

[54] PUMP AND ENGINE ASSEMBLY

[75] Inventor: Leroy M. Rambin, Jr., Houston, Tex.

[73] Assignee: The Ellis Williams Company, Houston, Tex.

[21] Appl. No.: 44,172

[22] Filed: May 31, 1979

[51] Int. Cl.³ F04B 23/06

[52] U.S. Cl. 417/426; 417/539

[58] Field of Search 417/238, 426-429, 417/539, 567

[56] References Cited

U.S. PATENT DOCUMENTS

1,596,037	8/1926	Warner	.....	417/567	X
2,651,258	9/1953	Pierce	.....	417/426	X
2,821,698	1/1958	Richardson	.....	417/426	X
3,304,869	2/1967	Blume	.....	417/429	
3,364,871	1/1968	Wilson	.....	417/539	X

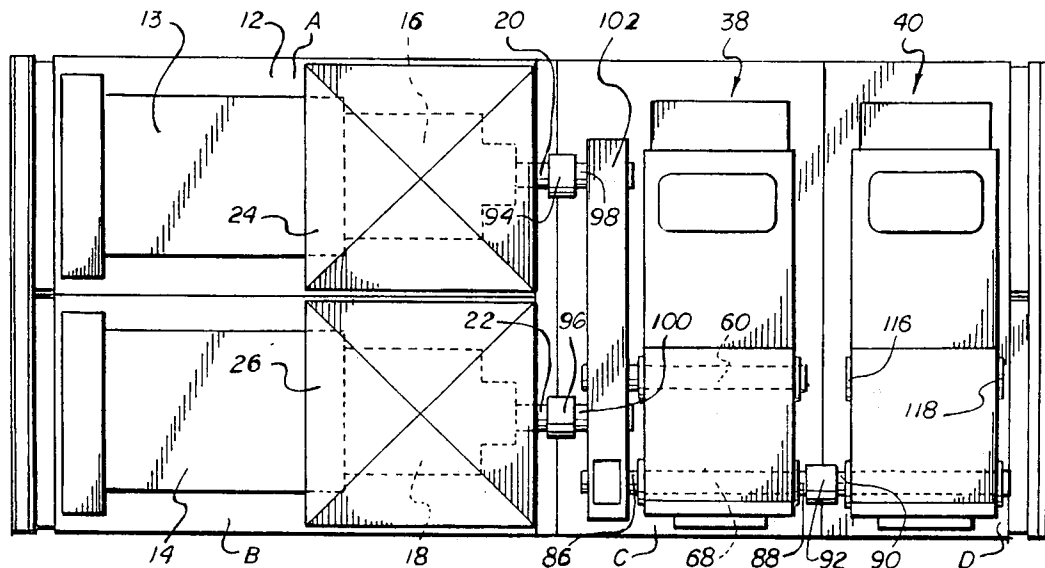
Primary Examiner—Edward L. Roberts

[57] ABSTRACT

A pump and engine assembly according to the present

invention is adapted for skid mounting and incorporates a pair of engines positioned in side to side relationship and having rotary output shafts thereof positioned in substantially parallel relation. A pair of piston type pumps are also positioned in side by side relationship with the fluid ends thereof facing in the same direction and with pump drive shafts arranged in substantially parallel relation with the rotary output shafts of the engines. The pump housing of a first one of the pumps incorporates a pair of shaft receptacles receiving a pair of rotary drive shafts. One of the drive shafts is provided with a pinion gear having meshing gear engagement with the primary gear of the first pump while the second drive shaft extends from opposed sides of the first pump. The second pump is provided with a drive shaft that is adapted to be coupled to the second drive shaft of the first pump. Both drive shafts of the first pump are coupled to respective ones of the output shafts of the engines.

