

#1

Notes

Starting 10/75

ending 3/77

VERNON

VR
ROYAL

Sandy Ressler
R. P. O. 7065
Rutgers College
New Brunswick N.J. 08903

VERNON



COMPOSITION BOOK

60 SHEETS • 10¼ IN. x 7⅞ IN.

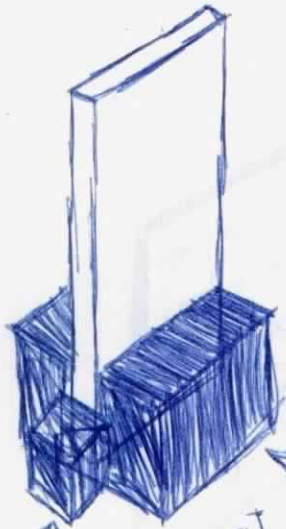
AVAILABLE AS:

No. 1148	(09-9142)	1½" WIDE RULED - NO MARGIN
No. 1148-CM	(09-9144)	¾" COLLEGE RULED - 1¼" MARGIN
No. 1148-¼	(09-9148)	QUAD. RULED 5 SQS. TO INCH
No. 1148-½	(09-9146)	PLAIN
No. 1148-¾	(09-9140)	1½" WIDE RULED - 1¼" MARGIN

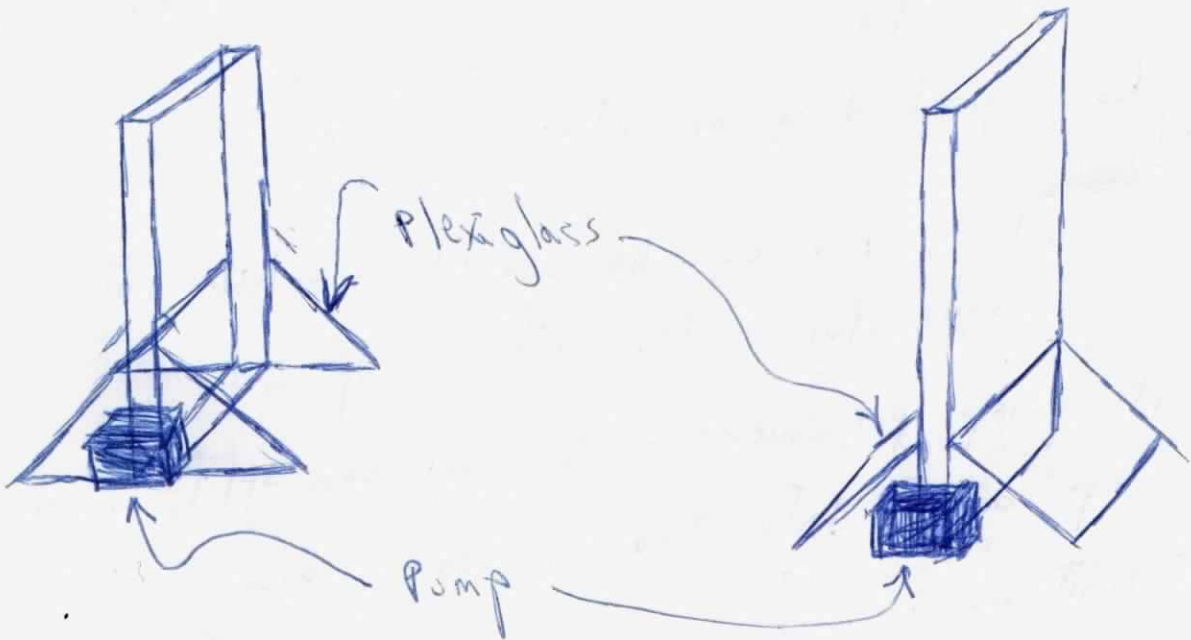
Made in U. S. A.

