



Presents The History of W. C. Dillon,
inventor of the Dynamometer and much more!

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Portrait of an Instrument Engineer

WILLIAM C. DILLON

When W. C. Dillon was nominated this year as a Fellow of the Instrument Society of America, part of the documentation received by the Admissions Committee was a biographical letter written by his son. A copy of the letter came to the attention of ISAJ. We were so impressed by the message lauding this pioneer instrument engineer that we publish the letter in full here.

To the Admissions Committee —

It was kind of you to favor my father with the possibility of membership as a Fellow in the Instrument Society of America. Should this honor actually be bestowed upon him, I know that it would be a crowning moment in his colorful life.

As you may know, Dad is 88 years of age. Most men at this point in life have numerous deficiencies and have retired at a much earlier stage. Not so with Dad. He is just as vital and alert today as he ever was. In fact, as president of the San Fernando Gun Club, he holds his own championship shooting particularly with western type six shooters. These offer quite a kick, but he manages to place an average of 8 out of 10 shots in the black.

Naturally, Dad's experiences date back into much of the earlier history of America. He has a wealth of stories on Indian lore and remembers many of the exploits of Geronimo, Al Jennings the outlaw, Barnum and others. His youth was spent in a small Kansas town where the horse and buggy were the only means of transportation and where self-made men were the only ones who ever had the opportunity to break away and make their mark in life.

Dad did not have the opportunity to attend a university or to obtain higher learning—one of the drawbacks of growing up in a small town. However, he spent many days poring over text books and examinations from the International Correspondence Schools, and by this method he managed to obtain much of his basic knowledge of mechanics and electricity. Possibly you may not know that graduation from this well known mail order school, which still functions to this very day, was considered a sizeable achievement back in pioneer days.



Even at age 88, W. C. Dillon takes a personal look at daily production and developments.

While learning in this manner, Dad managed to secure a job as manager of the local steam generating plant while he was still about 17 years of age. From this, he went on to become the manager of the telephone exchange when telephones were still considered “new fangled.” Dad has the distinction of being the oldest living member of the Pioneer Telephone Association of America! He has a 50 year gold pin to prove it.

Things of a mechanical or electrical nature fascinated Dad and have held his interest all of his life. He has a keen, inquiring mind. There is literally nothing in which he cannot become interested and find something of value.

As a young man, with the spirit of wanderlust, he would ride in the caboose of freight trains from town to town, wherever he might be called, to install telephone switchboards and set up complete telephone exchanges. His knowledge of telephony perhaps outdates most men alive today. From the most rudimentary equipment available in the early days to highly sophisticated carrier systems on which he has done extensive work in his later years, Dad has managed to stay abreast of this field in particular.

“the idea and the faith”

With his never ceasing interest in wanting to do things better or faster, Dad invented the famous Dynamometer which still bears his name and thousands of which have been placed in use all over the world. This instrument began as an idea for putting overhead phone lines up at correct tension instead of by guess and by gosh methods. It didn't take engineers long to discover that it had lots of other uses, however. Today, there are probably well over a hundred different applications for this one instrument. As a small boy, I remember so well watching Dad work out the details of the Dynamometer using simple tools and performing all of the machining and testing functions under conditions that a modern engineer would surely hesitate to consider. Nevertheless, he had the idea and the faith, and he knew what was needed and what it had to do. Most of all, he had the inborn ability to change ideas into reality and to make them work—something he has since proven many times over.



Says Bill Dillon:

“Designing instruments takes a lot of care, but if I want to add a little dimple on the side of an orange, no one can stop me.”

I will never forget the time I came home from school to find Dad busy at work in a corner of the room molding clay into strange designs. In fact, it seemed that he was laying out the petals for a giant flower with an oversize stem. He explained that he was designing a new kind of earth anchor—one that would hold power and telephone poles up in highest winds and prevent them from pulling out of the ground. Looking at the pliable clay, and thinking back upon this experience, it is hard to realize that the Dillon anchor went on to become one of the most outstanding pieces of hardware in the trucks of telephone and power companies all over America. It had features which gave it greater holding power and was the only anchor which could actually be retrieved for later use thereby saving utilities large sums when changing lines.

At one time in the history of America, bank robberies were costing banks millions of dollars in losses yearly. Crude burglar alarms were of little or no value, and bank employees were just plain scared anyhow. Dad decided that something could be done about this. He worked out the plans for a simple bank door lock, which was mounted inside of the steel vault door and which was connected to a network of spring tensioned wires criss-crossing the door.

When a burglar cut his way through the steel, his torch would sever the wires and set off a cloud of tear gas both inside and outside the vault, forcing the would-be burglar to depart in a hurry. Thousands of banks were equipped with the Dillon lock. I believe that Dad actually pioneered in the use of tear gas in this novel manner. To this day, the basic idea is just as good as it ever was.

“revolve under temperature change”

Burglar-proof locks, dynamometers and retrievable anchors, as accomplishments might have satisfied most men. But not Dad. From these he went on to the development and creation of a novel line of dial type metal thermometers and might well have built an empire on these alone. Realizing that standard glass thermometers become black and almost impossible to read when used repeatedly in hot solder or oil and waxes, he secured strips of bimetal, which was then largely in its infancy, and shaped these into coils very much like a helical spring. With one end anchored in a tube and the other end fitted with a pointer, he could dip the assembly into any hot material, metal or otherwise, and produce temperature readings of extremely high accuracy. The bimetal coil would

revolve under the temperature change and had the ability to repeat readings with great fidelity. One of Dad’s earlier patents, the Dillon “Temperometer,” a coined word, went on to become a standard in the tool kit of virtually every telephone lineman in both the Bell and Independent telephone systems of the United States. Today this invention has grown to tremendous proportions, and there are a number of other firms who have hitched their wagons to this particular star of Dad’s. However, his particular satisfaction comes in knowing that he conceived the idea and carried it through.

