



US005921966A

United States Patent [19]

Bendek et al.

[11] **Patent Number:** **5,921,966**

[45] **Date of Patent:** **Jul. 13, 1999**

[54] **MEDICATION DELIVERY PEN HAVING AN IMPROVED CLUTCH ASSEMBLY**

4,936,833	6/1990	Sams	604/208 X
5,104,380	4/1992	Holman et al.	604/211 X
5,279,585	1/1994	Balkwill	604/207
5,674,204	10/1997	Chanoch	604/232 X

[75] Inventors: **Antonio A. Bendek**, Vernon, N.J.; **John E. Burbank, III**, Ridgefield, Conn.; **Charles L. Bush, Jr.**, Fairfield, N.J.; **Jonathan B. Gabel**, Randolph, N.J.; **Lucio Giambattista**, East Hanover, N.J.; **Roger W. Hoeck**, Loomis, Nebr.; **Malcolm E. Taylor**, Pepperell, Mass.

Primary Examiner—Ronald Stright
Assistant Examiner—A. T. Nguyen
Attorney, Agent, or Firm—Alan W. Fiedler

[73] Assignee: **Becton Dickinson and Company**, Franklin Lakes, N.J.

[57] ABSTRACT

[21] Appl. No.: **08/909,222**

[22] Filed: **Aug. 11, 1997**

[51] **Int. Cl.⁶** **A61M 5/00**

[52] **U.S. Cl.** **604/207; 604/211; 604/232**

[58] **Field of Search** **604/207-211, 224, 604/232, 152, 218**

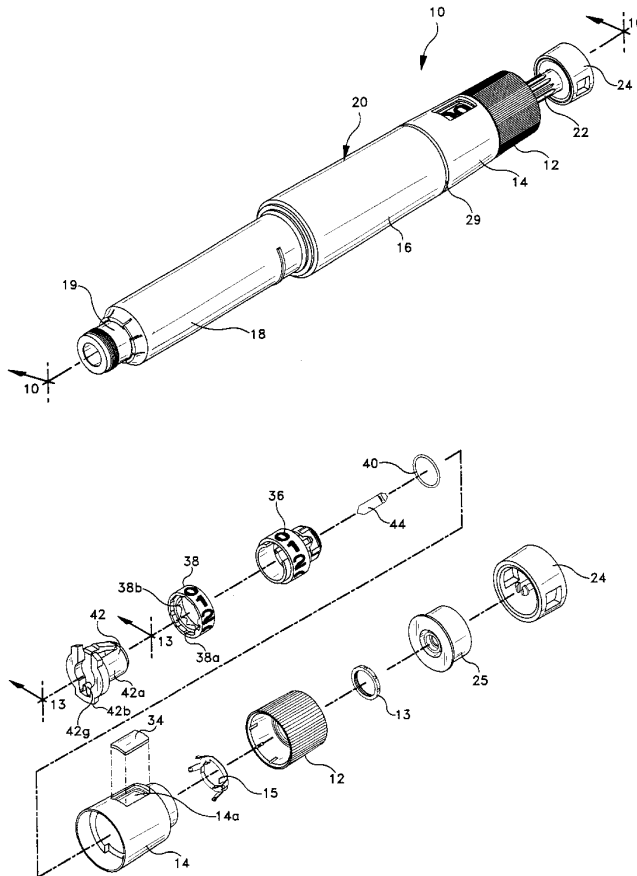
An improved medication delivery pen is provided for injecting fluids such as insulin within body tissue. The medication delivery pen includes a mechanism that prevents the removal of a cartridge unless an injector button on the medication pen is in a predefined position, a bayonet attachment and an improved clutch assembly in a dose setting mechanism that provides improved control over the torque necessary to rotate a units counter ring in the medication delivery pen using a dose setting knob.