VERNON ROYAL, INC. Elizabeth, N. J. 07208

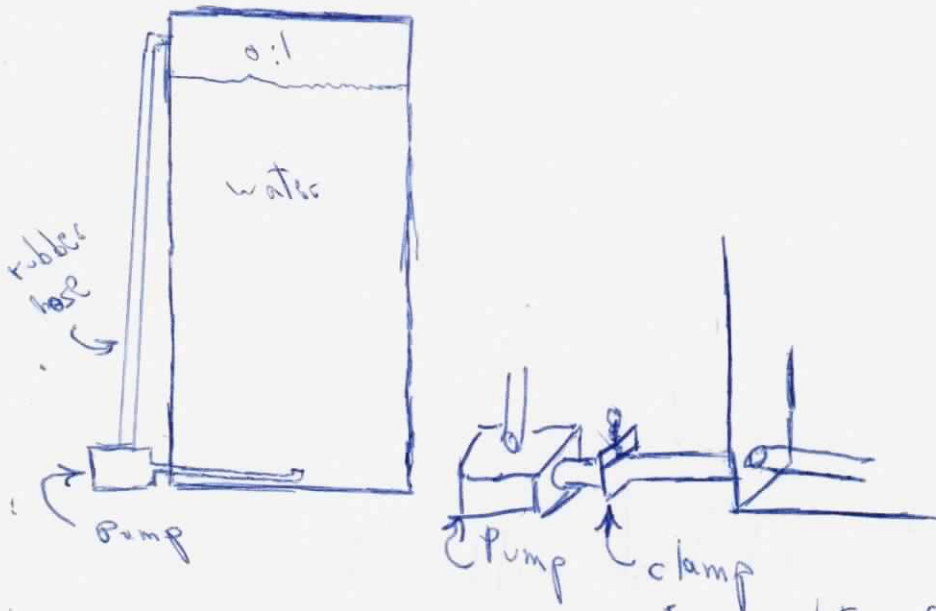
Stands for liquid kinetic sculp



stone or wood base with slot
pump must be heavy



supports should rise up about $\frac{1}{3}$ of full height



to regulate flow
 should cover whole

pump apparatus with box clear or black

hose glued down on bottom and side

~~to~~ end in box can be sealed and hole cut
 in side for release straight up

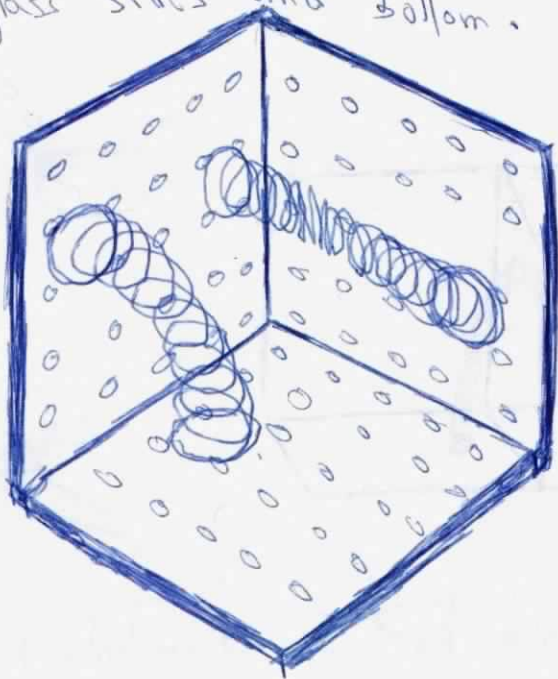
if pump pressure is too great can split
 up output into 3 or 4 holes along
 bottom

can release oil through fluted disk to help
 make blobs

slinky sculp

Plexiglass sides and bottom.

essentially 3
Plexiglass peg boards



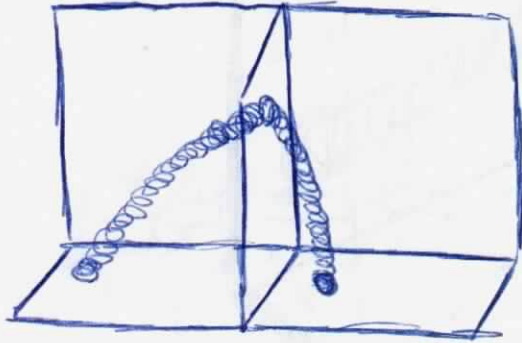
slinkys with pegs on ends fits into holes
and hold them there
if the mini slinky has ^{exactly} $1/2$ diameter of large one
then both could be used on same boards.

would be nice to be able to fold up to one flat
sheet when not in use of display

pegs on slinkys could be made of small plex cylinders
glue must bind plex to metal

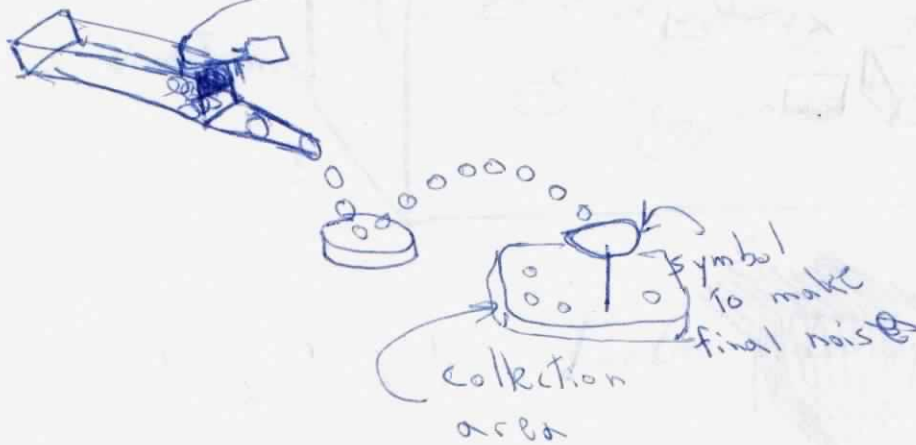
Holes should be relatively small so the slippage out
of slinky isn't too easy.

Two or three whole slinky sculp could
be put together to make giant units of sculp



for this pegs would have to go in only half way

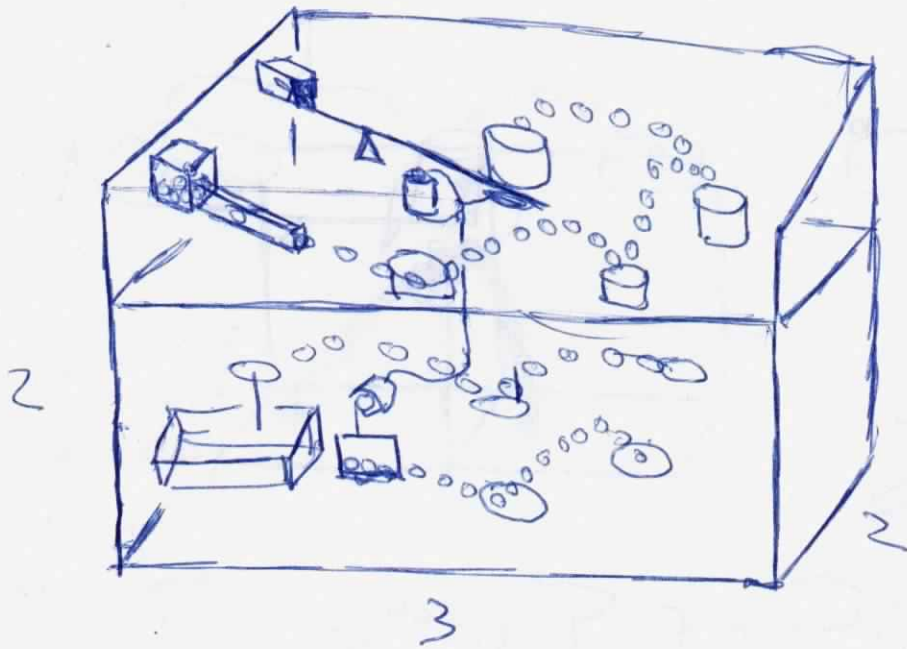
Bouncing Balls (marbles)



cup goes down until it pushes button which activates small motor which lift small door which releases more marbles on the lower level.

whole thing can be contained in big plex box

button could lift door and ring bell and flash light at same time



size is probably about 3' x 2' x 2'

