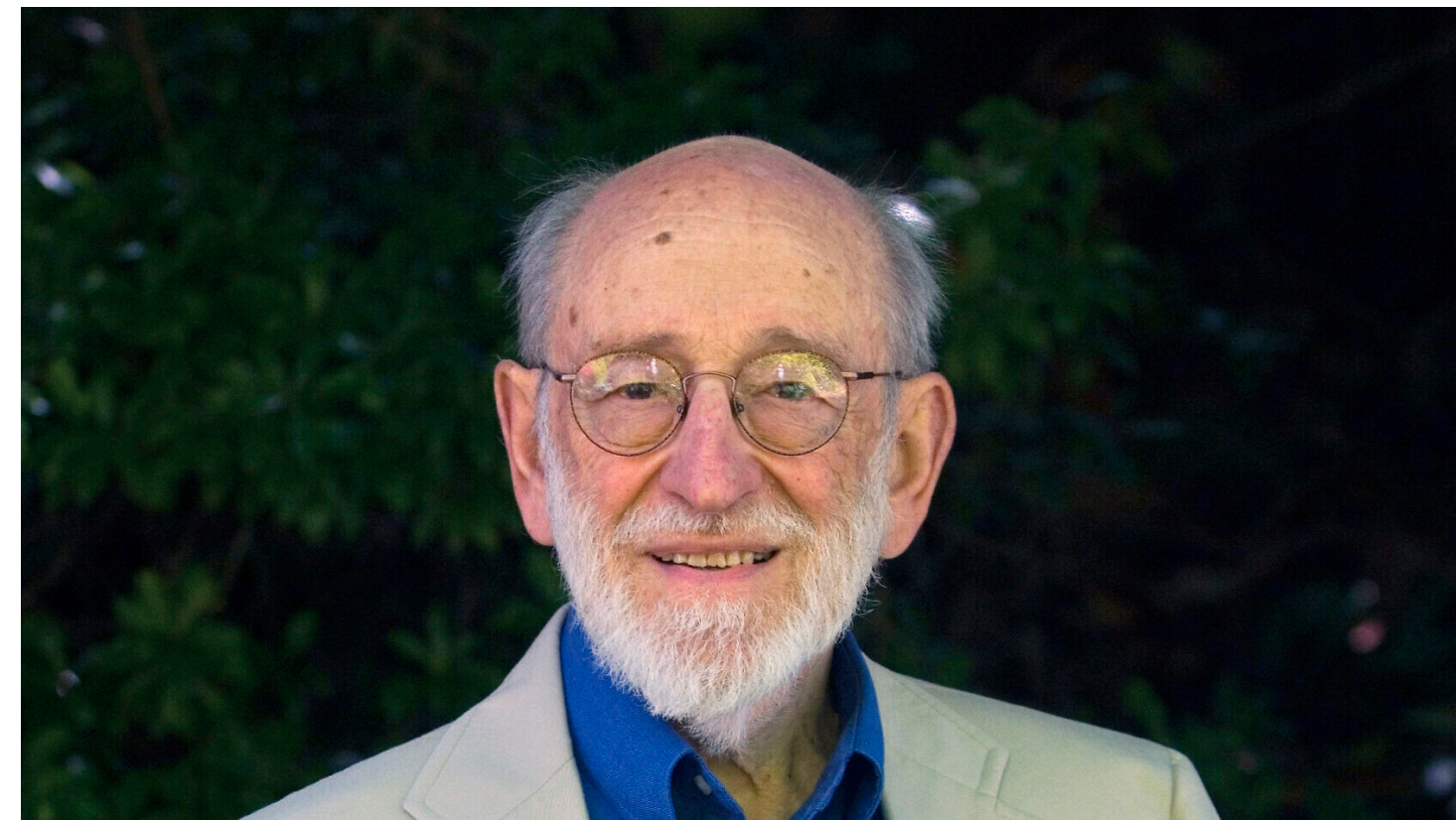




**Russell Kirsch  
(1929—2020)**



**First ever digital image  
(1957)**







**Standards Eastern Automatic Computer (SEAC)**

In recognition of the importance of pictorial sources of data for a data processing system, experiments were undertaken at the National Bureau of Standards to determine whether automatic processing techniques might be applied to pictorial information in order to reduce the amount of human intervention required during the input process. In considering this problem, new areas of the application of automatic data processing techniques for processing pictorial information have appeared. It had not been suspected that automatic data processing techniques were applicable in some of these areas, even if human intervention were allowed. The type of information with which these investigations are concerned ranges from the stylized to the amorphous forms previously mentioned. In the NBS experiments described in this paper, the equipment used consists of the general-purpose digital computer SEAC, to which are attached an input scanner for sensing pictures and copying them into the computer memory, and a cathode-ray-tube output display for reproducing processed pictorial information from the computer memory.

## II. DESCRIPTION OF THE EXPERIMENTAL EQUIPMENT

### A. SEAC

The experiments described here were performed on SEAC during a period when the capability of the computer for performing logical data processing operations was being enhanced by the addition of several new features. The state of SEAC at the time of most of the experiments described here was that of a 1500-word memory computer with an average time of 250 microseconds for performing

