Place the 40-amp rectifier and the parallel wire apparatus on a rolling cart. (See Note.) Adjust the lens of the light source so that it is as close to the lamp as possible, and set the source on the base of the parallel wire apparatus in the position determined by the U-shaped receptacles. Adjust the light source so that the beam is perpendicular to the wires and centered on the objective lens. Set the cart just in front of the lecture table, tilt the entire apparatus so that the image is projected reasonably high on the screen, and focus the image of the wires on the screen.

With both the DPDT switch on the wire mounting and the off-on switch on the Variac in the off position, connect the rectifier to the apparatus, set the selector switch on the rectifier at 6-volts, and set the dial on the Variac at 38. When the switches are closed later, these settings will lead to the maximum allowable current of 20 amp. (See WARNING!!)

With the DPDT switch closed in that position for which the currents in the two wires will be in the same direction, close, for not more than 2 sec, the off-on switch on the Variac and note that the two current attract one another. Now shift the DPDT switch so that the two currents will be in opposite directions, again close the Variac switch for not more than 2 sec, and note that the two currents repel one another.

Note: If one of the smaller rolling carts is used, it will be necessary to place the parallel wire apparatus so that the light beam will be crosswise of the cart.

WARNING: In order to obtain the effect desired, it is necessary to exceed by far the normal current carrying capacity of the wires. The current must therefore be allowed to flow for only a very short time. A maximum current of 20 amp should be allowed to flow continuously for a time not to exceed 2 seconds.