FIG. 1

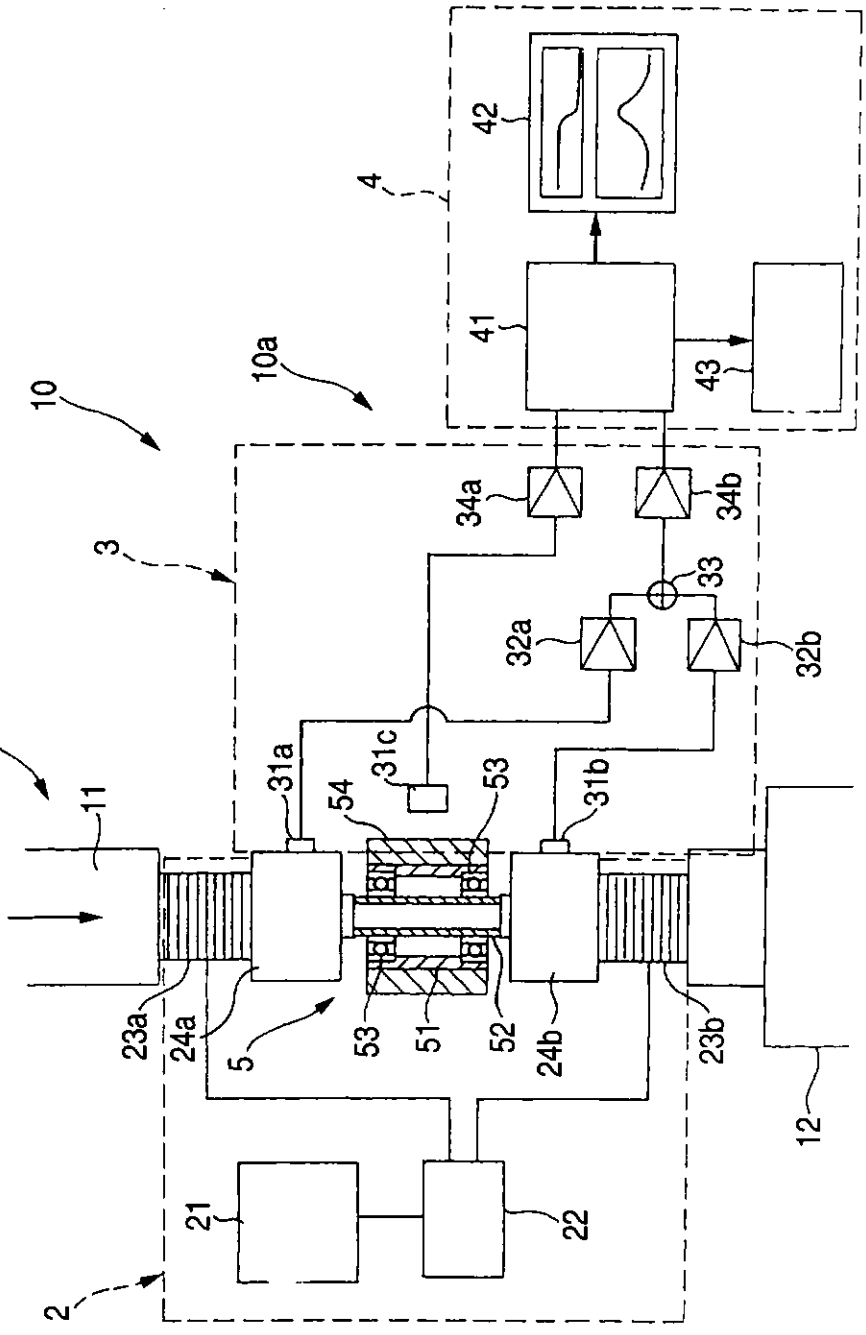

42
4
41
43
10a
10
34a
34b
3
33
32a
32b
1
31a
31c
53
54
31b
11
23a
24a
5
53
51
52
24b
23b
12
21
22
2

