SPONTANEOUS COMBUSTION.

Cases of spontaneous combustion are of such frequent occurrence that it seems advisable to mention some of the materials that are subject to an action of this kind and to mention various conditions that are likely to cause fires, without the direct application of flame.

It is probable that actual cases of spontaneous combustion are not as common as the press accounts of fires would lead one to believe. For lack of sufficient evidence as to the real cause of a given fire, there is a tendency to attribute it to spontaneous combustion, after all other theories as to its origin have been exhausted. There is no doubt, however, that a large number of fires are caused in this way, and that many of them may be prevented by exercising a reasonable degree of caution.

Heating to the point of spontaneous ignition is known to take place in a great number of substances of various kinds, the most common being :

Coal, and other carboniferous substances such as lignite, coke, lampblack, and peat.

Wood, sawdust, charcoal, cork dust and a number of allied substances.

Oils, varnishes, resins, lacquers and fats.

Oily or greasy rags and clothes.

Polishing rags and other material of a similar nature.

Hay, straw, malt, hops, tobacco and fodder mixtures.

Superphosphates, guano and manures.

Chemical compounds, such as nitro and sulphurous compounds and carbides.

Metallic powders and dust of various kinds.

There are many other substances too numerous to be tabulated in a limited space.

There are three principal conditions that tend to stimulate the combustion reaction at ordinary temperatures. The material concerned must be in an oxidizing medium, as the entire reaction depends on the amount of oxygen present. It is usually necessary that the substance be partly composed of combustible carbonaceous material, or mixed with such material. Moisture aids the combustion in many cases, and there is also a minimum limit of temperature, which may be called the "kindling temperature," below which the action will not occur.

A condition that is favorable to spontaneous ignition is obtained when greasy rags or waste are left lying in a warm, confined place. Boiled linseed oil is the most active of oils in this reaction. A small bundle of cotton waste, moistened with this fluid and confined in an air-tight box at from 70 degrees to 80 degrees Fahrenheit, soon rises to a temperature of about 200 degrees Fahrenheit, and if the box is then opened, so that air can come in contact with the heated mass, the fresh supply of oxygen may cause instant ignition. The same action may also take place at an ordinary room temperature with the material unconfined; but a longer time will be required for the waste to heat to ignition point. The time required under these conditions to raise the temperature to the critical point varies, but will, on the average, be about eighteen hours.

The physical structure of vegetable materials, such as flax, hemp, cotton and other fibres of this class, renders them more susceptible to spontaneous combustion than animal fibres. It may be due to the fact that the hollow vegetable fibres have more surface exposed to the oxygen. This assumption seems to be confirmed when cotton waste is impregnated with linseed oil The oil immediately distributes itself over the entire surface, and forms a large oxidizable area. The bundle of waste is bulky enough to afford insulation, so that the temperature rises until it reaches a limit high enough to ignite the substance.

Another possible source of spontaneous combustion deserving mention occurs when a coating of readily-oxidizable oil is sprayed or brushed over a large surface. If the conditions are such that the heat generated is not entirely dissipated, either because the operation is carried on in a closed room, or for some other reason, the oil becomes considerably heated, in some cases to a temperature high enough to ignite the inflammable or volatile gases.

FALSE STATEMENT OF HEALTH.

Judgment has been handed down by the British Columbia Court of Appeals, dismissing the appeal in the suit of Crisp vs. the Manufacturers' Life Insurance Company.

The plaintiff sued the company in the action heard before Mr. Justice Morrison and a special jury for $10,000 or the return of $444, the amount of two years' policy premiums paid for the insurance of the life of the late Walter R. Matthews. Crisp is trustee for the estate. The statements in the policy application made by the deceased were to the effect that he was in good health when insured.

Owing to assured's illness, the second premium was not paid until fourteen days after the lapse of the thirty days' grace allowed by the company for paying premiums. The company issued a receipt for this premium, the policy to be revived on the assured furnishing evidence of health, as provided by the company's rules in such cases. It appeared that in the interim between the payments, the assured had suffered from an attack of pneumonia and also had rheumatism, which necessitated his going to California for the benefit of his health.

On his return from California he signed the company's form certifying that he was in an insurable state of health, and had not been ill since his first examination. The third premium coming due, it was paid by the plaintiff, Crisp (who is an executor of the assured), and to whom the policy had been assigned in trust, after he, Crisp, had received notice from the head office of the premium being due.

The assured died three months after and the company declined to pay the insurance. Action was brought and a jury found that the deceased had made a false statement of his health, knowing it to be false, and that therefore the policy became void. Plaintiffs appealed and the appeal was dismissed.

Mr. A. MacDermott, Manager of the Accident Department of the London & Lancashire Fire Insurance Company, Limited, Liverpool, England, passed through Montreal on a flying visit to Ottawa and Toronto last week, and has returned to New York from whence he will sail for Liverpool in two weeks. We understand that his visit to this side is in connection with the formation of a new company in the United States.