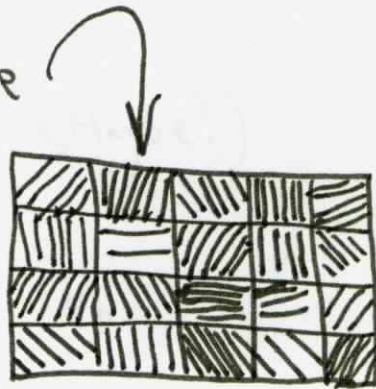
very conservative

∴
 $\frac{12}{22}$
 112

22 sq ft ∴ \$115!! Plex alone for box

Comp Animation

Take the pix Tile



Rotate each square simultaneously
can rotate top and bottom halves in different
directions



Using Files To enable very large pictures
To be drawn

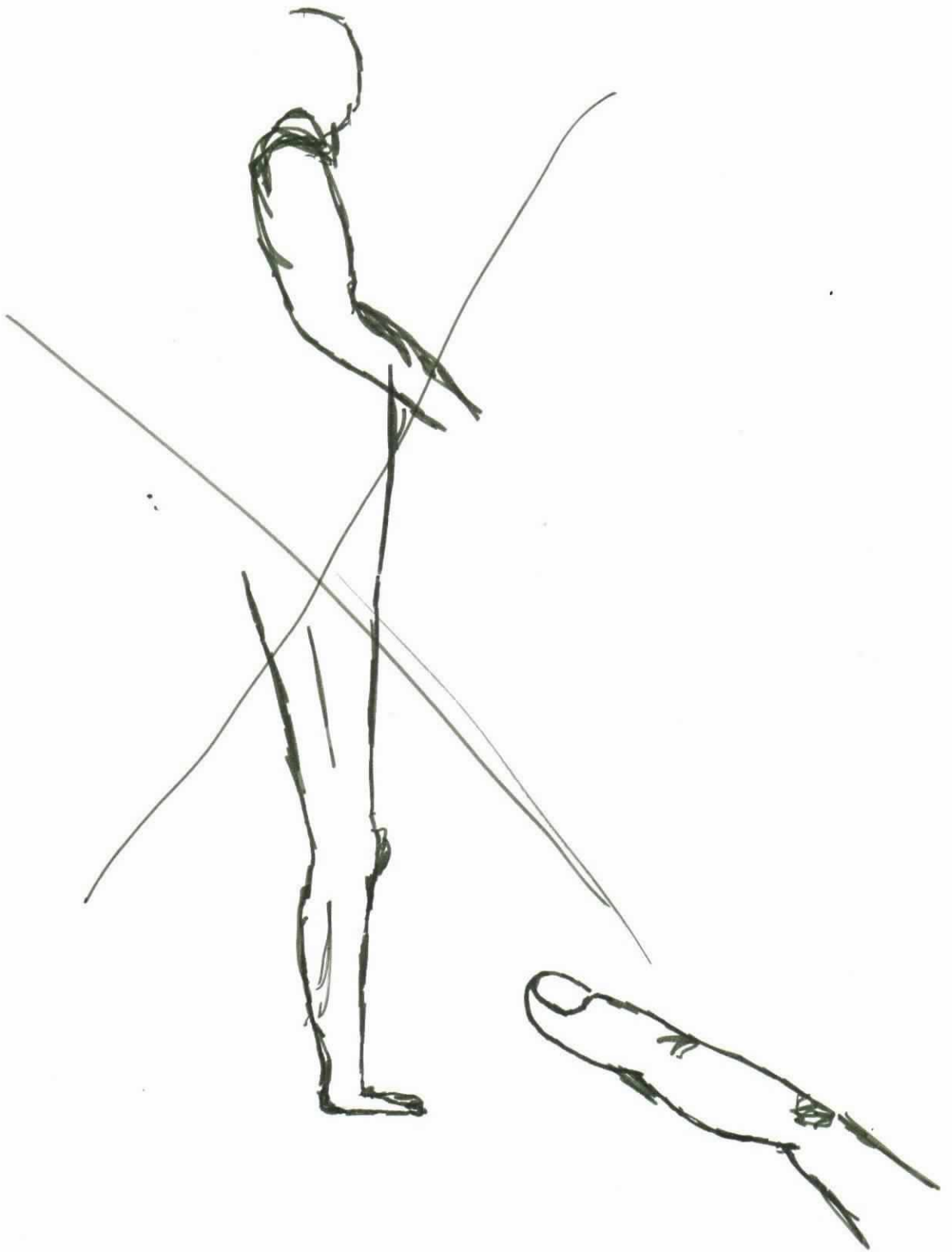
What to do (Maybe?)
open up a file

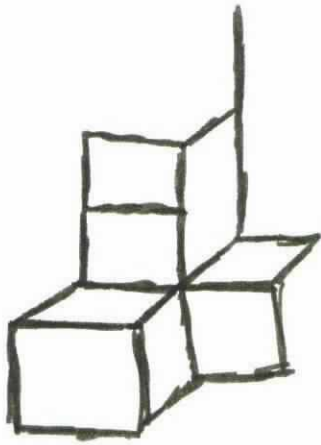
File ← Fn Pix Fn

Draw File

