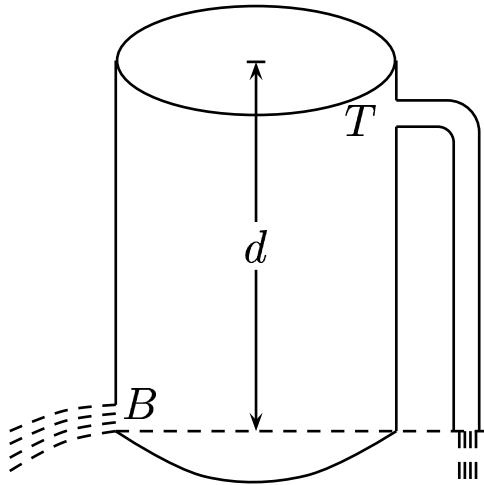


Consider a bucket of water with two outlets through which water is discharged. Water can be discharged from a hole B at the bottom of a bucket which is some distance d below the water surface. It can also be discharged from a downspout which starts at the top “ T ” and has its opening at the same distance “ d ” below the water surface.



If we neglect any friction effects, the water coming out of hole B has

- A) more speed than that coming out of the down spout.
- B) less speed than that coming out of the downspout.
- C) the same speed as that coming out of the down spout.

Since both the hole B and the downspout are connected to the water body, Bernoulli's principle

$$P + \frac{1}{2} \rho v^2 + \rho g h = \text{constant}$$

is applicable here.

Both spouts are at the same height and have the same external pressure. This leads to the identity in their speeds.

Answer **C**