



US00D717847S

(12) **United States Design Patent**
Mikado et al.

(10) **Patent No.:** **US D717,847 S**
(45) **Date of Patent:** **** Nov. 18, 2014**

(54) **END MILL**

(56) **References Cited**

(71) Applicant: **Nikken Kosakusho Works, Ltd.**, Daito (JP)

U.S. PATENT DOCUMENTS

(72) Inventors: **Susumu Mikado**, Daito (JP); **Steve Eckersall**, Rotherham (GB)

| | | | | |
|--------------|------|---------|------------------|---------|
| 3,938,231 | A * | 2/1976 | Hopkins | 407/40 |
| 4,648,755 | A * | 3/1987 | Stashko | 407/36 |
| D308,874 | S * | 6/1990 | Tsujimura et al. | D15/139 |
| 5,882,150 | A * | 3/1999 | Furuta et al. | 407/42 |
| D686,646 | S * | 7/2013 | Mikado et al. | D15/139 |
| 2011/0008113 | A1 * | 1/2011 | Abe | 407/42 |
| 2011/0268515 | A1 * | 11/2011 | Horiike et al. | 407/114 |
| 2012/0039678 | A1 * | 2/2012 | Nguyen et al. | 407/113 |
| 2012/0301234 | A1 * | 11/2012 | Yamaguchi | 407/100 |
| 2012/0321405 | A1 * | 12/2012 | Weisel | 409/143 |
| 2013/0034394 | A1 * | 2/2013 | Hecht et al. | 407/106 |
| 2013/0136547 | A1 * | 5/2013 | Kurokawa et al. | 407/42 |

(73) Assignee: **Nikken Kosakusho Works, Ltd.**, Daito-shi (JP)

(**) Term: **14 Years**

* cited by examiner

(21) Appl. No.: **29/472,603**

(22) Filed: **Nov. 14, 2013**

Primary Examiner — Patricia Palasik

(30) **Foreign Application Priority Data**

(74) *Attorney, Agent, or Firm* — W. F. Fasse

Oct. 16, 2013 (JP) 2013-024062

(51) **LOC (10) Cl.** **15-09**

(57) **CLAIM**

The ornamental design for an end mill, as shown and described.

(52) **U.S. Cl.**
USPC **D15/139**

DESCRIPTION

(58) **Field of Classification Search**
USPC D8/70, 71; D15/131, 132, 138, 139, D15/140; 76/102, 115; 83/845; 403/331, 403/381; 407/9, 33, 34, 42, 54, 63, 110, 407/113-115; 408/214, 215, 222, 223, 408/226-230; 433/72, 165; 470/198; 606/80

FIG. 1 is a front view of an end mill showing our new design; FIG. 2 is a rear view thereof; FIG. 3 is a top plan view thereof; FIG. 4 is a bottom plan view thereof; FIG. 5 is a right side view thereof; and, FIG. 6 is a left side view thereof.

See application file for complete search history.

