ENGINEERING REGISTRATION

Professor C. S. Crouse, Secretary
Kentucky State Board of Registration for Professional Engineers

I have been asked to talk to you briefly on engineering registration. This is a very broad subject and presents many facets which might be considered. However, I will so far as possible eliminate the technical aspects of registration and try and tell you something of what it is, why it is and what it means to you whether you happen to be an engineer, an employer of engineers or one of what for want of a better name is included in the general designation of the Public.

It is a well recognized principle that any profession if it wishes to be truly recognized as such must be defined and this is certainly true of the Engineering Profession. No other profession in the past has been so loosely defined as has that of the engineers. The primary requisite for such a definition is a procedure whereby the public will know, the profession will know and the individual himself will know whether or not he is an engineer. This knowledge in the past has been notoriously lacking in all three respects. The borderline of ignorance, confusion and improper self-designation up to now so prevalent must be done away with. There has always been a clean-cut line between doctors and quacks, between lawyers and non-lawyers. It stands to reason that this same clear line of demarcation must exist between engineers and non-engineers if the public is to be properly protected and the profession is to attain that wide recognition to which it is entitled.

A procedure for accomplishing this has now been established by law in all of the forty-eight states, in several of the Territories and a bill has been introduced in Congress applying to the District of Columbia. There exists, then, at this time through statutory means a concrete definition of the engineering profession which legally supersedes all previous methods of indicating or claiming professional status.

For many years the medical and legal professions have had such a limiting definition for the legal admission to their pro-
essions. The fact that the engineering profession has now attained the same status indicates that it has finally come of age. However, this does not mean that the job is done and that the profession can now rest on its oars. Quite the contrary. A great deal of effort must still be expended in order to inform the public of what has been taking place.

Nevertheless there is now a forthright answer to the question, "Who is an engineer?" This is that answer legally recognized in the definitions contained in the registration laws of the forty-eight states and although engineering licensing is a function of the State and not of the Federal Government and therefore the individual laws vary in details, nevertheless some thirty-three states, including Kentucky, use the following definition: "The practice of professional engineering includes any professional services such as consultation, investigation, evaluation, planning, design or responsible supervision of construction or operation, in connection with any public or private utilities, structures, buildings, machines, equipment, processes, works or projects wherein the public welfare or the safeguarding of life, health or property is concerned or involved, when such professional services require the application of engineering principles and data." In addition, the practice of engineering includes, in the Kentucky law, not only all of the professional services already mentioned but also, "the negotiation or solicitation for engineering work on any project in this state, regardless of whether the persons engaged in that practice are residents of the state or have their principal office or place of business in this or any other state or country, and regardless of whether they are performing one or all of these duties, or whether they are performing them in person or as the directing heads of offices or organizations." As must be evident, the statute is definite and inclusive.

From what has been said it must be plain that professional status can not now be obtained through mere membership in any society, club or other organization nor can it any longer be self-conferred by any individual or by any group of individuals although the attempt is frequently made. The reason is of course that no individual nor any group of individuals can usurp the statutory functions of professional qualification.
The reports of the United States census indicate that there are 260,000 engineers in this country but only about half that number are on the registration lists. As the census lists are based on selfanswered questions, it is quite apparent that there are a great many non-qualified individuals calling themselves engineers and that there must also be plenty of those in sub-professional classifications and others in occupations relating to engineering who are using the term engineer very loosely, to say the least. Some of these individuals may some day become engineers, a great many will never attain that status.

Under most of the state laws a large portion of the approximately 130,000 who are calling themselves engineers without legal qualification are in violation of the law and subject to its penalties. This is because, to quote the Kentucky law, “No person shall practice or offer to practice engineering, or use, assume or advertise in any way any title or description tending to convey the impression that he is an engineer unless he has been licensed under this Chapter.”

