

KRAISSL QUARTERLY

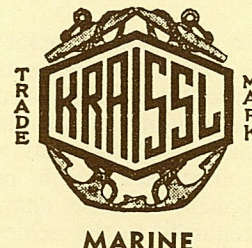
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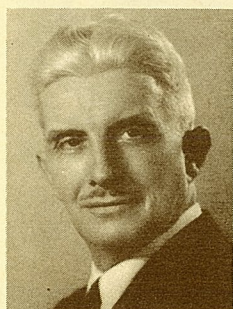
EVEN A REPUBLIC NEEDS AN ARISTOCRACY

FREDERICK KRAISSL, JR., P. E.

President

THE KRAISSL COMPANY, INC.

As we place distance in years between the present and the time of origin of our country, there is a fading effect of the impact of the personalities



Kraissl Associates
Consulting Engineer

of those who built it. It is one function of history to keep alive and as current as possible, the thoughts and actions that produced the events of which they were a part, but this requires an interest on the part of succeeding generations, to be effective.

Two opposing forces motivate the actions of each generation in a free country. Youth rebels against the disciplines that are set up by predecessors to preclude the loss of what is considered good, and age, which is another name for experience, desires to impose such disciplines so that liberty cannot degenerate into license.

It has been said that the only thing we can be sure of is change but like most assumed "pearls of wisdom" this is only partially true. One of the factors that seems not to change is human nature. Greed, avarice, dishonesty and murder are still with us as is faith, hope, charity and love. When Moses came down from the mountain with the Ten Commandments, he found the children of Israel dancing around the "Golden Calf". Some, if not a good part, of the human race are still dancing around the golden calf in figurative allusion.

There are forces for good and forces of evil. Human beings are endowed with freedom of choice of which to follow. We can say that we are all created equal but to be valid this must apply to the second when we are born. From then on heredity, environment and perhaps a spark we can call the personal ego take over. Our characters are the sum of our past experiences. When we are too young to control our

environment, godly parents can provide experiences that will provide strong characters but we have all seen cases of youthful defiance of good parental guidance and must conclude that a perverse ego, even at an early age, can reject that which is good.

It should be clear that so called differences in economic levels do not control differences in character. We have seen cases of thieves who are poor and thieves who are rich. We have seen rich people who exploit their fellow men and rich people who use their riches to do good either directly or through philanthropies. We have seen strong leaders emerge from a background of poverty and we have seen cases of scions of wealthy families degenerate into worthlessness, so environment is not a common denominator.

Let us look at heredity. A real student of human behavior cannot deny the effect of heredity. Usually exaggeration can clarify a point under consideration. In its simplest terms heredity is the ability of the procreators to endow the progeny with something from their ancestors. In its simplest form it is safe to assume that the parents of kittens were cats and not dogs, even though I believe there have been many cases where maternally minded dogs have brought up motherless kittens. However we have seen cases of fine characterized individuals emerge from family backgrounds where heredity could not apparently be an asset and likewise descendants of fine families fail to perpetuate this heritage.

Let us look at the third personal factor of ego. This is the element that might show differences between brothers and sisters with the same environment and not related to observable effects of heredity. It is the personal trait that makes us different. It is the capability which permits the individual to choose what is good from what is not good, or better said, it is the capability which has as its motivation the desire to choose what is good from what is evil. The distinction is made because it is my belief that motivation is the key to the distinction between good and bad individuals. We can all make mistakes and we can all be brain washed, but if our motivation is good we can become useful individuals.

When motivation is good, we seek guide lines. We are sincerely attempting to be assets and not liabilities to the human race. This permits us to make comparisons between individuals in determining relative contributions to each generation. This is the stuff of which heroes are made and the standards can be many. They can be in the fields of human welfare, science, arts, adventure, invention, or even sports. Those who have achieved the distinction of having been elevated to this status by their fellow individuals constitute our aristocracy. It is not based on anything except achievement and it carries a profound responsibility. When aristocracy was based solely on heredity the phrase "noblesse oblige" was coined. It is still an obligation on aristocracy to appreciate that either willingly or unwilling our aristocrats become idols of devoted followers, and what they do or say has a profound effect on many lives.