1 Claim, 2 Drawing Sheets

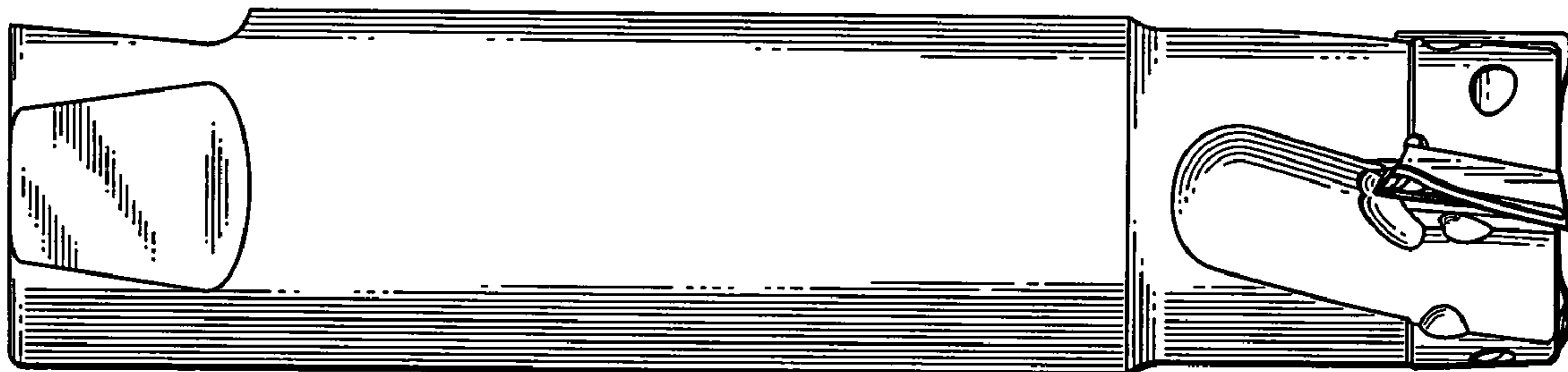


FIG.1

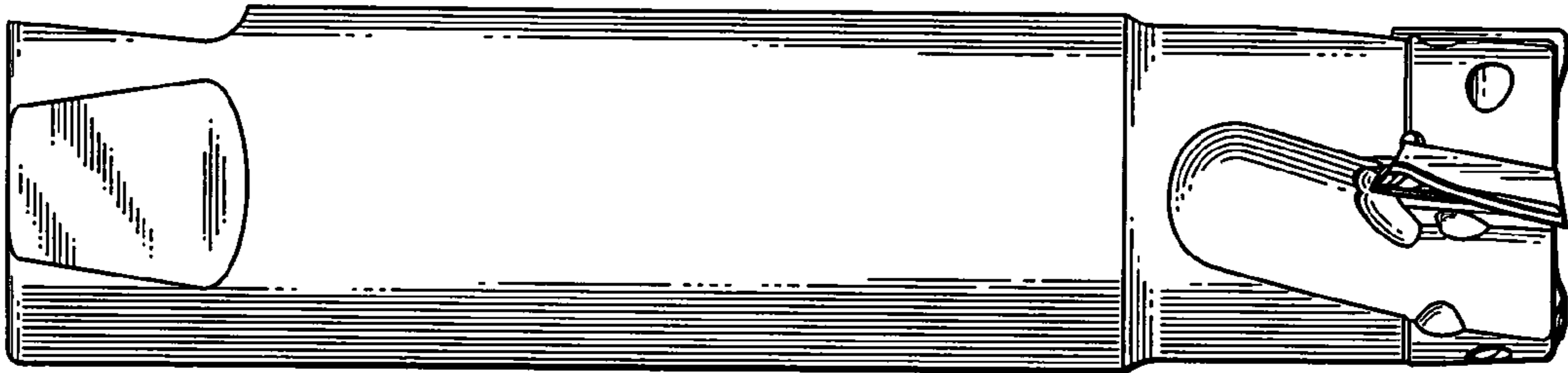


