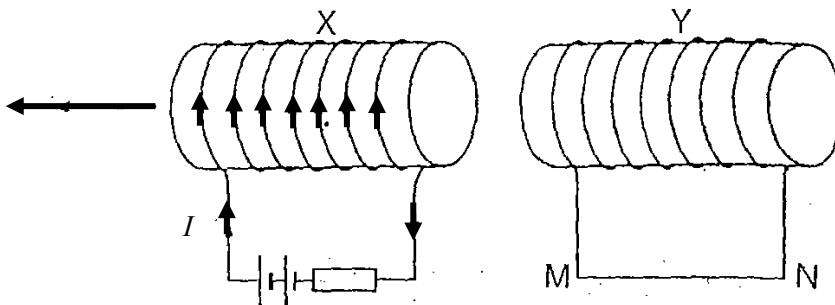


- 25** X and Y are solenoids wound on cardboard tubes. X carries constant current I as shown below and moves with constant speed away from Y along the common axis of the two tubes.



As a result of electromagnetic induction, a current will flow in the straight wire MN and there will be a force between X and Y. Which one of the following correctly describes both the current and the force?

Nature and direction of current in
straight wire MN

Nature of force

- | | | |
|----------|---------------------|------------|
| A | diminishing, N to M | attraction |
| B | diminishing, M to N | repulsion |
| C | constant, N to M | attraction |
| D | constant, M to N | repulsion |