[54] **MODULAR KNEE JOINT PROSTHESIS**

[75] Inventors: **Roger W. Hood,** Olathe, Kans.;
**Serafin Y. Samson,** Minneapolis;
**Robert D. Carter,** Apple Valley, both
of Minn.

[73] Assignee: **Orthomet, Inc.,** Minneapolis, Minn.

[21] Appl. No.: **7,161**

[22] Filed: **Jan. 21, 1993**

[51] Int. Cl.5 ................................................ A61F 2/38
[52] U.S. Cl. ...................................................... 623/20
[58] Field of Search ................................ 623/16, 18, 20

[56] **References Cited**

### U.S. PATENT DOCUMENTS

| | | |
|---|---|---|
| 3,748,662 | 7/1973 | Helfet . |
| 3,774,244 | 11/1973 | Walker . |
| 3,816,855 | 6/1974 | Saleh . |
| 3,837,009 | 9/1974 | Walker . |
| 3,869,729 | 3/1975 | Attenborough . |
| 4,209,861 | 7/1980 | Walker et al. . |
| 4,213,209 | 7/1980 | Insall et al. . |
| 4,257,129 | 3/1981 | Volz . |
| 4,298,992 | 11/1981 | Burstein et al. . |
| 4,714,474 | 12/1987 | Brooks, Jr. et al. . |
| 4,743,261 | 5/1988 | Epinette ................................. 623/20 |
| 4,822,362 | 4/1989 | Walker et al. .......................... 623/20 |
| 4,822,366 | 4/1989 | Bolesky . |
| 4,865,607 | 9/1989 | Witzel et al. ............................ 623/20 |
| 4,936,847 | 6/1990 | Manginelli . |
| 4,936,853 | 6/1990 | Fabian et al. . |
| 4,938,769 | 7/1990 | Shaw . |
| 4,944,760 | 7/1990 | Kenna . |
| 4,950,298 | 8/1990 | Gustilo et al. . |
| 5,002,547 | 3/1991 | Poggie et al. . |
| 5,007,933 | 4/1991 | Sidebotham et al. . |
| 5,037,423 | 8/1991 | Kenna . |
| 5,047,058 | 9/1991 | Roberts et al. . |
| 5,062,852 | 11/1991 | Porr et al. ............................... 623/20 |
| 5,080,624 | 1/1992 | Jacobs et al. ........................... 623/20 |
| 5,080,675 | 1/1992 | Lawes et al. ........................... 623/20 |
| 5,108,442 | 4/1992 | Smith ..................................... 623/20 |
| 5,152,297 | 10/1992 | Luckman et al. ...................... 623/20 |