One of Dad’s newest inventions deals with communications carrier systems whereby he is able to place as many as 24 separate telephone conversations on only two ordinary farm wires without anyone being able to listen in on the others. His goal in this has been to make such a system inexpensively so that the average small exchange can offer its farm customers private service at literally the same price they pay for 10 or 20 part~ lines. This development is now almost complete after some six years of design and testing under Dad’s supervision.

“entirely new in concept”

Still undaunted after 88 years, Dad has even another “iron” in the fire on which he is putting the finishing touches. This is a combination wire grip and tension measuring instrument which can be clipped onto most any type of wire and which, as tension is applied, permits the operator to measure this at a glance. The gripping feature and the measuring instrument itself are entirely new in concept and will make it possible for engineers to check existing lines without cutting them.

His varied interests undoubtedly do much to keep Dad young in mind and young in spirit. His very latest endeavors center around solar research in which he has developed a keen interest. Plans are already afoot for a line of inexpensive solar hot water heaters with greater heating ability and greater capacity than heretofore possible. Dad throws himself into each new endeavor as though he had a hundred more years ahead of him—and we, his sons, have long since realized that retirement for us is impossible while Dad is at the helm. He does indeed lead a dizzy pace and one which on more than one occasion we have been unable to keep abreast of.

"searching for lost gold mines"

Not contented with a daily working life that would leave most men a little frayed around the edges, Dad has more hobbies than there are pages in the old Johnson-Smith catalog. He is an avid rock-hound and loves to camp out on the desert. Some of the happiest times of my life, and events which I will always cherish, have taken place when he and I were out searching for lost gold mines or discovering huge



Searching for gem stones along with overnight sojourns in the desert is another one of Bill Dillon's hobbies.

trunks of petrified wood. Photography is another of Dad's hobbies, and he is quite a crackerjack at this. Lenses and cameras of every type are his, and he knows how to get the most out of them. His collection of color slides ranges from ghost towns to Hawaiian sunsets. At the moment, he is in Mexico looking for the unusual with future plans taking him on to Puerto Rico. A short time ago, Dad and I decided to take up oil painting. Nothing is impossible as far as Dad is concerned. His paintings thus far may not be works of true art, but he is determined, and I can note the gleam in his eye. Each Thursday evening he slips away from work with me, and we stand for three hours over a hot palette of colors. Dad seldom sits. He has a wiry constitution as you may know, and with it tremendous stamina. He has great and unusual staying power.

"a constantly inquiring mind"

But these are the external aspects of a man who, in my honest opinion, is one of the last and truly greatest of early day Americans. Dad is a man who came up the hard way under many obstacles. But he had tireless ambition, and a constantly inquiring mind—two ingredients which have enabled him to move ahead, never standing still.

As a father, he deserves a special note of thanks which we, as his sons, sincerely give him. All of his life he has set the kind of example a son would like to see in his father. He is highly religious, tolerant, kind, and understanding. He is quick to offer a helping hand in most any cause and will listen to anyone's problems. His generosity has no bounds, and his love of people and things is immeasurable. He has little desire for self-pleasure or the creation of wealth for himself. He is happiest when he is with good friends and is quick to extend his hand.

"a source of great pride"

I might add that each time Dad returns after a meeting with his fellow associates at the various Instrument Society meetings, his first words are of those whom he has met for the first time and who have impressed him. It is never "I" but always "they." His acceptance as a part of each meeting is a source of great pride to him. Surrounded by men who have great talents, his own are submerged in genuine respect and admiration. We always enjoy the recounting of his experiences and the way in which he is impressed with a particular scientific achievement by a fellow member.

Actually, I might go on quite endlessly in this way and still never be able to cover the complete story of "Willie" Dillon, the small town boy who grew up in the horse and buggy age and who expects to live to see the first man on the moon. That he will make it, there seems to be little doubt. The much larger question is whether or not his sons will make it. For it seems that Dad has apparently, (and secretly), concocted the real elixir of life. At the rate he is going, we will meet him at St. Peter's gate, and when we ask him where he has been so long, he will undoubtedly pull out an anti-gravity device and explain that it took him a little longer than usual. Thus, while the nomination for Fellow form which you have forwarded may be short on formal schooling, degrees or published books and papers, perhaps this greatly briefed summary of my Dad's life will at least shed some light on his accomplishments which will help you and other members to arrive at a decision.

Regardless of what this may be. I would like for you to know how much it means to all of us to feel that our Dad might be considered in this way. That alone is a great honor in itself. If you feel there might be any other way in which I can personally assist you in this evaluation, I hope you will please feel free to call on me. I am son number 5 among six sons and have more than a little pride myself in a father who has set a straight pace for me in some 52 years of trying to measure up to his stature!

Cordially yours,

W. C. Dillon & Company, Inc.

Robert E. Dillon

Executive Vice President

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