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(54) **SURGICAL INSTRUMENT WITH WIRELESS COMMUNICATION BETWEEN CONTROL UNIT AND REMOTE SENSOR**

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- (57) **ABSTRACT**

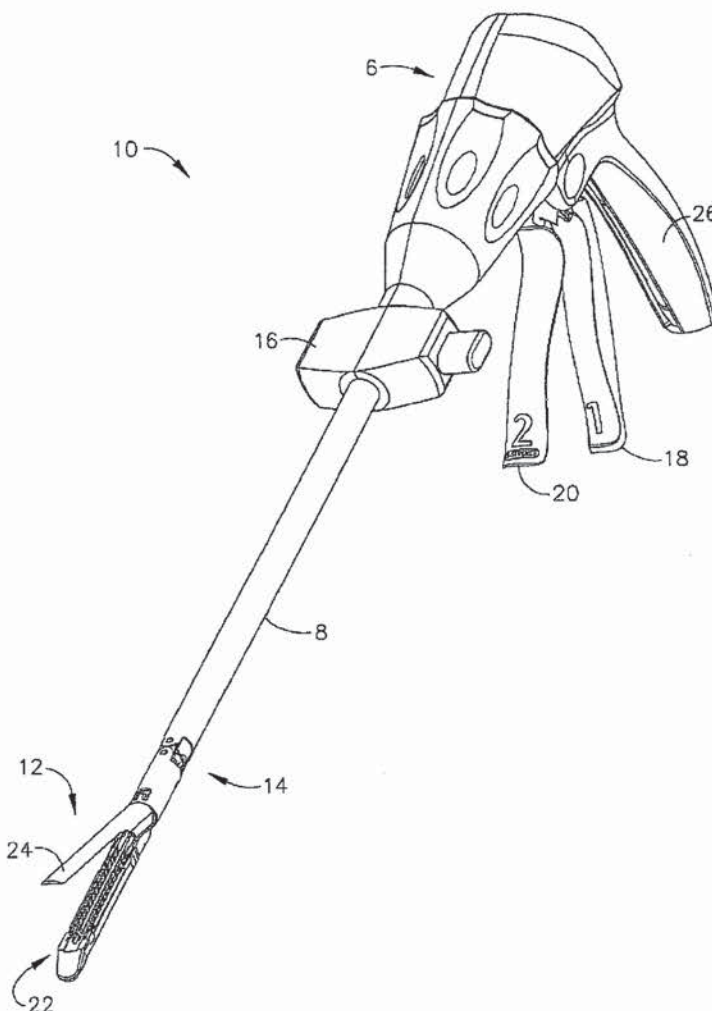
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A surgical instrument, such as an endoscopic or laparoscopic instrument. The surgical instrument may comprise an end effector comprising at least one sensor. The surgical instrument may also comprise an electrically conductive shaft having a distal end connected to the end effector wherein the sensor is electrically insulated from the shaft. The surgical instrument may also comprise a handle connected to a proximate end of the shaft. The handle may comprise a control unit electrically coupled to the shaft such that the shaft radiates signals as an antenna from the control unit to the sensor and receives radiated signals from the sensor. Other components electrically coupled to the shaft may also radiate the signals.