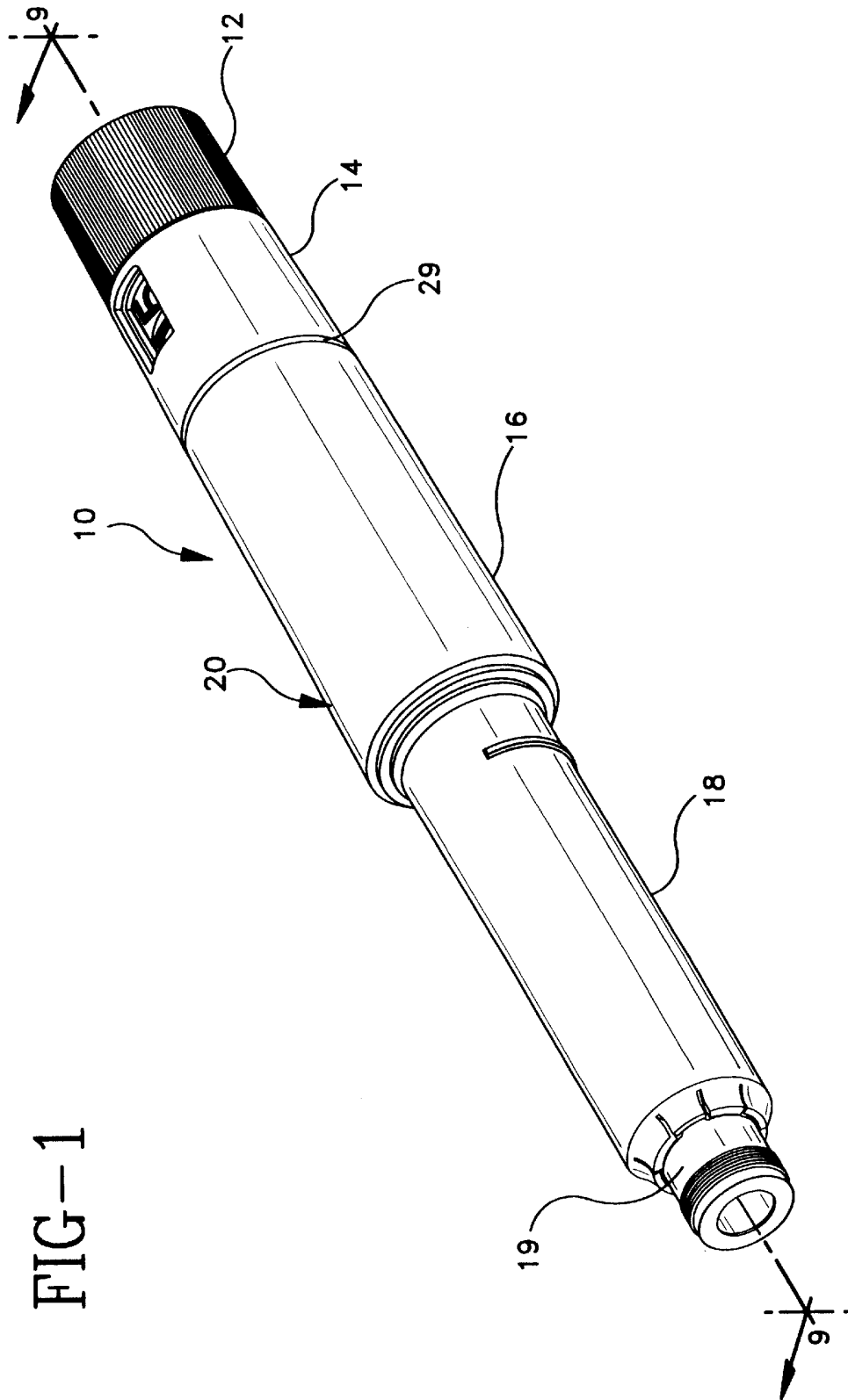
[56] References Cited

U.S. PATENT DOCUMENTS