The elimination of the abuse of the title engineer must, of necessity, be a slow, educational process but much progress has been and is being made both in Kentucky and elsewhere. In fact in nearly all instances when the profession has had recourse to the courts, this provision of the law has been upheld.

There is a question which often arises which probably should be clarified at this point. The various engineering acts use the term engineer in its professional sense and I have used it today in the same way. Manifestly there are thousands of well qualified men who are operators of engines and boilers, men known commonly as hoisting engineers, stationary engineers, locomotive engineers and the like. Without going into the very disputed question of whether or not these men should be called engineers or enginemen or by some other name, it is certain that there must be some way of distinguishing between the use of the term engineer in the true professional sense and in the use of the same term to designate operating personnel. This is the reason why the various statutes employ “Professional Engineer” in their definitions. Thus, legal registration identifies Professional Engineers as members of the engineering profession and in this way defines the profession.
To quote Dr. D. B. Steinman, the eminent bridge engineer, "The term Professional Engineer is all-inclusive. It includes the entire profession. It is also an exclusive term; it excludes all non-engineers, pseudo-engineers, would-be engineers, affiliates, those in the non-professional or sub-professional fringe, and all who have not qualified. All those who work with engineers, as employers or employees, as contractors or material men, are not necessarily engineers."

I have attempted to show briefly how the engineering profession has been legally defined, and now it should be apropos to inquire into the legal basis for registration. Why have the courts almost universally upheld the various licensing laws? The answer, of course, is that these laws come directly under the police powers of the state. In this country such police powers are reserved to the States by the Constitution of the United States, and for this reason there can be no Federal licensing of engineers even though it might be thought by some to be desirable. Personally, I feel that Federal licensing would be very undesirable and I am glad that it cannot come about.

The police power allows the States to set up regulations to protect public health, the public safety, the rights of personal property and undoubtedly to protect the State itself. This being true the next question that arises is, can engineering qualify as affecting the public health and the public safety? I think it to be axiomatic that practically everything that an engineer does in the course of the day’s work does in some way involve the safety or health of the public and very often both the safety and health are concerned.

Of course the State, made up as it is of many individuals of varied qualifications, cannot pass on the technical qualifications of applicants for engineering registration and therefore the authority to administer the provisions of a licensing law must be delegated to a Board that must have special qualifications to enable it competently to pass upon all applications that may come before it. This means that the profession itself is called upon to regulate itself, thus special obligations and responsibilities are thrown upon it. If the legally appointed Board representing as it does both the State, including all those who constitute the State and the engineering profession, does the job carelessly
or inefficiently, if it fails to license those who are qualified and does register those who are unqualified, then both the Board and the profession will fall into disrepute, the people will probably abolish the Board and either place licensing in the hands of others or abolish it altogether. It is certainly essential that those in charge of the administration of the law, the Registration Board, shall always be absolutely impartial, shall register all those qualified and steadfastly refuse to register those whom they feel to be unqualified.

The members being human, any Board, and the Kentucky Board is no exception, will make mistakes but they must be honest mistakes of judgment and not a deliberate maladministration of their trust. Furthermore, if and when they realize that a mistake may have been made they must have enough intestinal fortitude and courage to correct that mistake so far as it is in their power to do so. Above all, the strictest impartiality within the provisions of the law must be shown at all times.

I have up to now considered the subject of engineering registration quite generally. For the next few minutes I will particularize somewhat on the Kentucky law and its implications to us in the State.

Engineering registration in Kentucky actually started with the formation of the Kentucky Society of Professional Engineers in 1934, the primary purpose of the organization at that time being the sponsoring of a licensing Act for this State. After several prior attempts which were not successful, the 1938 session of the General Assembly passed a licensing act for professional engineers exactly as presented to them with no changes whatsoever. In this the engineers of Kentucky were very fortunate because too often in other states a bill of this sort has been amended before passage and often at least partially emasculated. The result is that the law as passed is the law as proposed by the engineering profession in Kentucky and any strength or weakness occurring therein is the sole responsibility of the profession.

