**Buried - Unseen, Unattended**

**They Operate Unfailingly**

**THINK** of burying a piece of moving equipment underground—and getting ten, fifteen or twenty years unfailing service without attention of any kind.

Nearly half a century ago, ADSCO deliberately set out to produce an expansion joint that would give this kind of service... and succeeded.

Today there are thousands of ADSCO Expansion Joints installed underground that have never needed a minute's attention. Translated in terms of results, this means peak efficiency from your pipe lines without maintenance trouble and expense.

ADSCO Joints are made for every condition of temperature and pressure—for steam, gas, water and every other liquid conveyable by pipe. Those shown on this page are but a few of many. Ask for complete catalog.

**ADSCO VARIATORS**

(PACKLESS EXPANSION JOINTS)

For Pressures up to 125 pounds

**ADSCO SEMI-GUIDED JOINT WITH TIE RODS**

Has all the features of semi-guided joint plus protection provided by tie rods against slip pulling out of body.

The dotted lines illustrate some of the combinations of ADSCO Expansion Joints

**ADSCO DUPLEx-SLIEVE GUIDED EXPANSION JOINT**

For pressure up to 500 lbs, and temperature to 750 degrees F. Air-cooled slip eliminates excessive packing and maintenance costs and assures a tight joint.

**ADSCO EXTERNALLY-GUIDED EXPANSION JOINT**

For 4, 6, 8, 10 and 12" traverse, 125 and 250 lbs. pressure. Checks distortion. Assures correct alignment of the slip. Provides a secure anchorage and a service outlet.

**ADSCO'SEMI-GUIDED EXPANSION JOINT**

For 4, 6, 8, 10 and 11" traverse, 125 and 250 lbs. pressure. Extensively used in high and low pressure lines where external guide is not required.

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**The Price of SERVICE**

**THE word “Service” may be as old as the English language, but it has only been really discovered and exploited within the past few years. Today this word is the guiding star of luncheon clubs, the motif of costly full page advertisements, the proud claim of profession, commerce and industry, and the insistent demand of everyone. Whether in our office, our homes, in hotels or driving our cars, we want service. Proportionately as we receive and recognize SERVICE we are glad to pay the price.**

Wherein lies the value of this SERVICE we pay for? Consider a motor trip — almost any other example would serve as well. You call your garage and have your car inspected thoroughly. It is oiled and greased. The gas tank is filled. Everything is checked and tightened up. The car is returned to you. Nearly all of these things you could do yourself at a trifling cash cost. In a few days you will receive a bill which will include all materials supplied, all labor involved and a service charge. You could have SAVED at least the labor cost and the service charge — anywhere from $5.00 to $15.00. Instead, you pay the bill. Why? Because, when you step into your car, after this application of SERVICE, you have confidence that you will be free from annoying and costly interruption during your trip.
Without getting all hot and bothered over lubrication, gas, air, water and other motor needs you drive away carefree and confident. The price of SERVICE is an assurance of safety and a guard to comfort and peace of mind.

At night you drive up in front of a large city hotel. A boy carries your bags to the desk. Another drives your car to the garage. You are shown to your room. The notice behind the door shows the price of going to bed for one night. In the same city, and possibly on the same street, it is altogether likely that by doing a little shopping around you could find lodgings for half this amount, or even less. Why should you be willing to pay five dollars to spend a few unconscious hours in a certain hotel when you could save from two to four dollars by driving a few blocks down the street?

Reversing this process of logic, we find the true state of business, particularly big business. The man who in private life places SERVICE on at least as high a level as price, conducts his business in line with the same standard. He demands, receives and pays appreciatively for the service his five dollar hotel room knowing that for total value received in comfort, convenience, safety, privacy, prestige and privilege he gets what he wants but could not get in cheap accommodations. He buys his clothes, not forgetful of price economy, but realizing also that quality, style and reputation are essential elements. His car is priced within his means but in addition provides that degree of power, smoothness of performance, ease of handling, pride of possession and elegance which fulfills his (and his wife's) desires.

In his office this man knows the salesmen who call on him; he knows the strength or weakness of the companies behind these ambassadors of business. He is keenly alive to the importance of dollars, but never does he lose sight of the equally important factors of SERVICE. If our typical executive is planning a skyscraper office building, he realizes that the foundation is of major importance. His appreciation of foundation things which, measured by his business rule, would indicate gross carelessness, extravagance and waste.