FIG. 2

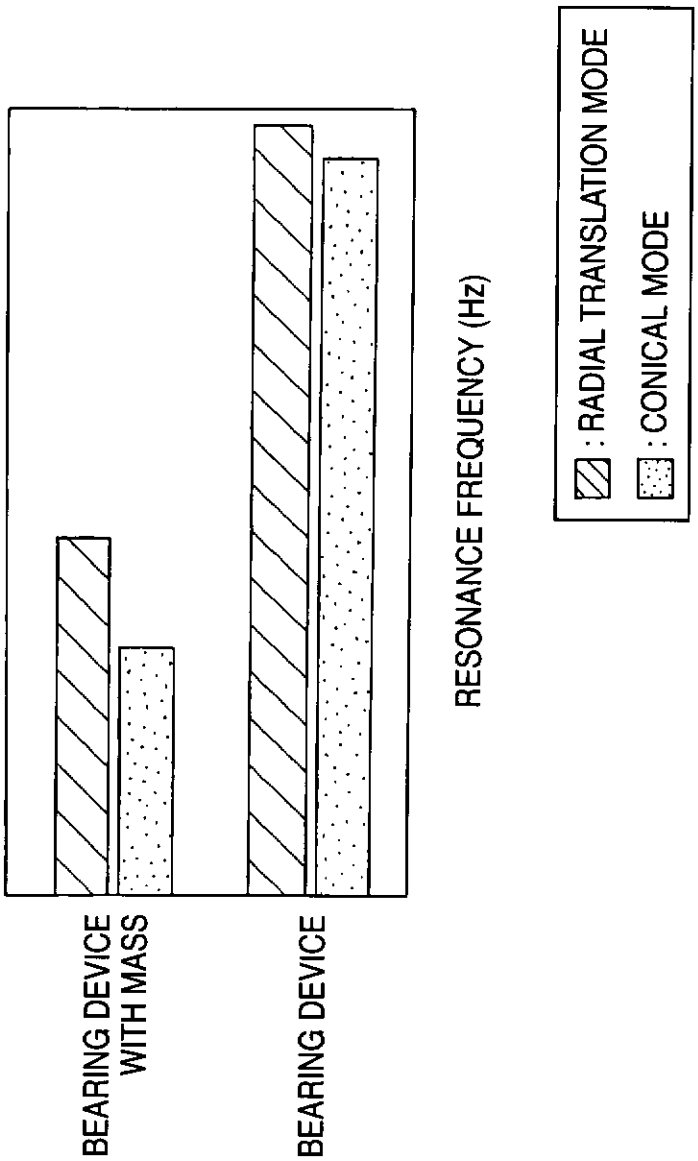

BEARING DEVICE WITH MASS
BEARING DEVICE
RESONANCE FREQUENCY (Hz)
: RADIAL TRANSLATION MODE
: CONICAL MODE

FIG. 3A

