

Feb. 28, 1961

W. HAEUSSERMANN

2,973,162

ATTITUDE CONTROL SYSTEM FOR SPACE VEHICLES

Filed Feb. 12, 1959

10 Sheets-Sheet 1
EXPULSION DEVICE
FOR:

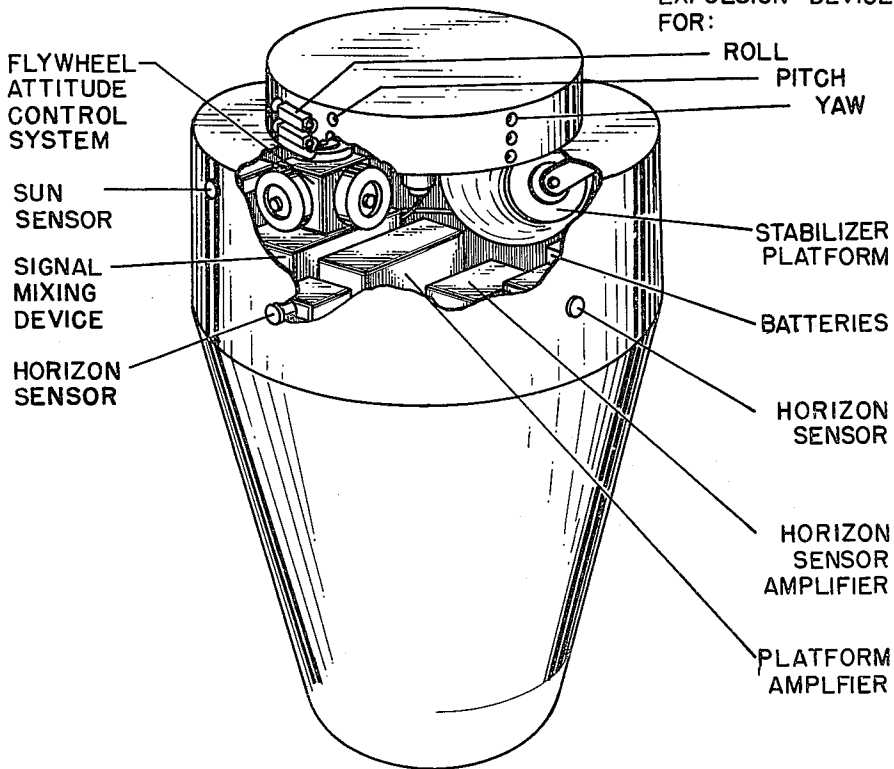


Fig. 1

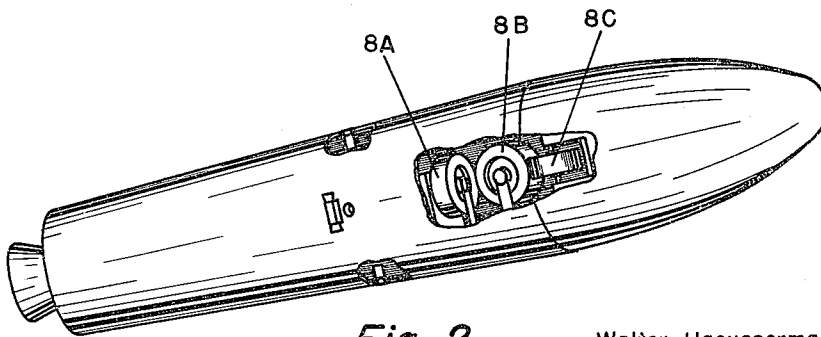


Fig. 2

Walter Haeussermann,
INVENTOR.
S. J. Rotondi,
A. T. Dupont,
BY V. L. Billings, and
Alvin E. Moore,
ATTORNEYS.

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10 Sheets-Sheet 2

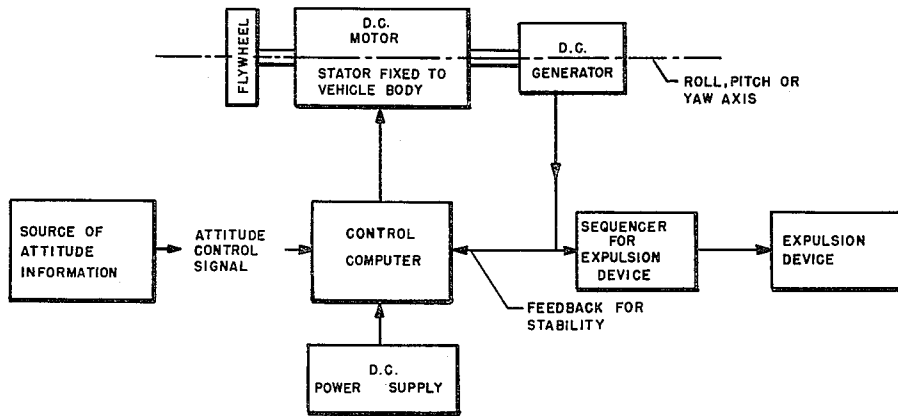
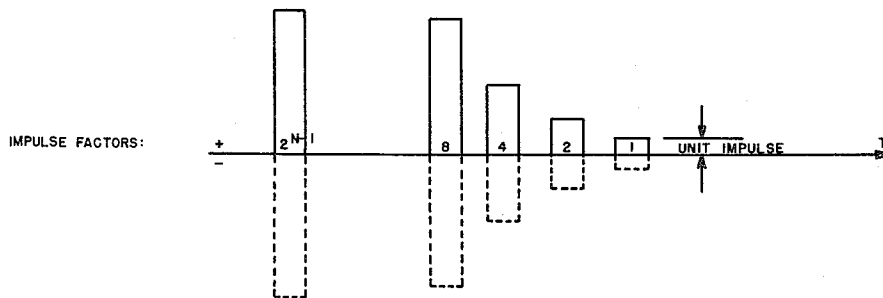