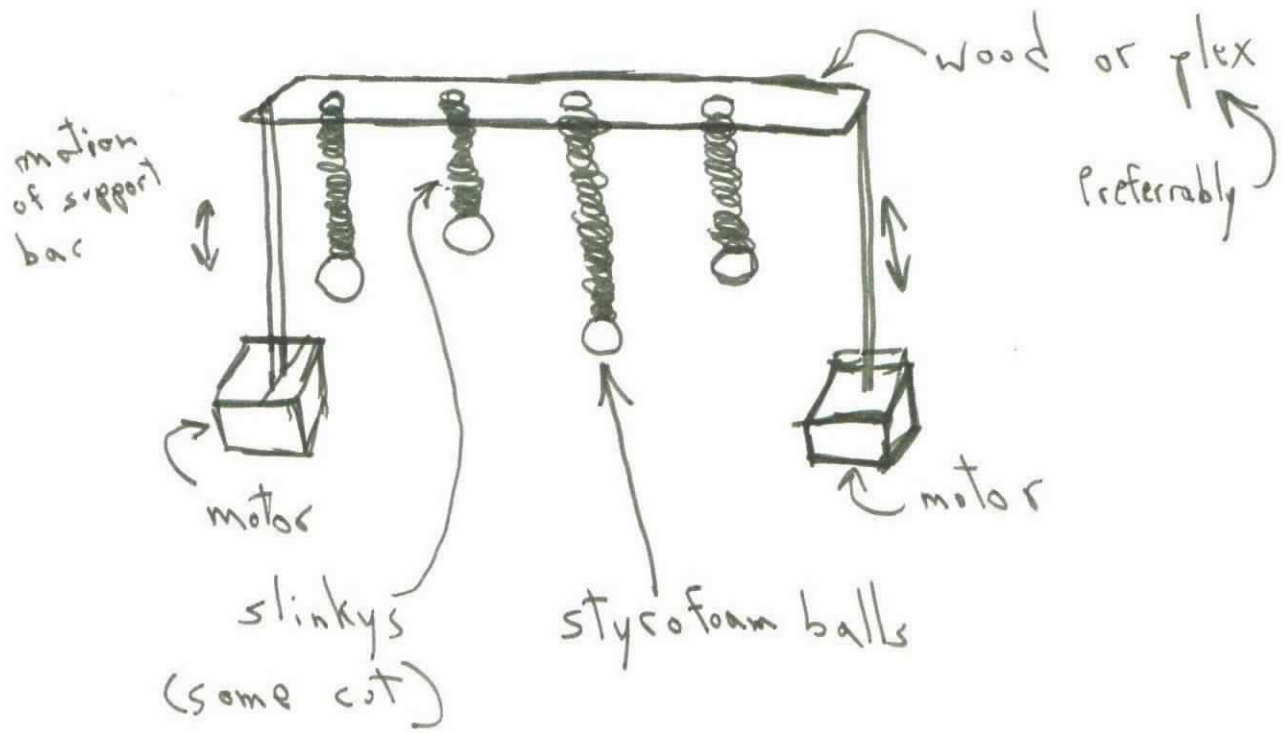
file name could be name of picture



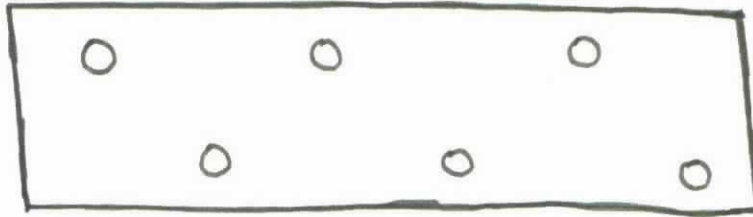




yet another slinky sculp



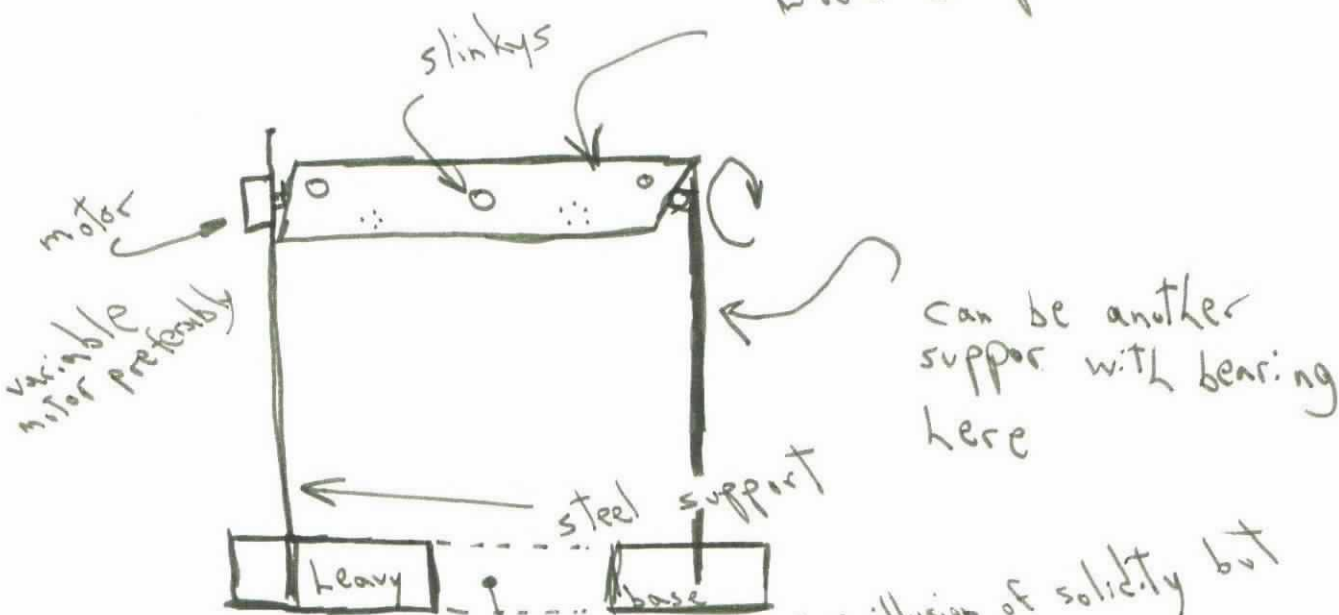
Top view of slinky placement



non linear arrangement leaves room for \longleftrightarrow motion

yet another amazing slinky sculpture

wood or plex



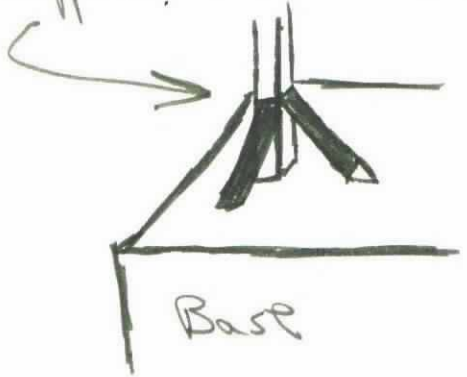
It might be a connector to give illusion of solidity but still let the heavy carry it.