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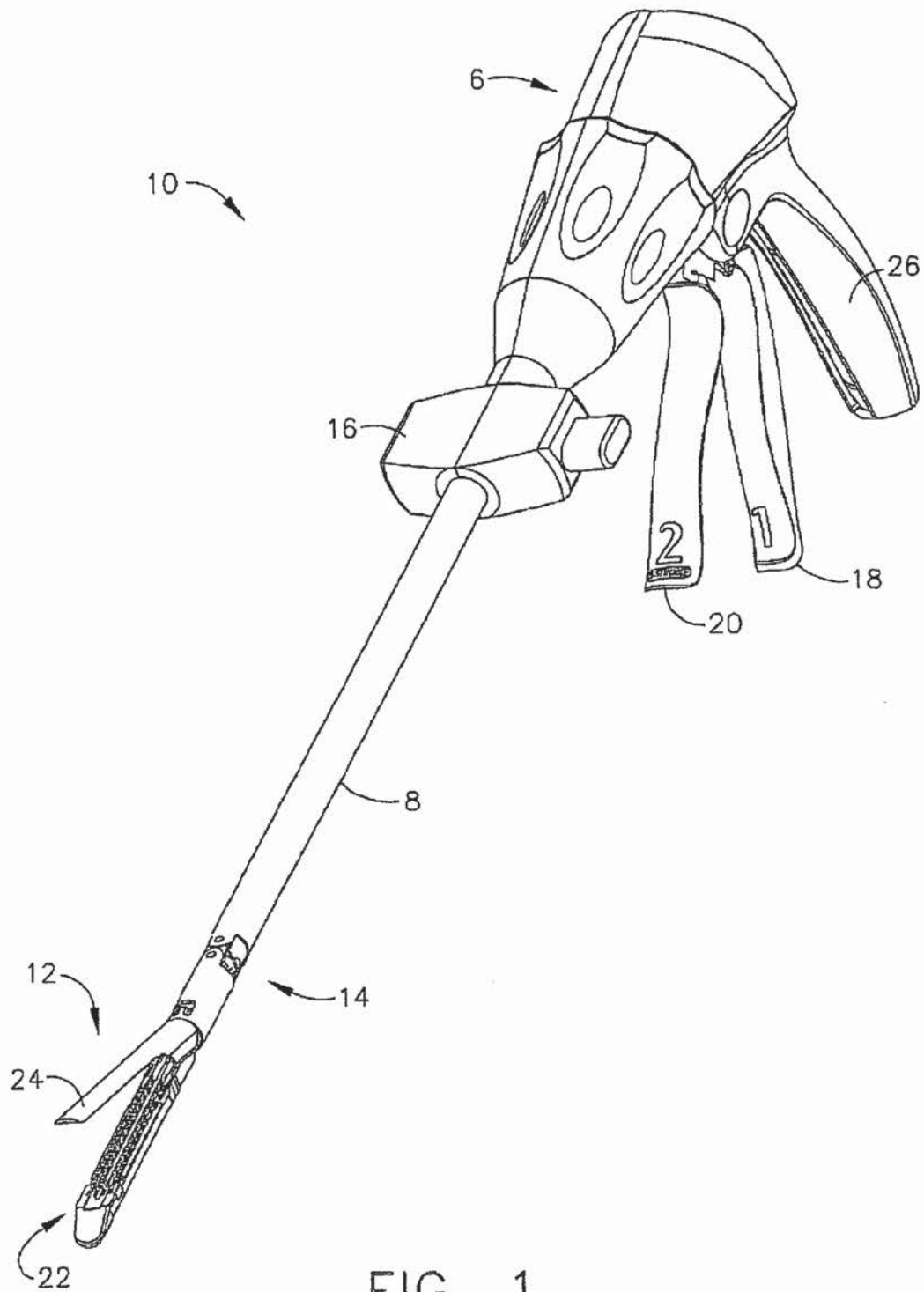


