INVENTOR'S HANDBOOK

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and

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Foreword

Where can I take the idea for my invention? Can I trust claims found in classified ads? Where do I go after building a workable model? How do I go about patenting, test marketing, manufacturing, and managing a business?

No book can give all the answers to specific questions; however, the authors have tried (based on actual field experience) to anticipate much of what should be known to follow intelligently the field of inventioning.

Reams of material (pamphlets, books, magazine articles) have been read and digested and over 300 years of combined experience have been compressed into these pages. The authors have tried to follow a logical step-by-step progression, leading the person with an idea or a desire to be an inventor along the rocky and many times disappointing path to successful inventing.

Two years were spent in writing this book, and over 2,000 items of mail were sent to establish lines of communication with scientists willing to review inventions, companies to work with inventors, and the other valuable listings found in the appendix. You are advised to read the entire book and later refer to specific chapters depending on the problem at hand.

This book was also written to inform people of *Associated Ideas* and its group approach to inventing and to help school future *Associated Ideas* members in all the basics of the science of inventing. Through this book an invitation is extended to join the world-wide expansion of *A.I.* called *Associated Ideas International.*

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Contents

I. The Value Of An Idea

Initiative. Direction. Energy. Assurance.

What every man seeks, in one way or another, because he knows these will lead to a better life for himself and others. A basic concern of all—how to get them, where to find them, and most of all, how to keep them.

All of the elements that are needed are contained in one word—**IDEA!** It is the key that spells out personal happiness, because to reach a goal you will need just what it stands for—initiative, direction, energy, assurance.

Ideas have a force and life of their own. In the hands of the right person they can, and have, changed the face of the world. Just one man can build or destroy a whole civilization—be he a Caesar, a Napoleon, a Washington, an Einstein.

Every person who lives changes the world around him and affects it in some way. It doesn't take much, even a baby can do it. Countless stories of happiness and tragedy have been written just to show the influence of one child.

It is a kind of immortality that man seeks to leave his mark on the world, whether through children, the way he controls others, or the work he accomplishes that may leave a lasting monument to his name.

Long before the sophisticated probings of the mind began through psychiatry, the ancients had uncovered the secrets of the power of the mind. They knew that an idea, of its very nature, draws from the subconscious sufficient force to carry it through to completion. It is a teleological principle of the mind, seen reflected again and again in natural processes as minute seeds grow to ordered maturity, each according to its own pattern, acorns into oaks, sperm and ovum into men.

Our newest science, parasychology, is authenticating the strange powers of the mind, and is developing a whole new language to explain mind-reading, power over matter, telekinesis.

We are just recently beginning to find explanations and verification for the fantastic feats of the oriental yogis and fakirs who can be buried alive for days without harm, seemingly know things happening in other parts of the world with no known method of communication possible, and live to fantastic ages with mental alertness and health.

Yet Yoga, in its true sense, is a religion, a way of life almost impossible for the Western mind to follow because we are so oriented to living in the hustle of civilization. But as a coherent system of knowledge more than 5,000 years old, it has something to offer that bears investigating.

Even the first statement of Pantajali in the *Sutras*, which make up the bible of Yoga, makes sense for modern man: "To become aware of yourself, there must be a complete mastery of the mind and emotions." One can then develop distinctive, individual conclusions based upon a true picture of the facts, instead of a jumble of confused impressions, half-thoughts, and values that are merely a projection of the surrounding world.

Freud attacked the problem in a different manner, but shed a critical, scientific light on the murky world of the subconscious. He demonstrated that most of our drives and cravings are merely manifestations of basic instincts for self-preservation and self-expression—the ego and the id battling for control.

These are powerful forces which, if unleashed, can almost take over control of a person and drive him to action. The energy is there, and we spend a great portion of our lives learning how to control it.

The almost frightening power of the mind is well demonstrated under hypnosis, when direct access to the subconscious is gained. In a deep hypnotic trance a person can remember every detail in his early childhood, though it might have happened 50 years earlier; a small woman can be made stiff as a board, capable of supporting great weight placed upon her body; subjects can be made immune to pain, even bear a child at a precise hour and minute without pain—a feat that requires control of every part of a woman's body.

But if so much ability is there, why doesn't it come to the surface naturally, to be put to use more easily?

