

Thrills, Suspense, Love and Pathos  
**3d BIG WEEK**  
**St. James Theatre**  
 Near Symphony Hall, Mats. Except  
 Mon. and Thurs., 2:15. Evens. 8:15  
**BOSTON STOCK COMPANY in**  
**"SLIPPY McGEE"**

**SELLING RESEARCH**

Selling research, or perhaps more properly, selling the products of research is a phase of the subject which is seldom mentioned and I think not generally well understood. As to the value of research, it seems to me that my readers need no arguments or examples to convince them that research is worth while. If such is needed from me, it should be sufficient to mention that my company, for quite a number of years, has expended upwards of half a million dollars a year for research with an ever increasing program for the future. The present industrial depression has somewhat restricted our activities, but our plans for expansion will undoubtedly go forward as soon as business conditions warrant.

It is very difficult to assign money values to the results of many researches which are entirely successful and it often happens that projects undertaken are in themselves unsuccessful. It is rare, however, that the by-products of a research do not sooner or later pay for it. Our work on magnetic materials has been continuous since our discovery of the phenomenon of aging in 1891. Periods have gone by when there was little apparent progress, but great strides have been made from time to time, and it is certain that our work in the development of low loss, non-aging steel has been worth to the company all that it has cost for all of our research for the last ten years. Through this work apparatus has been cheapened; the user has better apparatus, distributing system stand-by losses have been materially reduced, and this has played some part in the conversation of the Nation's fuel supplies. Who would be able to assign even an approximate money value to the results of such a research? It is even more difficult to assign money values where the results involve the materials and processes generally applicable in the Company's product. Very often such results mean much more to the ultimate consumer than they do to the organization which initiates the research through the cheapening or bettering of the product.

But I have chosen to discuss selling research through the cheapening or bettering of the product.

But I have chosen to discuss selling research. Just what do we mean by the term? And why should not research results of value be eagerly sought and used by all who have a place for them? Why should anything like a selling campaign be necessary to market research results? If selling is necessary what rules should be followed in making the sale? Who become the customers? And do the customers have to make a resale? I am not at all certain that I can answer these questions to my own satisfaction, let alone to yours. If I succeed in showing you that selling research is a real research problem, I shall have accomplished at least a part of my purpose.

It is a curious and perhaps a very desirable trait of human nature that we do not like to accept the results of others without checking them for ourselves to see if they be true. Perhaps we have found errors often enough to justify our lack of confidence.

Again the engineer who can solve his own problem is always loath to utilize another's solution even though it be a better one, and it is perhaps

still harder for anyone to give a really judicial opinion where one's own work is weighed against another's. Then there is the natural inertia against new things and new methods, and reluctance on the part of those responsible for a given product to introduce any new elements of chance into it, and anything that one has not proved for himself he considers is more or less of a hazard.

I have recently been reading the works of that wonderful research worker and philosopher, Henri Fabre, and I can commend the reading of his works to all engaged in research for method, perseverance, and the ability to devise experiments, the results of which will tell him the truth. In no case is he willing to accept the findings of others, whether it be a Huxley or a Darwin, except as confirmed by his own observations, but I, recognizing in him a master worker, can accept his finding in most cases without questions.

Selling research therefore consists in convincing all with whom the research worker has to do, that his research is worth while doing and that the results will show a gain in quality or cost or performance over the methods with which the user is familiar. The master salesman will have far less trouble than the beginner even with the same product. What is discussed in this paper will perhaps apply more specifically to research in and for a larger industrial organization than elsewhere but perhaps it may apply to other phases of research as well. The first sale to be made consists in convincing those who are responsible for the financial part of the organization that it is worth while to spend money on the research worker's scheme. Those who have to deal with this phase of the subject are well aware of the fact that such a sale is not always easy. Hard-headed business men must be convinced that the results will yield a return before a specific appropriation can be obtained. Those who would use the products of such a research must be convinced that the results will effect a saving or make a better device. A selling campaign is necessary therefore from the inception of the idea until it is fully commercialized. The strategy of such a campaign must be as varied as the researches themselves and must be governed by the circumstances under which the research is undertaken and by the character of the customers with whom the research worker has to deal.

In a large organization perhaps the easiest selling campaign is where the results of the research are specifically requested by an individual or a group who have need for such research results and no means themselves for obtaining them. Perhaps the hardest sale to make is where a new device or a new principle is developed independent of the users, and where it requires a change in well-known methods or products to permit its use.

In our laboratory we have established a group working on heat problems which arise in the operation of electrical machinery, involving heat transmission through the various parts of the machine, particularly the insulation, heat dissipation from surfaces, such as exposed parts of coils, and the removal of heat as by the ventilating system. When this research was undertaken, approximately six months were required to establish some of the fundamental methods required. Another considerable period was required to convince the engineers who would use such results that the research worker's figures were trustworthy. Many months more were required to accumulate sufficient data to furnish design engineers with material which they could use to advantage. The general idea was, however, finally sold and a group of design engineers was organized to confer with the research workers to follow the work as it was

being carried on, and to direct the program as far as possible, and to see that the results were utilized. The final result has been that the products of this research are sold before the research is completed and any delay in the work is greatly deplored by the engineers who utilize the products.