4,568,335 2/1986 Updike et al. 604/211

7 Claims, 14 Drawing Sheets





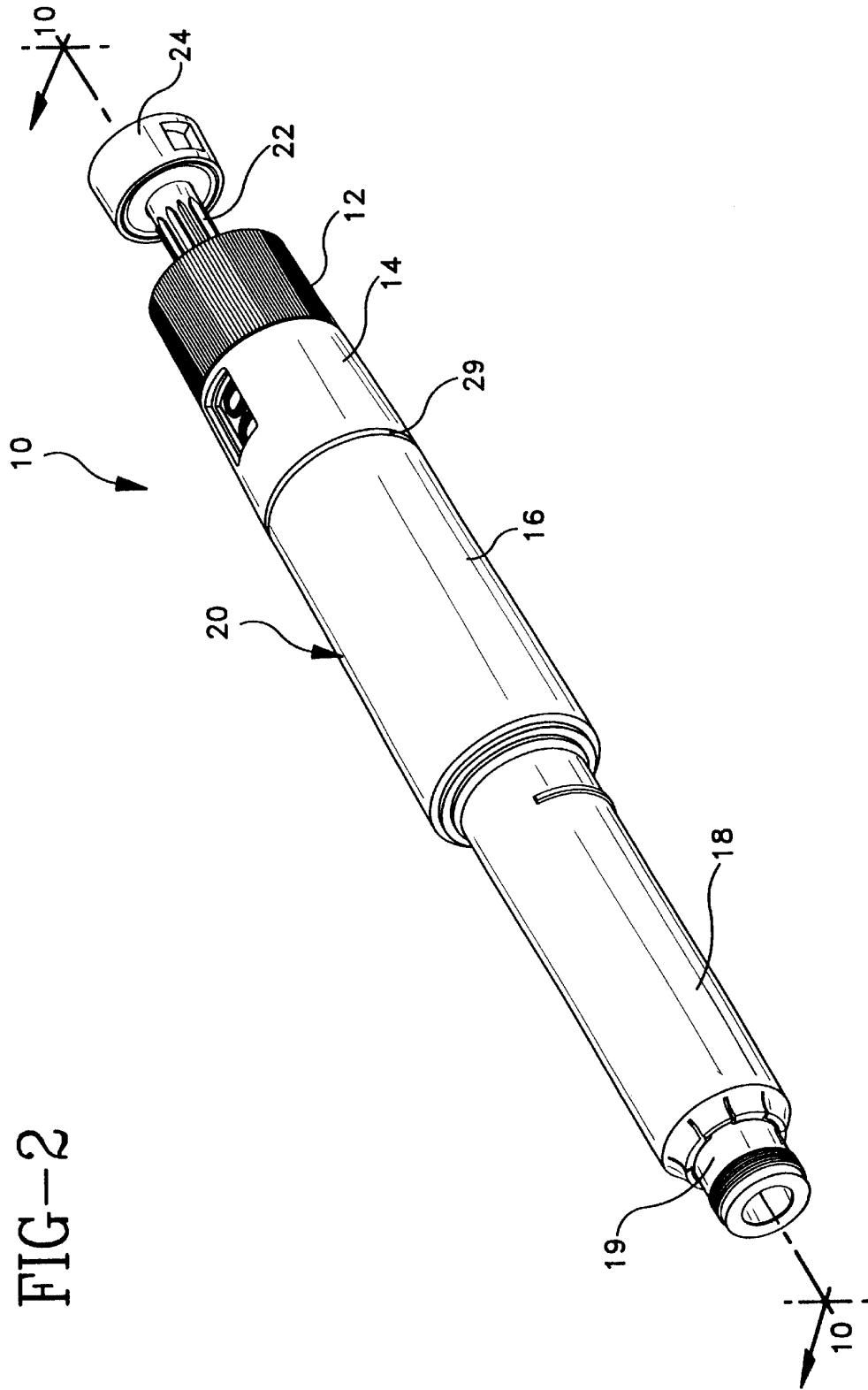


