

where the image is most sharply formed. This is the principal focal distance, or focus for parallel rays. -

Then you will have to do the same by the eye-glass - and divide the one by the other. Thus if the object-glass has a focal length of 20 inches, and the eye-glass, one of 2 inches, you have at present a power of 10. - And having the focal length of the object-glass you will know what focus you will want for the eye-lens, to give you a chance of seeing the ring of Saturn - for instance if your object-glass has a focal length of 20 inches, and you want a power of 40 to show the ring, an eye-~~lens~~ lens of half an inch focus will give it you - that is, always provided the object-glass has perfection sufficient to bear it - which I should hope it would. You might find it worth while to go to Mr. Baker's, the Optician

Holborn, and see if you could get an old eye-piece of the focal length you wish - or of an equivalent focal length, by which I mean, as astronomical eyepieces are frequently made with two lenses, such an one that the combined power of the two will equal the focal length you want. - You can, if you please, make use of my name to him, as I sold a large telescope to him a few months ago, (in order to purchase one larger still, which I am soon expecting from America) and I dare say you will meet with much civility and attention. I should suppose that as he deals in second-hand optical apparatus, he would let you have an eyepiece cheaper than Slater.