

Danger in Lubricating Oils

To the Editor of The Canadian Manufacturer :

Dear Sir,—In your issue of July 17, there appears a letter headed, "Danger in Lubricating Oils," signed by Mr. O. E. Dunlop, Secretary of the International Acheson Graphite Co., in which he exploits the use of artificial graphite, "deflocculated," for lubricating purposes.

While there is a great lack of agree-

graphite assembled and compressed with earthy matter into the form in which it is found, but there is no question on this score concerning the artificial graphite which is undoubtedly amorphous in its form.

Returning to a consideration of the article in question, objection is first made to the apparent desire of the writ-

This quality (unctuousness) is usually determined by rubbing between the thumb and finger. This method does not give entirely satisfactory results for reasons as follows :

Crystalline graphite, either flake, needle-like or irregular, is dense and compact, and not easily reduced by crushing between the fingers, so that the individual particles maintain their size and continue to be easily felt, while on the other hand the amorphous kinds of graphite, both natural and artificial, continue to be reduced in size until the particles no longer are evident to the touch and the



Display of Electrical Equipment by J. F. B. Vandeleur Toronto.

ment between the title of the article and its substance, it is not that feature which is to be criticised, but, rather, it is to Mr. Dunlop's statements as to the peculiar manner in which deflocculated graphite fulfills the function as a lubricant, that exception is taken.

Before going on, it will be well to state that graphite exists in two forms; crystalline and amorphous. There may be some doubt as to the existence of natural amorphous graphite, as it may be that what is so-called is merely aggregations of minute particles of crystalline

er to use the word "unctuous" in an exclusive sort of way, as if no other graphite possessed this remarkable quality.

The facts are that all graphites have this quality, the crystalline more so than the amorphous forms, for the reason that when a crystal of graphite is broken, the cleavage surface is smooth, while in the case of amorphous graphite, and because it is amorphous, the line of the fracture is necessarily irregular and rough. It is only when the irregularities are worn away that such a surface becomes smooth and unctuous.

"unctuous" sensation comes into evidence.

Second, "a true lubricant" is described as "a body that will subdivide so that all movement will be within itself and not between it and the adjacent metal"; also, "Acheson graphite meets this requirement and is of a nature that permits of slipping within its own mass without any expenditure of energy that will produce high temperature."

The close connection of the definition of a perfect lubricant, and the mention of graphite as possessing the qualities