This was appreciated by the founding fathers and the architects of the Constitution. It is the reason for the Electoral College in selecting our President. The theory is that if natural aristocrats are selected as electors, and a situation developed where there was a doubt about the selection of a President based on accepted procedures, that these natural aristocrats would make the best selection possible. It is based on this continuously observable human characteristic whether admitted or not that we do elevate outstanding individuals to the status of aristocrats. The mystery is that we do not make more of it and insist that our communications media emphasize the value of the lives of these aristocrats instead of giving so much publicity to discordant elements which while in great minority have such a pernicious effect on our daily lives.

The facts should become clear. We may be created equal but we do not stay equal. We have the right of free choice and must have the freedom of opportunity to use it. How we apply our freedom of opportunity will set the course for our lives.

This is independent of our economic status or family from which we are descended. In fact many of our most venerated personalities owe their place in history to the adversities they had

to overcome to achieve it. Softness in a way of life, living as parasites on the earnings of others whether as recipients of handouts from relatives or a paternalistic administration cannot produce self-respect which must be a component of a fine character, and a prerequisite to the achievement necessary for elevation to our natural aristocracy. The outlook must be much the same as the famous quotation from Rudyard Kipling, "I am the master of my fate. I am the captain of my soul". The achievements of our aristocrats are a matter of daily record, only perhaps, recorded in smaller type than that devoted to the behavior of those who are not worthy of emulation.

Let us realize that the human race needs the leadership of individuals who are worthy of emulation and let us give them the respect and admiration they deserve. Let us give our primary publicity to our aristocracy.

ON TENURE

As a member of a local school board I have witnessed for the past three years the obsolete system of tenure operate to the extreme disadvantage of both



ROBERT C. MICHEL
Executive Vice President

the competent professional teachers and administrators in our school system, as well as the board.

In this fast developing age of technology we live in, it is generally agreed that we must continually upgrade our educational procedure to keep pace with the more sophisticated requirements imposed on it. Yet we tolerate the tenure system through archaic state laws that impede progress in this essential management function.

There is certainly no longer a problem of job security for the competent professional. Tenure tends only to secure the position of substandard personnel. As a result of the tenure system, one incentive toward personal improvement is lacking, the need to at least stay equivalent to one's professional peers.

Tenure makes it virtually impossible for school boards to exercise the normal management responsibility of dismissing the incompetent. It also forces a decision of retention or rejection within a few short years of the time of hiring and encourages neglect of the review of the performances of the more experienced professionals who hopefully make up a good portion of the staff.

People's motivation and competency can change over their career lifetime.

Some tenure laws permit teachers to remain in positions past the age where they can perform satisfactorily. Many of these same teachers performed exceptionally well during their earlier years, but a combination of changing educational demands and their advancing age does not permit them to maintain the high standards of performance required in education today.

I do not want my remarks to be misunderstood by those competent professionals who, in spite of tenure, continually upgrade their performance because of strong personal motivation and the desire to keep abreast of the changing needs. However, these same folk cannot help but look at their less motivated associates who are falling behind the times with no adverse personal consequences and as a result the competents become discouraged in their own quest for upgrading.

Tenure removes necessary flexibility in the management function and incentive for reward to the competent. Most boards I know are reluctant to consider a merit system of compensation while the yoke of tenure remains around their necks. Some have even considered hiring and discharging just prior to tenure as a board policy to avoid the disadvantages of tenure. However, this policy does not encourage continuity and a well balanced professional team of both experienced and newly graduated personnel.

If we are to meet the educational challenges of the 70's, it is essential that we unburden ourselves of the obsolete tenure laws that were designed to provide job security under the economic and educational conditions of another era.

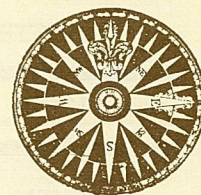
EDITORIALS

Our editors are the senior officers of this company and our policy permits each of us to express thoughts which we believe can be contributions to the voice of public opinion in business. It must be emphasized that the thoughts expressed are those of the author and not necessarily endorsed by the rest of the Board of Directors of this company. Kraissl Associates, acting in the capacity of consultants, handle the technical aspects of our public relations program.

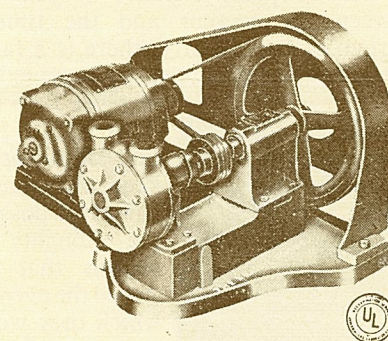
We want this publication to be available when you are able to invite us to exchange current ideas, information and technical data without intrusion.