By applying the clear logic of common sense we might expect everyone who in business gives his first and only abiding consideration to the competitive prices of materials and labor, to consistently apply the same sound judgment in his private life. Where dollar price alone is the gauge of value one would expect to find men putting up at dollar lodging houses, wearing nothing but three dollar and a half shoes, attired invariably in 22.50 suits, driving the cheapest car that provides transportation and living in the cheapest house that boasts four walls and a roof.

Executive can be measured by the degree of SERVICE he renders his company and this depends on the soundness of his judgment in placing business. One eye is on price, the other on SERVICE. His value to the company, and his consequent income, can be greatly increased by an accurate evaluation of the COST OF SERVICE and by exercising his authority fearlessly in support of his judgment.

The "Price of Service" depends on the cost of service, and the cost of service is built up from many elements. One company may be in business on a shoe string with no thought but that of making money. While the majority of materials to be used on a job may be definitely

(Continued on page 14)
The smoke-laden air of our cities was first regarded as unsightly and most undesirable, but at the same time was considered rather a necessary evil. However, as time has passed it comes increasingly to our attention and at different times studies have been made concerning its effect on public health as well as its effect on property. Reports have appeared in various publications covering the economic losses due to smoke.

That this phase of the industrial city life is one which will eventually be a great deal more important than it is at present is borne out by the Smoke Ordinances now appearing in the codes of our larger cities. One, typical of these ordinances, is quoted:

"Definition of Kind and Quantity of smoke and the ingredients thereof, as is prohibited by this ordinance. The emission of dense smoke and the ingredients thereof, shall not constitute a violation of this ordinance, and provided further that the emission of a dense smoke and the ingredients thereof, for a period aggregating six minutes in any one hour and not exceeding two minutes of continuous emission of such dense smoke, and the ingredients thereof, shall not constitute a violation of this ordinance.

Method of determining density of smoke and the ingredients thereof which constitutes a violation of this ordinance: For the purpose of determining, by comparison, the degree of darkness of smoke and the ingredients thereof, which shall determine the density prohibited hereby, a color scale of measurements shall be, and the same is hereby adopted as follows: One thickness of gray glass of sufficient capacity to cut off sixty per cent of the light from a flame having the lighting power of sixteen candles, shall be taken as the basis of said scale, and four thicknesses of such glass shall be designated as No. 1 Scale. The so-called "Standard Smoke Tester" or "Umbroscope", which complies with these requirements, is hereby adopted as the standard measurement for comparison of the degree of darkness of smoke. Smoke of a greater degree of darkness than the No. 1 Scale shall be considered and held to be dense smoke and shall be designated as illegal smoke and in violation of the terms hereof.

Method of enforcement of this ordinance: The enforcement of this ordinance shall be under the primary jurisdiction of the Smoke Inspection Bureau of the Department of Buildings and Safety Engineering. The Chief Smoke Inspector of such bureau shall, among his other duties, instruct the people of the city with regard to the ways and means whereby a violation of this ordinance may be avoided. He shall advise the public with regard to the properties of fuel best adapted to various conditions and also advise the public with regard to various types of fuel-burning apparatus, such as furnaces, stokers, steam-air jets, etc., which in his opinion are best suited to the abatement of dense smoke and the ingredients thereof. Provided, however, that he shall not recommend or prescribe any particular dealer or dealers in fuel or any particular manufacturer or manufacturer's agent furnishing apparatus to be used in connection with the burning of fuel. He shall compile for the benefit of the

(Continued on page 10)
As the passing year makes its final bow, we trace our way backward and find that 1928 has been beneficent. It is our sincere wish that you, our friends and customers, who have contributed so much to the success of our year, have enjoyed equal prosperity—even greater success is in store for this coming year.

American District Steam Company
North Tonawanda, NY
people of the city, articles dealing with the abatement of dense smoke and the ingredients thereof and shall maintain a file in his office which shall be open to public inspection at all reasonable hours. He shall file and preserve for reference each and every case involving smoke abatement, which is handled by the Bureau of Smoke Inspection and Abatement."

A consideration of this ordinance leads one to question whether it is possible to operate a hand fired boiler within the regulation. Certainly an inspection of many stacks convinces one that whether possible or not it is not being done.

District Heating is the one single force which will do most to correct the conditions which make this ordinance necessary. Single systems supplied with steam from stoker operated plants where high combustion efficiency is maintained eliminate the necessity for hundreds of small hand fired boilers which belch forth much of the smoke that is so objectionable.

The New York Steam Company alone consumes approximately one-half million tons of coal annually. This amount of fuel, if consumed in the individual New York buildings heated from this system would cause infinitely more smoke than results from the efficient combustion in the central station. In fact it is probable that one carelessly operated plant consuming but a hundred tons of coal annually would do more smoke damage than the entire District Heating system.