Because it has no direction, it is force without a channel, it waits for a well-defined command to put order into the chaos of conflicting drives, feelings, instincts, half-thoughts. It waits for precisely—an *idea.*

An idea of sufficient importance can motivate a person to change his

whole way of life. Forces will be gathered and used to seek out the needed solution. And a calm, deliberateness of purpose will replace confusion and frustration. Assurance will grow as the confidence of power becomes stronger and stronger. The world looks for a man with an idea.

In a very real sense, it is the basis of our economy, this business of ideas. The United States has been called one of the most creative nations on the face of the earth, and because of our inventiveness (with, of course, the resources to work with) we have become the richest country in the world.

Our way of life depends upon new products every year. It is the basis for growth, for keeping the gross national product at a high level to fight recession. An ever increasing population with more and more money to spend demands to be cared for efficiently, so that living standards may rise. A growing labor force creates social tensions that become political issues as the government tries to find new jobs for those displaced by technological improvement. Capital must be invested and give reasonable profit to keep the economy moving forward. Even Russia watches our rate of growth closely, hoping to match it and declare its system superior to ours.

The basis of sound economic growth can not be found in the statistics of yearly steel production or the number and variety of new cars, television sets, etc. It depends upon new developments in science and technology, innovations and new processes that will form the basis for capital investment. There must be an increase in the effective use of the underlying ideas and skills of the nation.

Business and government realize that research is fundamental to our growth pattern. Both are seeking ways now to systematize innovation —to create whole new industries that cooperate in the production of basic inventions.

Vice-President Hubert H. Humphrey in the June 1966 issue of *Popular Science Magazine* tells how important inventors are in keeping U.S. business healthy and dynamic. He points out that:

> Independent inventors accounted for 40 of 61 important inventions made since 1900. This was the conclusion of a study cited in a classic analysis, *The Sources of Invention*. Without the support of organized laboratories, these independent inventors changed scientific and technical history.
>
> Times have changed. Development of an invention often requires massive team effort and sizable sustained investment. But the basic idea of an invention—the original concept—and at least its early stages of realization, can still be the province of brilliant lone inventors.

Where developments once grew almost by chance—like the automobile, railroads, electricity, telephones—now it is recognized that if we are to keep the forces of our economy balanced we must actively seek out and support new approaches in science. From this outlook have grown whole new fields of business endeavors: the manufacture of transistors, aerospace flight, computerized data processing, the laser beam. It has also made research (both government and private) one of the largest industries in the United States, amounting to more than $15 billion dollars a year.

But though there has been a 3000 percent rise in industrial research in the past 35 years, there has been an increase of less than 5 percent in patentable inventions. This, though evidence indicates that the income realized from an average U. S. patented invention may exceed $1 million, and U.S. corporate revenues from licensing are estimated at more than $300 million annually.

What is desperately needed is a rise in new, patentable inventions.

Without our trying to give a definitive answer as to why a greater number of scientists and research teams are not producing more patents, one point seems apparent. There must be more attention given to the creative resources of the largest part of our working force—the non-scientist and engineer. The majority of these people are technically trained in some aspect, and have an advantage over the theoretician in that their ideas are usually more practical and capable of commercial development.

The people who deal in the manufacturing, distribution, and sales of goods and services know intimately the inadequacies and vexations of the items they work with. John Doe working on the production line can often come up with a simple answer to a problem that stymies the experts because they are too far away from the day-to-day mechanical details involved. (The fact that John Doe sometimes sits on information is a reflection of poor organizational communication. Often he is simply not asked, or not given enough encouragement and assurance to speak up, or made to feel needed so that he too tries to work out his part in the overall problem.)

Many companies recognize the gold mine of latent talent working for them and have instituted formal programs of recognition to reward employees that come up with a new plan or idea. It always meant favor to an employee to give an "extra hand" to his company, even via the suggestion box. Sometimes it would be the deciding factor in a raise or promotion. But all too often, there seemed to be no imme-

diate payment or recompense for a profitable idea.

Now, literally hundreds of companies give cash awards ranging from $25 up to tens of thousands of dollars. International Business Machines (IBM) has paid as much as $40,000 to a single inventor. Westinghouse gives a healthy percentage of what is saved or made on a product to the inventor.

The government has a standard program to encourage employees' suggestions for ways to save money and operate more efficiently. With approximately 1 out of 10 persons working in federal jobs there are millions who can put money in their pockets without going through a long, involved patent application—just by paying extra attention to what they are doing.

