

HOW GASOLINE SHOULD BE HANDLED.

Underground Storage the Best—Methods of Drawing Gasoline—Modern Methods Reduce Insurance Rate.

Gasoline will generate 8,000 cubic feet of gas, which if ignited will expand 4,000 times this space, and one gallon of gasoline properly mixed with air, sixteen parts air to one of gasoline—and compressed has an explosive power of 83½ pounds of dynamite. The above facts were stated at the recent convention of Western Canada Firemen's Association Convention held in Calgary, Alta., recently.

Gasoline in itself is as harmless as water, and when properly confined, is not an explosive. The explosive resulting from gasoline is created by the exposure of gasoline to air. A gasoline vapor is heavier than air, so that when gasoline is exposed in a building, the vapor has a tendency to constantly drop, and to lie very close to the floor, under any obstruction, or in corners, settling in the lowest point possible, remaining there until a current of air strong enough removes it. Therefore, the vapors from gasoline may be present in great quantities in a building, but, because of their being so close to the floor, it is impossible to detect their presence by the odor.

Gasoline Should be Stored Underground.

Gas from gasoline being heavier than air is no doubt the cause of the recent disastrous fire in the Winnipeg garage. While it cannot be authentically stated, it is believed that because of the gasoline being transferred inside the garage in open buckets, and the atmospheric conditions being most favorable to gasoline forming a vapor quickly, the entire lower strata of air in the garage became permeated with gaseous vapor, and one of the horses which had been driven to the garage, striking its shoe on the cement floor, made a spark, which ignited quickly the gaseous vapors, causing immense property loss of over \$250,000.

Gasoline, as well as other volatile liquids, should be stored underground, in a well-made tank designed for the purpose. The tank should be so constructed as to prevent evaporation, and all flanges or openings should be on the top. Under no consideration should there be openings on the side or bottom of the tank, which would in any way permit the liquid to flow from the tank by means of gravity. The quantity of gasoline which is stored should regulate the thickness of steel of which the tank is constructed. Naturally, a large storage tank, say about 1,500 or 2,000 gallons, should be manufactured of 3-16 inch to ¼ inch plate, thus eliminating any possible chance of the weight of the tank itself causing it to buckle, and thus spring a leak. A plan which is followed with tanks of say 500 or 600 gallon capacity or less, is to have the material manufactured of 12 or 14 gauge thickness.

A Low Uniform Temperature Should be Maintained.

Gasoline, if maintained at a low uniform temperature, not only retains its quality, but the possibility of evaporation is reduced to the minimum. Gasoline tanks should never be placed in vaults or pits, as they simply provide a hiding place for the gasoline vapors which may result from leakage or accident, and the tank buried in the ground, simply covered by the earth, has never been known to explode if properly vented. While it is conceded that the only method of storing gasoline is in underground tanks, it is absolutely vital to the success of handling this liquid with the minimum amount of danger to have them properly vented. The vent pipe from the tank should extend at least sixteen feet above the top of the tank. This will insure no evaporation, inasmuch as gas will never rise sixteen feet unless under pressure. The vent pipe should be protected by a fine wire gauze mesh, and where the vent pipe enters the flange on the tank, another wire gauze should be provided, so that if the walls of the building fall, and the vent pipe be broken, there is no possible chance of the gasoline in the tank becoming ignited. Fine wire gauze mesh is used for the same reason that it is used on the miner's safety lamp.

Methods of Drawing Gasoline.

There are several methods of drawing gasoline from the tank, but that which is the most commonly used, and which seems to be the most successful, is by means of an approved self-measuring pump, which should be located higher than the tank. All pipe lines for suction or vent should be made absolutely tight by cement which is not affected by the action of gasoline. No point in the suction line must ever be below the top of the tank, as it is necessary to guard against any accident that may happen to the pipe line in case of fire, and, as a result, the gasoline be forced into the building by gravity.

Gasoline, or any other inflammable liquids, should never be handled by pressure system, as such an arrangement does not permit the control of the gasoline, for if the discharge line becomes broken, the liquid will automatically discharge itself into the building, and, as a result, is very dangerous, especially in case of fire, as it will help to increase same. If a pump is used to draw the liquid from the tank, it is obvious that when the operator ceases the operation of the pump, the flow of liquid stops immediately, and there can be no further disturbance of the liquid in the storage tank without the operator again working the pump.

While the use and application of gasoline is continually broadening in various ways, it is now principally used in automobile garages, paint oil stores, and what is commonly known as the dry-cleaning establishments.

Dry-Cleaning Establishments are Grave Hazard.

In addition to the safe storage of gasoline in garages, there is another grave hazard which confronts the fire department of every city, i.e., what is known as the dry-cleaning establishment. It is not an uncommon thing for gasoline to be stored in these places in common open tubs, and frequently in a room where there is an open fire. Stringent by-laws should be passed by all municipalities, which will compel this class of business to either handle the naphtha by the modern method or to be compelled to discontinue business at once, for this method of handling gasoline in dry-cleaning establishments is no longer necessary. There are mechanical devices to be had, which will reduce the danger in dry-cleaning establishments equally as much as now provided for garages, as mentioned above. Modern naphtha storage and control equipments can be had at a minimum cost, which will enable the dry-cleaners to use their gasoline over and over, if desired, and yet store it with safety.

The modern methods of oil storage should receive most serious attention, is the handling of paint oils, such as raw, boiled, turpentine, etc., in hardware stores. It is well-known that waste or saw-dust, saturated with linseed oil, will take fire spontaneously in a temperature of about 70 degrees. Now, while these oils may be considered inflammable, they can be safely stored in above-ground tanks, provided they are substantially built and evaporation proof, and there is to be had a modern system which will eliminate this hazard in hardware stores, factories and mills, not only reducing the hazard to the minimum, but effecting a great saving in room, and being otherwise of value to the user.

Modern Methods Reduce Insurance Rate.

Insurance companies are loath to give reductions in insurance where any appliance is installed, unless there is absolutely no question as to the merit of the equipment. If insurance companies do recognize a system, it should certainly be an evidence of its worth. The board of underwriters throughout Canada have not only acknowledged the value of modern systems of oil and gasoline storage, but are giving material reductions in rates, wherever these systems are installed, not only in public and private garages, but in hardware stores, mills and factories, for handling various paint and lubricating oils. Insurance companies would evidently not give reductions in rates if reduction in the hazard is not effected.

If modern methods of gasoline and oil storage are adopted, the danger of life and property from this source can be reduced to the minimum.

AUGUST BANK STATEMENT.

The details of the August bank statement appear in the current issue of The Monetary Times. Its figures were analyzed in last week's issue.

FARMERS BANK RELIEF COMMITTEE.

The first step toward the formation of a Farmers Bank Relief Committee for the purpose of securing, if possible, one hundred cents on the dollar, were taken at a meeting held in Toronto this week. The personnel of the relief committee is as follows: Chairman, Rev. George Gilmore of Fingal, Ont.; secretary, Rev. C. F. Clarke of Kerwood; treasurer, Mr. A. S. Minthorne of Lindsay; and Messrs. W. H. Pollard of Pontypool and J. G. Ashmore of Dunsford.

The chairman made the following statement regarding the aims of the committee: "All necessary steps are being taken to secure for the depositors their money. The matter will be presented to the new Government."