Fig. 3

DESIGN REDUCTION FACTOR: 2^N 16 8 4 2



NUMBER OF PULSES: N 4 3 2 1

Fig. 4

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10 Sheets-Sheet 3

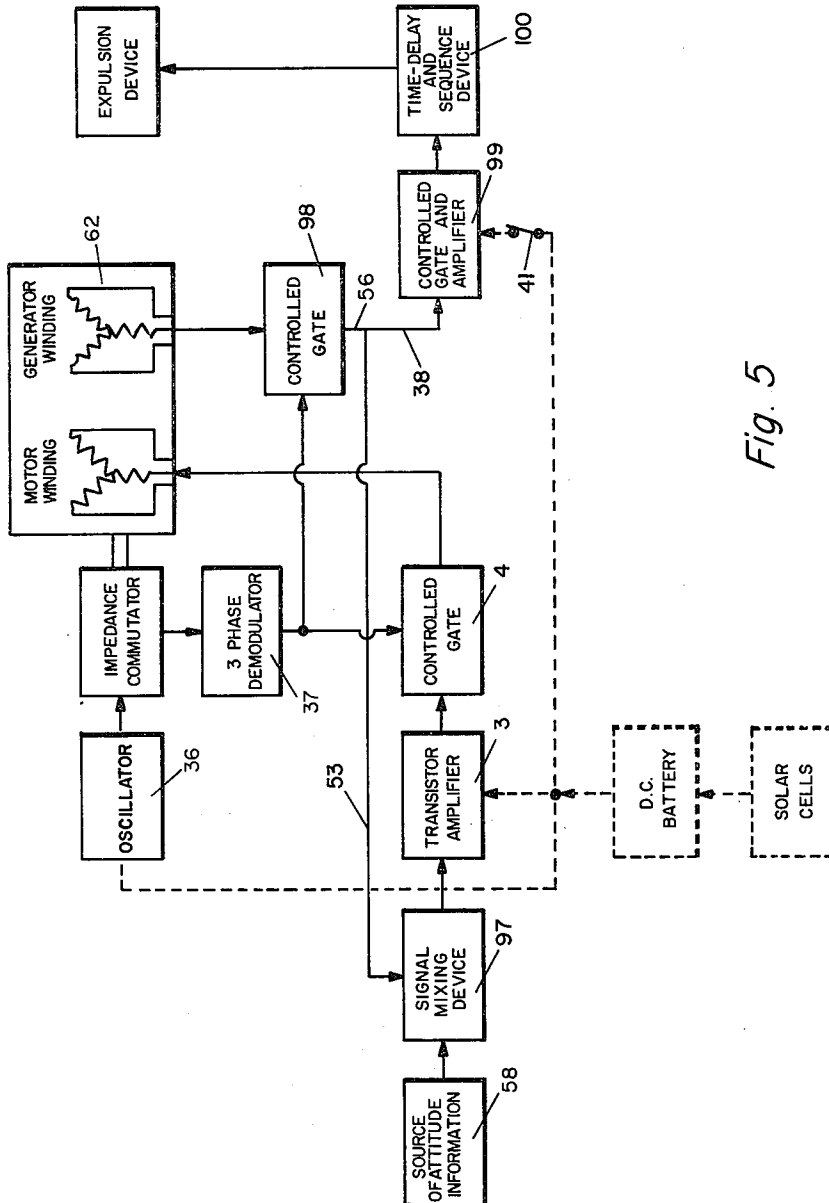


Fig. 5

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A. T. Dupont,
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10 Sheets-Sheet 4