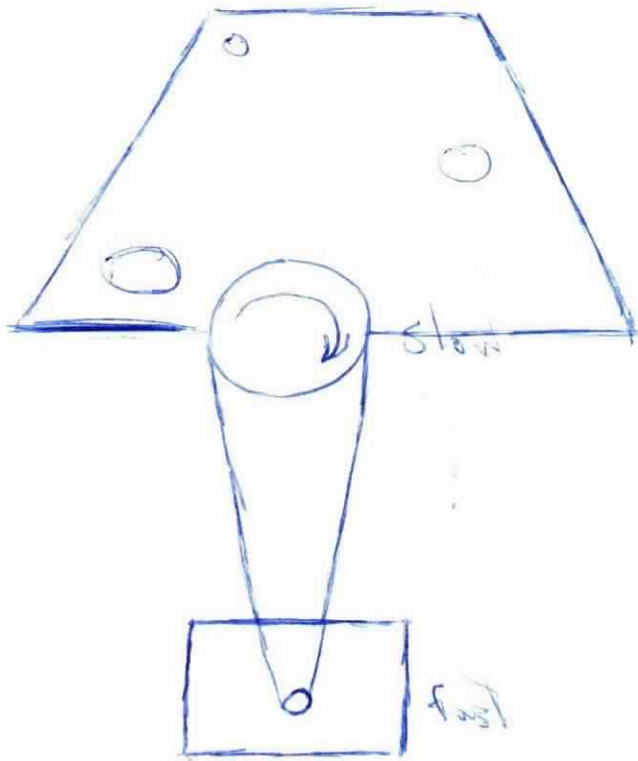
must be very strong connection here if second support not added



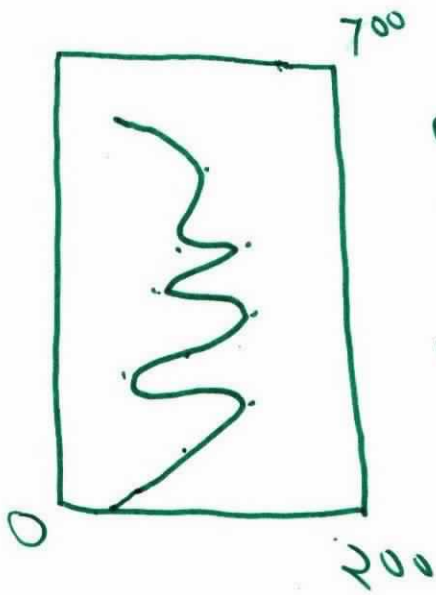
base can be painted plaster or not painted plaster.

supports imbedded in base or they slide in





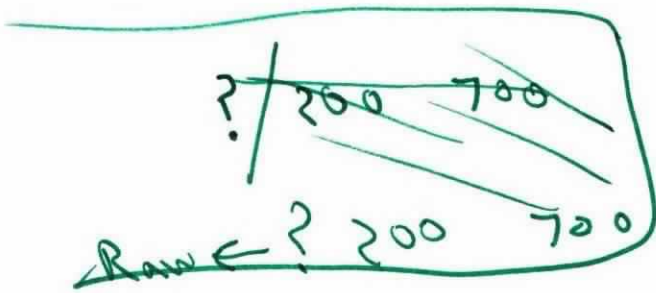
Computer Generated Random Curves



random points generated in a columnar grid

Use a condition that no point may be put then the previous points.

starting at top
Higher ~~lower~~ (y)



$$x \leftarrow 200$$
$$y \leftarrow 700$$

$$Row \leftarrow ? \quad x \quad y$$

start at top
no point higher
than previous

$$\text{next } y \leftarrow 700 - Row[z]$$

~~starting at~~



Details of Liquid Sculp

TOP



Glue rubber hoses onto
Bottom piece before gluing together

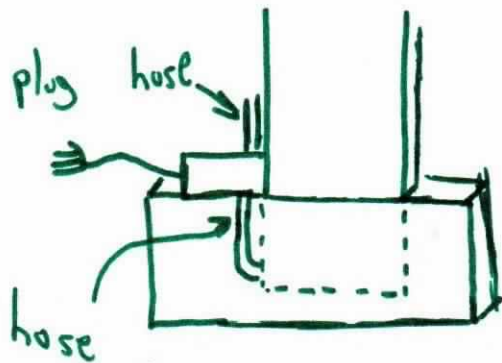


3 holes needed

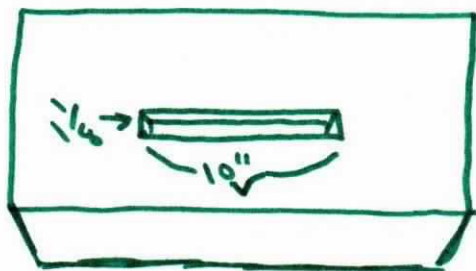
1. on top small panel to put liquids in or out
plugged with cork • Big enough to stick
a hose in.
2. ~~on side panel for~~
for on side panel for rubber hose
entrance
3. on top of side panel for intake hose
of pump (oil intake)

for plaster base

height 6" \rightarrow 12" depending on wt
of filled box

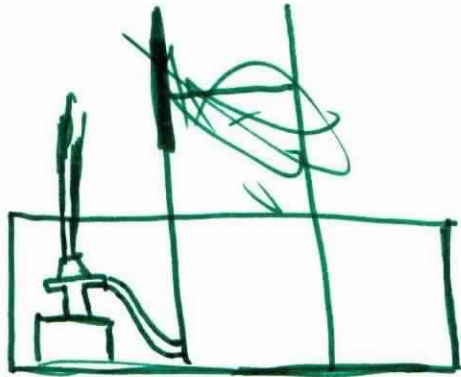


Top view of plaster base only



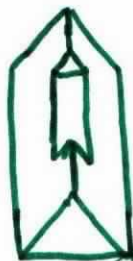
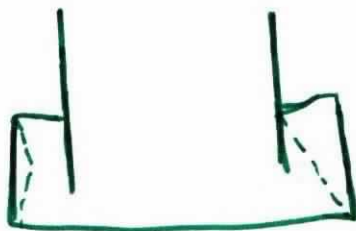
slit should
be $\frac{1}{8}$ " wide
10" long