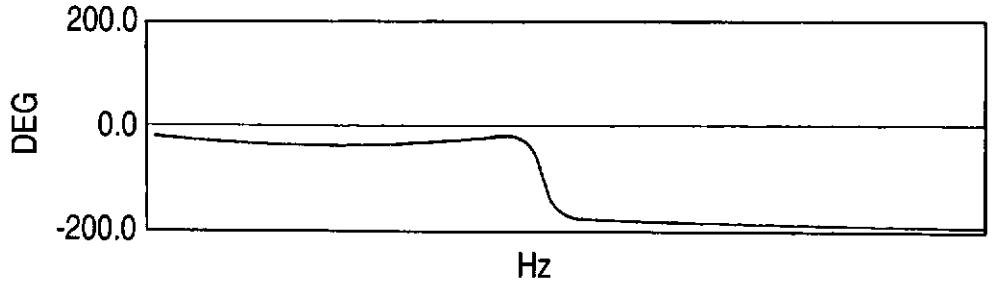


FIG. 3B

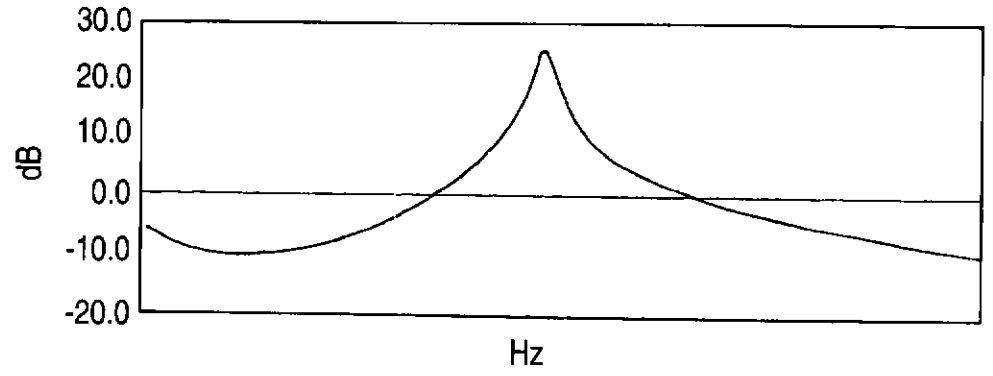


FIG. 4C

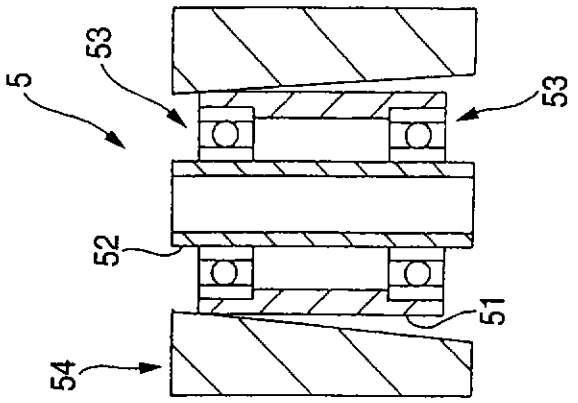


FIG. 4B

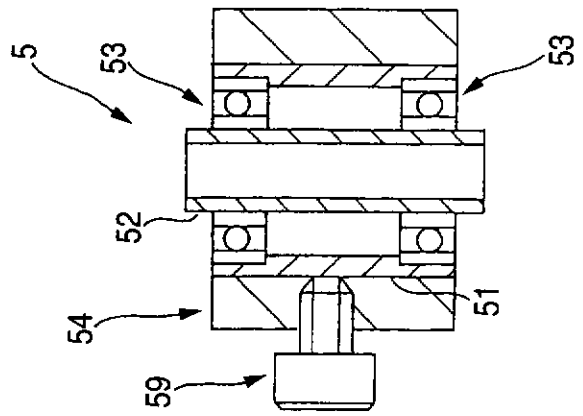