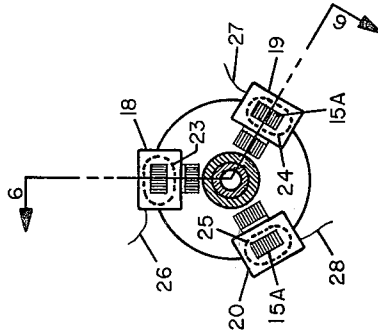


Fig. 7

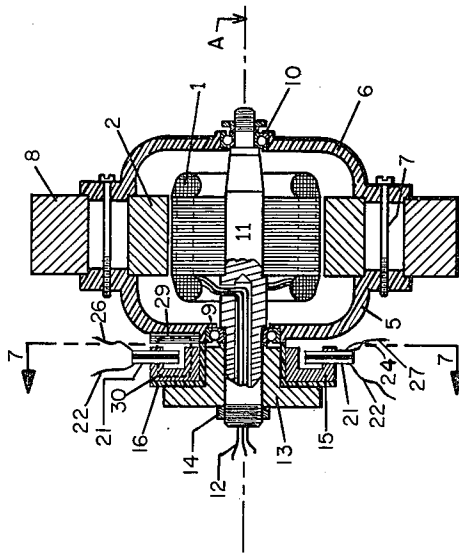


Fig. 6

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10 Sheets-Sheet 5

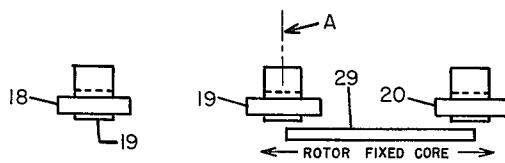


Fig. 8

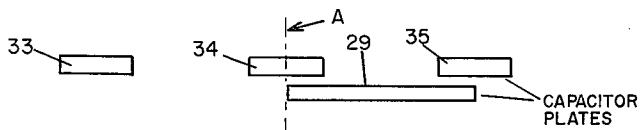


Fig. 9

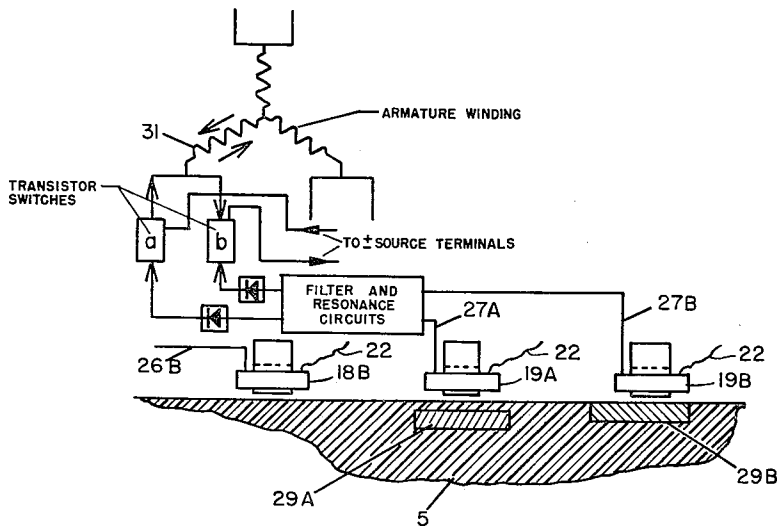


Fig. 10

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10 Sheets-Sheet 6

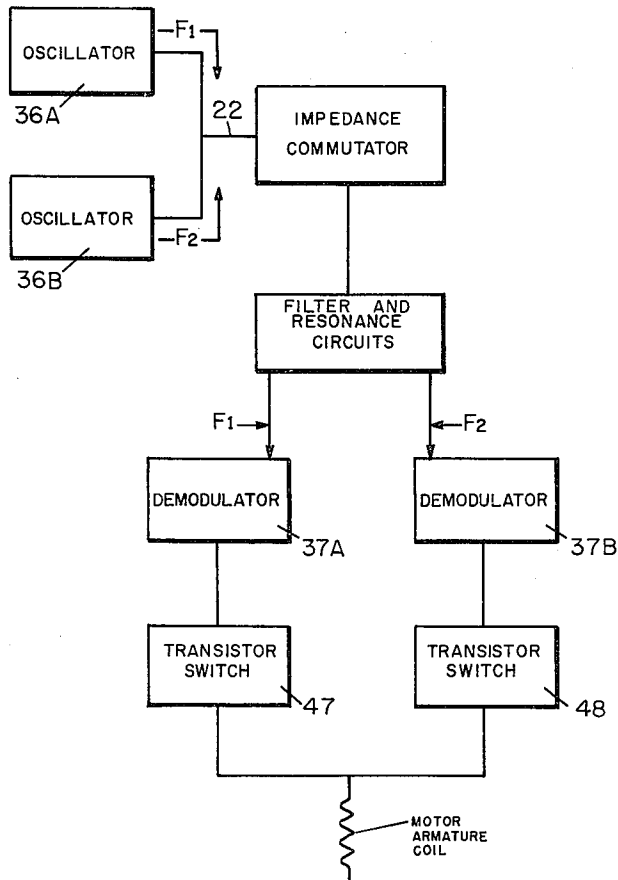


Fig. 11

Walter Haeussermann,
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BY S. J. Rotondi,
A. T. Dupont,
V. L. Billings, and
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