Similarly in Philadelphia, Cleveland, Boston, Pittsburgh, Chicago, St. Louis and a host of other cities the extension of heating systems effects a marked clearing of the air by eliminating the individual heating plants. The owners and managers of the buildings heated from these systems are free for all time from the possibility of an official visit from the Smoke Inspector, but what is more important, they are benefiting the entire community by helping to free the atmosphere from smoke.

One should not lose sight of the fact that smoke abatement is but one of the minor arguments in favor of District Heating. There are far more convincing economic arguments which appeal directly to the individual or corporation — many of them. However, there are few courses which will do more towards making our cities more beautiful and livable, than will the proper regulation of smoke — that dirt which is everywhere and which soils everything with which it contacts.

Scottish City Heats Homes and Supplies Hot Water

(From Philadelphia Ledger)

Dundee, Scotland. The Dundee council has established a central heating plant for 518 homes built under municipal control. Hot water is also supplied.

James Thompson, City Architect says the tenants like it and on Sunday the hot water supply has to be doubled because nearly every home is overrun with relatives who come in to take their "weekly."

The Great Undeveloped Opportunity for Electric Utilities

HOW to increase income without a proportionate increase in outlay? How to add new business without adding a prohibitive sum to production and sales expense? Many a business has hired an industrial or sales engineering organization to produce a workable solution to the puzzle.

But the electric utility which goes far afield looking for the answer is like the youth who sets out in quest of happiness and after wandering the world over — finds it at last in the shelter of his own home.

So far as the electric utilities are concerned, the road to greater profits without a proportionate increase in expense leads right to their own doors. Precisely that result can be achieved for any Electric Utility which has the vision to perceive an opportunity and the mathematical ability to compute results.

That opportunity lies in the addition of District Heating to its electric light, and power service; for quite often the entrance of the electric utility into District Heating Service can be effected at little more than the relatively nominal cost of growing pains ... and under this low ratio overhead — profits run high.

As a matter of fact, upon study, a surprising number of economies and advantages come to light which reduce the initial expense and increase the revenue of any District Heating Service.

The first of these lies in the probable existence of a Power House. Many abandoned boiler plants lie idle throughout the country, rendered useless for power purposes by extensive developments in more favorable locations. These idle plants consume capital in interest, taxes, excessive deterioration and non-productive overhead.
In many cases the site which is unsuitable for the economic production of power is an ideal point at which to generate steam for a District Heating System. Little investment is required to rehabilitate and adapt such a plant for heating purposes.

District Heating is the logical solution of the abandoned power plant problem and can be combined with light and power service to effect economy and increased revenue.

But, while the availability of a boiler plant undoubtedly is desirable for a quick and economical entrance into District Heating, it is not essential. Hundreds of District Heating Companies all over the country have built their plants “from scratch” — expanding them as demands for service made their expansion safe, sound and profitable.

There is, however, one benefit which has accrued to every electric utility entering District Heating Service — their electric loads have increased. By being in a position to supply both electricity and steam, the utility has obtained the electric loads of large buildings that would otherwise continue to generate electricity as a by-product of their own heating plants.

When a utility is in a position to furnish steam as well as electricity, it is easy to convince the owners and managers of large buildings that it is too costly for them to waste capital and space on private plants.

By purchasing its steam from the utility, the building organization saves coal, labor and depreciation — rids itself of the dirt and nuisance of coal and ash handling — releases a large amount of valuable space formerly occupied by boilers and coal bins. In the congested business areas where District Heating is usually installed, this basement room can be easily rented at an attractive figure.

With these obvious benefits to be derived, it is only natural that building owners should welcome the advent of a combined District Heating and electric service, and both branches profit accordingly.

Another item to be entered when computing the savings to be made and possible profits from the addition of District Heating to the electric utility’s service is that the new work can be carried on with but few additions in the utility personnel. By reason of their familiarity with similar work, the present organization can function on District Heating with scarcely any training whatsoever.

Electric utilities have buildings, boilers, foremen — engineering, administration and selling ability in their organizations, all developed along similar lines and thoroughly equipped to handle the undertaking efficiently and intelligently. To engage in the business of District Heating entails but few new problems for them.

Besides the savings effected by using one organization for both utilities, other economies are possible when District Heating and electricity are combined. Among these are the use of cheap off-peak power from a hydro development at night for the operation of electric boilers and the installation of turbo generators, operating at high steam pressure to produce by-product electricity and exhausting at low pressure directly to the underground distribution system. The cost of electrical energy so produced is extremely low since the entire cost for steam generation can be absorbed in the sale of steam as such.