23 Claims, 12 Drawing Figures



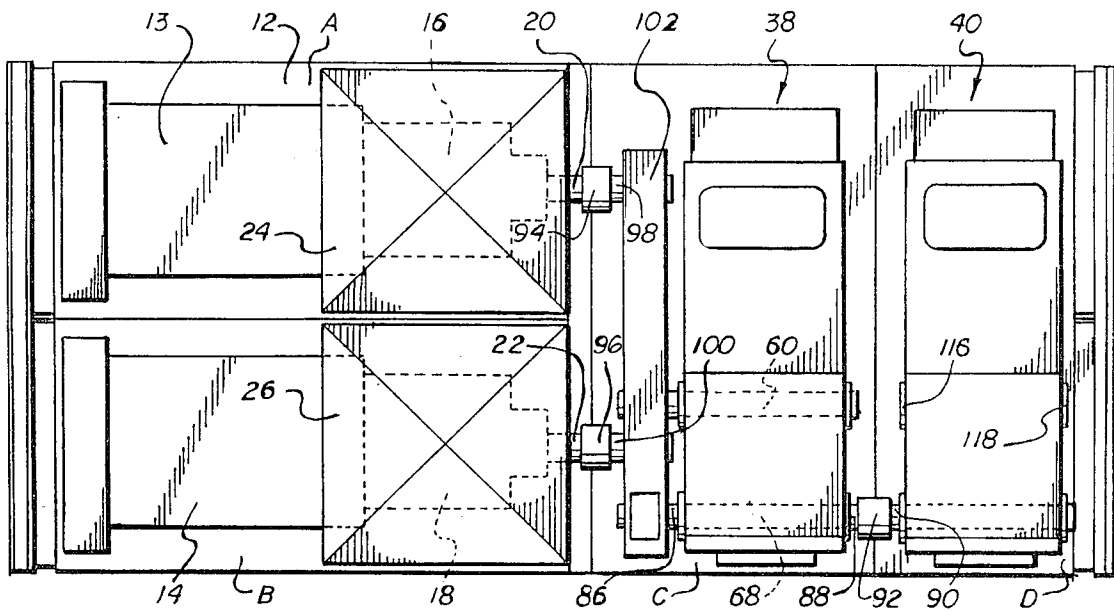


FIG. 1

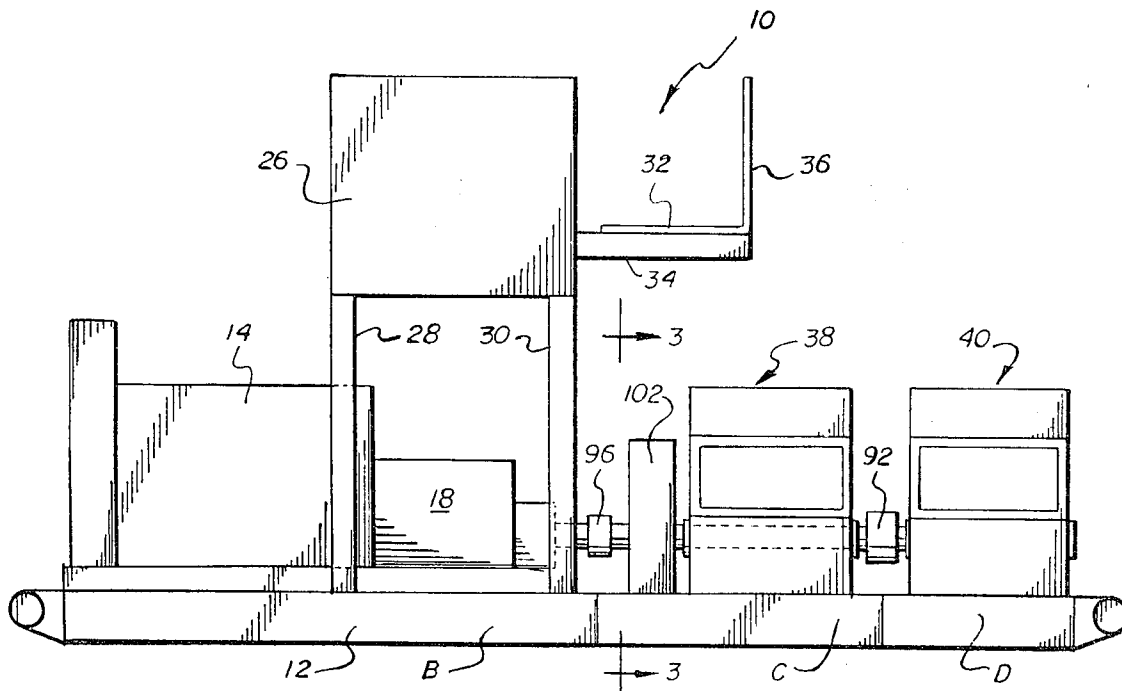