FIG.2

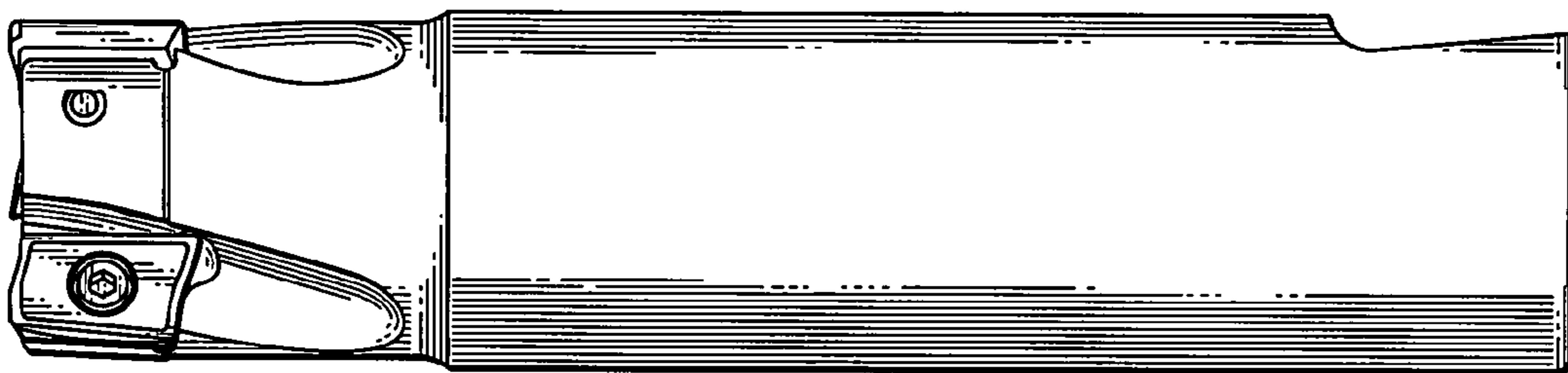


FIG.3

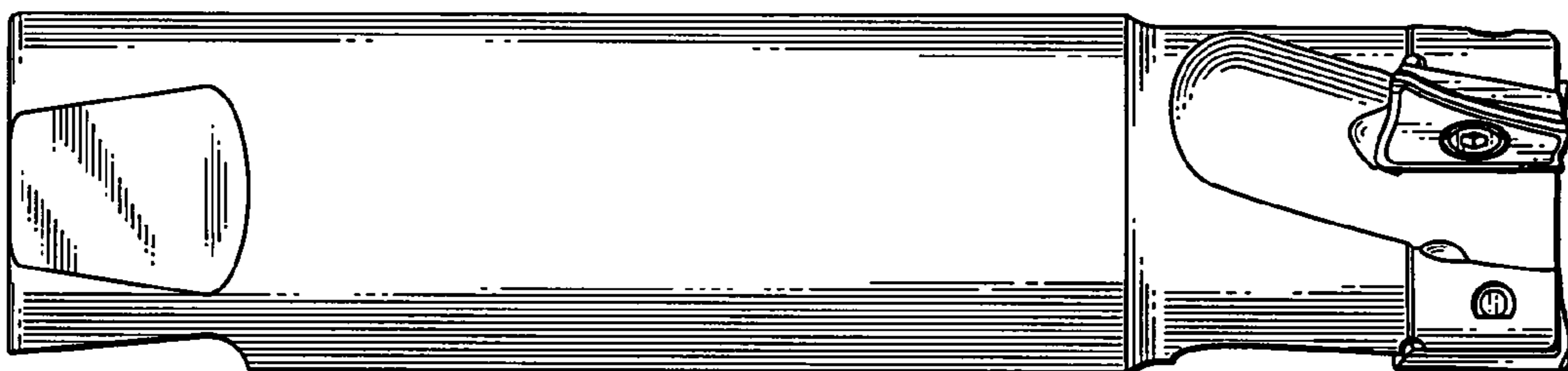