Actually, it requires no special forte in mathematics to arrive at the result in the addition of Heating Utility to Electric Utility. The answer is increased profits, and there is ample precedent to verify that answer.

There is scarcely a state in the Union which does not have one or more cities on the District Heating Roll Call. Pennsylvania has forty while New York State with twenty-five boasts of the world’s largest District Heating Plant in New York City; and in many of them, District Heating is in the hands of the electric light and power company. The combination is logical.

Their Heating Divisions are showing annual statements which prove that steam is being sold at a rate which is both popular and profitable. The gross earnings of the New York Steam Company increased from $3,731,415.11 in 1923 to approximately $7,500,000.00 in 1927. Recent extensions indicate that the company is well pleased with the net profit.

The public, now educated to the convenience of public service, wants more of it. They are quick to see the advantages of District Heating and are heartily in favor of it. The reduction of the smoke nuisance and reduced traffic congestion are civic improvements. The elimination of individual power plants — coal, ashes and boiler room help, is an economy. Firewall heat and profitable utilization of space, vacated by heating equipment, are sound appeals to business men. District Heating balances your load and increases your profits.

An opportunity for greater service and greater profits is waiting the attention of every electric light and power company in this country and Canada. It may be a trite phrase but its truth is unequivocal — “The time to act is now!”

Become Heat Minded.
specified in detail, it is impossible to secure assurance of high class workmanship, best quality minor materials and expert supervision by any kind of specification. The most dependable assurance can only be found in the reputation of a company, the class of men they employ, the amount of experience they have had, the promptness with which they execute their guarantees and the financial strength back of their undertakings. It costs a strong, well-organized, service-minded company more to perform a given task than it does another company whose sole effort is price competition.

If the securing of purely price competitive business became the exclusive aim of all companies, then, by hiring only low priced, inexperienced men, by using the cheapest materials and by employing second or third rate methods and practices the large, strong companies could quickly reduce their prices and deny the smaller and weaker companies practically every piece of offered business. This is not, as a rule, their desire. Almost invariably the large company strives to render a real and permanent service to its customers. To this end it attracts the best men available; it uses materials and methods proved to be best suited to its customers' needs; it fosters and helps finance research and development in its special industry; it helps to create wider opportunities for the capable and ambitious men in the entire industry, making their business more profitable and their positions more lucrative; it is constantly contributing to organizations created to broaden education and spread helpful information; it develops a pride of achievement and points the way to progress. It is from such companies that great industries have grown. Had there not been those who recognized and correctly evaluated the SERVICE rendered by companies of this character, thousands of men now happily supported by the industries so created would never have had the opportunities now available to them.

There is credit due these large, service-minded companies, but there is certainly no argument against the smaller companies. They fill a very necessary position and serve a most useful purpose. Were it not for the price competition of these smaller companies the larger ones might get an exaggerated opinion of the value of their SERVICE and charge correspondingly high prices. Also, there are still enough men in business whose sole obsession is price, regardless of everything, and who shun the thought of SERVICE or who do not as yet understand its meaning, so that the man with a low price is their man of the hour and thereby, in their way, the price-only people render their service.

Nothing prevents a small company from becoming a large company so much as its own failure to recognize the NEED OF SERVICE, the COST OF SERVICE, and the necessity of being PAID FOR SERVICE. If a company makes no effort to serve, naturally its costs are low; if it strives to serve and absorbs its COST OF SERVICE, it must sooner or later fail; if it serves well and is paid fairly for its materials, labor, and ITS SERVICE, it should succeed, whether large or small.

Today, practically every high salaried executive recognizes SERVICE in business just as carefully and with as much discrimination as he displays in his selection of hotels, clothes or automobiles. Prices are guides, but SERVICE is the goal. Knowing our goal, we can set up our price boundaries and press on intelligently in the execution of our duties, our responsibilities and our opportunities. The PRICE OF SERVICE is the cost of work well done.
For dependable results in service write Adsco into your specifications for steam line equipment

Your greatest assurance of results from a product is the service that product is giving present users...

Wherever District Heating is known, there you will find a preference for Adsco Products... and if Adsco Specialties can give satisfaction in the hard grind of District Heating, they will give satisfaction in any service... anywhere.

You can get them in the most efficient size and type to meet your requirements for handling:

1. Expansion and contraction in pipe lines.
2. Efficient distribution of steam, gas, water and other liquids through pipe lines.
3. Proper trapping of steam lines.
4. Accurate measuring of steam flow.
5. Dependable regulation of pressure in individual heating systems.

As a safety measure — for complete dependability — write "Adesco" into your specifications.

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Printed in U.S.A.