FIG. 4A

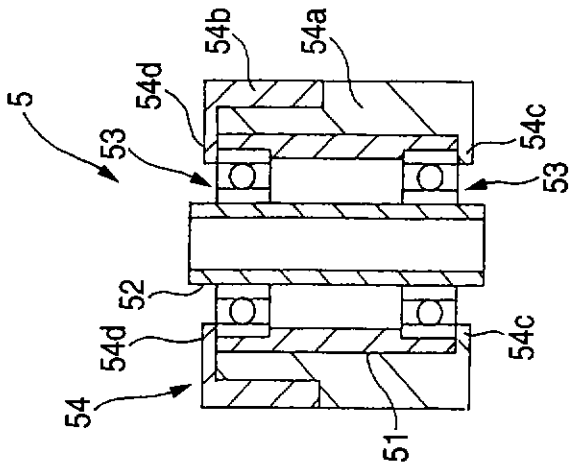


FIG. 5

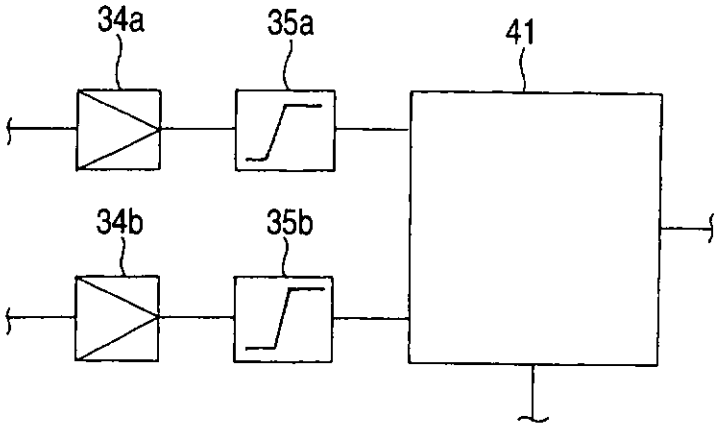


FIG. 6

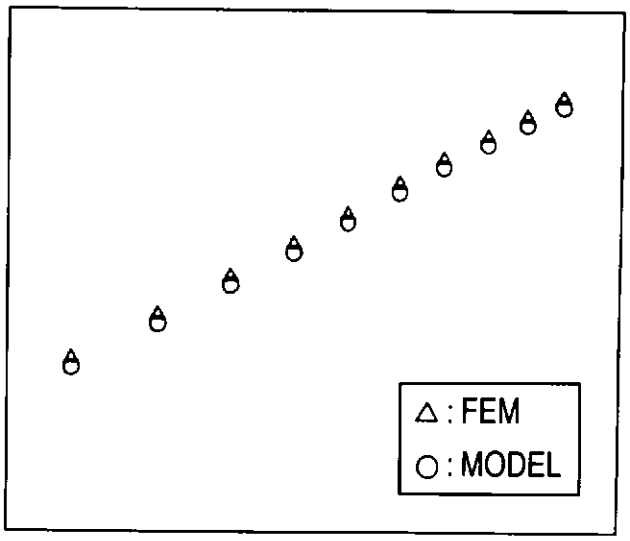


FIG. 7

