



(12) **United States Patent**  
**Cantrell et al.**

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(54) **METHOD OF PROCESSING ETHANOL  
BYPRODUCTS AND RELATED SUBSYSTEMS**

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patent is extended or adjusted under 35  
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(51) **Int. Cl.**  
**C11B 1/00** (2006.01)

(52) **U.S. Cl.** ..... **554/8**

(58) **Field of Classification Search** ..... **554/8**  
See application file for complete search history.

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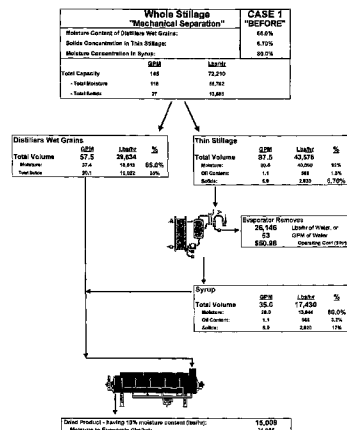
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(57) **ABSTRACT**

In one aspect of the invention, a method recovers oil from a  
concentrated byproduct, such as evaporated thin stillage  
formed during a dry milling process used for producing etha-  
nol. The method includes forming a concentrate from the  
byproduct and recovering oil from the concentrate. The step  
of forming the concentrate may comprise evaporating the  
byproduct. Further, the step of separating the oil from the  
concentrate may comprise using a centrifuge and, in particu-  
lar, a disk stack centrifuge. Other aspects of the invention  
include related methods and subsystems for recovering oil  
from thin stillage.

**16 Claims, 4 Drawing Sheets**



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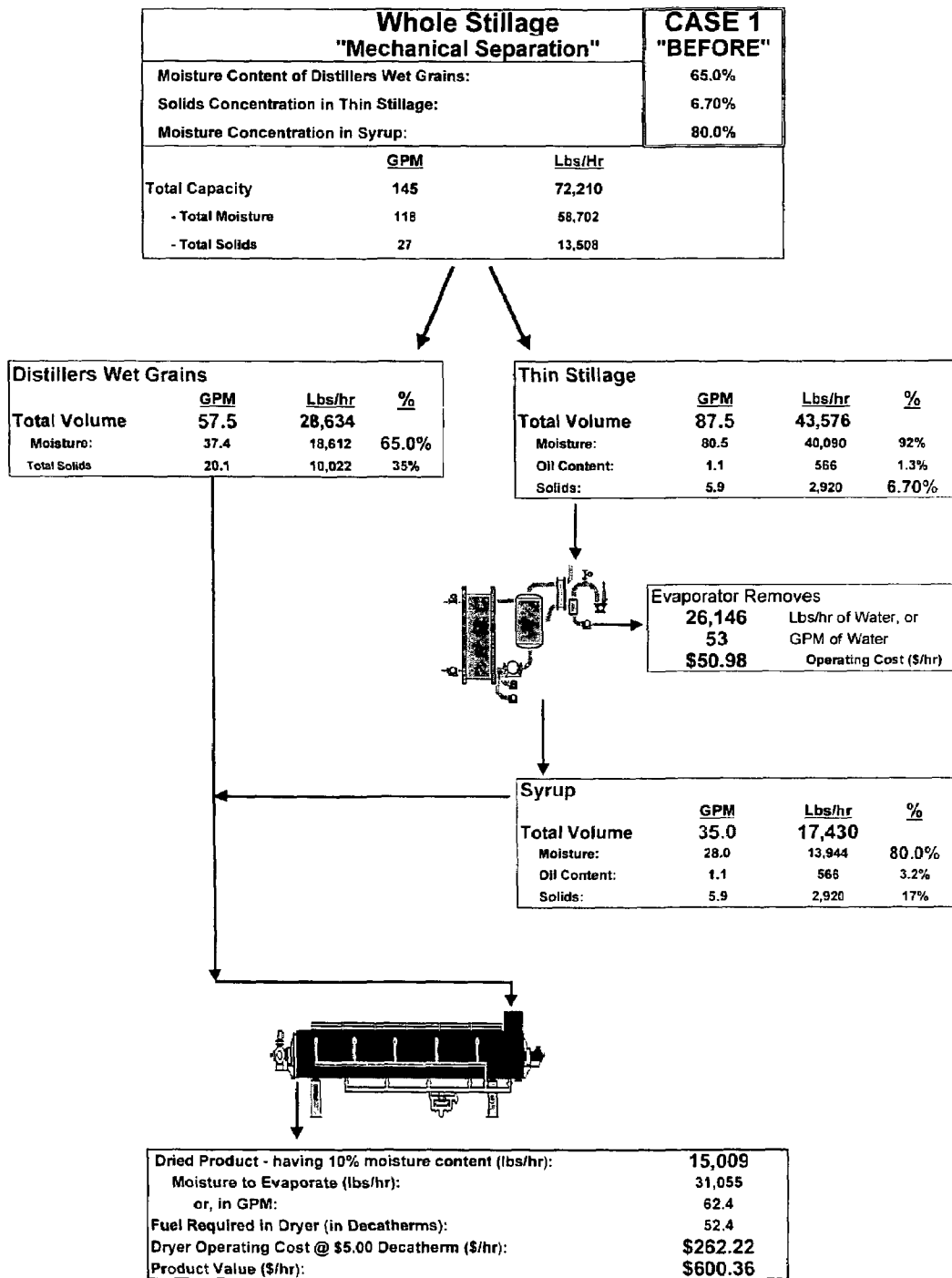