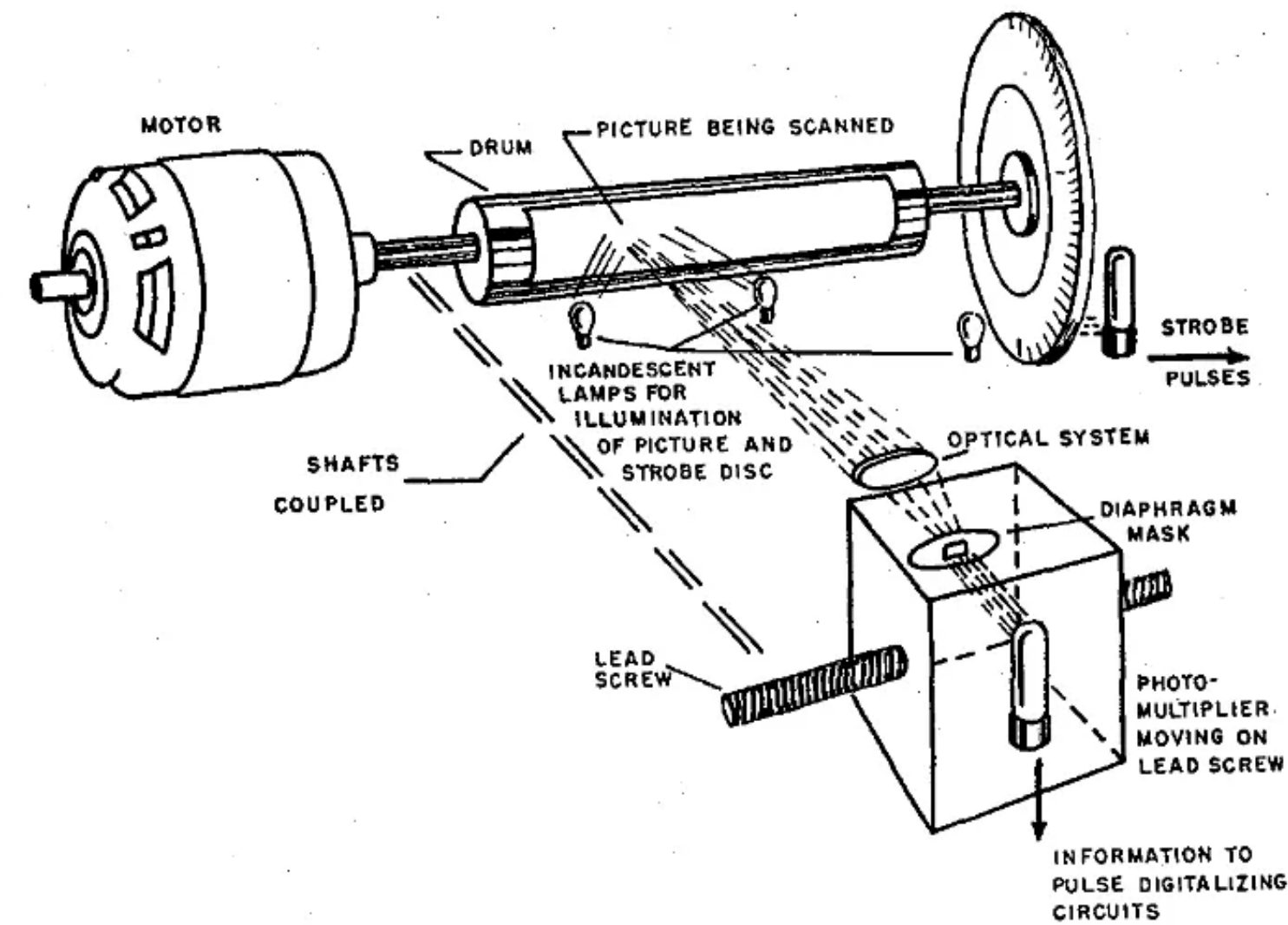


Fig. 1—The scanner.

