What is claimed is:

1. A packer for wells, comprising:

a body having a tubular shape;

a sealing element having an upward end and a downward end and disposed around the body;

a first prop upward of the sealing element;

a second prop downward of the sealing element, wherein the first prop is configured to wedge under the upward end of the sealing element and the second prop is configured to wedge under the downward end of the sealing element to push the sealing element outward at both the upward end and the downward end, wherein the second prop is movable relative to the body to slide upward and wedge under the downward end of the sealing element; and

a lower cover sleeve slidably disposed around the second prop and including a lower pushing face configured to push the sealing element upward to wedge the first prop under the upward end of the sealing element.

2. The packer of claim 1, wherein the first prop is formed as part of the body.

3. The packer of claim 1, wherein the second prop is configured to push the sealing element up onto the first prop when wedging under the downward end of the sealing element.

4. The packer of claim 3, further comprising an upper cover sleeve slidably disposed around the first prop and including an upper pushing face configured to limit upward movement of the sealing element after the first prop is wedged under the upward end of the sealing element.

5. A method for setting a well packer, comprising:

propping an upward portion of a sealing element via a first prop upward of the upward portion of the sealing element to create a first propped seal point;

propping a downward portion of the sealing element via a second prop downward of the downward portion of the sealing element to create a second propped seal point, wherein the first prop is configured to wedge under the upward portion of the sealing element and the second prop is configured to wedge under the downward portion of the sealing element to push the sealing element outward at both the upward portion and the downward portion; and

pushing the sealing element upward to wedge the first prop under the upward portion of the sealing element via a pushing face of a lower cover sleeve slidably disposed around the second prop.