Fig. 1

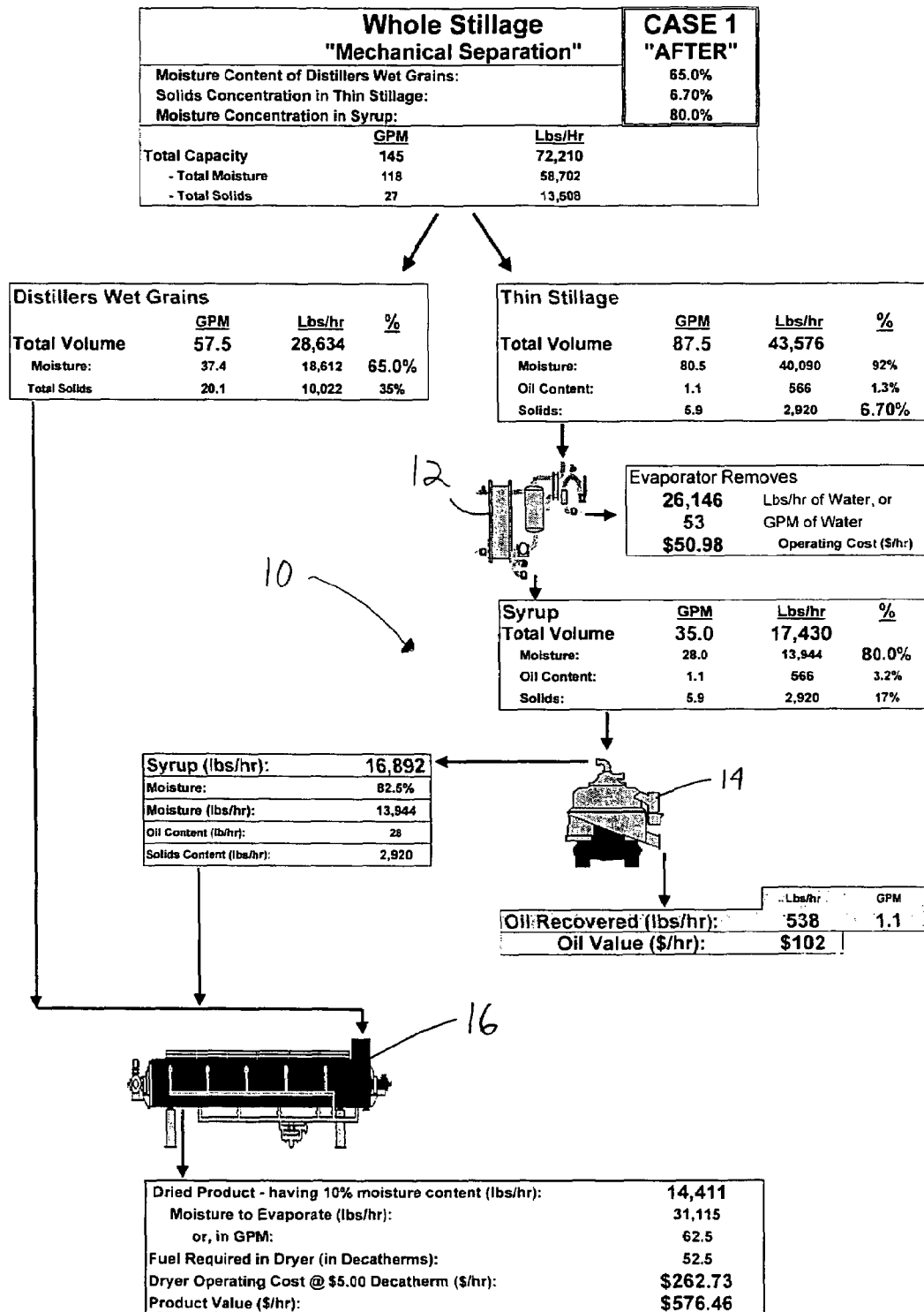


Fig. 2

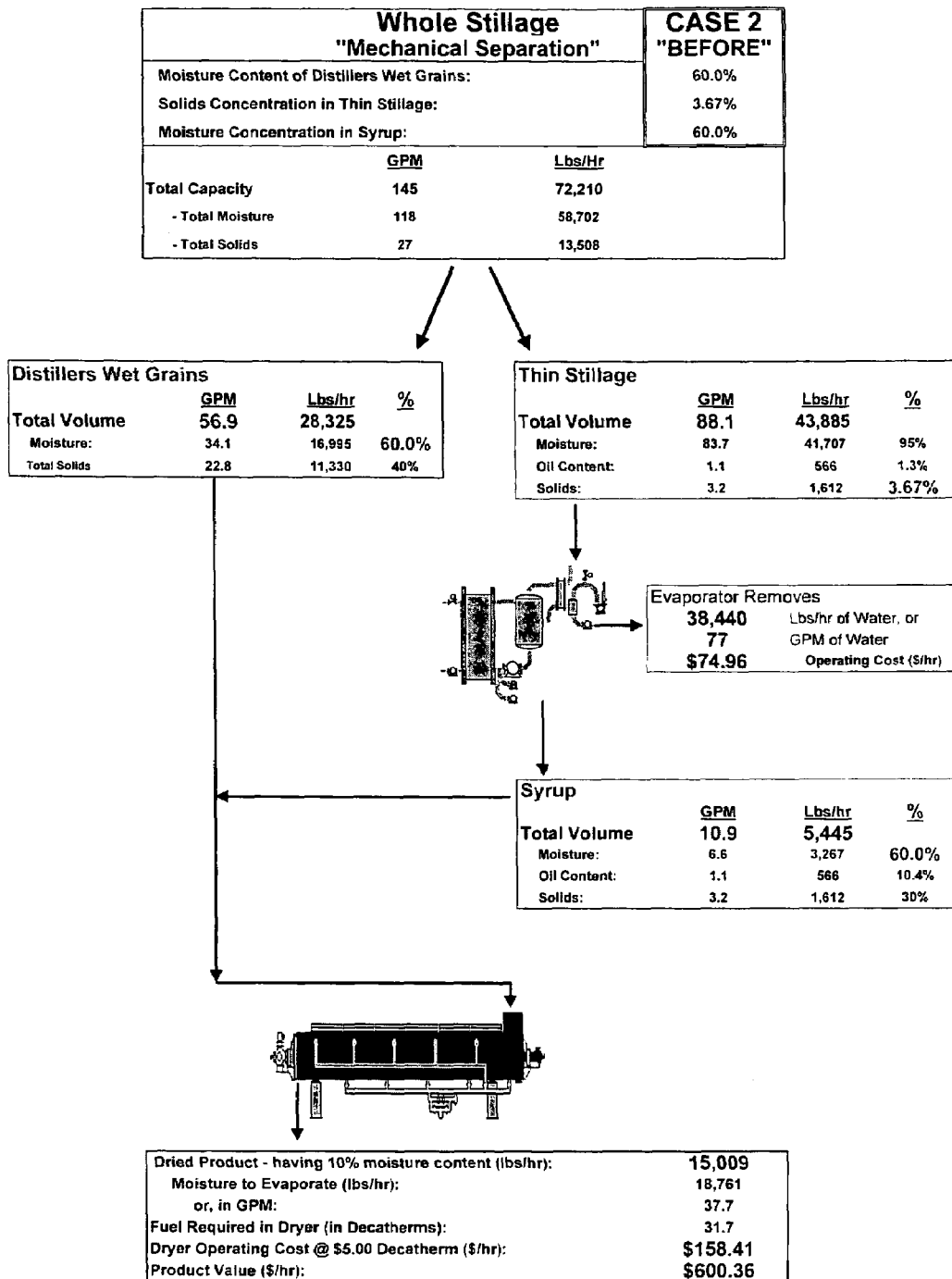


Fig. 3

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