

Answer on Question #76218-Physics-Other

A fan and a sail are mounted vertically on a cart that is initially at rest on a horizontal table as shown in the diagram below.

When the fan is turned on an air stream is blown towards the right and is incident on the sail. The cart is free to move with negligible resistance forces.

After the fan has been turned on, the cart will:

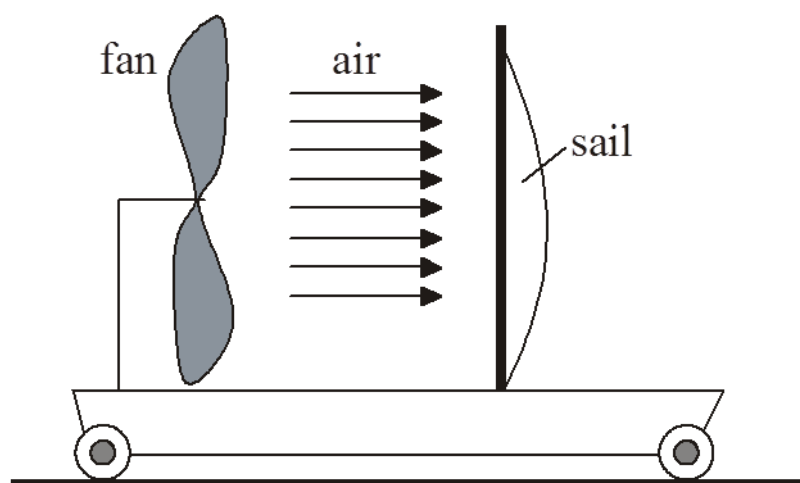
A) Move to the left and then to the right.

B) Remain at rest

C) Move towards the right

D) Move towards the left

Solution



As well as the fan applying a force to the air molecules the air molecules apply a force in the opposite direction, equal in size, on the fan. So we have two forces acting on the cart, one on the sail and one on the fan, which are the same size but in opposite direction.

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