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(54) **SURGICAL INSTRUMENTS WITH ARTICULATING SHAFTS**
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See application file for complete search history.

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(57) **ABSTRACT**

Various embodiments are directed to articulatable surgical instruments. Some embodiments comprise an end effector to treat tissue, where the end effector comprises an ultrasonic blade. A hollow shaft may extend proximally from the end effector along a longitudinal axis. A waveguide may extend through the shaft and may be acoustically coupled to the ultrasonic blade. The waveguide may comprise a distally positioned flange positioned within the hollow shaft proximally from the blade and may be held stationary at a first pivot point positioned within the hollow shaft proximally from the flange. A reciprocating wedge may be positioned within the hollow shaft such that distal motion of the wedge pushes the wedge between the flange and the hollow shaft, causing the ultrasonic blade to pivot about the first pivot point in a first direction.

19 Claims, 71 Drawing Sheets