Radio Announcer, "The 10 minutes silence on the radio, kind listeners, was not due to a technical breakdown but sent to you through the courtesy of The Kraissl Company, Inc. so that you will know how quietly their pumps can operate".

INDUSTRIAL AND MARINE FIELD



REDUCTION DRIVE PUMP FOR INDUSTRIAL FUEL OIL BURNERS



Since we have been in the forefront over the past forty years in suggesting direct motor drive pumps when they can best be applied as well as the developers of the direct connected pump to reduction drive assemblies, it is possible that our findings will be considered important.

Our experience with direct connected pumps commenced when we were distributors for the American Machine and Foundry Class 36, Class 42 and Class 52 series pumps. The Class 36 was an oscillating cam mechanism, the Class 42 a modified helical screw and the Class 52 was a roller pump. With the development of our Class 60 series internal gear design and our subsequent development of the patented Class 66 series high pressure external gear model we were not limited in our experience to one type of displacement mechanism. We even had sufficient experience with the AMF Class 42 series design to evaluate the screw type mechanism and our Class 70 and Class 77 were blade and blade and cam mechanisms.

While much can be written and the various characteristics of each design discussed and evaluated, the basic statement can be made that the higher the volumetric efficiency of the mechanism, the more essential it is that it be operated at a speed consistent with the viscosity of the liquid handled as related to the filling of the displacement chamber under the suction created.

Not to do this, practically insures cavitation.

There are apparently two alternatives. A high speed mechanism of low volumetric efficiency can bypass sufficient liquid from the discharge side to the suction zone to offset somewhat the effects of cavitation. This makes possible the use of high speed mechanisms with liquids of higher viscosity if volumetric efficiency can be sacrificed.

We found this to be true with the Class 50 series roller design. However, the loss of volumetric efficiency also carries with it a loss of high suction characteristics which is one important requirement when handling cold heavy oil.

The other alternative is the use of a high volumetric efficiency mechanism run at a speed consistent with the viscosity of the liquid displaced. Both our Class 60 and Class 66 series mechanisms answer this stipulation and provide a sufficient number of additional advantages to warrant adoption for the following reasons.

1. We will list first the high volumetric efficiency with its attendant characteristic of high suction lift and the lower horsepower utilized. To put it in modern concepts, "you are not just spinning your wheels".

2. Secondly, we can emphasize that the reduction drive permits the selection of a speed that will not only meet the viscosity requirements of the oil being handled but permits running at a speed that will supply oil at the capacity required so that preheaters can be sized to meet **burning requirements** and not oversize pumping requirements. This should be clear when it is appreciated that there are only two practical direct motor speeds for most oil burner applications, 1800 rpm and 1200 rpm. This necessitates the selection of pumps in steps. Usually a size much over-capacity must be selected as obviously under capacity will not meet the requirements. Selection of over-capacity direct motor drive pumps, especially when handling viscous materials, requires oversize prime movers and oversize preheaters. The reduction drive units permit the selection of a speed that will be right for the job with full knowledge that a little over or under capacity can be accommodated by alteration of drive speed either by changing the size of the pulleys or use of variable pitch pulleys.

3. To the operational advantages of reduction drive units can be added that of longevity. Our reduction drive units are carried on independent ball bearing transmission assemblies which are direct connected to the pumps by loose couplings. All of the advantages of direct drive are retained with a wide

range of capacity selection. At the same time we have histories of phenomenal longevity as it is clear that there is less wear at moderate speeds than at high speed. An installation placed in Adelphi College gave forty years of continuous service. Theorizing is interesting but proof of longevity is conclusive. We hope you will accept our suggestions in using reduction drive pumps where they should be applied and this is not limited to #5 and #6 oil applications.

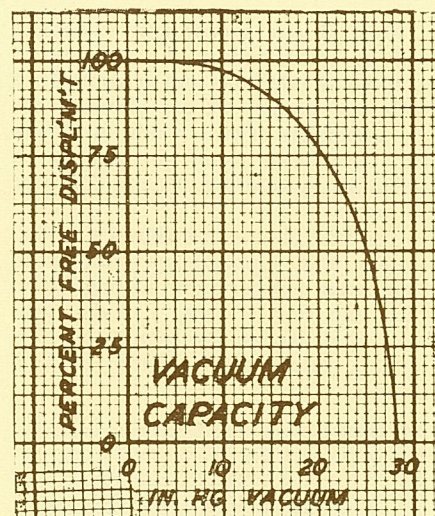
The same advantages in reduction drive sizing assemblies applies to larger capacity light oil applications. By employing the best reduction drive assembly a pumping capacity can be arranged that will supply the needed fuel without being forced into large over-capacity due to dependence on the available speeds of direct connected motors. There is again the consideration that a larger motor will not be needed than to do the required job and the comforting knowledge that operation at slower speeds greatly increases the life of the pump with these liquids of very limited lubricating value.

