

The effect produced without and with the diaphragm will be seen in Fig. 3.

Figs. 4 and 5 illustrate shakes, and show clearly the importance of equality of touch; they show, too, how precisely the apparatus reproduces any irregularity.

Many questions have to be considered with regard to quick playing, but one of the most striking features is that the more quickly the notes are played, the more the force of the movement diminishes, until finally a certain stage is reached, when the amplitude ceases to vary.

Let us now consider the advantages of the instrument; they are threefold.

(1) Dealing with its advantage from the psychological point of view, it is found that the voluntary movements of the pianist can be observed without putting him to any restraint or embarrassment, for the small tube does not affect the resistance of the notes, nor is the exterior of the piano altered.

(2) For teaching purposes the device has been of great use. The record on the roll of paper shows the faults so precisely, that although they are scarcely perceptible to the ear, there is no denying their existence.

(3) We are well aware that written music cannot show every slight change in the time the composer might desire. By applying the graphical method, this difficulty is eliminated, and the time will be reproduced with the smallest details.

#### THE NEW METEOROLOGICAL STATION ON MOUNT WELLINGTON.

A VIEW of the new meteorological observatory on Mount Wellington, Tasmania, is shown in the accompanying illustration. As we announced in a previous issue (July 25), the observatory was begun in

Weather Bureau, Brisbane, has organised the stations. Very valuable results, bearing upon the distribution of pressure, temperature and humidity attaching to anticyclonic and cyclonic systems through vertical sections of the atmosphere in the northern and southern hemispheres respectively, will probably be forthcoming when the Mount Wellington and Hobart results appear and are discussed side by side with those obtained at Ben Nevis and Fort William. Except for a few degrees of latitude, Mount Wellington and Hobart are geographically and physiographically almost the very counterparts in the southern hemisphere of Ben Nevis and Fort William in the northern. Mr. Wragge has entirely reorganised the Tasmanian Government Meteorological Service on federal principles in direct connection with the Queensland Weather Service, and he was enabled to perform this work through the courtesy of the Queensland Government, who allowed him as their officer to render federal aid in the cause of science to the sister colony. Mr. H. C. Kingsmill has charge of the Tasmanian section.

#### DR. E. VON REBEUR-PASCHWITZ.

E. VON REBEUR-PASCHWITZ was born in 1861, and died, after an illness of ten years, on the first of the present month. In many ways he always seemed to me to resemble our incarnation of the ideal man of science. He had Darwin's lovable nature, as well as his modesty and utter carelessness of his own fame. But the likeness was closest in the unceasing energy with which he laboured, in spite of the constant suffering that would have made many stronger men feel their life's work was done.

For some time von Rebeur-Paschwitz was a Privat-docent in Astronomy at the University of Halle. His first notable

The barometer cairn, now a larder, and barometer transferred to house (4166 feet).



The Observatory, Mount Wellington (4166 feet above sea-level).

May last, and it will be to the southern hemisphere what the Ben Nevis and other high-level observatories are to the northern. Mount Wellington is about four miles distant from Hobart, and rises almost directly from the level of the sea. The station is supplied with a "Fortin" mountain barometer, "Richard" barograph and thermograph, dry-wet, and maximum and minimum, thermometers, as well as a "5-inch" gauge with extra deep rim for retaining snow. Similar instruments are in use at the Springs (2495 ft.) and at Hobart, 160 feet above sea-level. Mr. Clement L. Wragge, Superintendent of the Chief

achievement was, I believe, the modification of Zöllner's horizontal pendulum, the two springs by which it was supported being replaced by agate cups resting on fine steel points. The earlier investigations with this instrument were intended to be of an astronomical character, but its wonderful sensitiveness to the pulsations of distant earthquakes soon became apparent, and he was gradually led to give more time to their study, until he became the chief authority on this fascinating branch of seismology. On two occasions he contributed articles to NATURE on this subject (vol. xl. pp. 294-295; vol. li. pp