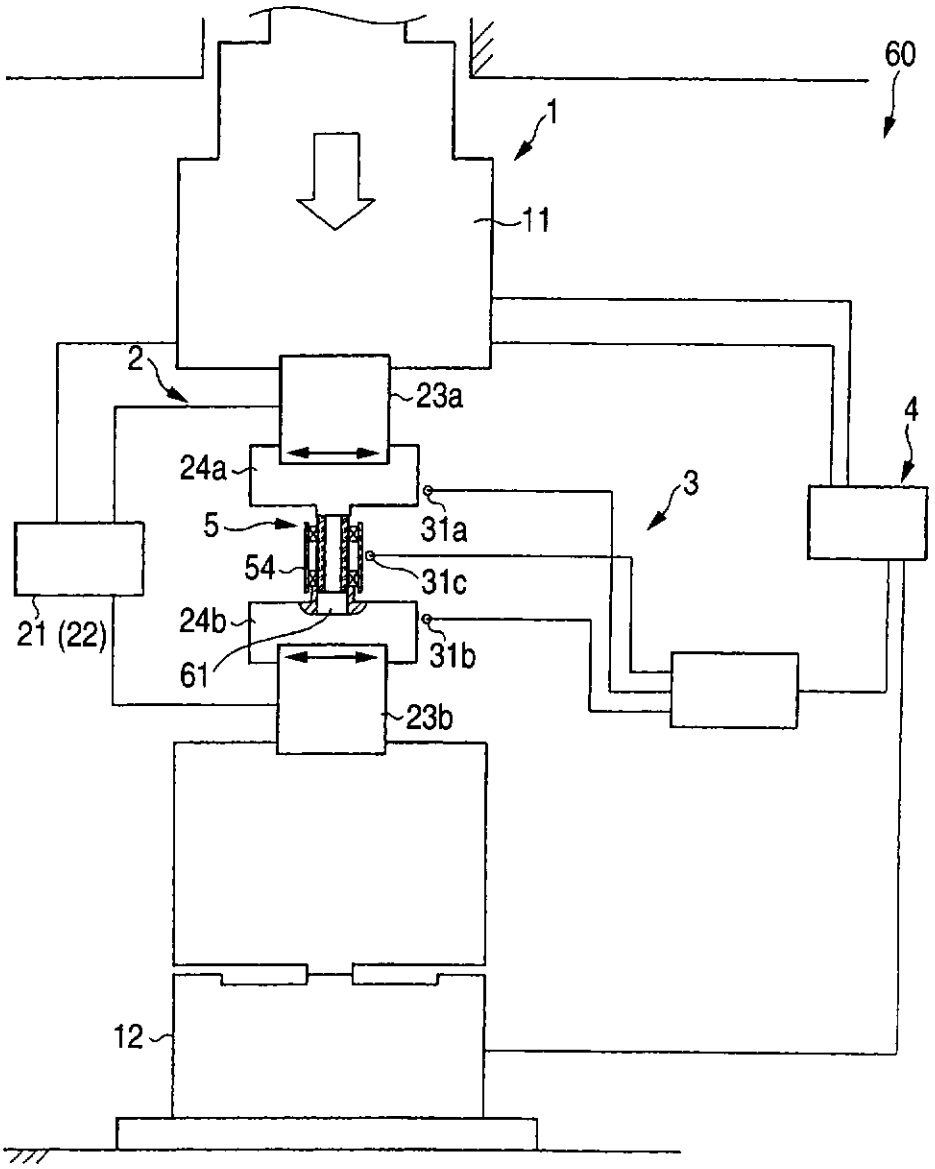


FIG. 8

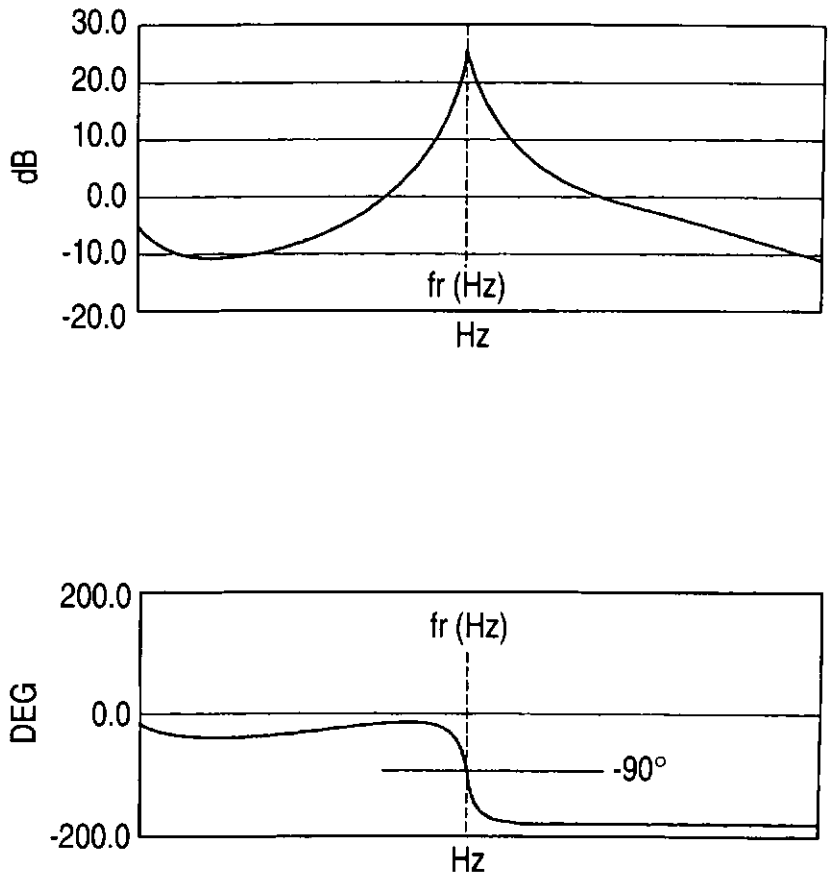
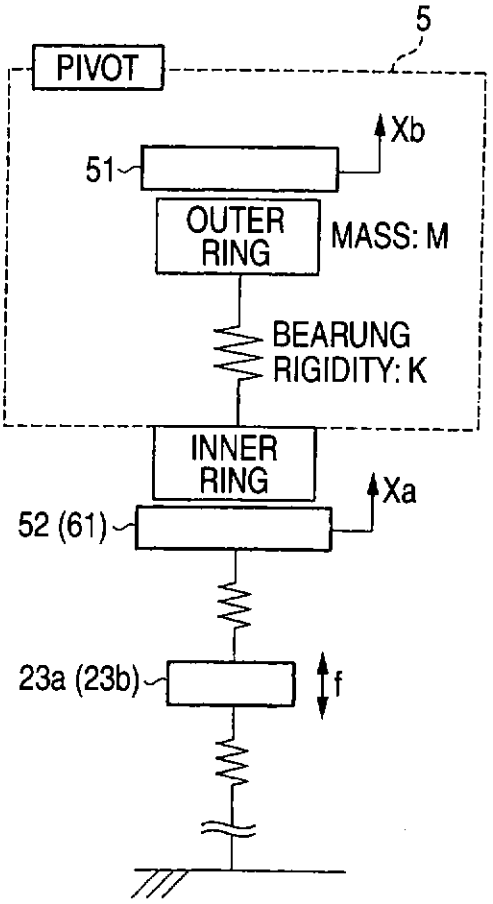
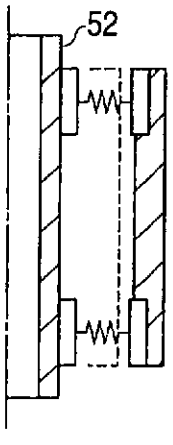


