on the steam engine is legion, but few are of any use to the engineer as distinguished from the student.

The book appears to largely consist of notes accumulated both in the drawing office and in the works. These are of great value, and particularly so because all dimensions have been reduced to British units, thus rendering possible a comparison between Continental and British practice.

A careful study of the contents of this book and the arrangement of the sections, leads to the conclusion that there is probably no other book like it in this country. The volume aims at showing the results of practical experience, and it certainly may claim a complete achievement of this idea.

It must not be imagined from these remarks that the steam engine has not been treated in any other manner than that of rule of thumb, a term often used by those who would place theory before practice in the training of an engineer. Take, for instance, the diagrams intending to illustrate the defects in valve gears, which may often be met with in practice; these make the different defects perfectly clear, and one can see at a glance where the mistake is to be found.

Section x. deals with the calculations for power and steam consumption, and section xi. explains the effect of the inertia of the reciprocating parts of a steam engine; with an ordinary amount of mathematics all these can be easily followed. Section xiv. is on boilers. This section is the weak part of the book, and in future editions should be considerably augmented with information having reference to the design and strength of boilers.

The book is fully illustrated, in fact, we are told in the preface that the letter-press has been reduced as much as possible to allow of the introduction of the numerous tables and drawings; among the latter there is an excellent illustration of a compound Willan's central valve engine with two cranks—probably the best engine of the kind to be had. Some of these illustrations have evidently been especially prepared with the intention of giving an idea of principles of construction to the reader, particularly those having reference to types of steam engines, various ways of arranging cylinders and cranks in double and three-cylinders, compound, and triple expansion engine. These outline diagrams are exceedingly clear. Other illustrations are sectioned and finished in such a way so as to render the details evident. All these points add considerably to the value of the work as a text-book for senior students in our technical colleges; for draughtsmen engaged in stationary engine work, and for mechanic engineers generally.

N. J. LOCKYER.

Heat. By Mark R. Wright. (London: Longmans, Green, and Co., 1893.)

"OF making many books there is no end, and much study is a weariness of the flesh." Truer words than these were never written, and they are specially applicable at the present day. Mr. Wright's addition to the literature of science is avowedly "written specially to meet the requirements of the Advanced Stage of Heat as laid down in the Syllabus of the Directory of the Science and Art Department." To say that the author has satisfactorily accomplished his design is, therefore, to give him praise. In an examinational text-book there is little, if any, scope for originality, and all the author can do is to develop new methods of treatment. This Mr. Wright has done to a small extent, and he seems to be in touch with the work that has been done in connection with his subject during the last few years. Of the 136 illustrations only thirty-five have been drawn for the book: the majority of the others being of the well-known stock character, which have "had their day" and should have "ceased to be" long ago.

LETTERS TO THE EDITOR.

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of* NATURE. *No notice is taken of anonymous communications.*]

Slickensides.

IN the account of M. Daubrée's experiments on the geological work of high-pressure gas (NATURE, July 6, p. 228), the following sentence occurs:—"In any case it is perhaps a little difficult to understand how a *single* movement of one rock surface over another . . . could produce anything like a perfect polish."

This recalls to my mind a freshly-made fault I examined in 1890, in a pit at Longcliff, Derbyshire. The rock was a moist, sandy fireclay or gannister; an area of about 80 feet square, lying on a slope of 35°, had slid down some 3 or 4 feet. The operations at the foot of the slope removed the support of the mass of rock above the sliding plane, and shortly afterwards it split across the middle, and the lower portion moved about

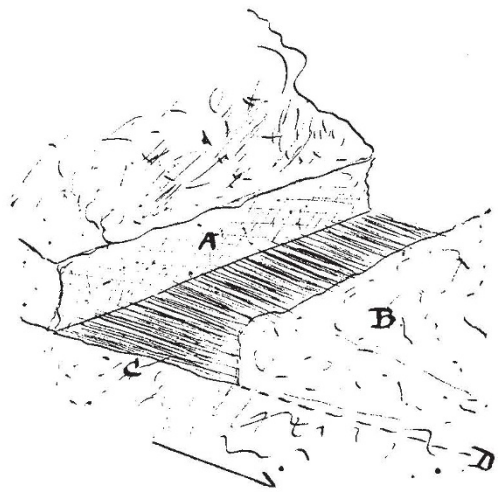

Diagram of fault at Longcliff Clay Pit.—A, Mass that slid down 4 ft. and then stopped: B, portion of A that slid 4 ft. further; C, Slickenside surface; D, fault or sliding plane.

3 feet further down, disclosing in the gap thus made the surface of the stationary rock. This surface exhibited every appearance of a typical slickenside; it was *highly polished*, *striated*, and even *blackened*, though the clay itself is cream-coloured. The striations corresponded with the direction of the movement, which had been a simple downward one.

Some slickensides may possibly be explained by reference to the action of high-pressure gas, but here at Longcliff was an unmistakable example of one caused by a "single movement of one rock surface over another," and it is very probable that the majority of ordinary slickensides have had a similar origin.

Mile End Road, London E., July 12. J. ALLEN HOWE.

Potstones found near Seaford.

PARAMOUDRA or potstones are known to geologists as existing in the chalk strata around Norwich and Belfast, but till lately I had supposed they were confined to those districts.

Last Whitsuntide, whilst enjoying a ramble along the chalk cliffs, east of Seaford, I was surprised to come across what seemed a real, but unusual potstone, lying among the stones below high-water mark, but which must, presumably, have originally fallen from the chalk above. Although consisting of a mass of chert, instead of pure flint like those near Norwich, in every other respect it resembles them. In form it is a large irregular cylinder and lies on its side, so that the sea water, when the tide rises, flows freely through it. It measures roughly between four and five feet in each direction, and the aperture has a diameter of twelve inches.

The enclosure of several large black flint nodules indicates that this peculiar shaped mass of chert has been formed since the flint itself segregated.