FIG-2

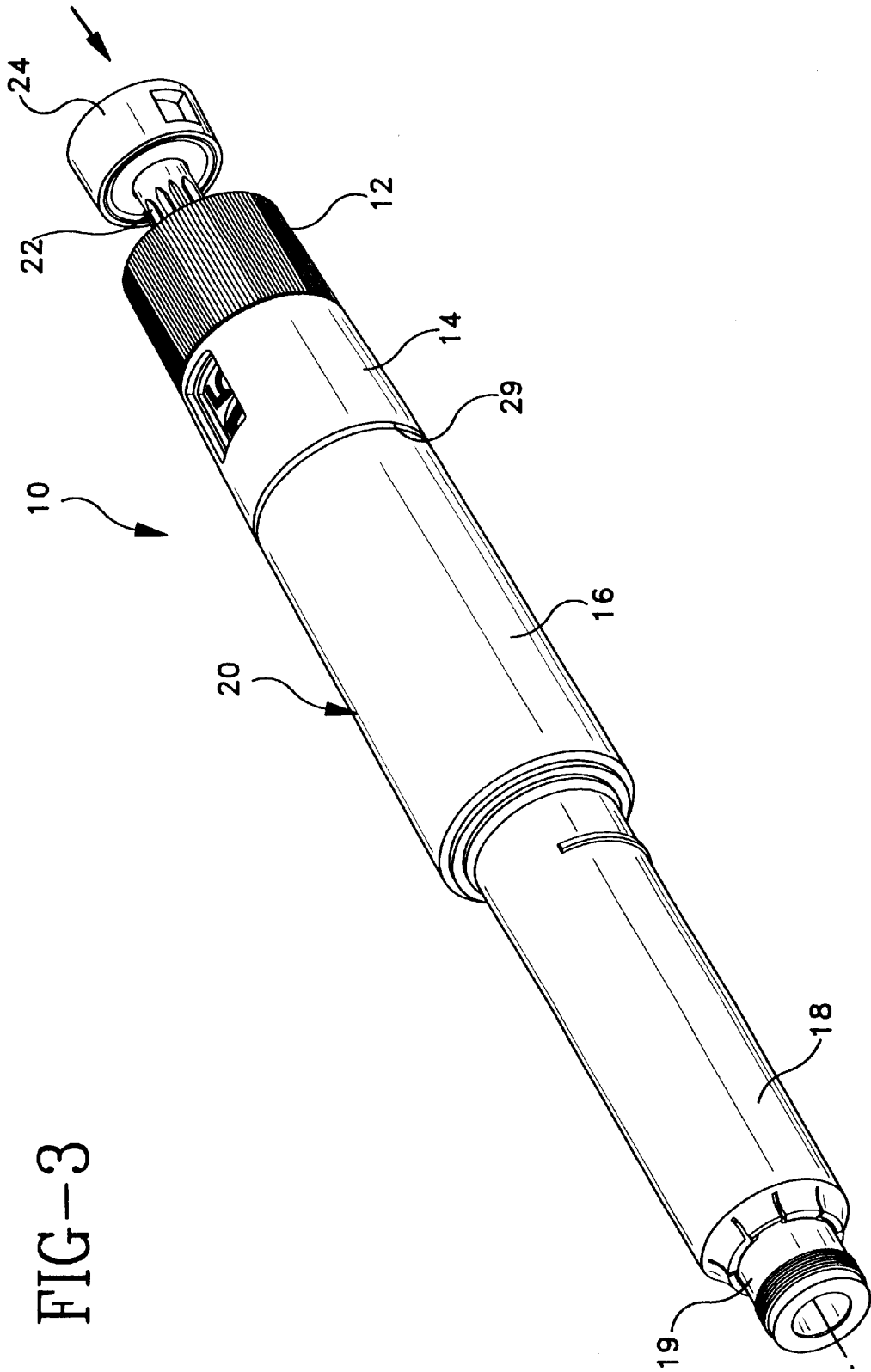


FIG-3