FIG. 9


5
PIVOT
Xb
51
OUTER RING
MASS: M
BEARUNG RIGIDITY: K
INNER RING
Xa
52 (61)
23a (23b)
f

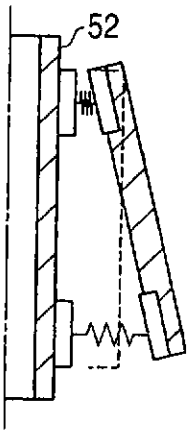
- 3 DEC 2004

FIG. 10A



TRANSLATION MODE

FIG. 10B



CONICAL MODE

FIG. 11A

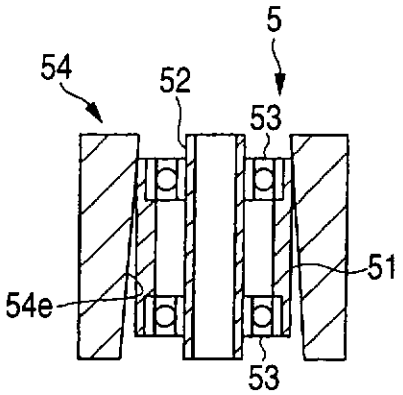


FIG. 11B

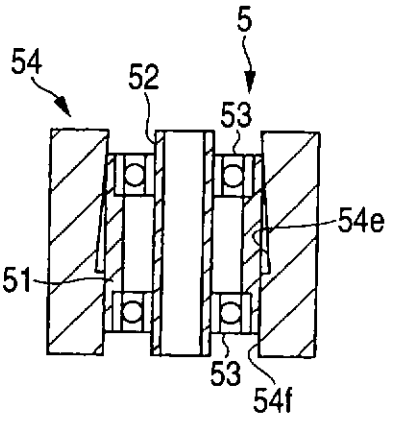


FIG. 11C

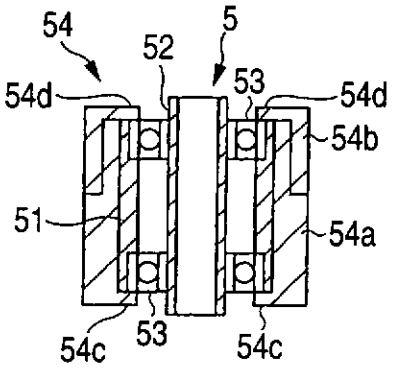


FIG. 11D

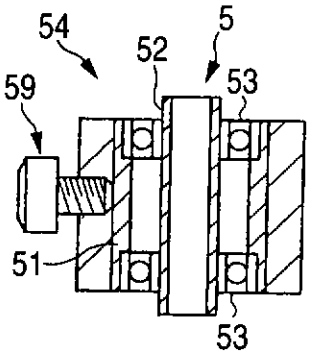


FIG. 11E

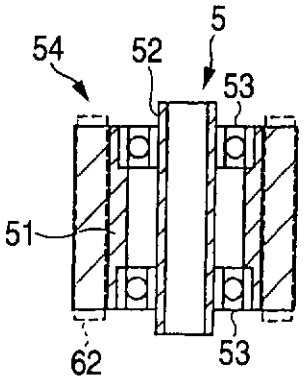
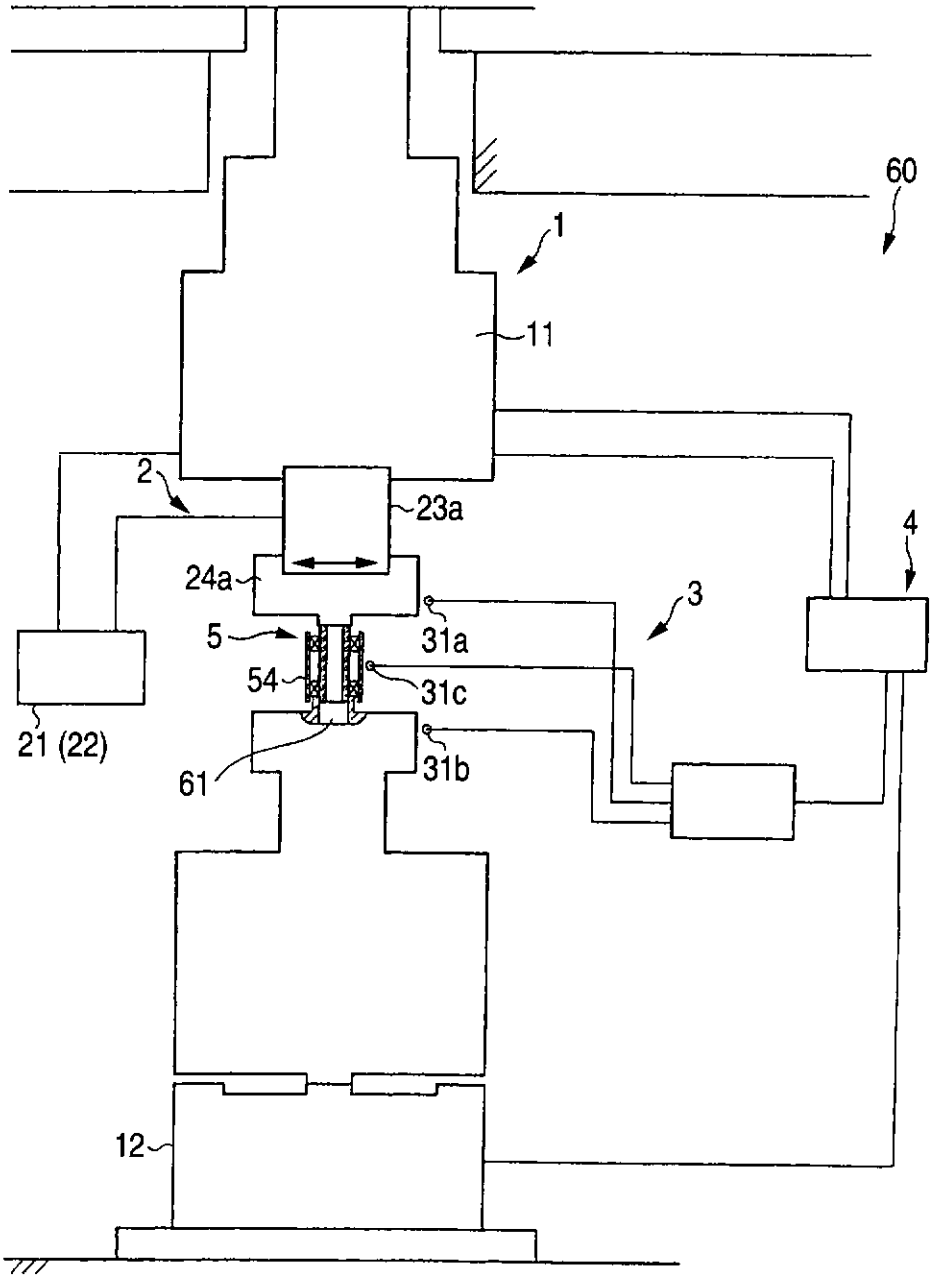


