Roll film pinhole camera – Basic sketch

Explanation:

1 Knob for advancing the film
2 Axle for film spool (turnable)
3 Axle for film spool (fixed, not turnable)
4 Stop for film spool
5 Metal axle or rod (which the film rests against)
6 Partition made of wood
7 Removable back
8 Pinhole opening
9 Spring (to facilitate insertion of film spool)

The camera is made of wood. I used 6 mm oak strip for the front and back panel, and 4,5 x 2 cm for the top and bottom. Other materials may be used as well. The external dimensions are: 20 cm long, 13 cm tall, 5,5 cm wide. The pinhole plate is attached to the inside of the front panel. The focal length is approx. 38 mm. The picture frames are approx. 6 x 7 cm.
In my camera the metal rods which the film rests against (5) are fixed; they do not turn as the film is advanced. The bottom rods (3) for holding the film spools are also fixed. I used brass machine screws for the bottom rods. I filed away the threads at the end of the screws. When the knob (left 2) of the take-up spool is turned, the film is advanced. In my camera each of the upper rods (2) go through a threaded insert. To make possible the advancement of the film I used a hacksaw to make a slot for a small piece of metal at the end of the upper rods (2) to fit the slot in the film spools. (Not shown in the sketch.)

The pinhole plate is attached to the front panel on the inside. I use a square piece of wood (approx. 40 x 40 x 6 mm) with a hole in the middle which is screwed on to the inside of the front panel. The pinhole plate is sadwiched between the front panel and the piece of wood. (This is not shown in the sketch.)

A shutter may be added on the front panel. Personally I use only a large flap of black lightproof plastic, the kind of plastic used in boxes with photographic paper. This solution is quite practical but not very elegant. If a more elaborate shutter is added, care should be taken that it can be operated without stirring the camera.

Pictures of the camera