held that there was subject-matter in such an omission. A process had been proposed for preparing dyes called anisolines (A) from rhodamines (r) by first forming a potassium salt (1st step=f), and then transforming this salt into anisoline (2nd step=F). Thus the known process was:—

$$A = F[f(r)].$$

Now it was shown that the potassium salt did not exist, *i.e.* $f(r)$ was imaginary; the patent in question obtained anisoline direct from rhodamine, $A = f(r)$, and this was held to be an invention.

I may note two final points. When a patent is granted, the criterion of ingenuity is not applied, as this is left for the Court to determine. However, if there is absolutely no ingenuity possible, the Law Officer may refuse to grant a patent. His criterion of rejection is, therefore, not $f(x) = f(a)$, as in the Court, but $f(x) \equiv f(a)$.

A patent is invalid for "insufficiency of description" if it casts on the public the burden of experiment beyond a certain point. This may be expressed by saying that in this case the equation $I = \phi(a)$ is indeterminate.

HAROLD E. POTTS.

University Club, Liverpool, April 2.

A University in the Tropics.

THE importance and value of the establishment of a university in the tropics can only be appreciated fully by those who, trained in the universities of Europe, are suddenly brought face to face with the unfamiliar conditions obtaining in a tropical country. That the proposition may be thoroughly considered and eventually realised must be the wish of all interested in the development of our tropical possessions.

The question of a site for an imperial tropical university is one upon which divergent views may be expected; few men know the equatorial belt with uniform intimacy, and are liable in consequence to be prejudiced in favour of one part or another. Admitting my own imperfect knowledge, I would like to bring forward the claims of British East Africa as an eminently suitable situation for such a university.

Dissected by the equator, it cannot be equalled for position in British territory. Rising from sea-level to plateaus more than 8000 ft. in altitude, with a mountain rising more than 17,000 ft., far above the snow-line; with heavy rainfall in one part and almost rainless deserts in another; with healthy districts and parts uninhabitable by man in consequence of deadly disease; with soils varying from coral through sands to loams and clays; with standard crops from cocoanuts, rubber, and cotton, to coffee, maize, and wheat; with a large native population possessing many different languages and customs; with a flora and fauna as diversified as climate and altitude, and probably as varied as is to be found in any country; with a geological structure presenting some of the most interesting features in the world—British East Africa, the only British territory through which the equator passes, is surely uniquely situated for the seat of an imperial tropical university for the study and advancement of our knowledge of medical, agricultural, botanical, zoological, anthropological, ethnological, and other branches of science.

The capital of the country, Nairobi, is situate within 100 miles of the equator, is in a healthy district, is twenty-four hours by rail from the coast tropical belt, and the same distance from the Victoria Nyanza and Uganda, both full of the most diverse subjects of scientific interest.

The proximity of India is another great advantage in this respect. Practically all the natural conditions obtaining there—even acquaintance with the natives and their languages—may here be studied while residing in a climate resembling an English summer.

If any more suitable position for an imperial tropical university can be found than Nairobi, then the British Empire is indeed most fortunate, but a glance at the map does not suggest the possibility of such a collection of favourable factors occurring elsewhere. The passage is seventeen days, with choice of five steamship lines.

U. H. KIRKHAM.

Government Laboratory, Nairobi, February 24.

The Twinkling of Stars.

IN three papers in *The Journal of Physiology* I have described a number of new visual phenomena which show that the photochemical stimulus is situated externally to the cones, and that the foveal region is sensitised from the periphery of the retina. The result of this is that at one moment the foveal region may be the most sensitive part of the whole retina, and at another blind. The twinkling of stars may be imitated in the dark-room. If a small light be looked at in a dark-room, as, for instance, that coming through the smallest diaphragm of my colour perception lantern, which represents a $5\frac{1}{2}$ in. bull's-eye railway light at a thousand yards when seen at a distance of 20 ft., care being taken not to move the eye, the light will appear to twinkle like a star. It will be noticed that pale bluish-violet circles start at the periphery of the field of vision, and, gradually contracting, reach the centre. On reaching the centre the light brightens. If the circles stop the light disappears. The colour of the circle is the same for white light or any colour.

There is another simple experiment which shows how the centre of the retina is sensitised from the periphery. On opening one eye on awaking in the morning and looking at the ceiling, the central portion is seen as an irregular, circular, rhomboidal, or star-shaped black spot. On closing the eye again a bluish-violet circle appears at the periphery or middle of the field of vision, contracts, and then, after breaking up into a star-shaped figure and becoming brighter, disappears, to be followed by another contracting circle. If the eye be opened when the star figure has formed in the centre it will appear as a bright rose-coloured star much brighter than any other part of the field of vision. If, however, we wait until the star has broken up and disappeared before opening the eye, it will be found that only a black spot is seen in the centre.

F. W. EDRIDGE-GREEN.

London, April 14.

Gain of Definition obtained by Moving a Telescope.

A SLIGHT adaptation of the explanation offered by your correspondent Mr. G. W. Butler (April 10, p. 137) appears to furnish a more natural solution of the problem. When an object at rest is seen against a background which it closely resembles there is nothing to differentiate between the object and the slight irregularities of the background. So soon as the object moves, such a differentiation becomes possible, the moving irregularities being now attributed to their real origin. It seems unnecessary to assume a "cumulative impression of contrast."

The following simple experiment lends support to this explanation. A small opening is cut in a sheet of paper covered with irregular markings, such as ink dots. Against the back of this is held another sheet similarly marked. If now the sheets are observed from such a distance that the edges of the opening are invisible, its position cannot be determined