Technology Overview

Replaceable Union Nut – Patent # 10,591,094

The invention is a two-piece union nut designed to replace a compromised or sub-standard union nut without having to replace the entire section of pipe where the union nut was used. The two-piece union nut comprises a top half and a bottom half, each of which are designed to fit around a given pipe section and mate together, forming a complete union nut. The top and bottom halves are machined with a cutout portion to fit around the pipe and notches that mate seamlessly to form a union nut. When the two halves are combined, the union nut is constrained in all directions. In addition, the threads on the inner surface of each half line up and maximize thread coverage on the pipe thread piece.

Capabilities

- When the two halves are combined, the union nut is constrained in all directions.
- In addition, the threads on the inner surface of each half line up and maximize thread coverage on the pipe thread piece.

Benefits

- The replaceable union nut minimizes labor and reduces cost.
- The replaceable union nut can be installed without any special tools.
- Once the new nut is installed, there is no need to clean, flush, or hydrostatically test the system.

Benchmarks

Benchmarks are unique qualities that are used to compare against existing patents, patent filings, and commercially available products in this assessment tool.

<table>
<thead>
<tr>
<th>Index Number</th>
<th>Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>Minimizes Labor and Reduces Cost</td>
<td>Minimizes Labor and Reduces Cost: With the replaceable union nut, the only “hot work” required is that of cutting the failed union nut from the pipe. This does not affect system integrity or cleanliness.</td>
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<tr>
<td>2</td>
<td>No Special Tools Required</td>
<td>No Special Tools Required: The replaceable union nut is installed by simply connecting the two halves together around the pipe and threading it together using standard tools.</td>
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<tr>
<td>3</td>
<td>Preserved System Integrity and Cleanliness</td>
<td>Preserved System Integrity and Cleanliness: Once the new nut is installed, there is no need to clean, flush, or hydrostatically test the system. The system can be put back to use immediately.</td>
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