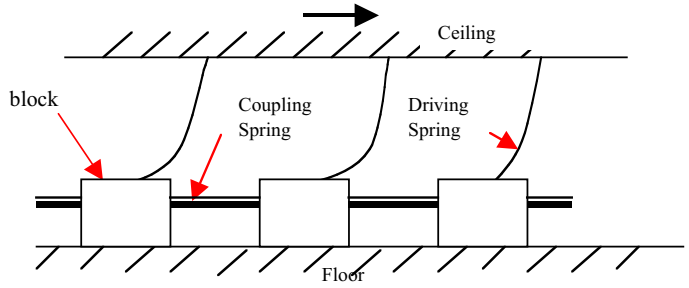

Fig. 1. Schematic of BK model.

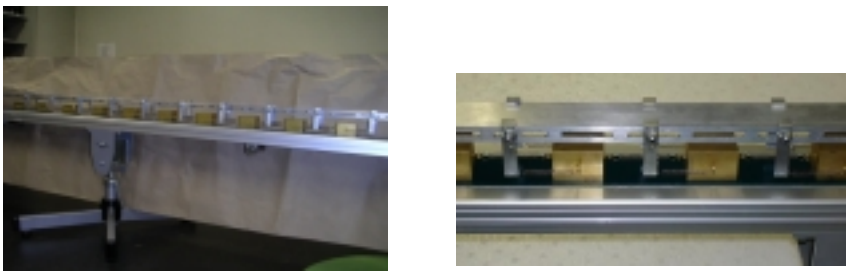

Fig. 2. Experimental devices.

behavior of the BK model system consisted of a small number of blocks, especially whether the Gutenberg-Richter's law holds or not. The purpose of this thesis is to report the methods of the concrete procedure and the results of these experiments.

2. Experimental Apparatus and Method

Ten blocks are arranged one-dimensionally and connected to each other with coupling springs and are placed on a belt conveyor that moves with constant velocity. These blocks are made of brass and their sizes are 39 mm × 30 mm × 30 mm. Each block is connected also to the rest ceiling with driving springs according to the configuration of BK model. Driving springs are connected to the side surfaces of each block in order to prevent unnecessary movement in perpendicular direction to that of belt conveyer velocity. Ten LED are fixed on top of each block in order to show the block positions clearly. The photographs of the experimental devices are shown in Fig. 2.

At first, all block intervals are set up equal to natural length of coupling springs. Next, the belt conveyer is switched on and begins to move with constant velocity. The video camera is set up in front of the system and the position of each block at every 1/30 second is recorded on video tapes.