FIG.4

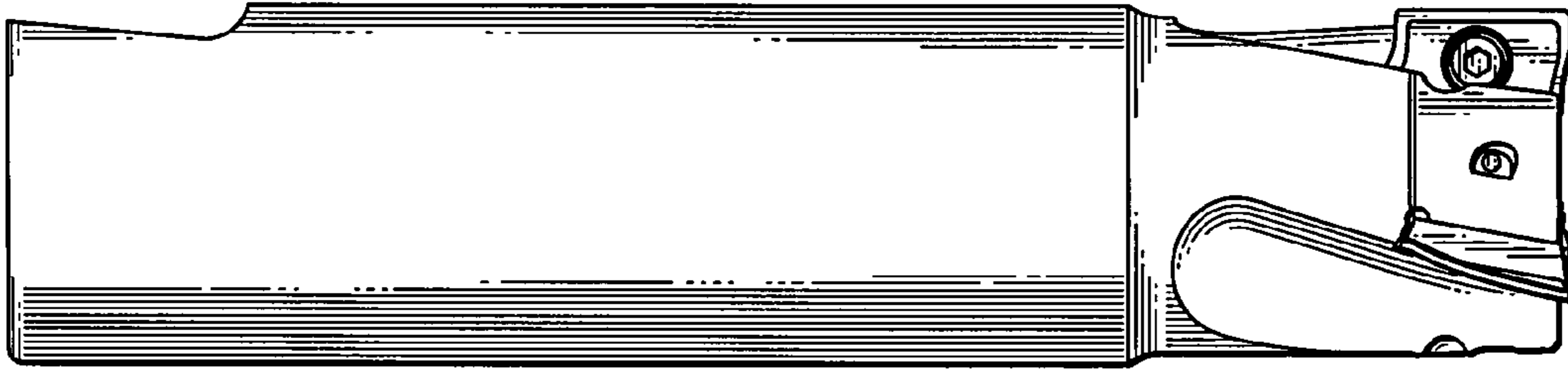


FIG.5

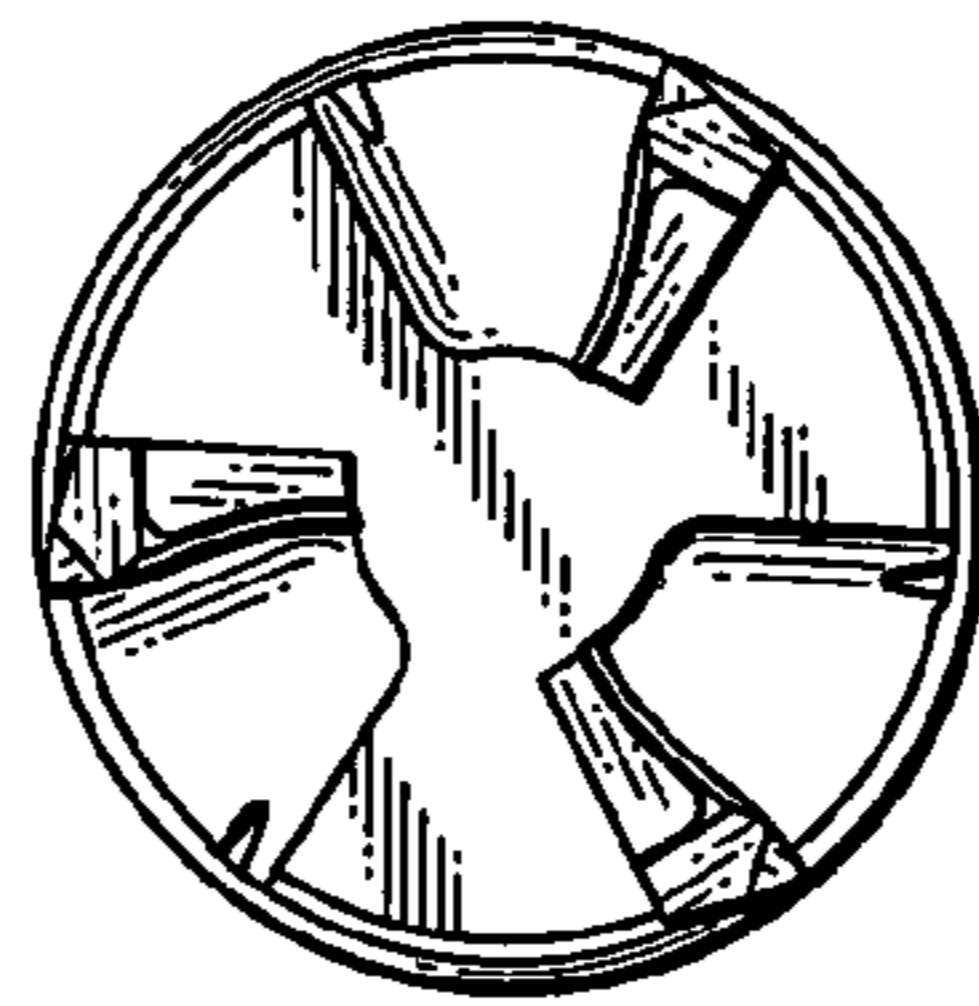


FIG.6