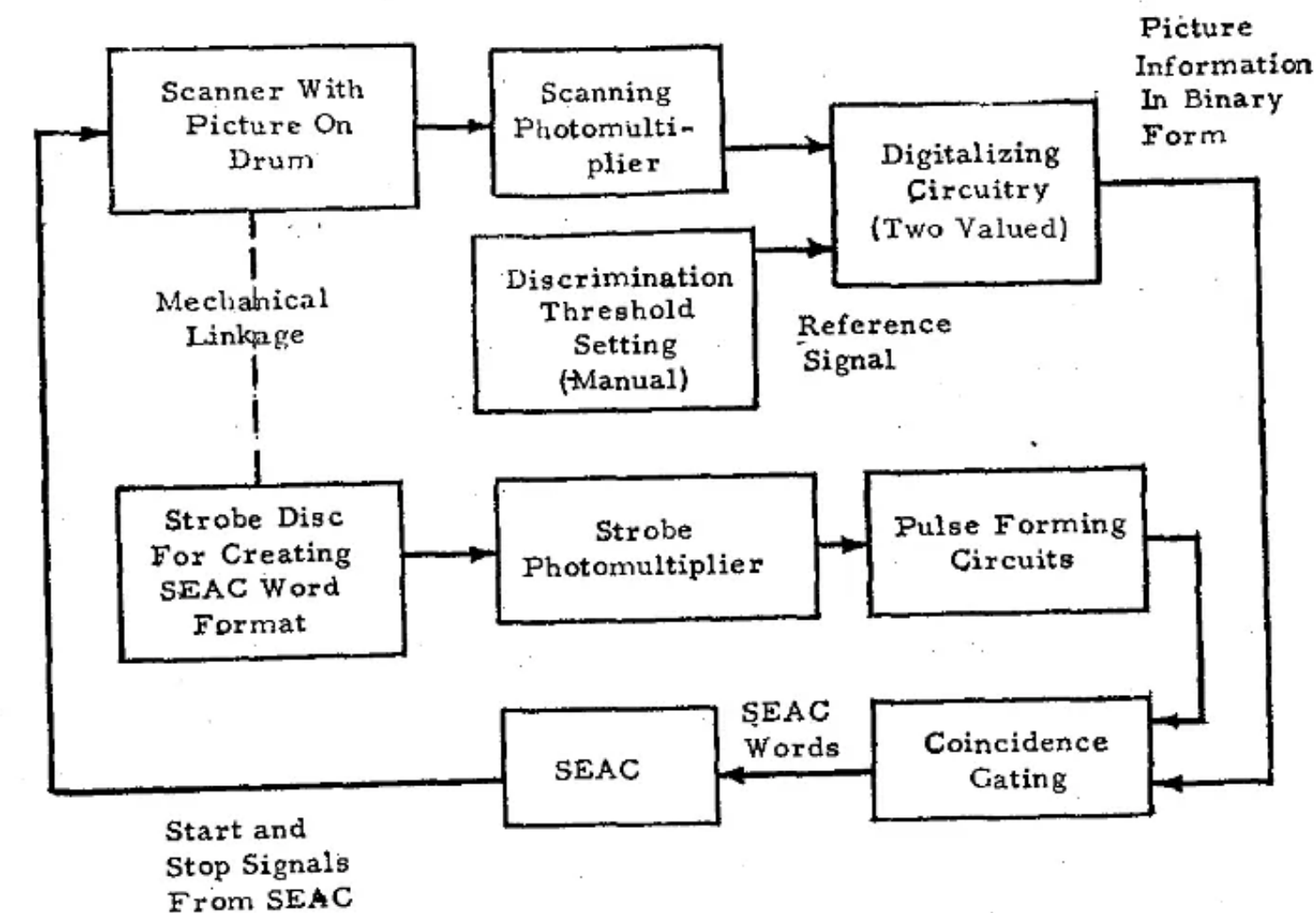
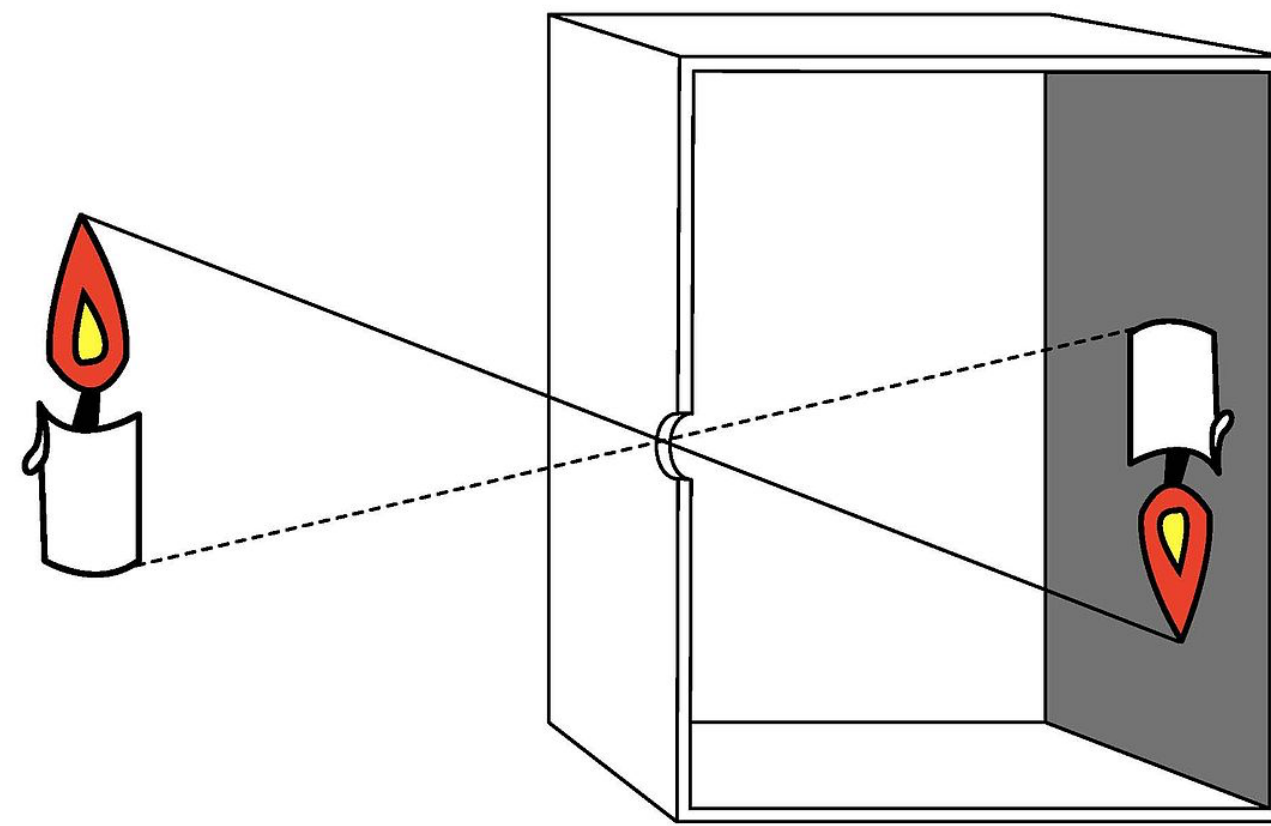