*Primary Examiner*—David Isabella
*Attorney, Agent, or Firm*—Fredrikson & Byron

[57] **ABSTRACT**

An implantable knee joint prosthesis which comprises a tibial tray, an articulating tibial insert attached to the tibial tray, and a femoral condylar component adapted to cooperatively bear upon the tibial insert. The femoral component has an intercondylar recess having parallel lateral side walls and posterior and anterior bearing members defining the boundaries of the recess. The tibial insert includes an eminence extending superiorly into the intercondylar recess and dimensioned and shaped to provide defined stabilization limits for preventing posterior-anterior dislocation while allowing limited translation and essentially free rotation and angulation throughout most of the total range of articulation. Metal reinforcements serve to secure the insert to the tray. Bearing surfaces of the eminence and the intercondylar recess are so shaped as to increase the area of contact between them as the degree of flexion of the leg increases to thereby limit the contact stress transmitted to the eminence and to reduce wear of the eminence.
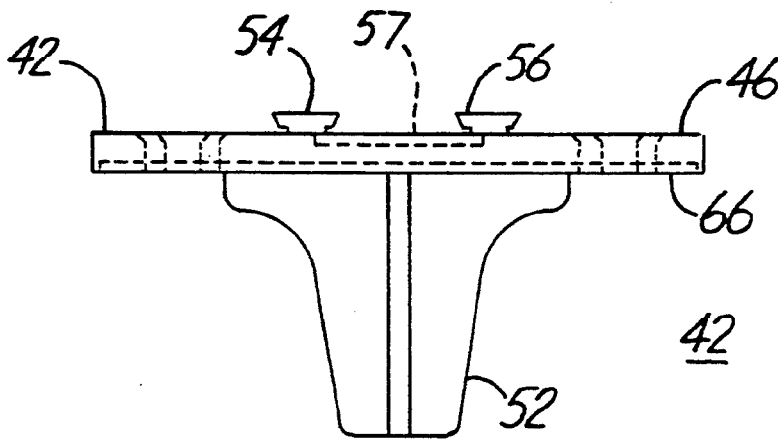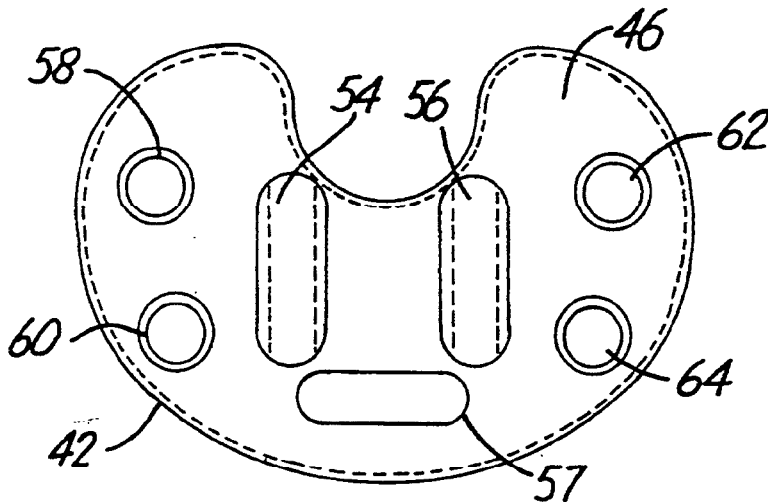
**12 Claims, 7 Drawing Sheets**