FIG. 2

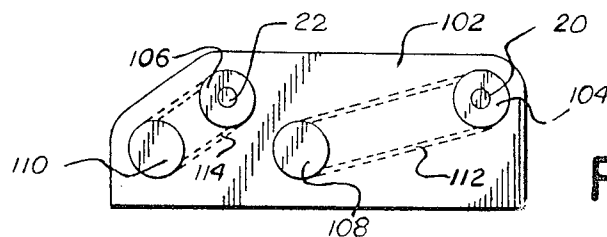


FIG. 3

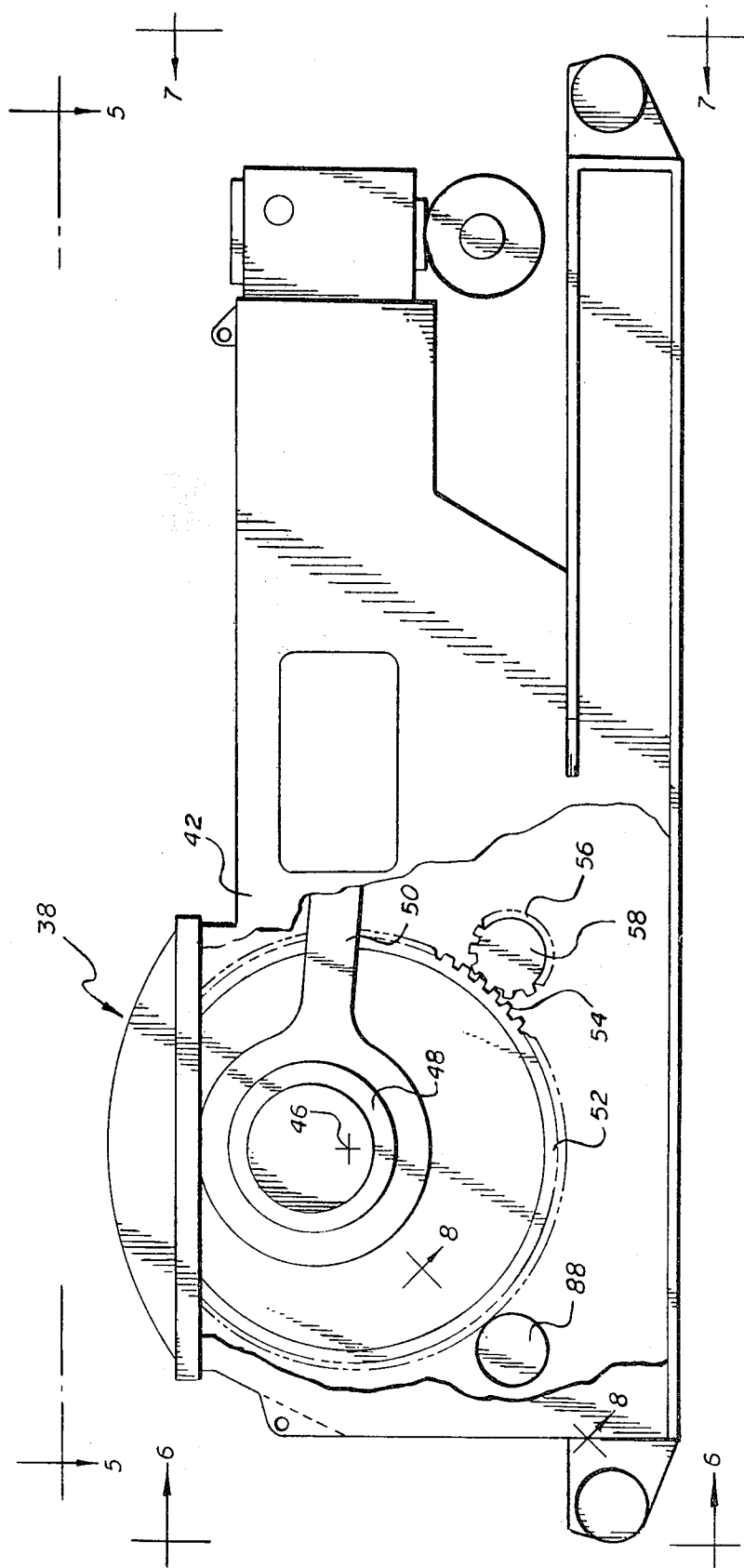


FIG. 4

