member P into the compression position, provided that the average distance A is comparable to the operating proximity OP. In fact, such angularly-offset release position facilitates compression of the center segment, as explained in the following example.

For instance, referring to FIG. 2A, by positioning a midpoint MP on the plate member P (in the release position) substantially at the operating proximity OP, a left section LS is significantly closer to the electromagnet assembly **18**, while a right section RS is significantly farther from the electromagnet assembly **18**. While the average distance A is still comparable to the operating proximity OP, the left section LS experiences an increase in magnetic force which is greater than the decrease in magnetic force experienced by the right section RS. Consequently, a net increase in the magnetic force over the plate member P facilitates the compression of the center segment. In the disclosed embodiment, the angularly-offset release position of the plate member P provides a relatively greater magnetic force than the substantially parallel release position present in typical magnetically-drive pumps. Accordingly, the pump **10** operates efficiently by capitalizing on the particular characteristics of magnetic forces.

Whereas conventional pumps generate substantial noise from components being driven in and out of contact, the pump **10** generates minimal noise. In particular, the lever structure L is positioned relative to the electromagnet assembly **18** such that an edge portion E of the left section LS remains in contact with the electromagnet assembly **18** throughout the stroke. Consequently, as the plate member P moves into the compression position, the edge portion E thereof "pushes against" the electromagnet assembly **18** so that the plate member P is able to come into parallel contact with the electromagnetic assembly **18** over substantially the planar surface **44**. When the plate member P moves into the release position, the edge portion E "pushes off" the electromagnet assembly **18** so that the plate member P is able to rest in the angularly-offset position relative to the electromagnet assembly **18**. The edge portion E of the plate member P thus remains in contact with the electromagnet assembly **18** to reduce operating noise of the pump **10**. And, in addition to reducing noise, the contact between the edge portion E and the electromagnetic assembly **18** also enables the pump **10** to utilize the power of the electromagnet assembly **18** well within the operating proximity OP.

Furthermore, cushioning material, such as foam, and the like, may be provided on various points of contacts X in the pump **10**, for example, on the lever structure L, and the abutments **28** and **30**, to further reduce operating noise.

For substantially continuous contact between the plate member P and the electromagnet assembly **18**, a center segment **64** of the shaft F on which the lever structure L is hinged translates between points N_1 and N_2. In particular, the center segment **64** translates from point N_1 to N_2 as the lever structure L moves from the release position to the compression position, and from N_2 back to N_1 as the lever structure L moves from the compression position back to the release position. To enable the center segment **64** to translate between the points N_1 and N_2, the shaft F is constructed of a resiliently flexible material, allowing ends **62** of the shaft F to remain fixedly attached to the side panels **34** while the center segment **64** substantially bows as necessary to accommodate movement of the lever structure L.

FIG. **3** illustrates another embodiment of the present invention, where like elements are referenced with similar numerals. In this embodiment, the plate member P is position relatively perpendicular to the bar **46**. Notwithstanding, the plate member P still moves between the release position (solid lines) and the compression position (broken lines), with the lever structure L compressing and releasing the center segment **26** with the striker S. Again, the lever structure L couples the lesser arcuate range R_P of the plate member P with the greater arcuate range R_{ST} of the striker S. Also, again, the edge portion E of the plate member P remains in contact with the electromagnet assembly **18** throughout the stroke, the shaft F translating between the points N_1 and N_2.

It may be seen that the structure of the present invention may be readily incorporated in various embodiments to provide a pump **10**. The various components and dimensions disclosed herein are merely exemplary and may not be to scale. Of course, various alternative techniques may be employed departing from those disclosed and suggested herein. For example, the plate member P may be variously joined with the lever structure L, provided that the plate member P moves between the angular-offset release position and the substantially parallel compression position. Also, the lever structure L may be variously configured, provided that it enables the plate member P to move within the lesser arcuate range R_P and the striker S to move within the greater arcuate range R_{ST}. Also, the means enabling the pivotal point of the lever structure L to translate may also be varied or assisted, for instance, by various tension members, such as springs or elastic bands.

Consequently, it is to be understood that the scope hereof should be determined in accordance with the claims as set forth below.

What is claimed is:

1. A pump for transferring fluid in a conduit, comprising:

an electromagnet assembly selectively excited by a power source; and

a non-ferromagnetic lever structure extending from the electromagnet assembly to the conduit, said lever structure having a ferro-magnetic portion at one end movable by the electromagnet assembly between a release position where said ferro-magnetic portion is angularly offset relative to the electromagnet assembly and a compression position where said ferro-magnetic portion is in substantially parallel contact with the electromagnet assembly, said ferro-magnetic portion enabling a striker portion at another end of the lever structure to compress said conduit when said electromagnet assembly is excited.

2. A pump in accordance with claim **1**, wherein said lever structure is pivotable about a point such that said ferro-magnetic portion consisting of a plate is movable within an arcuate range and said striker portion is movable with a greater arcuate range.

3. A pump in accordance with claim **2**, wherein said arcuate range is substantially within an operating proximity of said electromagnet assembly relative to said ferro-magnetic portion.

4. A pump in accordance with claim **3**, wherein a first section of said ferro-magnetic portion is positioned substantially within said operating proximity and a second section of said ferro-magnetic portion is positioned substantially outside said operating proximity.

5. A pump in accordance with claim **4**, wherein a part of said first section of said ferro-magnetic portion remains in contact with said electromagnet assembly throughout a stroke.

6. A pump in accordance with claim **5**, wherein said pivotal point of said lever structure translates between two