*Fig 1*

Fig. 5

Fig. 3

Fig. 2

Fig. 4



Fig 6
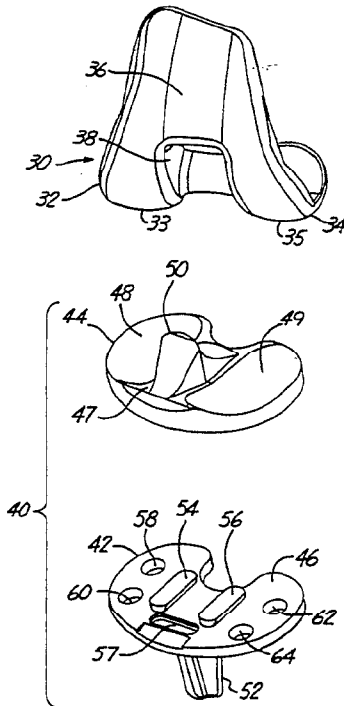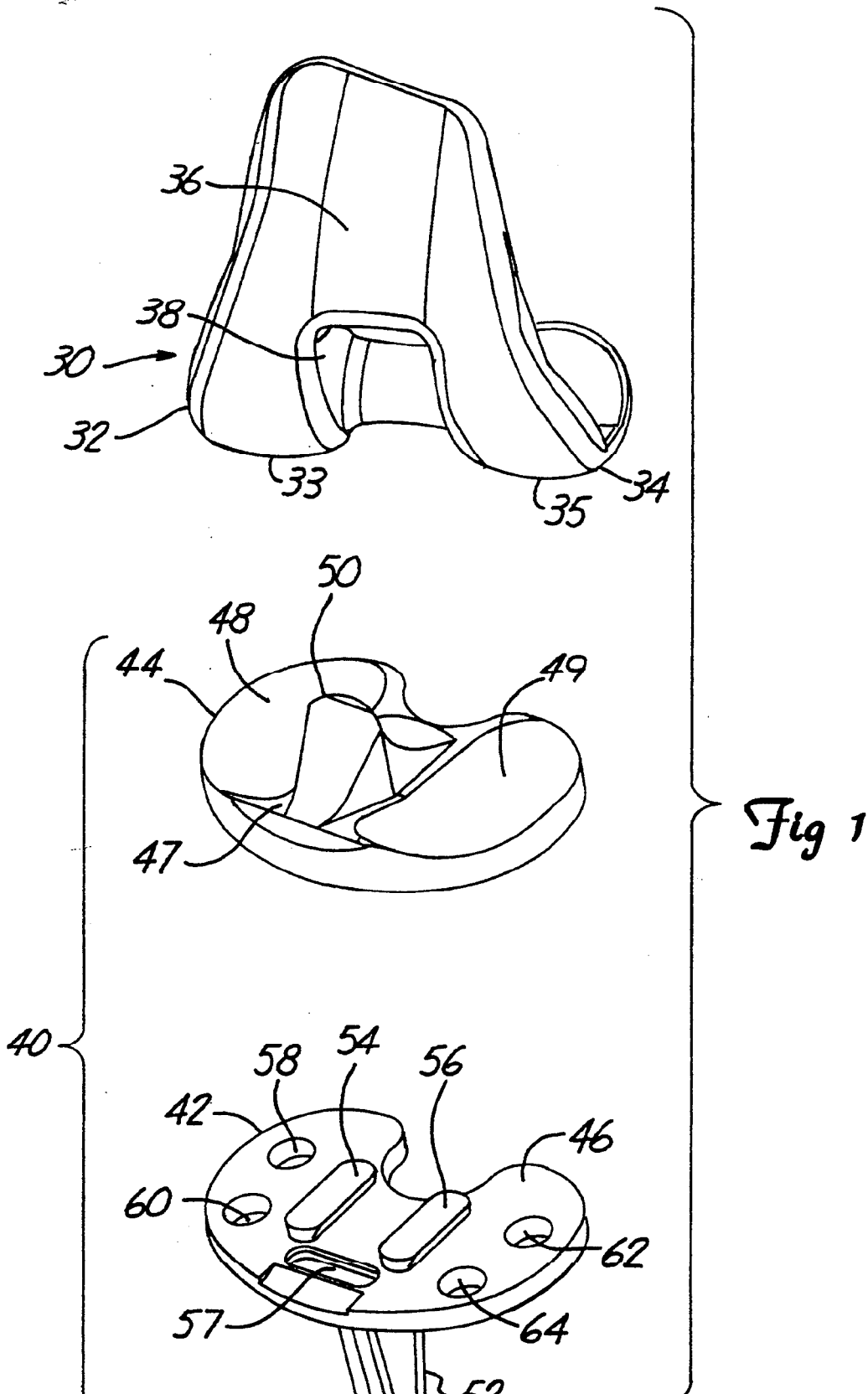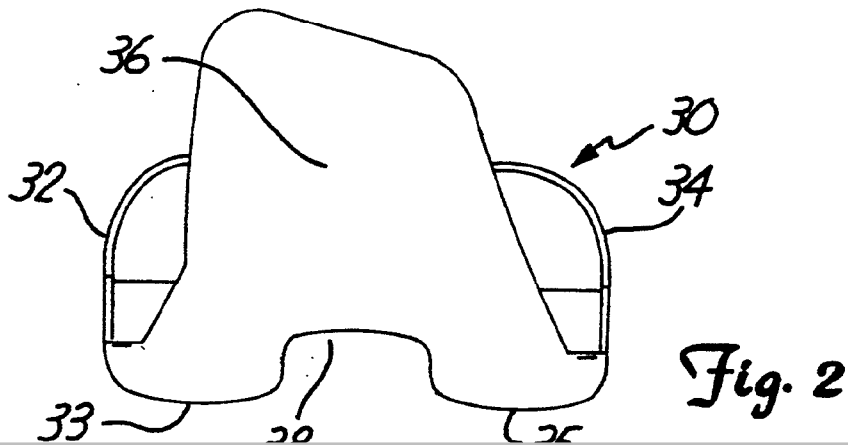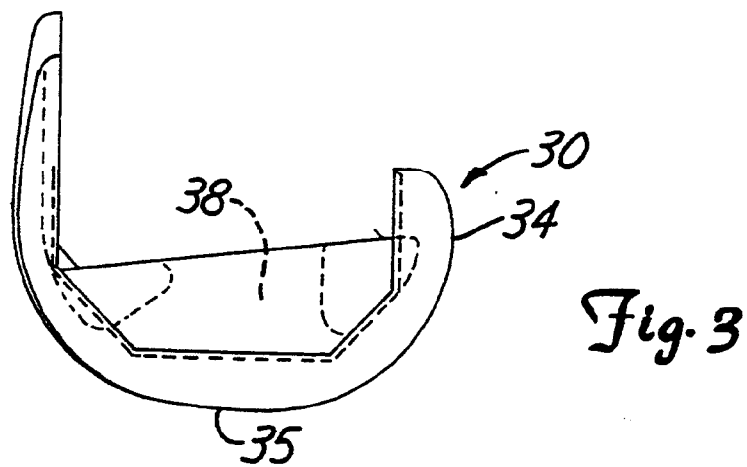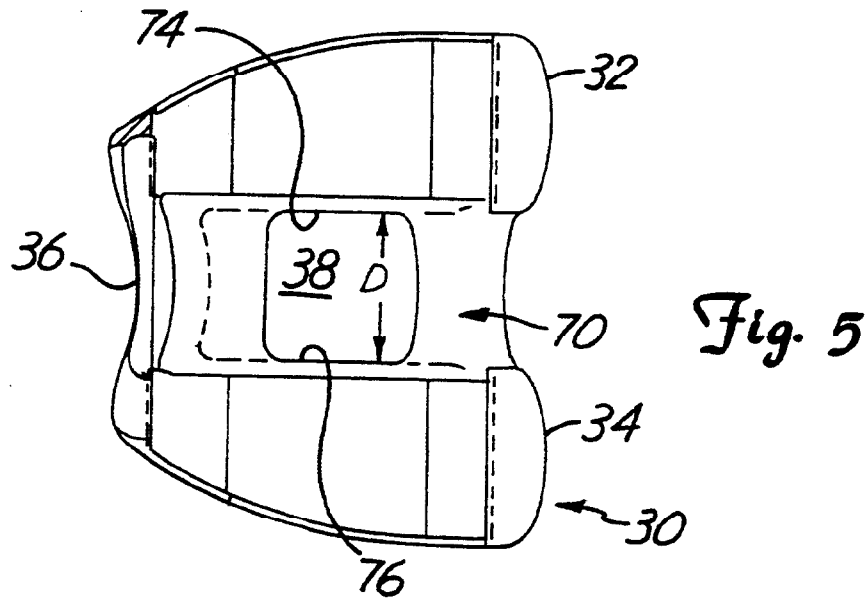