use a wood base



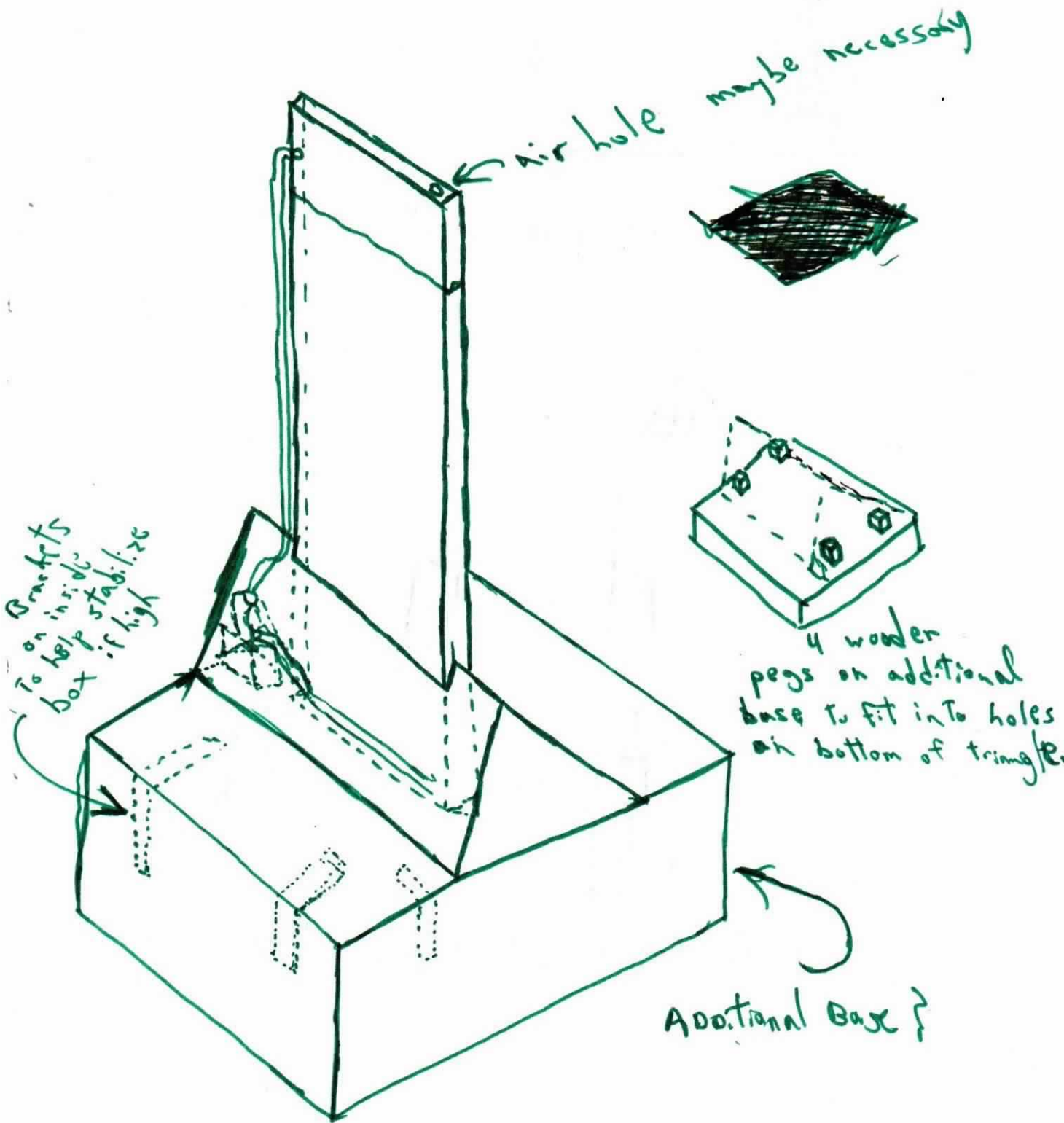
Priming pump
a problem for first
try

make base pyramid shape
side view



Base with top slit

weight can be put in it to light for
adequet support



air hole maybe necessary

brackets on inside box to help stabilize if high

4 wooden pegs on additional base to fit into holes on bottom of triangle

Additional base?

must be able to open up side panel of
pvc. to get to pump and hoses and clamp
problem with siphoning - after shut off will
oil → continue down - Probably not ??
have additional clamp ready - just in case