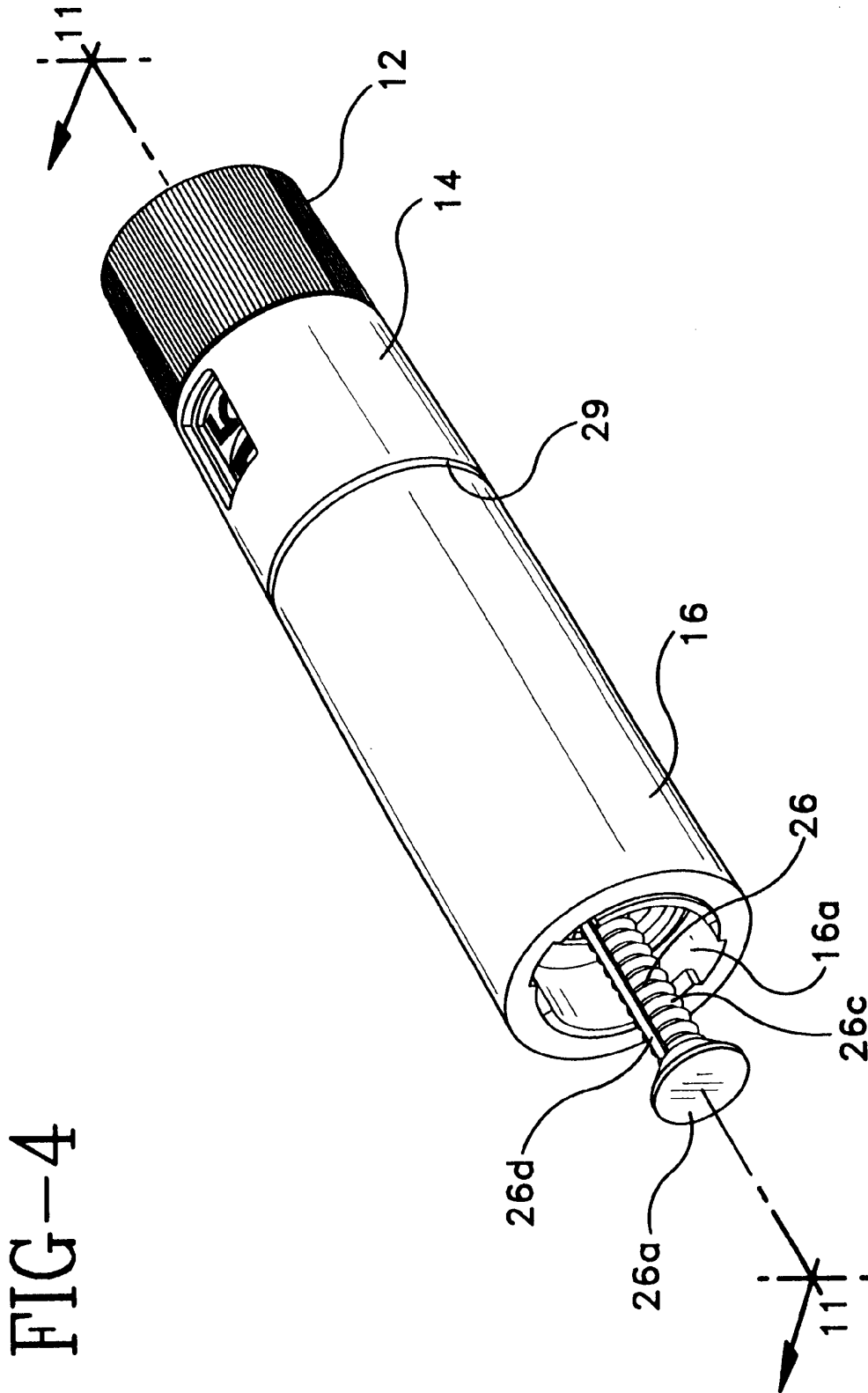


FIG-4

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.