more difficult than the questions and problems submitted to youthful minds in the school-room in the ordinary arithmetics.

This work is the result of eighteen years' practical experience in actual business calculations. The author found that what his friends were pleased to call a "gift of nature," which enabled him to read columns of figures at sight, was only a skillful use of ordinary faculties and laws to which he was driven by the necessities of his work. He found, upon analysis, that the principles upon which lightning calculations are made are easy to understand and to apply.

A knowledge of the System may be acquired with much less study than is required to master the ordinary arithmetics in general use.

By the method explained in the following pages all ordinary additions may be read from left to right and from top to bottom, and all ordinary multiplications may be read at sight, with wonderful rapidity and ease and with much less liability to serious

error than in the ordinary way. Subtraction and Division are in like manner made easy.

The explanation of this system is, so far as I can discover, entirely original. I have never met any one who knew it before. No "lightning calculator" has been able to explain the system by which he works so that ordinary persons could understand and use it.

My "NEW SYSTEM" has been subjected to the severest tests, has received universal endorsement, and is pronounced as very simple and of the highest value.

SETH. T. FARNSWORTH.

Cincinnati, Ohio, 1889.



#### NOTE TO SECOND EDITION.

The first edition of the "NEW SYSTEM OF ADDITION" was issued under difficulties and consequently in a somewhat crude and imperfect form. Its immediate remarkable popularity and success are all the more gratifying under the circumstances. Every intelligent person who read it learned the method at sight and applied it at once. The system is, therefore, a demonstrated practical success. The book is now fully and carefully revised and complete in every respect. It is now also on a sound business basis and may consequently be expected to reach a very large degree of usefulness.

## INTRODUCTION.

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The general public is more or less familiar with "Lightning Calculators" and "Mathematical Prodigies." As a rule these terms are applied to certain individuals in whom there seems to be an **abnormal** or **over** development of the mathematical faculties. If, in a tree, some of the branches are cut back there is likely to be a more vigorous development of the remaining branches. It is much the same in the human mind. If, from some cause, certain particular faculties are stunted and dwarfed, it often happens that other faculties stand forth in conspicuous proportion. This is true of the so-called mathematical prodigies. It is not so much the case that they actually possess mathematical powers beyond what are possible to most men and what are really acquired by many men; but the remarkable powers they do possess are shown upon a background of almost complete disability, or, at most, of humble mediocrity, in other intellectual directions. This produces such a striking contrast that it becomes conspicuous and attracts attention. The curious crowd around to see the exhibition of such seemingly remarkable powers, and the "lightning calculator" soon bursts forth in all the glory of a "Dime Museum Freak."

From such causes as these it has come to pass that a person manifesting extraordinary mathematical powers is set down as a "prodigy," and regarded as a species of curiosity whose remarkable mathematical ability has some mysterious origin and is impossible to men generally. But is it necessary, in reason, that a



person who is expert in figures must also be a fool? Is it not evident to every thoughtful mind that any method of rapid calculation, whether by a "freak," or a duly trained and skilled accountant, must have its basis in some law? Nothing in the whole universe of matter, mind, and spirit, comes by chance. All phenomena arise from the orderly workings of unvarying laws. Where the laws work in perfect harmony the results are perfect. Thus, a diamond, a plant, an animal, a rain-bow, is perfect in exact proportion to the uninterrupted and harmonious workings of those laws which produce those particular phenomena. So in the combining of figures and numbers, those combinations are the more rapid and perfect which are the product of the more harmonious and perfect workings of the laws which underly all mathematical computations.

It will be objected that the "lightning calculator" does not make his calculations by any law **because he cannot explain how he does his work.** No more can the champion gourmand explain how he can digest the four or five dozen eggs and other edibles he will devour at one sitting. Yet his stomach will lay hold of and digest such a mess as this as purely according to physiological law as does the delicate stomach of the humming-bird digest its dainty repast of morning dew. For that matter few of us would attempt to explain how we do so ordinary a thing as to remember our own names. Yet we do remember them and, undoubtedly, according to some unvarying law of mental action.

The claim is often made also that unusual ability in making rapid calculations depends upon some "special faculty" of mind possessed by the "lightning" calculator and not upon some new or skillful way of combining numbers; that is to say, it is a difference of mind and not one of method. The truth is, it is sometimes the one and sometimes the other. But the difference of mind does not go to the extent of the possession of a **special faculty** not shared in common to a greater or less extent by

other men. The multiplication table, which is only sport to the civilized school-boy, is an impossibility to the primitive savage.

The notion must be dismissed that all the rapid arithmeticians are to be found among the "freaks" and "prodigies" that are on exhibition and are written about in the papers. There are many persons in the different counting-rooms and the school-rooms of the country, who, in the transaction of their daily work, do things (this one one thing and that one another) as wonderful as are seen in public exhibitions. There doubtless are thousands of clerks and accountants in banks, offices, and counting-rooms, and of teachers and students in school-rooms, who, by the constant exercise of the mathematical faculty inseparable from their daily work, have each developed some one or more remarkable powers of mathematical calculation. Driven by the very necessities of his position, each of these has devised **some** plan by which he is able to shorten to some extent his laborious tasks and to insure greater accuracy in his work. They do not all do the same things, nor do those that do the same things all do them in the same way. Driven by the constant pressure of their heavy duties, they are compelled to seek short methods. Here, one catches a glimpse of an **unused law** in numbers and takes advantage of it to make a "short cut." There, another discovers some **new application** of a **well-known law** and establishes another short method. These are matters of common experience and common observation.

It is not a very uncommon occurrence to find an individual who can add two, three, or four columns of figures at a time. Hand to some cashiers, for instance, a number of freight bills or a number of drafts for collection and they will glance them over hastily and give the correct totals. But you will seldom find one of these **who is able to explain his method** in such a way that another person of equal intelligence can take it up and follow it. He has, unconsciously, it may be, developed his short me-

thod through the pressure of his work upon him. Necessity is the mother of invention. But this same pressure of work prevents him from, possibly unfits him for, analyzing and understanding the processes by which he does his work. Consequently he is unable to explain it satisfactorily.

The author of this "NEW SYSTEM OF ADDITION" was a clerk of this kind. He filled positions in which he was compelled to handle thousands of dollars daily in cash and accounts and was held responsible for errors. The pressure of work upon his time and strength was very heavy, so much so that he was compelled to seek every means that would shorten his work and aid in securing its accuracy. In the midst of these circumstances he found himself discovering short cuts which greatly abbreviated and facilitated his work. To such an extent was this true that it attracted attention constantly and awakened wonder among his associates. When asked to explain his methods, as was often the case, he found himself, though willing enough, unable to do so. He did not understand the processes of his own mind. In the hurry and excitement of his work, he could not stop to make mathematical and psychological studies.

But, as his attention was turned to the matter from time to time, it became evident to him that any remarkable powers of arithmetical calculation which he might possess did not arise from a "special gift of nature" as his friends were wont to suggest. He felt assured that the unusual abilities possessed by himself and other rapid accountants (in common with the "prodigies" and "freaks") arose only from the special application in the case of each individual of some law or laws of mind and numbers. He recognized the impossibility of any effect arising without some adequate cause. He could not accept a doctrine either of "gifts" or of "accident". He therefore concluded that **what one person could do in such matters another person with the same faculties could do also if he only knew**