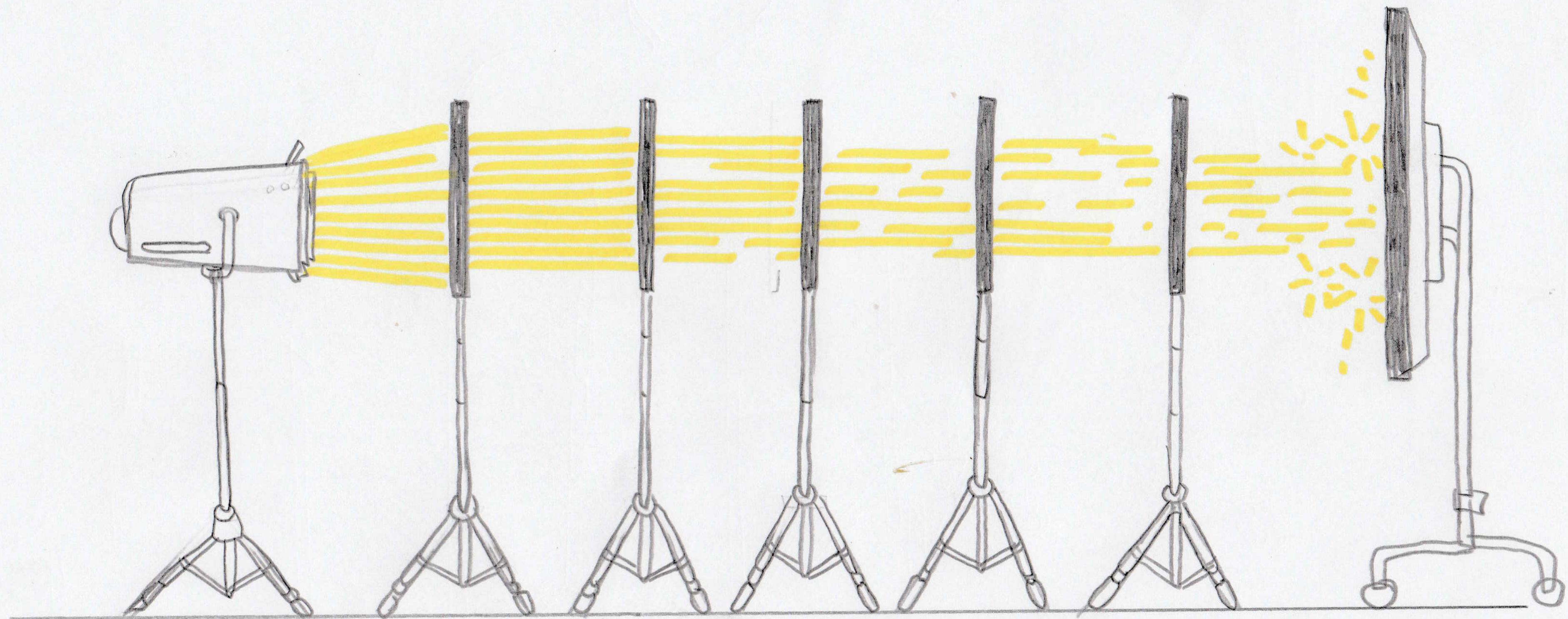
Fig. 2—The scanner connections to SEAC.





