

CHAPTER XXIV.

RULES FOR DISCOVERING NEW IMPROVEMENTS; EXEMPLIFIED IN IMPROVING THE ART OF CLEANING AND HULLING RICE, WARMING ROOMS, VENTING SMOKE BY CHIMNEYS, &c.*

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The true Path to Inventions.

NECESSITY is called the mother of invention, but, upon inquiry, we shall find that Reason and Experiment bring it forth; for almost all inventions have resulted from such steps as the following:—

I. To investigate the fundamental principles of the theory, and process of the art, or manufacture, we wish to improve.

II. To consider what is the best plan, in theory, that can be deduced from, or founded on, those principles, to produce the effect we desire.

III. To inquire whether the theory be already put in practice to the best advantage; and what are the imperfections or disadvantages of the common process, and what plans are likely to succeed better.

IV. To make experiments in practice, upon any plans that these speculative reasonings may suggest, or lead to. Any ingenious artist, taking the foregoing steps, will probably be led to improvement on his own art: for we see, by daily experience, that every art may be improved. It will, however, be in vain to attempt improvements, unless the mind be freed from prejudice in favour of established plans.

EXAMPLE I.

On the Art of cleaning Grain by Wind.

I. What are the principles on which the art is founded? When bodies fall through resisting mediums, their velo-

* The rules and observations, which formed an appendix to the former editions of this work, contain some suggestions which are worthy of attention. Since they were written, many improvements have been made, in the processes to which they refer; but the path is still open, and perhaps the remarks made by Mr. Evans, may yet lead to useful results; with this hope, they have, with some modifications been retained.

