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(54) **FORCE SENSING TREADMILL**

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(57) **ABSTRACT**

A force sensing treadmill preferably including a pair of
treadmills mounted in tandem, each on its own independent
force platform attached to a common chassis. Preferably,
each of the force platforms, which are separated by a
minimal gap, provides a plurality of signals representing
forces in the x-axis, y-axis, and z-axis, and torques about
these three axes enabling separate information to be col-
lected from the left and right foot during walking and
running the entire time that either foot is in contact with the
belt. The grade of the treadmill preferably can be changed
from uphill to level to downhill and back without storming
the belt or having the user stop walking or running. Each
treadmill unit preferably includes a belt around a plurality of
rollers and preferably within the space inside the belt is
located the drive system and forceplate.

21 Claims, 7 Drawing Sheets