**A photo-multiplier scanned the image through a square viewing hole in the wall.**

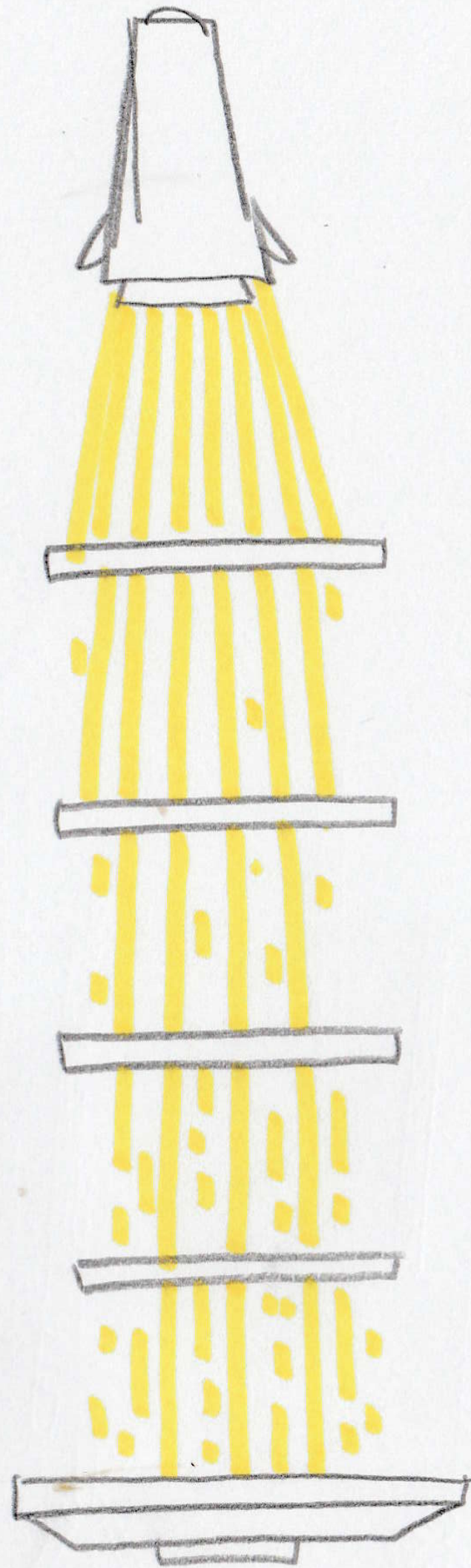
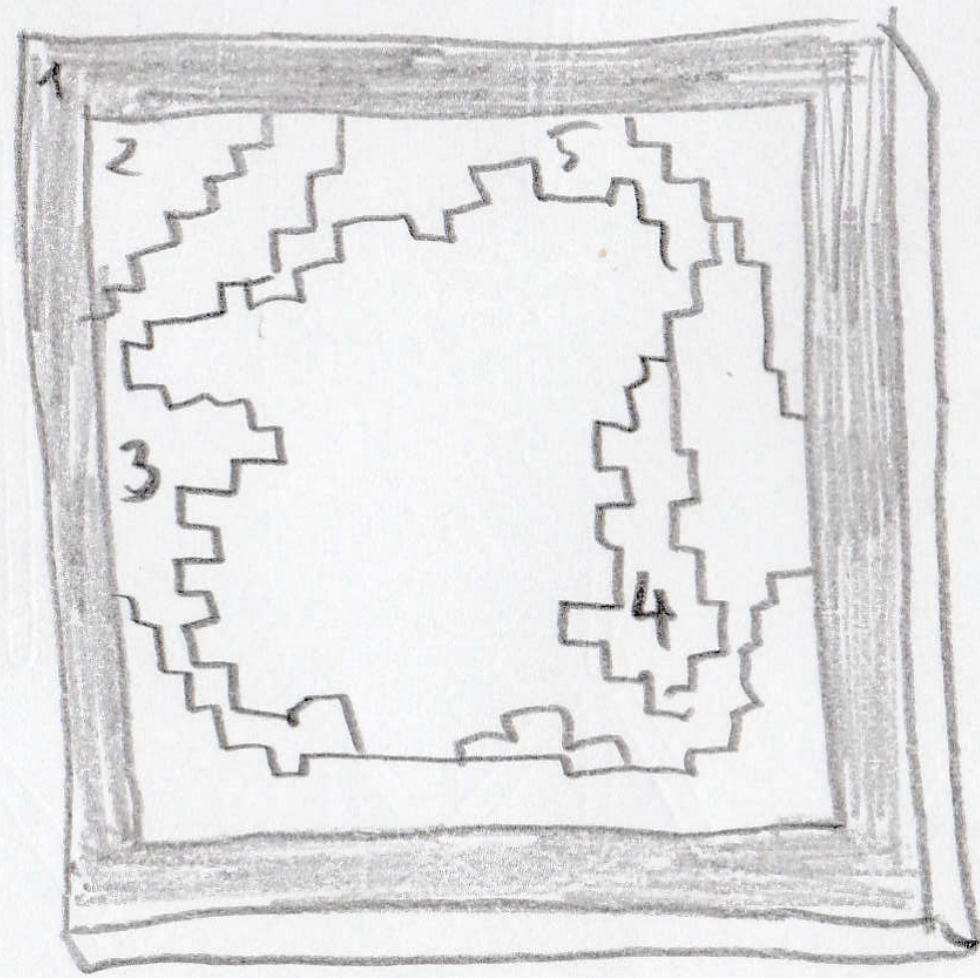
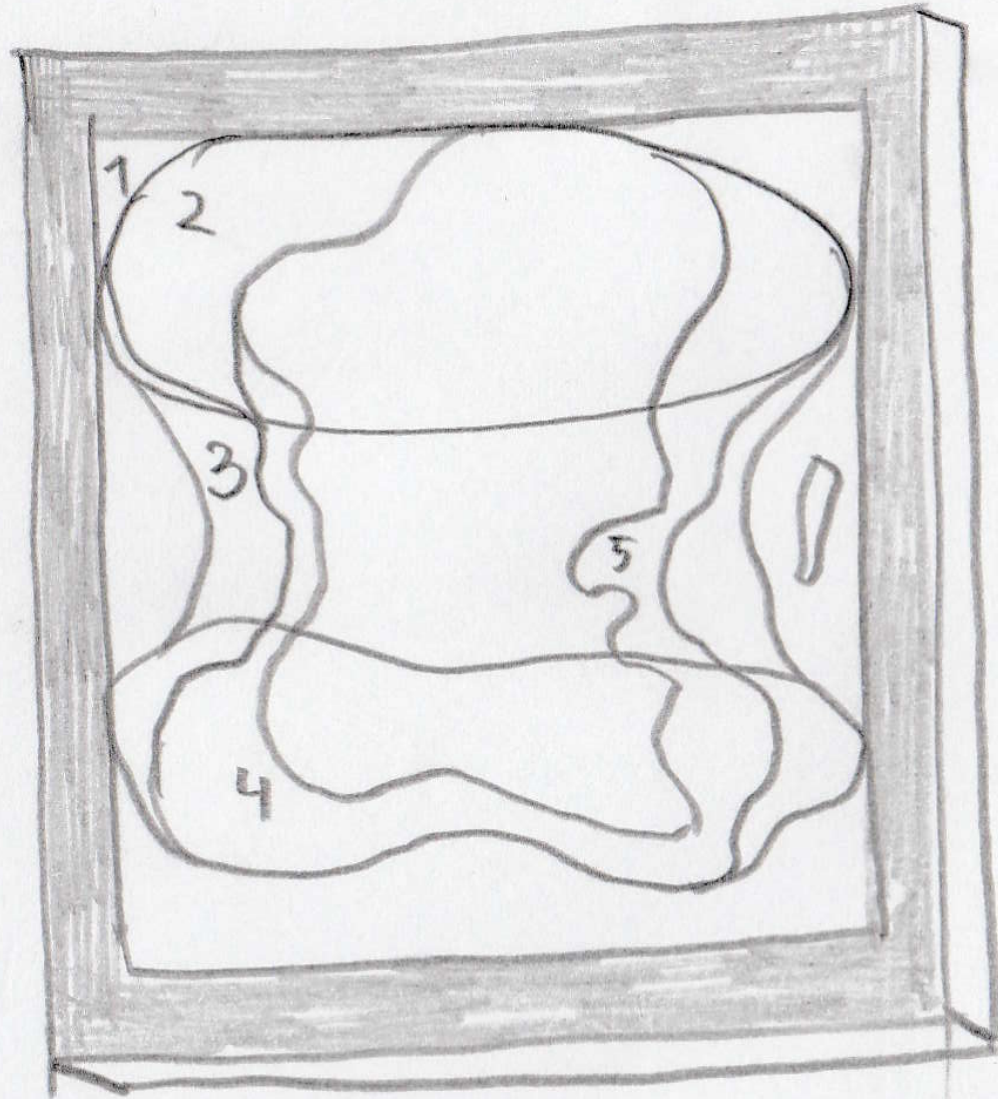






