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ABSTRACT

A jib is supported for its luffing movement by a luffing rope mounted to a longitudinally intermediate portion of the jib. The jib has a truss structure with upper and lower beam members respectively overhanging upward and downward of load action line which connects a lifting point with a support pin. Assuming that, when the burden of maximum load is lifted up, P is a load applied on the load action line from the tip of the jib; H is a width between upper and lower portions of the jib at a mounting point of the luffing rope; E_u and E_l are overhang eccentric lengths of the upper and lower beam members at the mounting point of the luffing rope with respect to the load action line, respectively; and A_u and A_l are cross-sectional areas of the upper and lower beam members, respectively, then cross-sectional areas A_u and A_l of the upper and lower beam members are determined depending upon overhang eccentric lengths E_u and E_l of the upper and lower beam members to satisfy

$$P \times \frac{E_l}{H \cdot A_u} > P \times \frac{E_u}{H \cdot A_l} ,$$

so that an upper portion of the jib is recurved toward a crane body when the burden of maximum load is lifted up.



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