Most of the State Constitutions, Kentucky's among them, contain a provision that no one can be legislated out of business or out of the kind of work that he may be engaged in when the law is passed. For this reason the Kentucky Act contained a provision that, "at any time within one year after this act becomes
effective upon due application therefor and the payment of the registration fee—for professional engineers, the Board shall issue a certificate of registration, without oral or written examination, to any professional engineer—that—is of good character, has been a resident of the State of Kentucky for at least one year immediately prior to the effective date of this act, and was practicing professional engineering at the time this act became effective, and has performed work of a character satisfactory to the Board.” This is the so-called Grandfathers Clause and was in effect from June 7th, 1938 to June 7th, 1939. Under its provisions many men were licensed who probably would not be able to obtain registration today, and conversely many men now registered under the Grandfathers Clause are fully qualified for registration under the provisions of the law in effect now. In their own interest such men should make application to the Registration Board for the appropriate change, this being particularly true if any of these individuals are considering applying for registration in other states on a reciprocal basis. It might be of interest to know that the section of the law under which any registrant is licensed is shown on the extreme right-hand side of the Roster of Professional Engineers published each year in the Board yearbook. Registration under Section 17 indicates that the registrant was licensed under the provisions of the Grandfather Clause.

At the present time there are three ways in which an individual not licensed elsewhere may obtain registration in Kentucky. These are: (1) on the basis of graduation from a four year course in engineering given in an engineering college approved by the Board plus a specific record of at least four years of progressive engineering experience satisfactory to the Board, no examination being required, (KRS 322.040a); (2) for non-graduates from accredited engineering college, the requirements are eight years of progressive engineering experience satisfactory to the Board plus the successful passing of an examination, (KRS 322.040b); (3) for an individual of outstanding experience and record; licensing may be given without examination if he is not less than thirty years of age and has a specific record of at least twelve years of experience satisfactory to the Board, (KRS 322.040c).
There are many provisions of the Kentucky law which time prevents me from discussing but I feel that there are a few in which this audience would be especially interested and I will speak briefly of them.

One of these is that section of the law relating to Public Works which states that, "neither the State nor any of its political subdivisions shall engage in the construction of any public work involving engineering unless the plans, specifications and estimates have been prepared and the construction executed under the direct supervision of a licensed engineer or a licensed architect." However, this provision does not apply to any public work in which the contemplated expenditure for the completed project does not exceed $2,000 or to the maintenance or repair of any existing state or county highway. Furthermore, the law provides that, "Plans, specifications, plats and reports approved by a licensee shall be stamped with the (registrant's) seal when filed with public authorities." As will be understood this provision of the law applies to the employers of engineers on public works such as the Highway Department and the Fiscal Courts as well as to the individuals employed.

It must be plain that any law which merely states what an individual may or may not do and does not provide any penalties is very difficult if not impossible to enforce. The Kentucky law fortunately not only gives the Kentucky Board broad powers including that of subpoena, the swearing of witnesses and others but in addition calls for appropriate penalties to be imposed on those who may be found in violation. The section on penalties reads, "Any person who violates any provision of this chapter shall be fined not less than $100 nor more than $500, or be imprisoned not more than three months or both." In case of proven violation the individual’s license, if he is a registered engineer, would also be revoked thus preventing him from practicing his profession in Kentucky or elsewhere.

In what I have said I have tried briefly to sketch the broad, general reasons for the licensing of professional engineers, what this licensing means to the profession and to the public, and some of the implications for the future. In addition I have pointed out some of the provisions of the Kentucky law which I thought might be of special interest. However, I do realize because of the
time at my disposal I may not have mentioned some things that a number of you may be particularly interested in. If this is the case I will be very glad indeed to answer any questions that any of you may have, to the limit of my knowledge and ability and provided time permits.

It has been a great pleasure to me to be with you and to have discussed a subject which I consider to be of vital importance to us all.