Taking just one year, 1961 for example, here is what was included in the Government Employees Incentive Awards Program:

Value of measurable benefits	Number of adopted suggestions	Amount of awards
$63,927,159	$110,295	$2,669,998

$485,000 was gained in material savings in the manufacture of the Polaris missile through interchangeability of missile parts by the work of Walter P. Moore, an engineer with the Bureau of Naval Weapons in Pomona, Calif.

$302,800 in direct savings was realized by the Agriculture Community Credit Corp. through special efforts of seven employees of the Dallas, Texas office by developing an improved method of fumigating stored milled rice under polyethylene tarps.

$166,000 reduction in man hour costs was saved by using an inexpensive training aid for instructing students in maintenance and repair of radio equipment. The idea was proposed by Robert J. Hornbeck at Fort Sill, Okla.

Here is the award scale for tangible savings under the Incentive Awards Program:

Savings	*Amount of the Award*
$1 - $200	$10
$201 - $1,000	$10 for the first $200 in savings and $5 for each additional $100 or fraction thereof
$1,001 - $10,000	$50 for the first $1,000 in savings and $5 for each additional $200 or fraction thereof

$10,001 - $100,000	$275 for the first $10,000 in savings and $5 for each additional $1,000 or fraction thereof
$100,001 or more	$725 for the first $100,000 in savings and $5 for each additional $5,000 or fraction thereof. The maximum award for any one contribution is $25,000

The opportunity for invention is open to everyone—women definitely included. It takes no formal schooling or post-graduate degree in mechanical engineering to know the many practical household problems a woman deals with. There are popular, widely syndicated columns in most large daily newspapers that are devoted solely to answering these problems or trading information on how to make housework easier, revealing needs common to thousands of women. Often the readers write back to the columnist offering ingenious solutions using makeshift apparatus already found in the home. Various science magazines pay (albeit a small amount) for suggestions about what kind of gadget homeowners would like to see on the market. The editors receive an overabundance of such suggestions and, based on their years of experience, choose the ones for publication that they believe reflect the needs of the majority of the people. They are showing a ready-made market, just waiting to be tapped.

With an inquiring eye and a dogged persistence, the reader should be able to come up with a score of practical, patentable inventions. Less than five years ago, *This Week* magazine asked readers for fresh ideas for inventions and got a barrelful. They were things people had known about for years which, if they had followed up themselves, might have meant substantial material rewards.

Here are just a few of the suggestions already on the market or waiting to come out:

Artificial, but realistic lawns
Triangular mops and brushes for cleaning corners
Plastic throw-away window shades
Shut-off for telephone ring when not wanting to be disturbed
Television earphones so that one person can look and listen without disturbing others
Disposable pocket-size raincoats and rain hats
Hot aerosol shaving lather
Lifelike, durable artificial shrubbery
Retractable seat belts

One of these might have been your idea five years ago. If you didn't use it, might it not be time to ask yourself "Why did I let it go to waste?"

In the more technical business world the approach will have to be different. It is rare that an outsider can provide a valuable contribution to a field that he knows nothing about. People who have been working in a specific endeavor for years most often have tried and discarded, for one reason or another, simple technical changes in what they are doing.

The "obviousness" of an invention (a mere change in size or shape, an aggregation of previously know devices, isomers of existing compounds) is one of the first factors to be considered. In other words, would an expert, working in the field for years, have thought of this process or product? If the answer is an obvious yes, then you may feel fairly certain that there is either an existing patent on it, or it is not novel enough to warrant a patent.

However, if you find unusual results following known procedures, or much more efficient results than were realized before, you could very well have something worth following up and should go a step further and have it evaluated by a professional in the business. (How to protect your idea when showing it to another person is covered Chapter *V*.)

Of special concern to those working in the chemical field is a fairly recent decision by the Patent Office to allow a claim for solutions reached by repeated trial and error over a long period of time. This discarding of unsuccessful methods or approaches that finally ends in tangible results is definitely patentable because the process shows an advance of knowledge and usefulness as it enables one not to have to repeat the same time-consuming and costly mistakes to arrive at a solution.

Mistakes do not always mean failure. There is always something worth salvaging in the original project, even though it may prove not worthwhile.

Some of these cases of failure that turned into fortune almost have a serendipity aspect to them. One of particular interest concerns the Kalvar corporation, a then small company operating out of New Orleans. They were looking for an improved printing plate and had hired a research firm to investigate the possibilities along the line they were seeking. But the firm came up with negative results.

However, the laboratory held a conference with Kalvar to prove that they had actually performed a thorough investigation. Kalvar brought along Dr. Robert Neiset, head of the physics department at

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