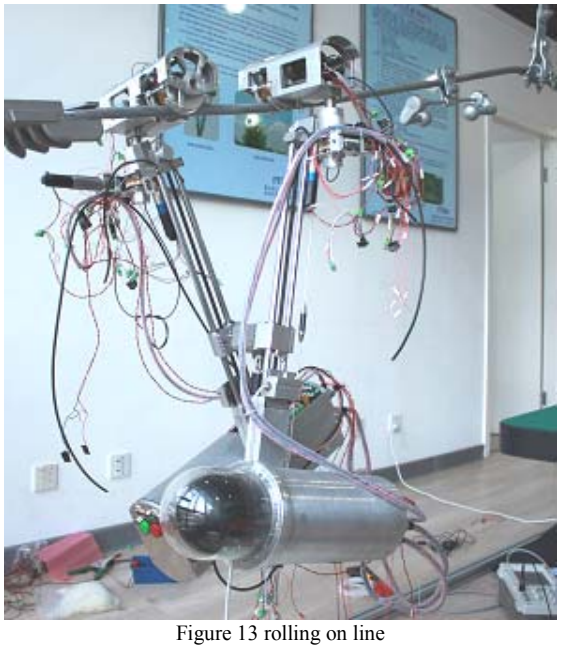

Figure 13 rolling on line

As illustrated in figure 14, when the robot encountered the obstacle-clamp it stopped at the line. The gravity central adjusted to the leg hanging on line, thus the other leg can be uplifted and swing from back to forward to overcome the obstacle.

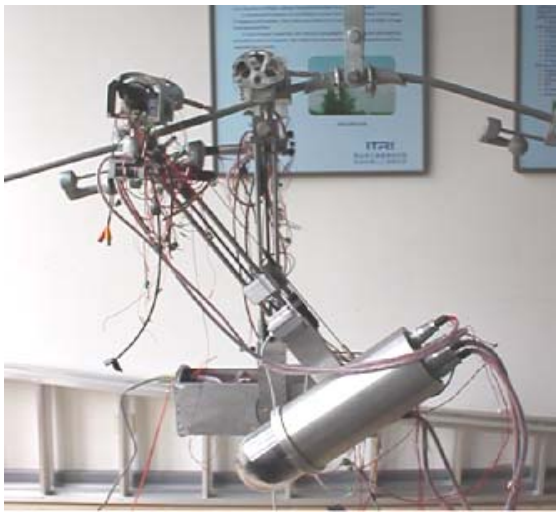

Figure 14 Obstacle-navigation process

V. CONCLUSION

A practical power transmission line inspection robot based on a novel line-walking mechanism is proposed in this paper. Combined with wheels and line-walking mechanism, the inspection robot can realize rolling on non-obstacle section efficiently and surmounting obstacles with articulated legs. In order to maintain stable state when rolling on line with changing inclination angles, pose adjustment algorithm was discussed in detail. The process of obstacle-navigation can be achieved by the combination robot locomotion which can be divided into two states: single-support phases and double support phase. To overcome different types of obstacles, certain steps have been added in the single-support phase. After a brief introduction of the control system, experiments results are carry out to show the methods provided above are available. The future work will be focused on field experiments.

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