VACUUM PUMPS FOR WELL POINT DEWATERING SYSTEMS

We have been privileged to supply our vacuum pumps for well point service for so many years, dating back long before World War II, that we believe we can make some useful suggestions, based on this experience.

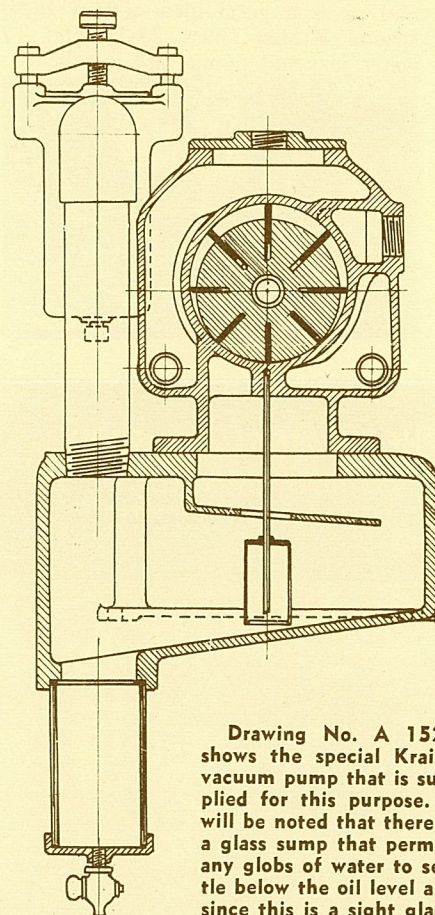
The first is with reference to sizing and selection of the pump. This should be on the basis of the available **FREE DISPLACEMENT** of the pump and is one of the reasons we suggest an oil sealed pump as this type of design has, in our opinion, the highest possible volumetric efficiency suited to this service. Many are confused by the degree of vacuum a design is capable of supplying. Perhaps this can be best explained by stating that many sizes of pumps of the same design can furnish the same degree of vacuum, but the size of the pump determines the quantity of air which can be handled.

The following vacuum-capacity chart characteristic of the Class 25 Series design may further clarify this. Assume any degree of vacuum desired and this chart will indicate the available capacity of the pump in percent of cubic feet of free displacement. This chart will also show that even though a design has a high vacuum capability, the lower the vacuum that will meet the requirements, the greater the free displacement capacity that is usefully available.



While oil sealed pumps produce high volumetric efficiency, means for flushing all interior parts with oil and draining off any collected water will minimize effects of rusting or corrosion.

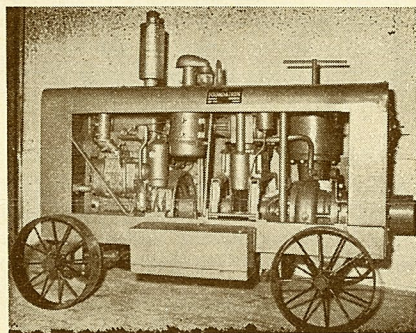
This is taken care of by our special Well Point Vacuum Pump shown in drawing A-1524. This features our integrated force feed lubricating and flushing system with transparent sump so the collection of water can be observed to determine when draining is necessary.



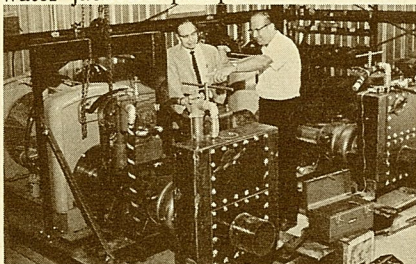
Drawing No. A 1524 shows the special Kraissl vacuum pump that is supplied for this purpose. It will be noted that there is a glass sump that permits any globs of water to settle below the oil level and since this is a sight glass, any such accumulation of water can be observed and drained off without interference with the force feed lubrication, flushing and oil sealing system.

Most of our friends and customers will be interested in the appearance of these mobile units and in accordance with our policy, we are showing the the assemblies of two of our customers that have been using our pumps on wellpoint dewatering systems for over 30 years.