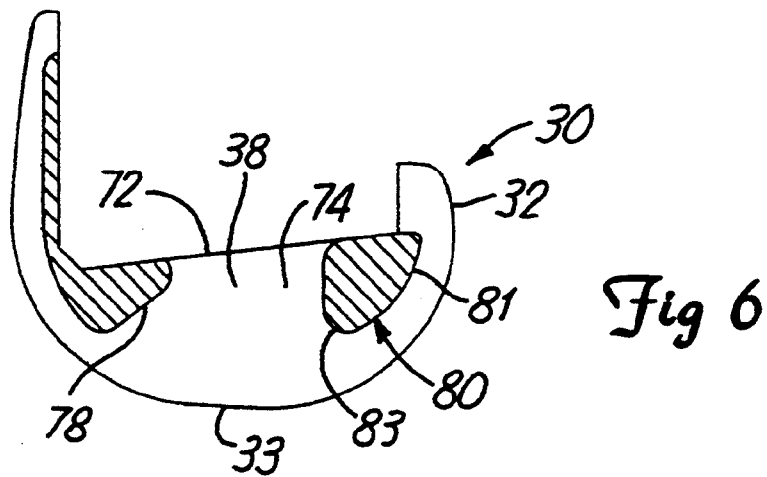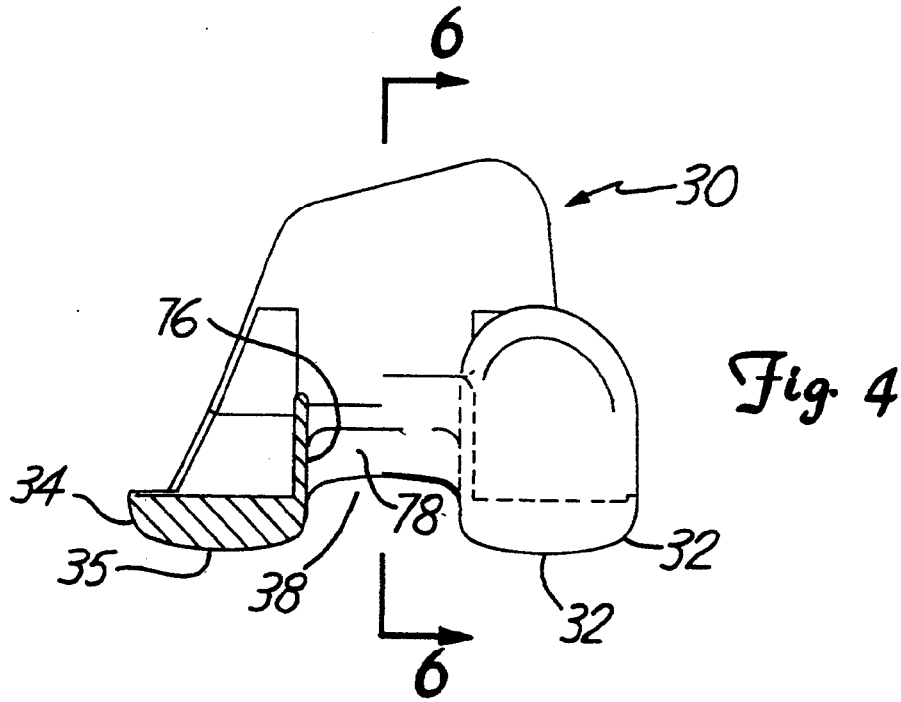
*Fig. 7*



*Fig. 8*



*Fig. 9*

# DOCKET ALARM
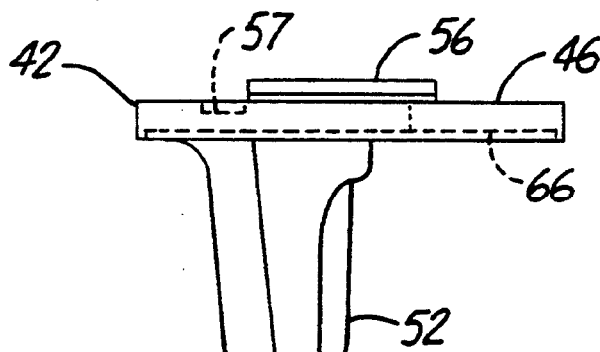
# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

### LAW FIRMS
Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

### FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

### E-DISCOVERY AND LEGAL VENDORS
Sync your system to PACER to automate legal marketing.