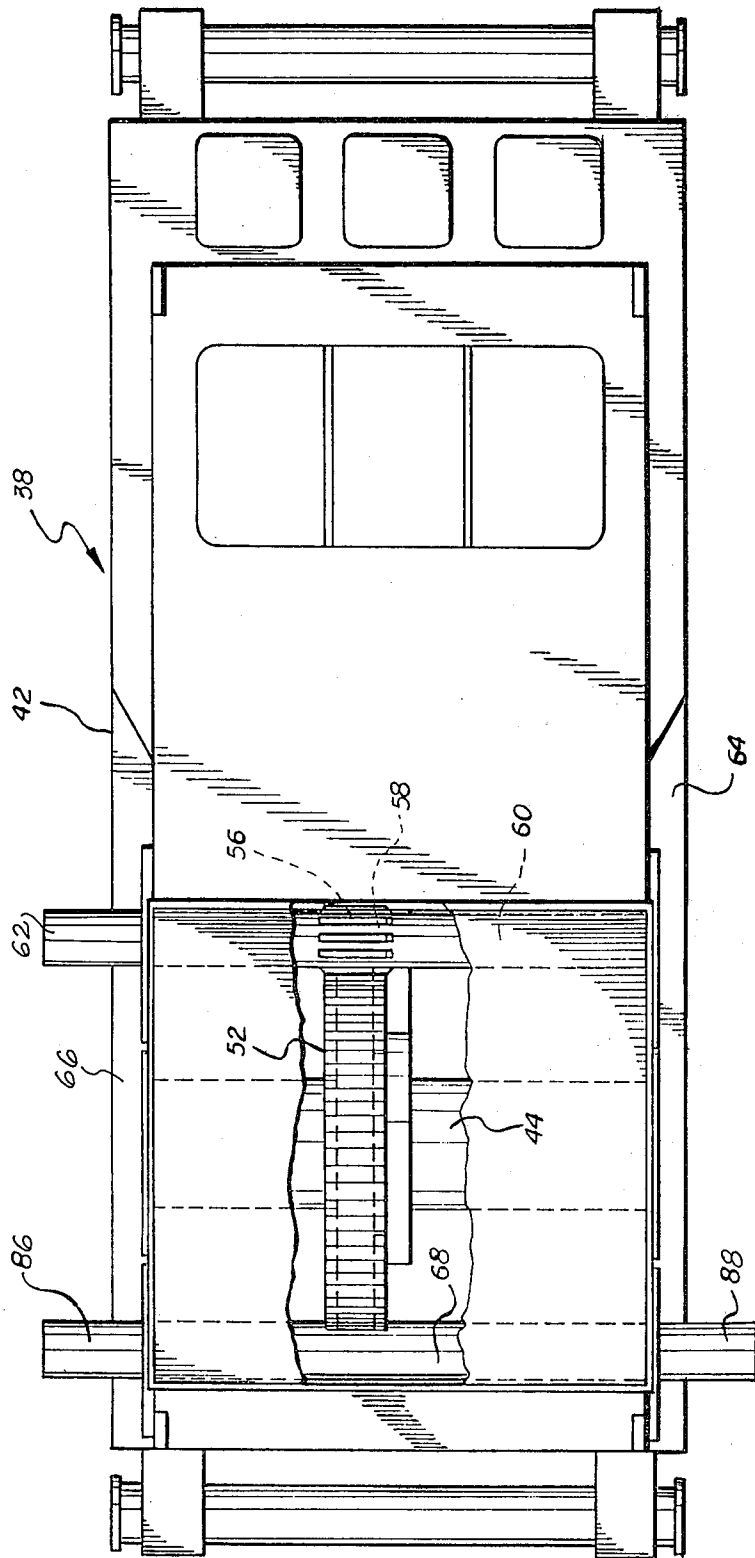


FIG. 5

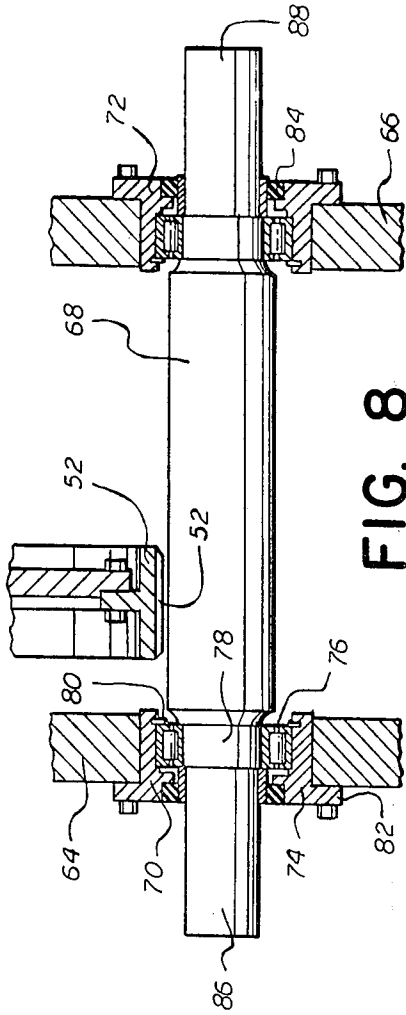


FIG. 8

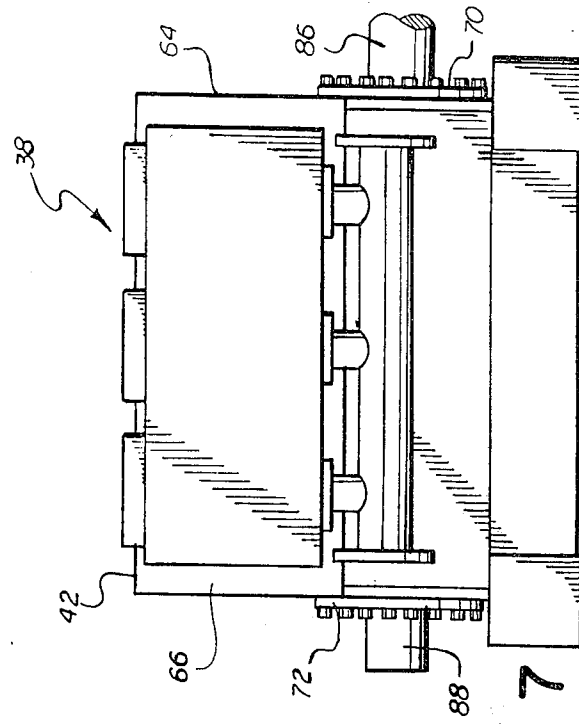