FIG. 12



- 3 DEC 2004

FIG. 13

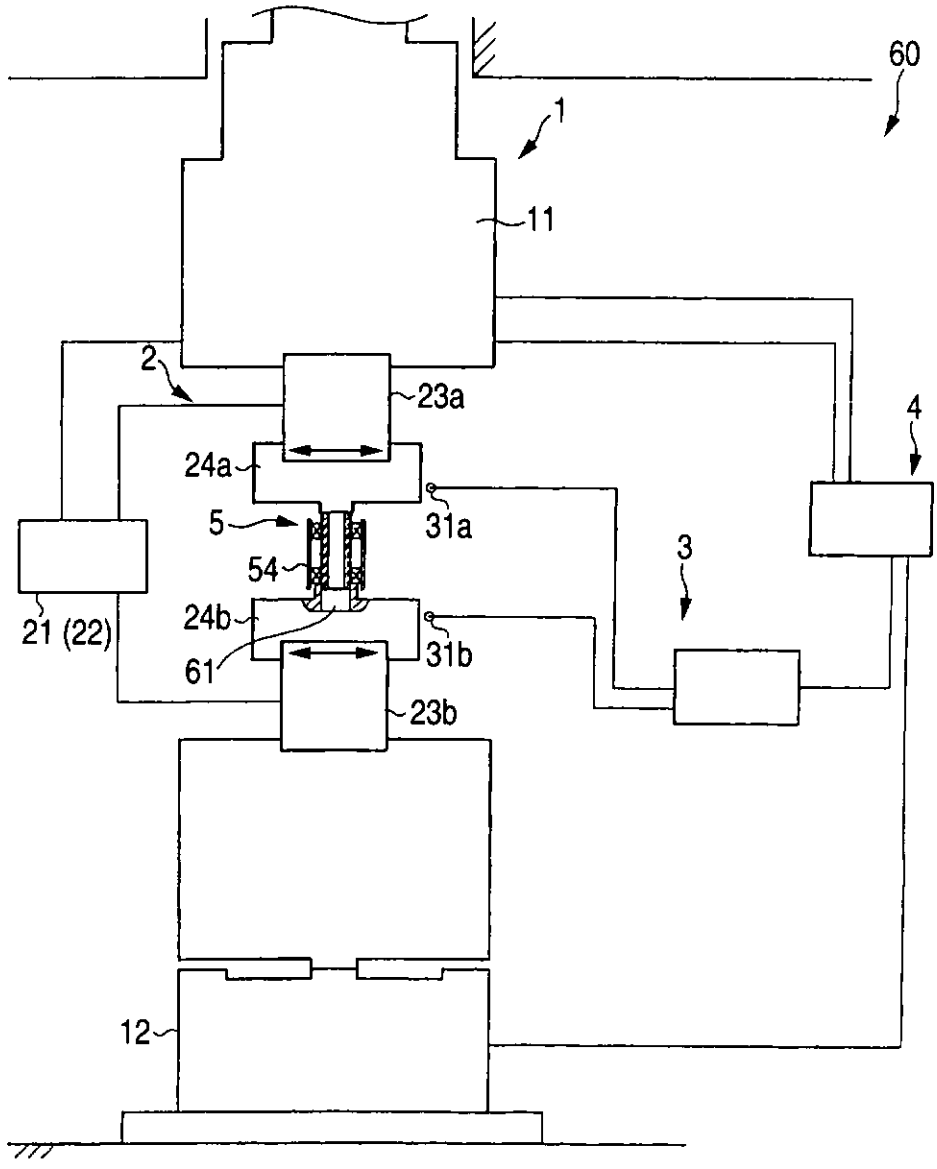
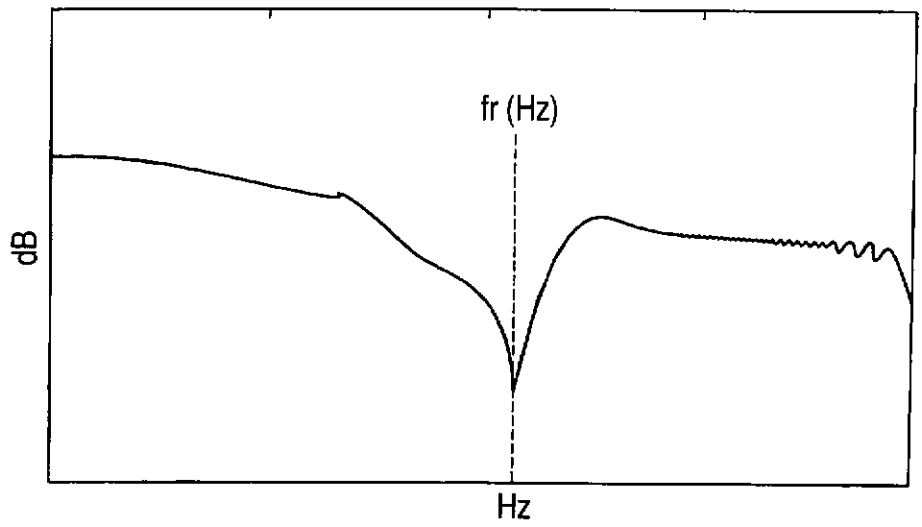


