Miscellancons.

Paraffis, or Coal Oils

Paraffic-or, as this flaid is frequently termed, coal oil-hus been, for some years past, largely used as an iduminating agent. The cleanliness and the aconomy of the paraffic lamps, with the brilliancy of the right produced, has led to their very general adoption, especially in those places where the conventences of gas have not as yet i been made available. Purefile, and, indeed, all the varieties of the oils which are sold under this name, are, like it, compounds of carbon and hy-They are produced by the distillation, drogen. at carefully regulated temperatures, of coal, of certain carbonaceous shales, and the different varieties of petroleum which are now so largely obtained in America and in Asia. As we have said, from whatever source derived, these oils are hydrocarbous, and, according to the temperature at which the distillation is effected, there result heavy or light oils, as they are termed by the manufacturers. These oils are of variable specific gravities, and their boiling points range all the way from 46 degrees to 600 degrees Fahr. Hence it is that explosions have arisen from the improper admixture of the lighter oils with the heavier ones. In some cases this has arisen from insufficient purification of the oil for burning, and in others (which include by far the larger number of cases) by the mixture of volatile oils obtained from other sources with the less inflammable oils distilled from coal. In the early stages of this manufacture, Cannel coal was almost exclusively used as the oil-yielding material; but since the discovery of the oil wells of Penusylvania and other places, petroloum has, in a great measure, supplanted the use of coal, some establishments using the natural oil alone. The object of this is readily appre-The petroleum being naturally in a liciated. anid state, there is no necessity for a preliminary distillation, as in the case when coal is used, in which event the crude oil must be first produced by exposing the coal to distillation at a low heat, and the resulting product be treated in the same manner as the oil already formed in the By the use of petroleum the retorts for wells. the first distillation are di-pensed with, and thus a saving is effected in apparatus as well as in When petroleum alone is time and labour. used in the manufacture of kerosene oil the product contains a much larger proportion of volatile hydrocarbons than when coal is wholly or partially employed, and, therefore, more precautions are ni cessary, and greater labour is requisite, to effectually get rid of these dangerous substances. Some manufacturers not only neglect to remove these volatile compounds from the oils, but actually purchase the light oils from more conscientious refiners, in order to mix them with heavy oils to make them burn. This is

an exceedingly reprehensible practice, and r serving severe punishment ; for the heat generation ed by the heavy oils is burning vaporises the volatile portion, and renders it liable at any fir to explode. The oils distilled what y from car or those with which but a small portion of netleum has been mingled, are much more east freed from dangerous portions. By a cately refining, and after distillation, steaming, and large surface of atmospheric exposure, everydy gerous compound can be removed, and no feneed be apprehended from oils which are know to be subjected to a rigid and conscientious m fining. In purchasing oils, however, which should be taken for granced. They should carefully tested, and their li bility to exploit fully investigated, The simplest and me satisfactory test of safety is to place the oil an open dish in a water bath, and heat it upt 130 deg. to 140 deg. Fahr. If, when elerst to this temperature, and applying a match it does not ignite, it may be pronounce I very site If it ignites but s'owly or sluggisbly it is as But any oil that lights quickly in an open di at a temperature below the 130 deg. Fahr, w be considered as dangerous. We have seen r the vapour of which ignited with a smart pr or explosion at 60 deg. Fahr., ou holding lighted match more than one inch above ism This was dangerous in the highest degree face. and the vendor of such a compound should t held to strict accountability for any accide. occurring from its being burnt in lamps. The extensive use of these oil-lamps among the work ing classes induces us to call'especial attentiont. this very simple test. To those who may m. be provided with a thermometer to measure h. temperature, the following simple rule may u adopted ;- Pour into a basin a pint of boiling water, and allow it to stand to cool for fit. minutes, then pour some of the paraffin oil ink a teaspoon, and having floated the bulb of the spoon on the hot water, leave it at restfor a few minutes; then hold a lighted match a lift above the spirit ; if it ignites quickly, it is due gerous ; if not at all, or very slowly, the parts. may be used without iter of accident. Ame tailic fountain or reservoir should always w avoided in using any of those hydrocarbon on To show the vast difference of the oils now a sale as paraffin oils in this country, Dr. R Aug. Smith, F. R. S., of Manchester, an eminent chen ist, has lately found that oil made by Mr. Yom, the inventor, and his partners. from coal and who have really the only right to call their oil parafflo, will not ignite in an open vessel at 154 deg. Fahr.; while a sample of American rock

Nine-twentieths of the flexh-forming matter are stated to be found again in the manue, animals fed upon oil-cake.