[Claims]

Claim 1:
A walking control device for a legged mobile robot, comprising at least a joint provided near the ground-contacting end of a leg and control means for controlling the displacement of the joint, wherein:
a. a spring mechanism that connects the joint and the ground-contacting end of the leg;
b. joint angle command value output means for outputting a joint angle command value necessary for walking; and
c. target load output means for outputting a target load on the joint necessary for walking,
are provided, and the control means calculates a deformation angle of the spring mechanism necessary to generate the target load, and corrects the joint angle command value based on the calculated deformation angle.

Claim 2:
The walking control device for a legged mobile robot according to Claim 1, further comprising:
d. load detection means arranged near the joint for detecting a load acting on the joint,
wherein the control means corrects the joint angle command value so that the detected load becomes the target load.

Claim 3:
A walking control device for a legged mobile robot, comprising at least a joint provided near the foot portion of the leg and control means for controlling its displacement, wherein:
a. a spring mechanism having one end fixed to the leg joint and the other end fixed to the foot portion, connected in a displaceable manner via an elastic body;
b. load detection means arranged near the joint for detecting a load acting on the joint through the spring mechanism; and
c. target load output means for outputting a target load on the joint necessary for walking,
are provided, and the control means controls the displacement of the joint so that the load acting on the joint in response to the detected load becomes the target load.

Claim 4:
The walking control device for a legged mobile robot according to Claim 2 or 3, wherein the control means adds a correction value, corresponding to the difference between the detected load and the target load, to the displacement command value of the joint, thereby controlling

the displacement of the joint so that the load acting on the joint becomes the target load.

Claim 5:
The walking control device for a legged mobile robot according to any one of Claims 1 to 4, wherein a low-pass filter that blocks high-frequency components is connected downstream of the detection means.