FIG. 14



- 3 DEC 2004

FIG. 15

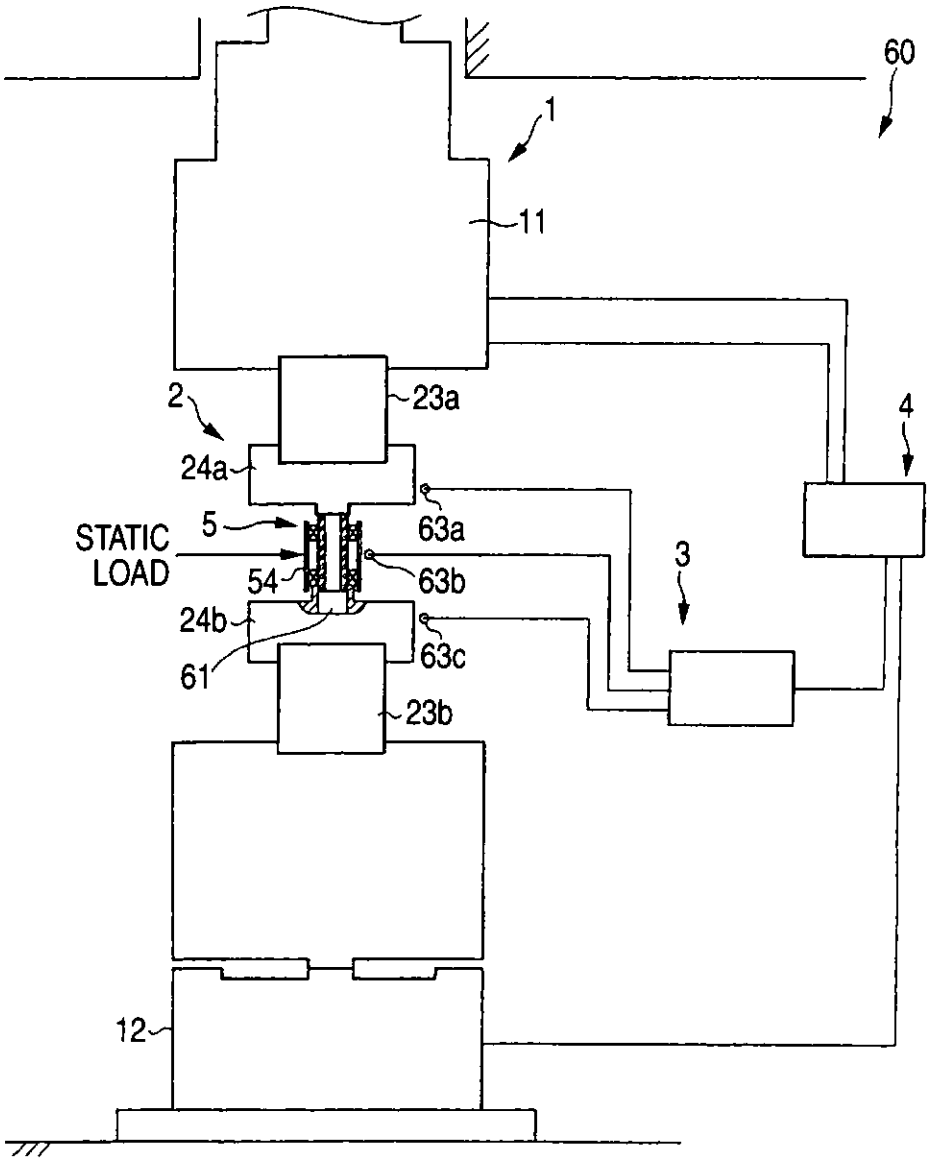


FIG. 16

