Fresnel's Double mirror arrangement

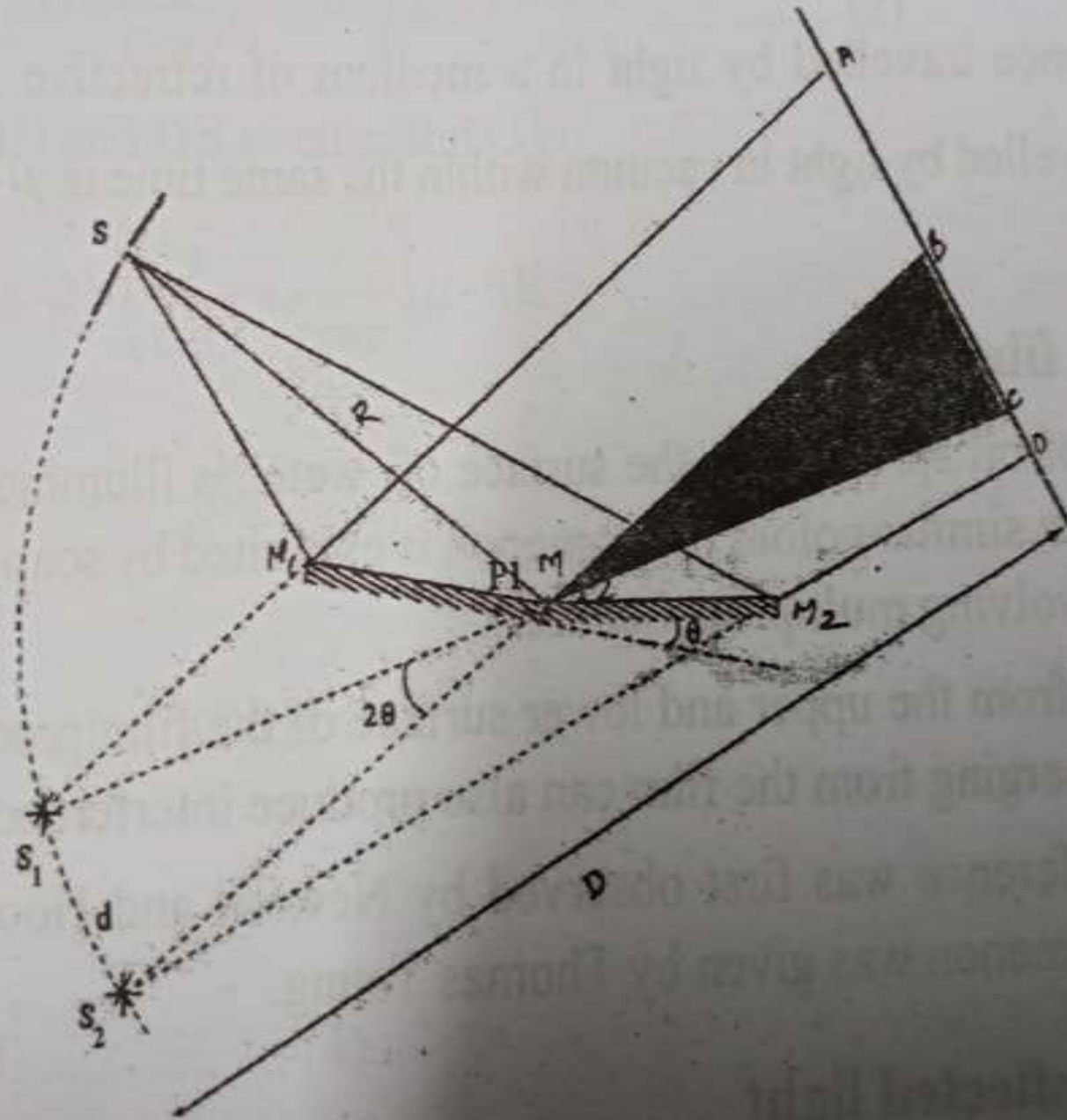**LALY A.S.**
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It is an arrangement for producing two coherent sources using the phenomenon of reflection.

Coherent Sources: If the light waves coming from the two sources have equal amplitudes, same frequency and constant phase relationship.

To produce Interference phenomena the two sources must be coherent.

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The angle between the reflected light MB and MC is 2θ,since the angle between two mirrors is θ.

Angle BMC= 2θ, Therefore angle S_1MS_2= 2θ

Let "d" be the distance between S_1 and S_2

Then 2θ=d/R where R is the radius of curvature .

d= 2Rθ

If D is the distance between coherent sources and screen ,Then

Bandwidth β=λD/d   = λD/2Rθ