FIG. 1

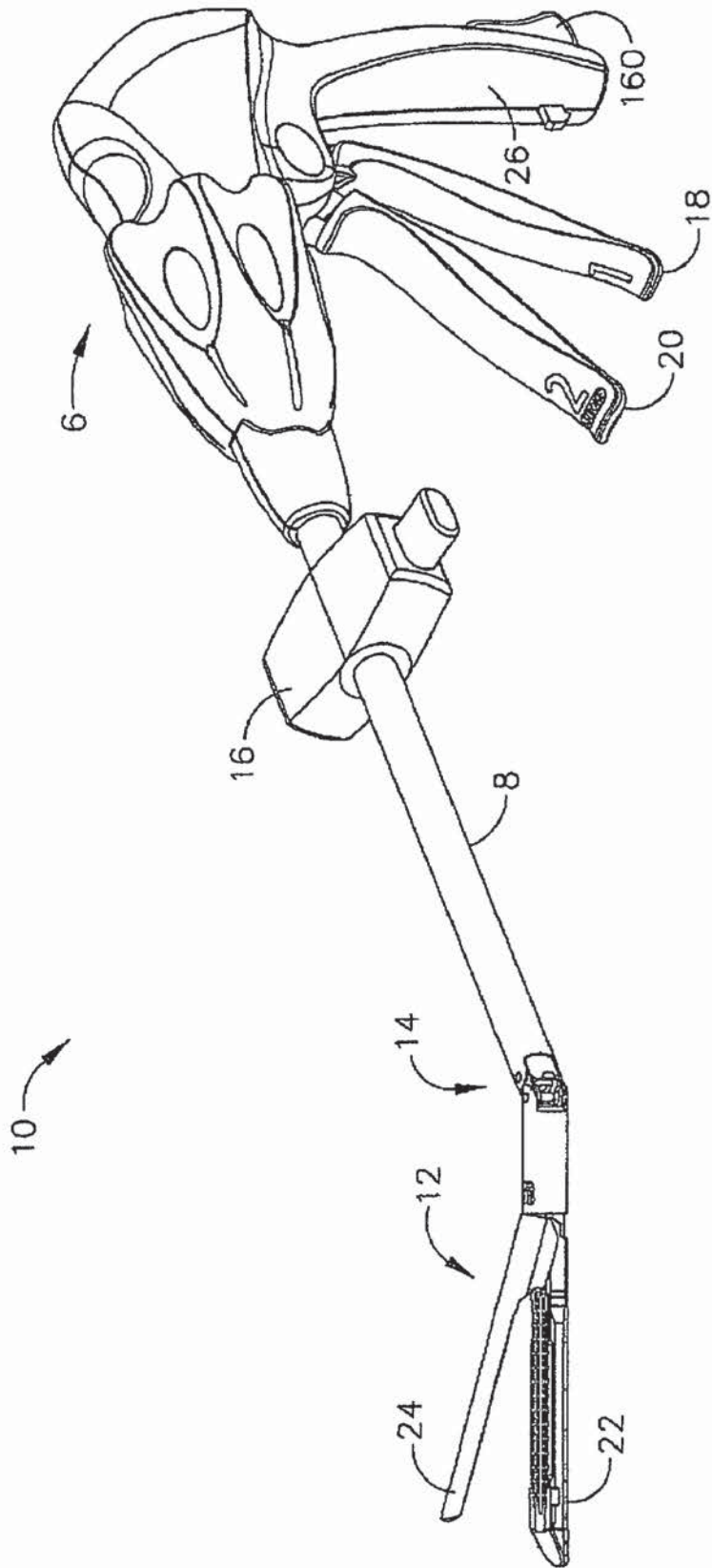


FIG. 2

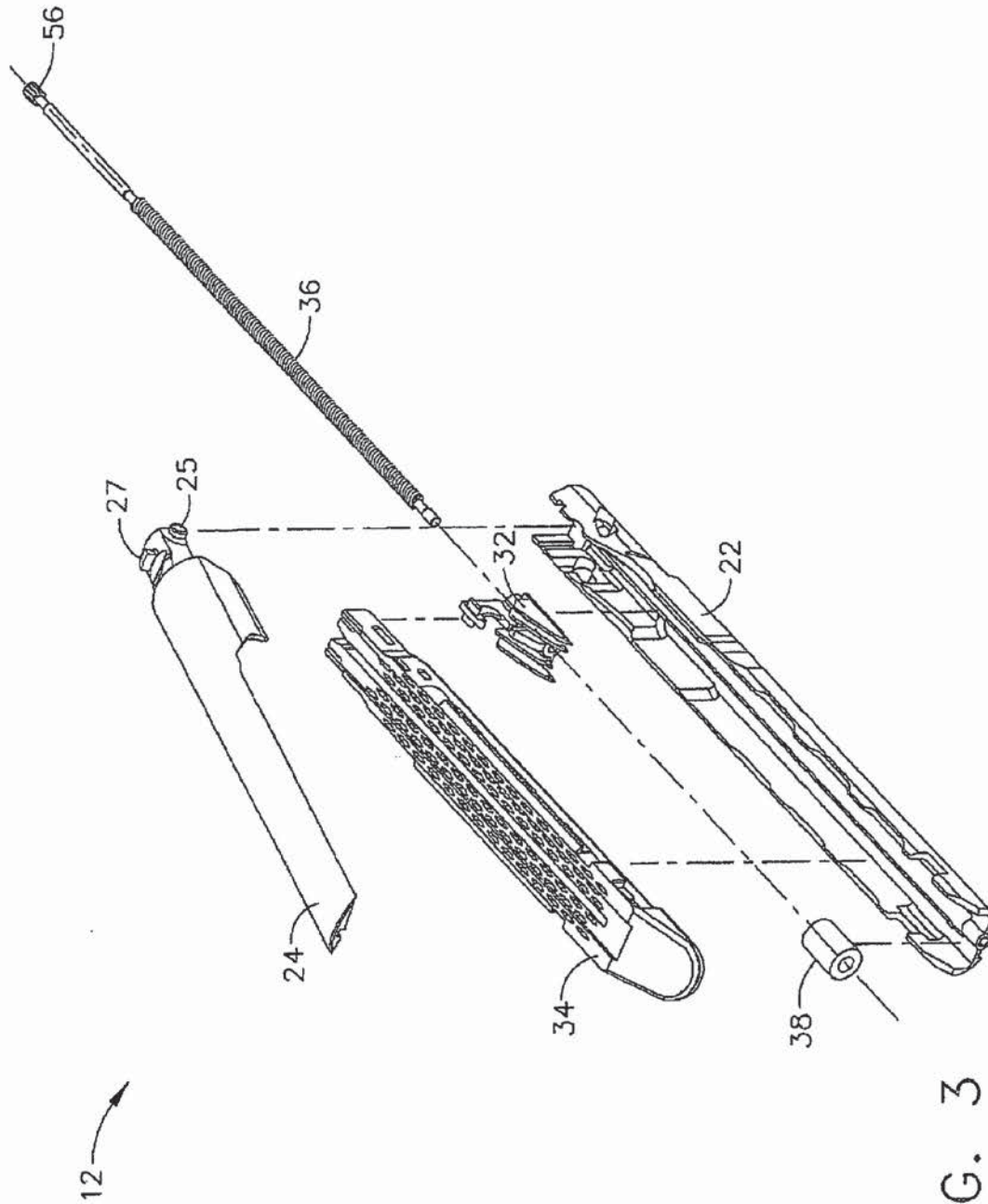


FIG. 3

