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## (12) United States Patent

### Tovey et al.

### (54) ROBOTIC ARM DLUS FOR PERFORMING SURGICAL TASKS

- (75) Inventors: H. Jonathan Tovey, Monore; Keith Ratcliff, Newtown; Kenneth E. Toso, Wilton; Peter W. J. Hinchliffe, New Haven, all of CT (US)
- (73) Assignce: United States Surgical Corporation, Norwalk, CT (US)
- (\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.
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#### Related U.S. Application Data

- (60) Provisional application No. 60/049,923, filed on Jun. 18, 1997.
- (51) Int. Cl.<sup>7</sup> ..... A61B 17/00
- (52) U.S. Cl. ..... 606/1; 606/130; 600/102;
  - 414/1

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(10) Patent No.:

(45) Date of Patent:

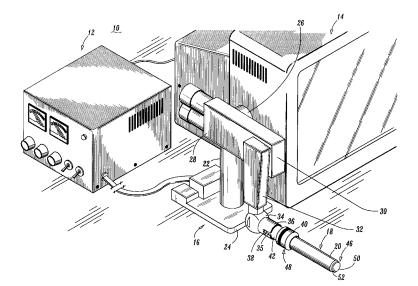
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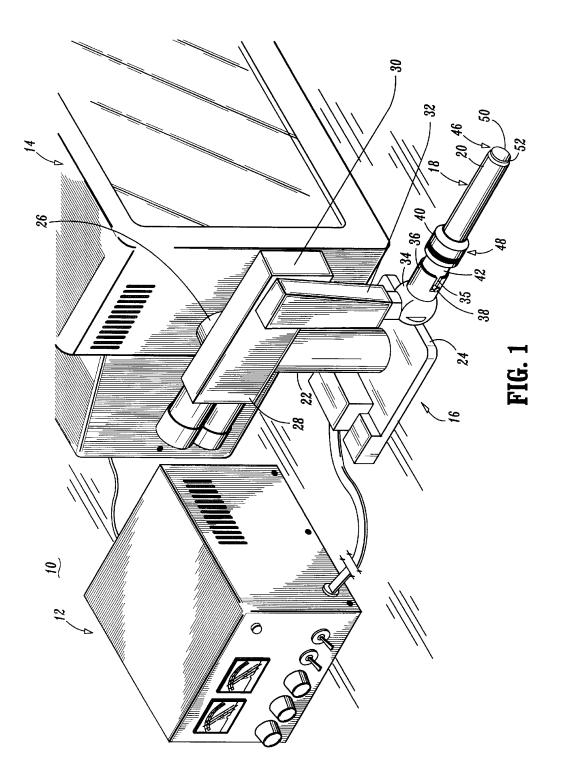
Primary Examiner—Linda C. M. Dvorak Assistant Examiner—Bryan K. Yarnell

### (57) ABSTRACT

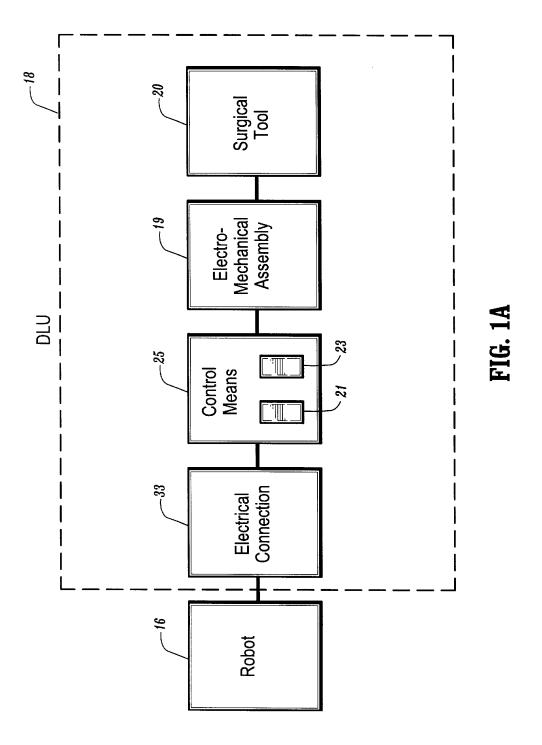
Disposable loading units (DLUs) configured for mounting to a robotic arm for performing at least one surgical task are presented. Each DLU includes an attachment platform having at least one connector for engaging at least one connector on a distal end of the robotic arm for connecting the DLU to the robotic arm, a head portion connected to the attachment platform at one end and configured for housing an electromechanical actuation assembly therein, and at least one surgical tool member extending from the head portion and operatively associated with the electro-mechanical actuation assembly for controlling the operation and movement of the at least one surgical tool member. The at least one surgical tool member may include a cutting assembly, an aortic hole punch assembly, a lasing assembly, a coring assembly, or a vascular suturing assembly.

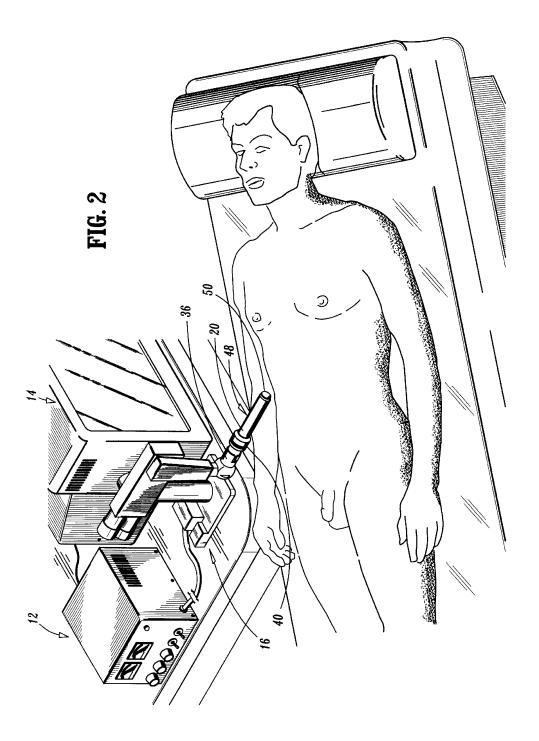
### 14 Claims, 8 Drawing Sheets

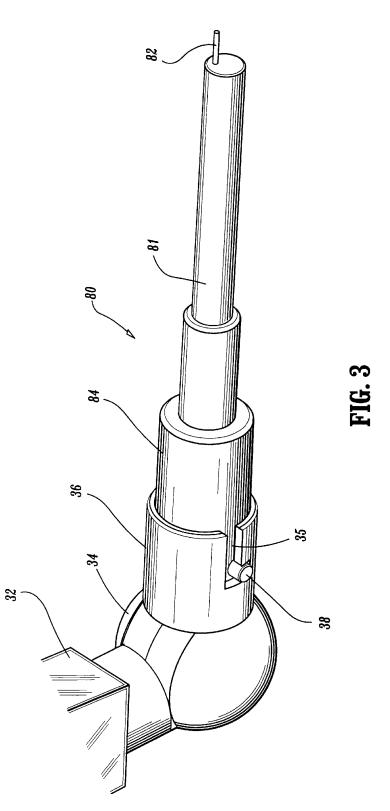




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