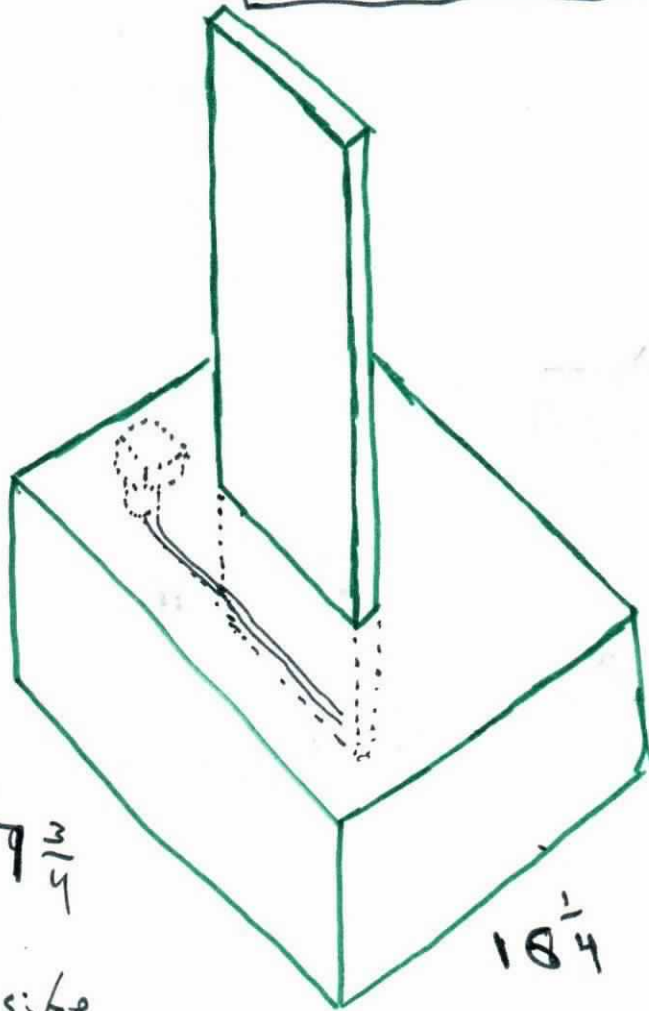
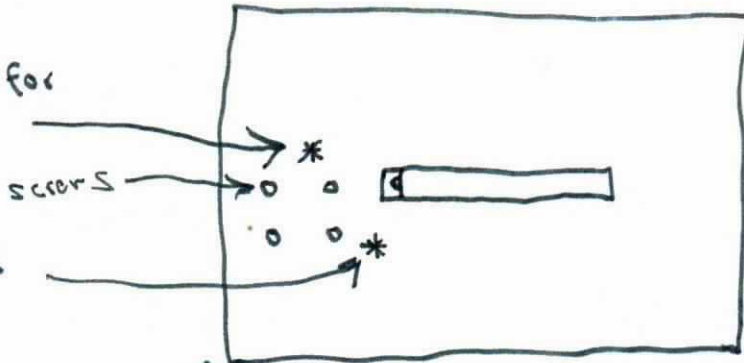
16' 14"

16 x 12 4 pieces

Top View Base

input
spicket for
reservoir

spicket for
output rate



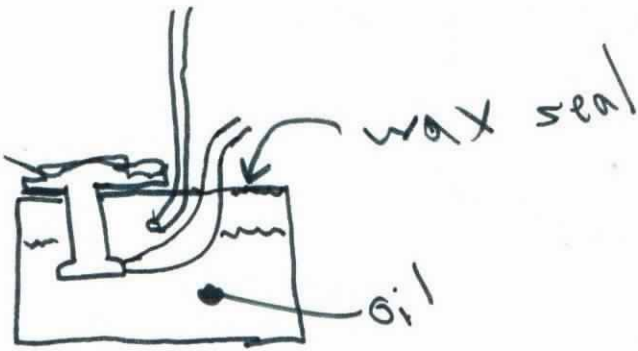
$17\frac{3}{4}$

$10\frac{1}{4}$

# Pieces	size
2	$17\frac{3}{4} \times 11$
2	11×11
1	$17\frac{3}{4} \times 17\frac{3}{4}$

all $\frac{3}{4}$ in thick

pump and reservoir



filled with oil by siphon effect.
 cover top with wax seal to prevent all oil from siphoning out when shut off. instead of valve and screening around with balancing input and output so level is ok.

#	Size
2	18 x 9
2	16 1/2 x 9
1	18 x 18

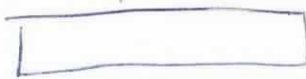
Size of Pump

$$2\frac{3}{4} \times 3 \times 3\frac{3}{4} \text{ deep}$$

Reservoir \cong 6" diam & 3" deep

$$9\frac{1}{4}$$

$$1\frac{3}{4}$$



$$8.125 \frac{1}{8}$$

$$4.375 \frac{2}{8}$$

Back to animation

Take the structure series of pictures

To create these

1. Sculpt

2. Conrot around scul or Mecul?

Line NP

3. 100 100 0 ROT NP

Line 100 100 0 ROT NP

4. ROT NP around PT 20°

Temp ←

5. Scult ← Piece cat (Piece connect Temp)

Another way (better?) To make struc series

Sculpt makes a piece

and ~~now~~ does the 100 100 0 ROT

To find axial line using only a sec

$x \leftarrow r / \text{piece}[;2] + 100$ // piece is only the sec //

Line $\leftarrow x, 100, 0, x, 200, 0$

Then do a conrot of piece
around line

Remember To save the original sculp line for The Blade!!

Pieces should be kind of small when done in plaster \approx 9" high

Should cut out a bunch of blades at same time


Document each piece on the computer with few view plus the blade picture

Maybe the pieces could eventually get turned into aluminum or bronze. (\$ \$ \$)



Movie

line of ^{2 or 3} ~~blades~~ blades and turn them into stars. They take a bow and then proceed to move (by computer) along some path on the hor plane


put a couple flashes in and then have stars in a new position
converted or camera zoom in with scan

Rotate  direction and leave about 4 or 5 after image maybe this can be controlled with scan intensity or programme

Shrink and Grow the strucs

Have them rotating  in  around their vert axis faster and faster until they explode. Leave some space at end of film

Have a title 'The Dance'

by  Sandy Ressler

Big problem of size of ws and the pictures take up too much room.