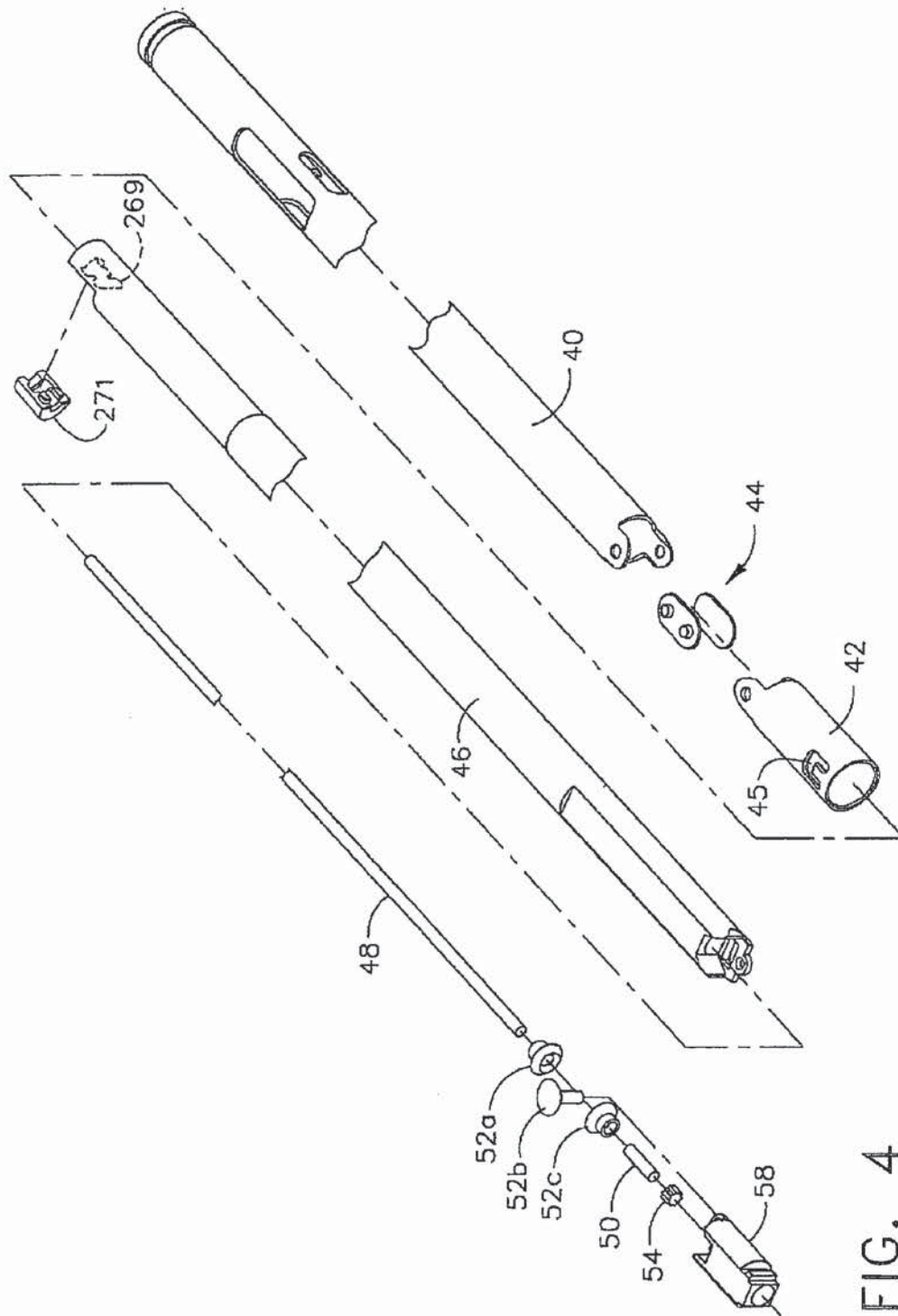


FIG. 4



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