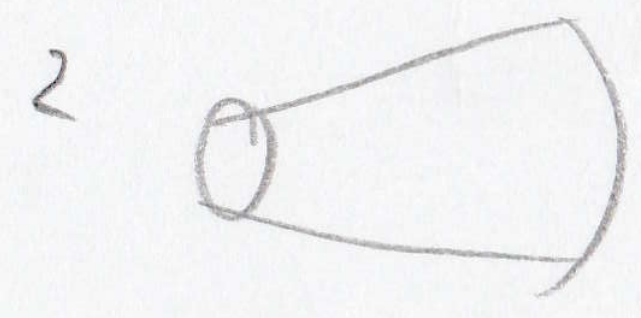
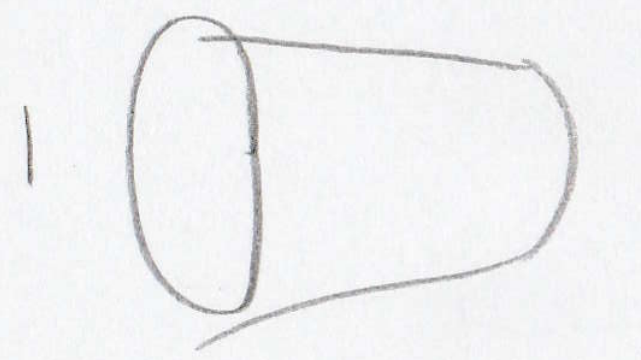
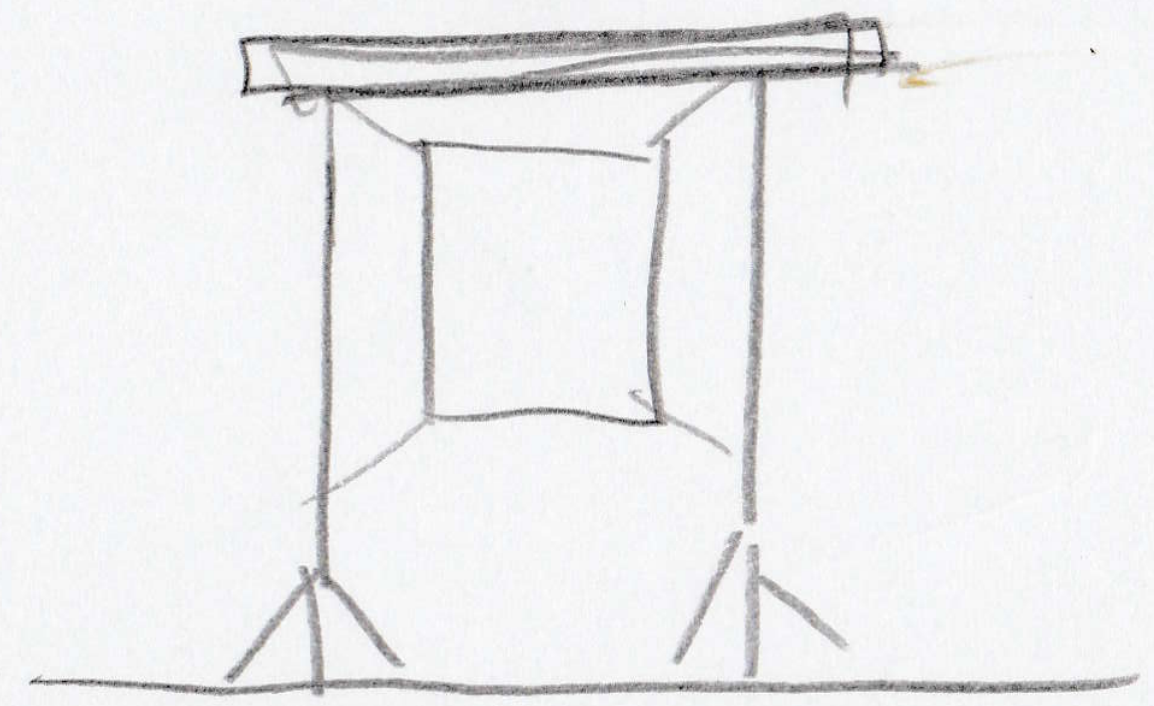
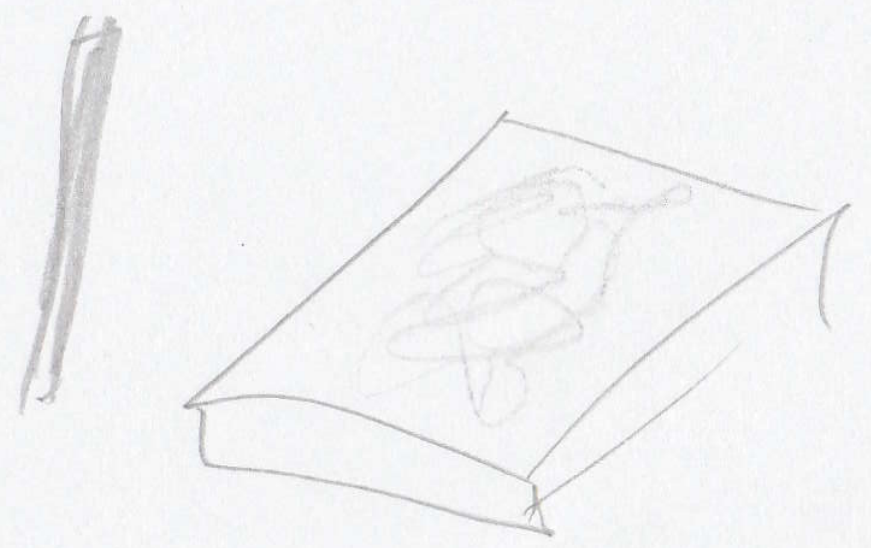
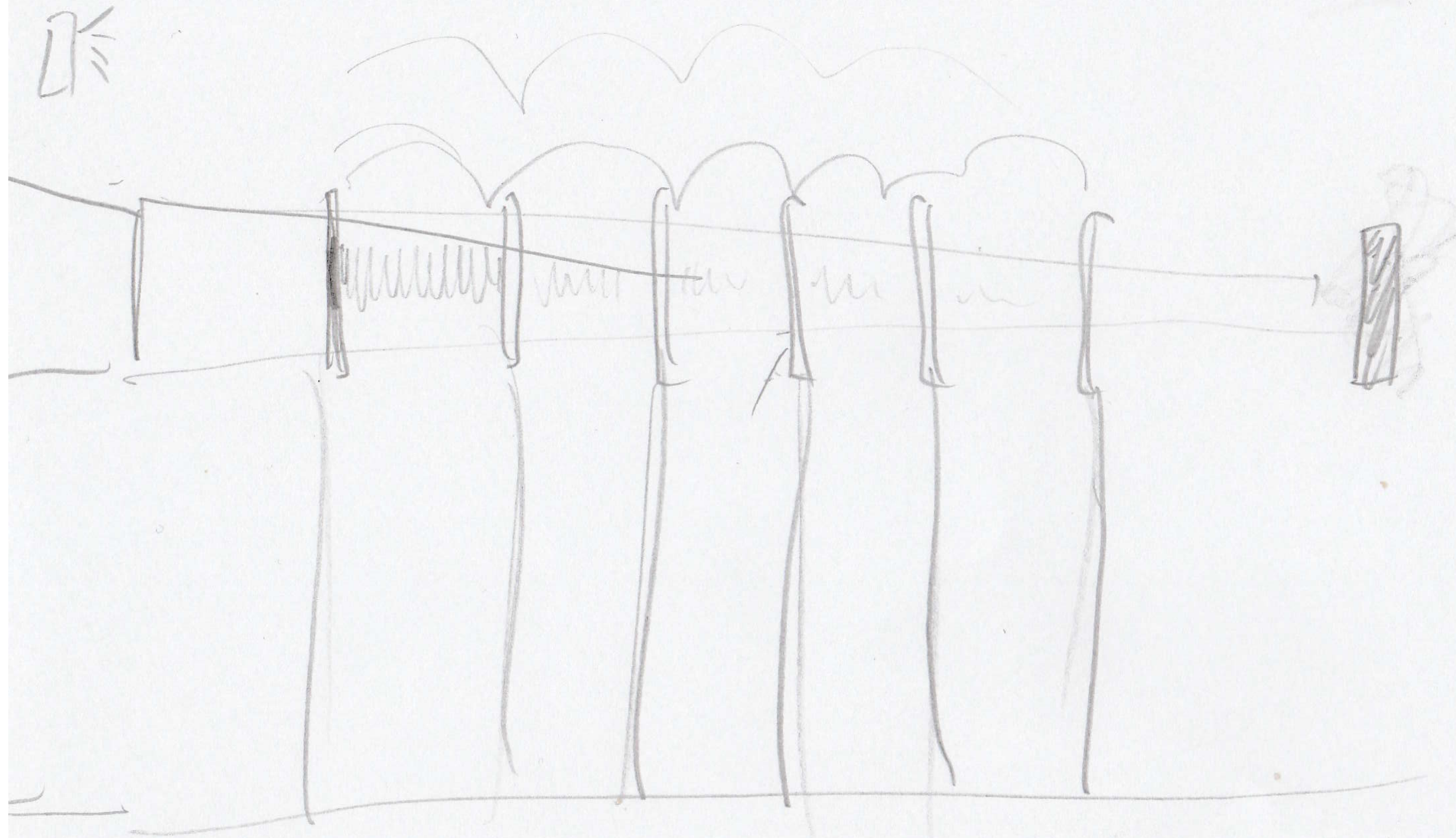


