pupil soon finds his mistake and corrects himself:—*Two* books and *eight* pencils." Point out the fact now that, as *books* and *pencils* are different articles, they must be added separately, and the correct answer will be the sum of each. After a little exercise of this kind, a, x, ax, &c., can be collected just as easily and as rapidly. In Multiplication and Division, which are one, as much as Addition and Substraction, there are only three principal points to be attended to: First—Let the pupil fairly understand and impress on his memory that "like signs by like signs give *plus*, and unlike signs give *minus*." Secondly—the convention: that "Multiplication is performed by the juxtaposition of the multiplier as a numerator; Division by its juxtaposition as a denominator." Thirdly—this convention contracted, or the theory of indices: "When the bases are the same, Multiplication is performed by the addition of their indices: Division by the substraction of the indices of the divisors." But the pupil cannot make the slightest use of these without a knowledge of the definitions and the meaning of certain forms of expression, such as the form of the fraction for instance: the numerator is a dividend, the denominator nothing more or less than a divisor: or the fact that in an Algebraic expression of the form of x, there are three things always understood, though never expressed until there is occasion for it—a numerical co-efficient, unity: a denominator, unity: and an exponent of its power, unity. The convention of indices is the great stumbling-block. Yet, if the pupil once gets this simple idea into his head, he can multiply or divide monomials, having all the formidable powers of $(m - 1)$, $(p + q)$ as easily as he can a, b and c. If he knows vulgar fractions, he should be able now to multiply or divide any monomial surd which he may meet. He should on no account be allowed to pass this point without being able to accomplish all this. Then "Irrational Quantities" is robbed of all its difficulties for him, and "Imaginary Quantities" of all its terrors.

Bracketing comes next. Let the pupil see the convenience of it and he understands all. Why do we say "John, Jim and Henry Adams," instead of "John Adams, Jim Adams and Henry Adams?" Vincula have exactly the same power and significance as brackets. The dividing line between numerator and denominator is a true vinculum. The effect of the sign *minus*, before a bracketed quantity or a compound fraction should be particularly noticed, and treated as a case of Substraction.

In beginning Simple Equations, the first exercise should be worked by means of the Axioms: "If equals be taken from equals the remainders are equal," or "If equals be added to equals the wholes are equal." Let the pupil himself find out the "rule of transposition" from these exercises. By discovering it in this inductive method, he can both remember the rule more surely, understand its *rationale*, and feel its convenience. To sum