FIG. 7

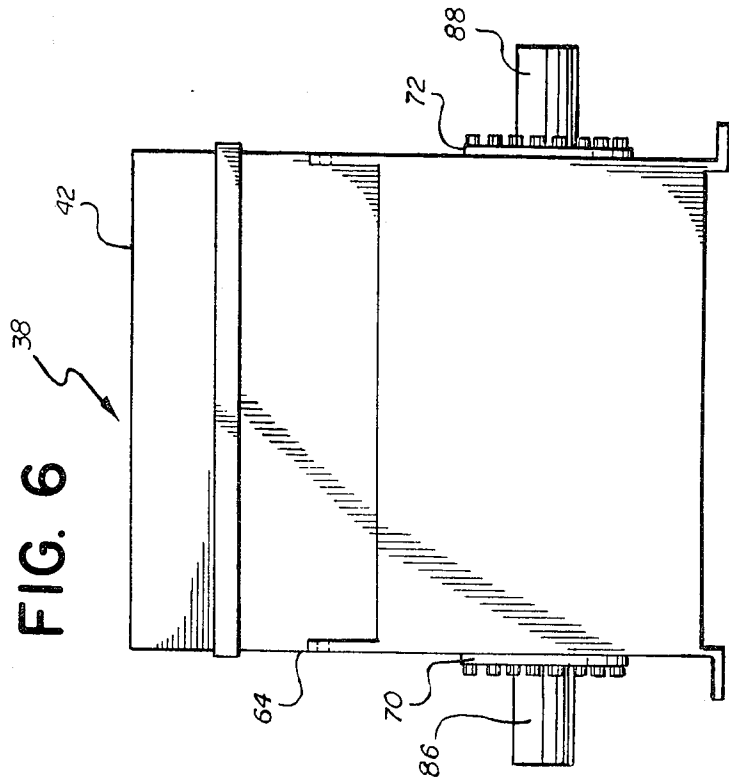


FIG. 6

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.