The Nocturnal

Nocturnals, or nocturlabes, are devices for telling the time of night. Their operation is based on the fact that the stars, while remaining fixed relative to one another, appear to rotate about the North Star. Thus, their position at any moment indicates the time.

A nocturnal consists of several pieces of metal or wood, which are attached at the center so they can rotate relative to one another. At the axis of rotation there is a hole. The nocturnal template provided is one that was a favorite of London instrument-makers in the 17th century. This nocturnal can be used with either the Great Bear (the Big Dipper) or the Little Bear (the Little Dipper), and thus it is labeled "Both Bears" on the handle.

To use the nocturnal with reference to the Great Bear (the Big Dipper), first set the inner dial so that the pointer marked "GB" is set against the date. Hold the nocturnal upright by the handle until the North Star can be sighted through the hole. Turn the long arm of the device until it lies along the line made by the two brightest stars in the constellation (the two stars often used as "pointers" to find the North Star). Read the time on the central dial.

The Little Bear (the Little Dipper) can be used in the same way. Set the inner dial marked "LB" against the date. Then site the North Star through the hole and turn the long arm until the bright star in the Little Bear lies on it (the fourth star in the arc that starts at the North Star). Once again, read the time on the central dial.

NOTE: As with a sundial, the nocturnal provides local time, not standard time.

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MATERIALS NEEDED:

1. Eyelet kits - purchased in sewing notions sections of stores. One eyelet is needed for each nocturnal. A brad or paper fastener will not work because a see-through hole is needed at the center of the instrument for sighting the North Star.
2. Light weight cardboard or poster board for mounting the parts of the nocturnal.
3. Crayons.
4. Scissors.
5. Glue.

Assemble the three parts of the nocturnal in the sequence as numbered on the pieces.