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in the path of light from said source of light for forming a narrow beam of light and including a prism for refraction and dispersion of the light into distinct wavelength bands, a screen having an adjustable width slit therein adjacent the other end of the optical system from the source of light and positioned to transmit selected bands of the light dispersed by said prism, a sample holder having an elongated slit extending in a direction substantially perpendicular to the direction in which the slit in said screen extends and through which material to be tested can be exposed, and moving means on which said sample holder is mounted for moving said sample holder in a scanning movement completely through the beam of light dispersed by the prism past the end of the optical system on a path to receive light directly from the prism on the opposite side of the screen from the optical system in a direction transverse to the light emitted through the optical system and the screen and in a direction generally parallel to the direction of elongation of the slit in the sample holder.

4. An apparatus for exposing samples to light of various wavelengths, comprising a source of light similar to natural solar radiation, at least one optical system positioned in the path of light from said source of light for forming a narrow beam of light and including a prism for refraction and dispersion of the light into distinct wavelength bands, a sample holder having an elongated slit therein through which material to be tested can be exposed, said slit extending in the direction in which the narrow beam of light is dispersed, and moving means on which said sample holder is mounted for moving said sample holder in a scanning movement completely through the beam of light dispersed by the prism past the end of the optical system in a direction transverse to the light emitted through the optical system on a path to receive light directly from the prism and in a direction generally perpendicular to the direction of elongation of the slit in the sample holder and to the direction in which the narrow beam of light is dispersed, whereby a sample exposed through the slit has parallel stripes thereon which have been exposed to different wavelengths of light in said dispersed beam of light.

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5. An apparatus as claimed in claim 2 in which said source of light is centrally positioned in said enclosure, and there are a plurality of optical systems in a plane and extending radially from said source of light and substantially equidistantly spaced around said source of light, and said moving means comprises a drum on which said sample holders are mounted, said drum being rotatably mounted in said enclosure for rotation about an axis through said source of light and in said plane in which said optical systems are positioned, and means coupled to said drum for driving said drum.

6. An apparatus as claimed in claim 5 in which each of said optical systems has a substantially straight line optical axis and is rotatably mounted in said enclosure on said optical axis, and said second sample holder is spaced axially along said drum from said first sample holder and is mounted at an angle to the axis of said drum.

7. An apparatus as claimed in claim 1 in which said optical system has a substantially straight line optical axis and said optical system and said screen are rotatably mounted about said optical axis, and said second sample holder is mounted on said moving means at a point spaced from said first sample holder in a direction parallel to the direction in which the slit in said screen extends when said optical system is in said first position and said moving means is movable to move said sample holders in a direction transverse to the direction in which said slit in said screen extends.

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JEWELL H. PEDERSEN, *Primary Examiner.*

A. A. KASHINSKI, *Assistant Examiner.*