The first photograph shows a typical mobile unit supplied by Foundation Equipment Corporation of Long Island City and Fort Pierce, Florida, who have used our vacuum pumps for this service since they started in this business.



The second shows Mr. Stanley Share of Complete Machinery and Equipment Company, Daytona Beach, Florida demonstrating to Mr. Robert Miles of the Daytona Beach Chamber of Commerce, important features of the design of their complete assemblies, and gives a good idea of how these special Kraissl Class 25-15 and 17 water jacketed pumps are installed.



SALES REPRESENTATION

HOME OFFICE

We have reserved the areas of Connecticut, Metropolitan New York, including the Hudson Valley, Long Island, New Jersey and eastern Pennsylvania less Philadelphia District for coverage by Kraissl Company personnel.

Northeast Region

Filtration Unlimited
373 Hertel Avenue
Buffalo, New York 14207

Eastern Region

Boston-Cooper Corp.
95 Holland Street
Somerville, Mass. 02143
Valley Equipment Company
404 Frick Bldg.,
Pittsburgh, Pa. 15219
J. W. Pearson Co., Box 282
Hatboro, Penn. 19040
Jobe & Co., Inc., 2857 Greenmount Ave.
Baltimore, Md. 21218

Southeast Region

Power Equipment Co.
1307 West Main St.
Richmond, Va. 23201
Dillon Supply Company—Main Office
Raleigh, N. C. 27602
Dillon Supply Company
Durham, No. Carolina 27702
Dillon Supply Company
Rocky Mt., No. Carolina 27801
Dillon Supply Company
Goldsboro, No. Carolina 27530
Dillon Supply Company
Charlotte, No. Carolina 28201
Boiler Supply Company, Inc.
490 Craighead Street
Nashville, Tenn. 37204
1628 Island Home Avenue
Knoxville, Tenn. 37920
Applied Engineering Co., Inc.
P. O. Box 506, Orangeburg, S. C. 29115
Spotswood Parker & Co.
313 Techwood Drive, Atlanta, Ga. 30313
Florida Filters, Inc.
5570 N. E. 4th Ave., Miami, Fla. 33137

North Central Region

Charles R. Davis
3049 E. Grand Blvd.
Detroit, Mich. 48202
Hetler Equipment Co.
P. O. Box 1904
Grand Rapids, Mich. 49501

Central Region

W. G. Taylor Co.
1900 Euclid Building
Cleveland, Ohio 44115
The Jordan Engineering Co.
7401 Shewango Way
Cincinnati, Ohio 45243

T. A. Heidenreich Co., Inc.

2525 E. 54th Street
Indianapolis, Ind. 46220
Tobra Engineering Co.
6422 S. Marshfield Ave.
Chicago, Illinois 60636
A. K. Howell Co.
1001 Bellevue Ave., St. Louis, Mo. 63117

South Central Region

Dumar Engr. Co.
1702 E. 6th St.
Tulsa, Okla. 74104
Creole Engineering Co.
2627 Banks Street
New Orleans, La. 70119
Albert Sterling & Assoc., Inc.
2611 Crocker St.
Houston, Texas 77006
Walter A. Lamb Co.
3228 West 6th Street
Fort Worth, Texas 76107

Northwest Region

Baxter-Rutherford, Inc.
1932 First Avenue S.
Seattle, Washington 98134

Western Region

Jay Besore & Associates
380 Bayshore Blvd.
San Francisco, Cal. 94124
Power Engineering Co.
325 W. 1410 St. South
Salt Lake City, Utah 84110
Vernon Hines
1400 So. Lipan Street
Denver, Colorado 80209

Southwest Region

Wagner Hydraulic Equip. Co.
10814 Santa Monica Blvd.
Los Angeles, California 90025
Engineered Sales Co.
4747 N. 16th St., Suite A-107
Phoenix, Arizona 85002

Canada—Ontario and Quebec Provinces

Kirk Equipment Ltd.
375 Victoria Ave.
Montreal, Quebec, Canada
K. C. Hamilton Equip. Ltd.
Box 939
Montreal, Quebec, Canada

Canada—British Columbia Province

Fred McMeans & Co.
1608 West 5th Avenue
Vancouver, B. C., Canada

Hawaii

Foster Equipment Co.
719 Ahua St.
Honolulu, Hawaii 96803

Mexico

Ingenieria Termo Industrial SA
Puebla 326-2
Mexico 7, D.F. Mexico

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