The writer has been interested in high-tension research ever since he carried on a long series of tests and researches in connection with the original Pomona transmission in 1891 and 1892. The large number of projects in the electrical field today, involving such plans as the superpower transmission scheme on the Atlantic seaboard, and the long-distance transmission of power in many parts of this and in other countries, with line voltages already reaching 220,000 and projects on hand for 250,000-volt transmission, make researches in this field necessary. We have had available for this work for quite a number of years some 500,000-volt transformers which could be connected in series with the middle point grounded to give 1,000,000 volts and results of tests at this voltage were published a number of years ago. There (Continued on Page 4)

**SENIORS HAVE RIGHT OF WAY THROUGH TOWN**

(Continued from Page 1)

vided especial interest. Just before the start, C. E. Brokaw '22, stilled the angry mob long enough to announce that the Faculty was fairly certain the winners would receive a degree. In the fray, A. C. Craig '22, and K. P. Coachman '22, won S. B.; and Preston Robinson '22, won a Ph.D.

**Seniors Entertain Voluntarily**

At 1 o'clock a regular New England shore dinner was served at the Hotel Pemberton. During the meal two musicians from Bert Lowe's orchestra furnished several selections and there were numerous voluntary contributions from hilarious Seniors who desired to impart a portion of their joy to their classmates.

After dinner, there was a ball game between Course XV and Course II which was won by the former by the score of 5 to 3. J. W. Kellar '22, pitched for the winners while W. B. Gurney '22, did the honors for the losers. A second game was staged between the Dirty Thirty and the Nasty Nine but the score is still in dispute and cannot be announced.

**Course I Wins Relay**

The relay race was won by Course I with F. A. Howlett '22, and J. W. Poole '22, as stars. The dormitories won the tug-o-war in one pull. T. F. Williams '22, beat J. M. Cook '22, by three straight "knock-outs" in barrel boxing. The tennis championship went to J. P. Elliott '22, after a hard battle with M. C. Bloom '22.

C. D. Grover '22, won the 100 yard dash, and the three legged-race was won by the Semmet brothers. The potato race was won by L. B. Davis '22, and W. W. K. Freeman '22, teamed up with I. V. Levine '22, as the victors in the rescue race.

**Doctor Goes Jobless**

Although there was a doctor on hand throughout the day he had no chance to practice as there was not an accident.

Wednesday evening the Class assembled at Symphony Hall for the usual Pops Night. From the moment the evening started until the last man had passed through the doors there was something continuously doing. At times the noise from balloons and the buzz of conversation threatened to drown out the orchestra.

**R. O. T. C. MEN RECEIVE REAL TRAINING IN AIR**

(Continued from Page 1)

the ground, with aerial attacks en route. This training is designed with a view to developing self-reliance, resourcefulness, sound judgment and decision.

**Dances And Athletics At Camp**

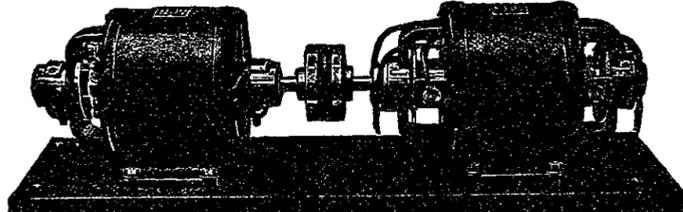
The remainder of the course will be devoted to photographic missions, visual reconnaissance, fire control, balloon work, target practice, engine repair, wood working, machine shop work, and airplane construction. Exhibitions of night flying and acrobatics will be given but will not be participated in by the students.

Mitchell Field is situated next to the Meadow Hunt Club and the men will have opportunities to see exceptionally good polo matches. Saddle horses will be available for those desiring to ride, and a number of nearby beaches furnish opportunity for swimming and recreation. Post dances will be held weekly at the camp.

A required course in clay pigeon shooting will be given throughout the six weeks with the possibility of having a prize tournament at its completion. A series of moving pictures on subjects connected with flying will be shown in connection with the work, while weekly movies of the lighter nature will also be shown.

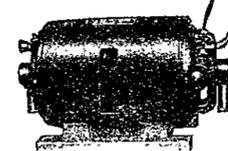
The Camp Commander is Major Walter Weaver, A. S. Further information concerning the summer camp may be obtained from Captain Clark or Major McDonnell of the Military Science Department.

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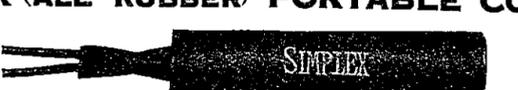
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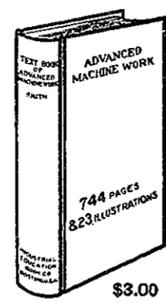
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