embodiments, other configurations within the scope of the claims may be contemplated, for example, with respect to the positioning of the shafts **61**, **62**, bearings **63**, **64**, and biasing members **71**, **72** (e.g., springs). Additionally, it will be appreciated that elements described in one or more of the embodiments may be used in any of the other embodiments. Many modifications and other embodiments of the invention will come to the mind of one skilled in the art having the benefit of the teachings presented in the foregoing descriptions and the associated drawings. Therefore, it is understood that the invention is not to be limited to the specific embodiments disclosed, and that modifications and embodiments are intended to be included within the scope of the appended claims.

That which is claimed is:

1. A haptic actuator comprising:
a housing having a top and a bottom;
first and second coils carried by the top and bottom, respectively, of the housing;
a field member carried by the housing and comprising
at least one permanent magnet between the first and second coils,
first and second ends, and
a first mass between the first end and the at least one permanent magnet, and a second mass between the second end and the at least one permanent magnet;
a first shaft slidably coupling the first mass to the housing;
a second shaft slidably coupling the second mass to the housing;
a first set of biasing members between the first end of the field member and the housing; and
a second set of biasing members between the second end of the field member and the housing.

2. The haptic actuator of claim **1** wherein the first and second coils comprises first and second loop shaped coils.

3. The haptic actuator of claim **1** wherein the field member further comprises a third mass between the first and second masses and having a reduced width relative to the first and second masses.

4. The haptic actuator of claim **3** wherein the at least one permanent magnet comprises a plurality of permanent magnets on each side of the third mass.

5. The haptic actuator of claim **1** further comprising first and second mechanical bearings carried by the first and second masses and slidably receiving the first and second shafts.

6. The haptic actuator of claim **1** wherein the housing comprises at least one sidewall between the top and bottom and comprising non-ferritic material.

7. The haptic actuator of claim **1** wherein the top and bottom each comprises ferritic material.

8. The haptic actuator of claim **1** further comprising a mechanical stiffener carried by one of the top and bottom of the housing.

9. The haptic actuator of claim **1** wherein the first and second sets of biasing members comprise first and second sets of springs.

10. The haptic actuator of claim **1** wherein the first and second ends of the field member comprise first and second sets of protrusions coupled to the first and second sets of biasing members, respectively.

11. The haptic actuator of claim **1** wherein each of the first and second sets of biasing members each have an equal number thereof between a respective one of the first and second ends and adjacent portions of the housing.

12. An electronic device comprising:
a device housing;
wireless communications circuitry carried by the device housing;
a haptic actuator carried by the device housing and comprising
an actuator housing having a top and a bottom;
first and second coils carried by the top and bottom, respectively, of the actuator housing,
a field member carried by the actuator housing and comprising
at least one permanent magnet between the first and second coils,
first and second ends, and
a first mass between the first end and the at least one permanent magnet, and a second mass between the second end and the at least one permanent magnet,
a first shaft slidably coupling the first mass to the actuator housing,
a second shaft slidably coupling the second mass to the actuator housing,
a first set of biasing members between the first end of the field member and the actuator housing, and
a second set of biasing members between the second end of the field member and the actuator housing; and
a controller coupled to the wireless communications circuitry and the haptic actuator, and capable of performing at least one wireless communication function and selectively operating the haptic actuator.

13. The electronic device of claim **12** wherein the first and second coils comprises first and second loop shaped coils.

14. The electronic device of claim **12** wherein the field member further comprises a third mass between the first and second masses and having a reduced width relative to the first and second masses.

15. The electronic device of claim **14** wherein the at least one permanent magnet comprises a plurality of permanent magnets on each side of the third mass.

16. The electronic device of claim **12** further comprising first and second mechanical bearings carried by the first and second masses and slidably receiving the first and second shafts.

17. A method of making a haptic actuator comprising:
positioning first and second coils to be carried by a top and a bottom, respectively, of a housing;
positioning a field member to be carried by the housing, the field member comprising at least one permanent magnet between the first and second coils, first and second ends, and a first mass between the first end and the at least one permanent magnet, and a second mass between the second end and the at least one permanent magnet;
slidably coupling the first mass to the housing using a first shaft;
slidably coupling the second mass to the housing using a second shaft;
positioning a first set of biasing members between the first end of the field member and the housing; and
positioning a second set of biasing members between the second end of the field member and the housing.