23. Determine the magnifying power of a Ramsden's eye-piece.

24. In a given compound microscope we have, $F = \cdot 8$, $f = 1 \cdot 5$, $R = \cdot 1$ and $l = 10$; find the magnifying power and the brightness of the field.

25. In a given telescope the radius of the object glass is $1 \cdot 5$ inches, and its focal length 2 feet. Required the highest power which can be used without diminishing the brightness of the field.

26. If in the instrument of Problem 25 a power of 120 be used, and the diaphragm have a radius of $\cdot 1$ inch, what will be th field of view and its brightness?

27. How much shorter would Cassegrain's telescope be than Gregory's, if in each the focal length of the large speculum were 4 feet, of the eye-piece 2 inches, and if the magnifying power were 100?

28. A luminous body, A, extinguishes the shadow cast by another, B; compare their illuminating powers, the distances from the screen being, for A 8 inches, and for B 10 feet.