grease is used largely in malleable iron works. Price 14*l.* per ton.

9. Pit grease or wire-rope composition, used for protecting pit ropes and miscellaneous purposes. The quality is exceptionably good, and if more of it were available it would soon supplant the kinds now in use. The price is 12*l.* per ton.

10. A canister of sheep dip, a substance with which we have not the honour to be acquainted. Before opening the canister, however, the idea was forced upon us that if it betrayed too much of the smell of paraffin, the sheep might object to have any connexion with it. We were agreeably surprised to find that the natural smell has been neutralized, and, so far, as we can judge, completely so. This sheep wash is sold at 3d. per lb. It is described by Mr. Fell as non-poisonous, a thorough skin purifier, not injurious to the health of the animal, and a decided improver of the wool. It is also recommended as a cure for all the ills that dog-flesh is heir to—such as mange, ticks, fleas.

We consider the progress in the utilization of refining waste here evidenced to be of the utmost importance, and it will be of still greater importance should the trade in the staple produce of refiners continue for any length of time in its present unfortunate position.—*The Oil Trade Review.*

LUBRICATING PETROLEUM AS A SICCATIVE OIL.

From a correspondent in West Virginia we have received a communication on the use of the heavy petroleums—lubricating oils—as vehicles for pigments. He believes they are equal and, in some cases, superior to linseed oil for this purpose. He quotes scientific and other authorities in support of his position. A series of experiments were made with linseed oil and Pennsylvania and West Virginia heavy petroleums in a lighted room kept at 60° F. On metal the linseed oil dried in seven days, the Pennsylvania petroleum in nine days. On glass, linseed dried in ten days, Pennsylvania in one month, and West Virginia in seven days. On wood, the experiments showed in ten coatings, each applied as soon as the preceding coat was dry; linseed dry in thirty-six hours, Pennsylvania petroleum in thirty-five, and West Virginia in twenty-four.

The writer says he has seen several houses, brick and wood, which have been painted a year or more with this oil as a vehicle, and thus far the petroleum paint stands as well as that mixed with linseed. The Baltimore and Ohio Railroad Company use the petroleum for painting their cars and consume more for this purpose than for lubricating. Other statements are made to show that the lubricating petroleum is well fitted to take the place of linseed oil and that it is very much cheaper.

We are not prepared to view the substitution of this hydrocarbon for the linseed oil, so sanguinely as our correspondent. One of the facts stated by him is that the petroleum oil absorbs one sixtieth the amount of oxygen that raw linseed oil does and one fifteenth that of boiled linseed. This may be an advantage, but we do not so understand it. In drying, the linseed oil does not evaporate, but, combining with oxygen, is transformed into an elastic gum which holds the particles of paint in one mass. Petroleums holds in suspension rather than in chemical combination a certain amount of asphaltum and paraffine. When the oil is evaporated there will be left this asphaltum or paraffine, a brittle substance incapable of holding the paint powder in cohesion. It may be, however, that used with litharge, japan, and a portion of linseed oil these heavy petroleums may be adapted to some kinds of work and answer as well the purpose as pure linseed oil.—*Scientific American.*

DANGER OF OUR ARTIFICIAL LIGHTS.

On this subject the *Scientific American* says:—Gas explosions are always the result of carelessness or thoughtlessness. It is probably the least dangerous agent for producing light, since the relinquishment of whale and lard oil for this purpose, but the ignorance or thoughtlessness of people make it sometimes a very dangerous substance. Confined in pipes it is perfectly safe. It cannot explode nor even burn until mixed with the oxygen of the atmosphere, and it has the valuable quality of denoting its presence when mingled with the air we breathe. In this form it is dangerous, yet when a meter or the pipes located in a vault or dark cellar leak, it is too common a practice to enter the room with a light to examine the leak, when of course an explosion takes place. This can be readily prevented by first ventilating the room through doors and windows. There can be no excuse for these accidents nor for the blowing out of a gas light leaving the pipe open for the escape of the gas, a trick usually ascribed to country visitors to cities, but not seldom performed by those who should know better. Cases of death by asphyxia in sleeping rooms from this inexcusable carelessness are not unfrequent.

Camphene and burning fluid have been largely superseded by kerosene, yet they are still used to a limited extent, the fluid being burned by a wick in the ordinary manner or used to generate a gas in the lamp itself. In whatever manner employed these mixtures of alcohol and turpentine are dangerous, as many fatal accidents have proved. We know of no method of preventing the danger attending their use, and are glad they are going out of fashion. But it may be doubted whether in exchanging them for kerosene we are not "jumping from the frying pan into the fire."

Kerosene accidents are altogether too common. It would seem that this hydro-carbon might be made at least non-explosive; that it can be made non-inflammable is impossible without destroying its light-producing qualities. But many serious and fatal accidents are continually occurring by explosions of kerosene lamps. A low distillation of the oil would easily remove the more etherial substances in its composition, which, at temperatures not excessive, generate an explosive gas. There should be some simple means of testing kerosene to detect the presence of these volatile elements. Beyond that, only care in the use of kerosene promises to avert its dangers.

It is commonly burned in glass lamps. Now glass is one of the most unreliable substances known, and if not properly annealed will sometimes, even when untouched, fall in pieces as though shattered by a blow. Very likely many of the so-called ex-