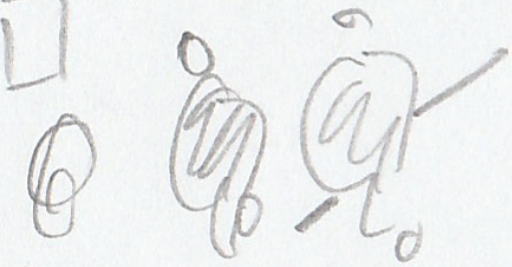
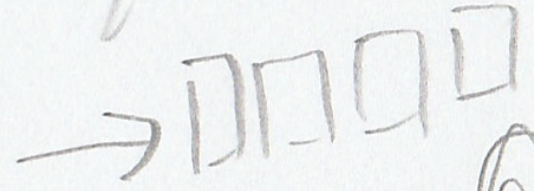
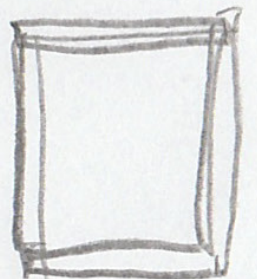
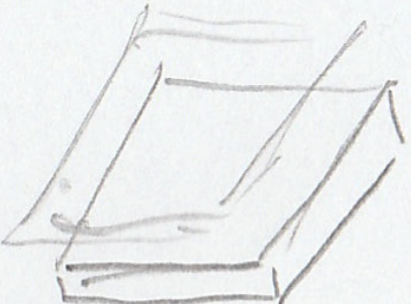
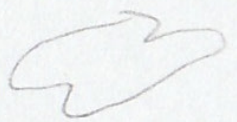
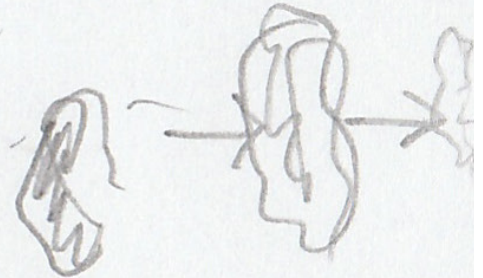
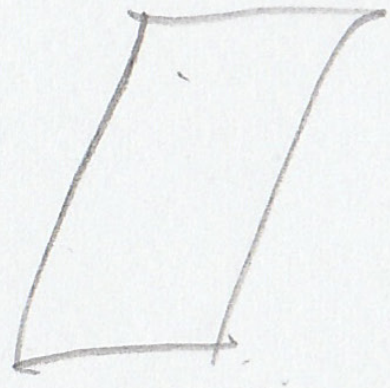
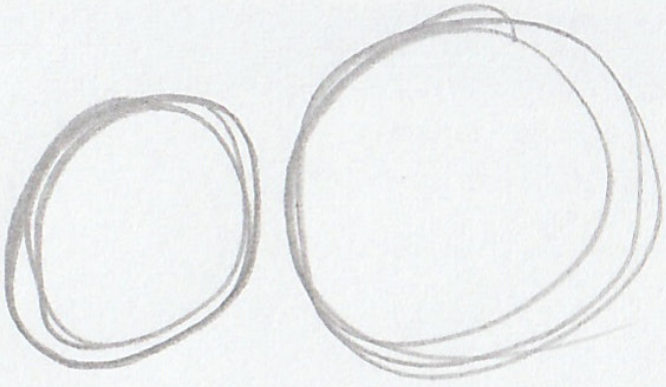
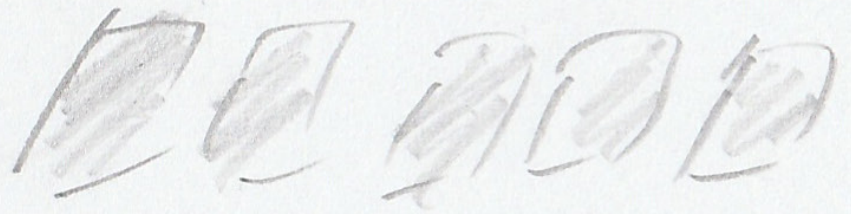






