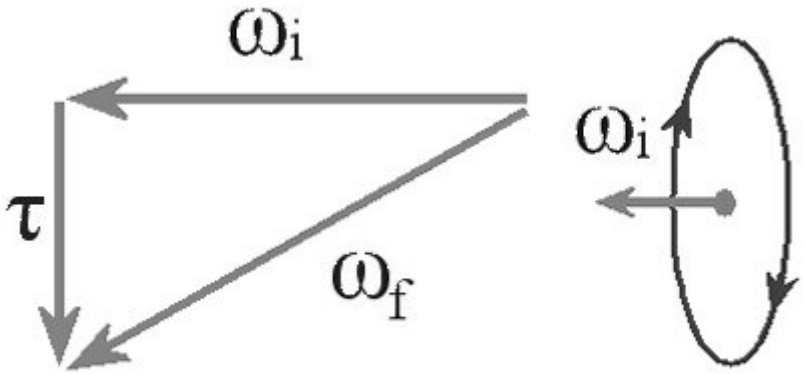
Answer #274

The answer is (b): the bicycle wheel will rotate with the end toward the camera moving up, as seen in an mpeg video by clicking your mouse on the photograph below.



Note that in this case the vector angular momentum originally points toward your left as you view the spinning wheel. When you rotate the wheel counterclockwise as viewed from above, you exert a vector torque in the **downward** direction. Therefore the angular momentum change must be in the downward direction, leading to a net angular momentum that is pointed to the left but slightly in the downward direction, as seen in the photograph and in the drawing at the right.

Now I can tell that here are a lot of septics [sic] out there who think that I am rotating the wheel as I turn it. My first piece of advice to you is to TRY IT. This is a VERY strong effect, as you will quickly recognize. My second piece of advice to you is to NOT get anything caught in the spokes while you are doing this experiment!!

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For questions and comments regarding the *Question of the Week* contact Dr. Richard E. Berg by e-mail or using phone number or regular mail address given on the Lecture-Demonstration Home Page.