4



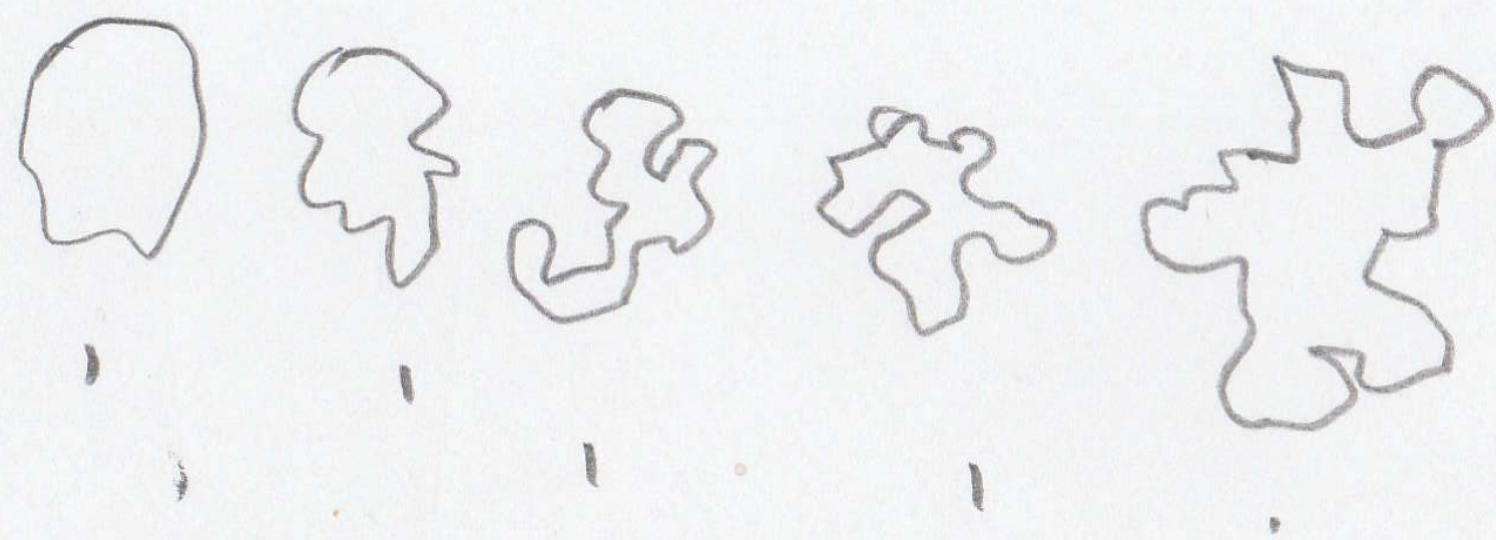


1 2 3.

# PINHOLE X DIGITAL

|||||

SHAPES ADDING ON TO EACH OTHER  
TO CREATE A FINAL IMAGE IN THE  
END



- SPOTLIGHT

- 5-~~4-3-2-1~~ SHEETS WITH HOLES (TRIPODS/TRIPODS +  
TUBES)

- ~~BACK BOARD (ANALOG OUTPUT)~~ \*

- SCREEN (DIGITAL OUTPUT) \*

VERTICAL  
(INSTAGRAM LAYOUT)

**Spotlight**  
x1



**Tripod**  
x5



**Tripod mount**  
x5



**Screen 32" / 42"**  
x1



**Plastic / cardboard sheets**  
x5





# The Birth