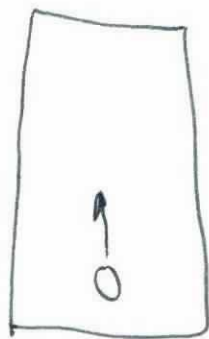
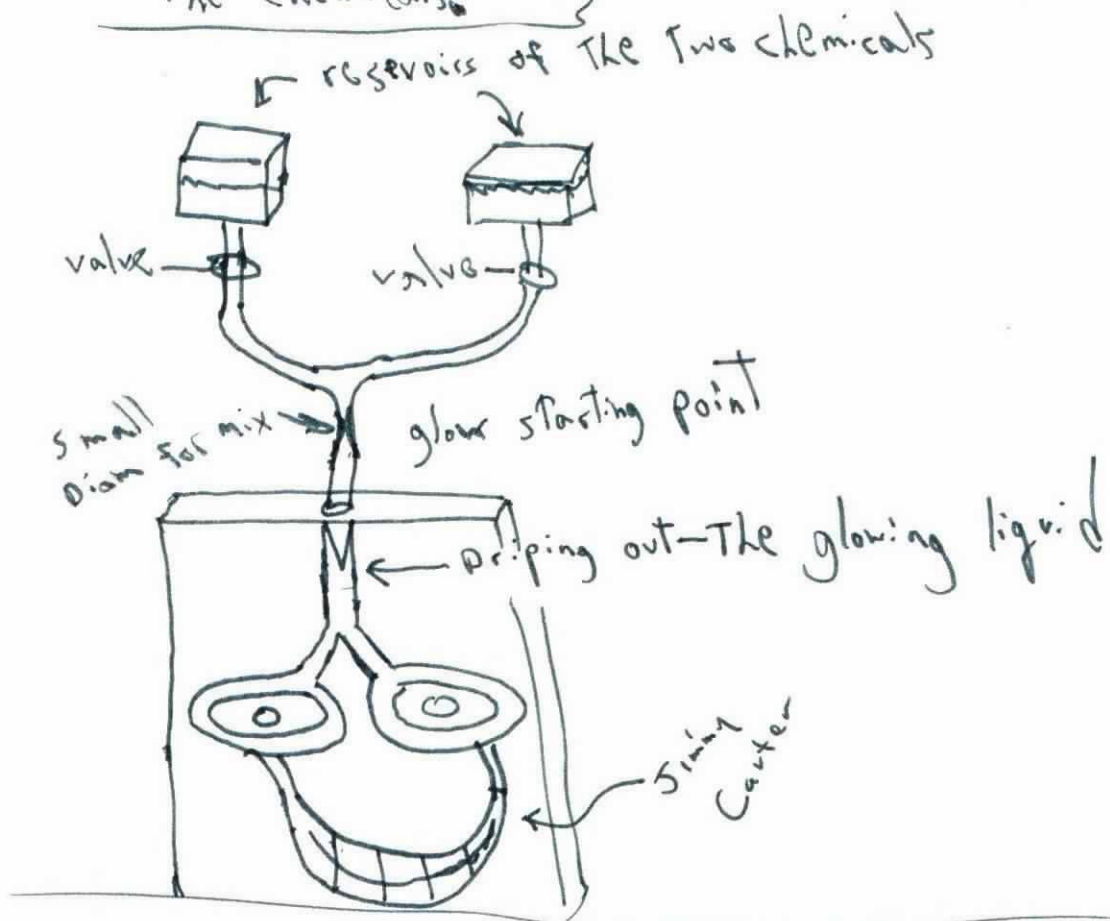
If necessary try with 2 strucs and path in a stripped ws. And Pray!

| |

Photochemical Sculpture

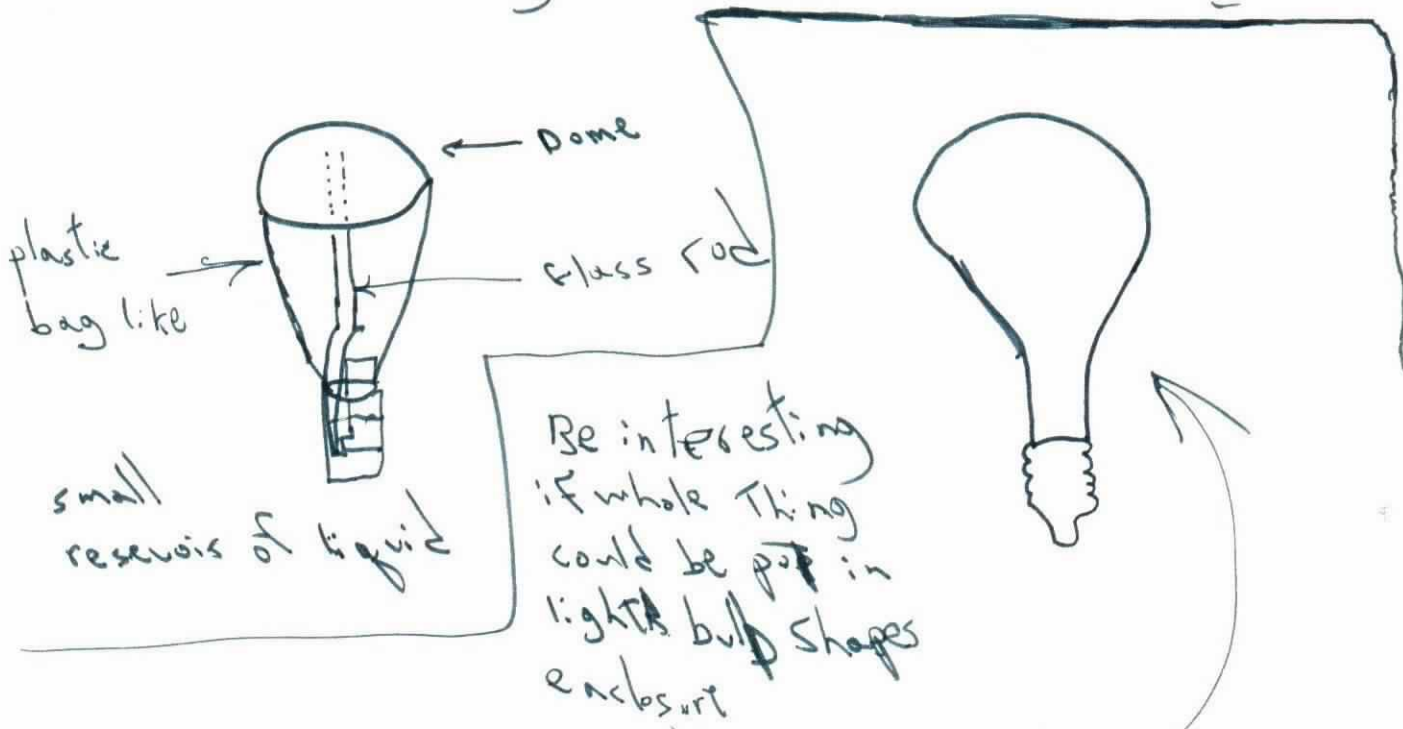
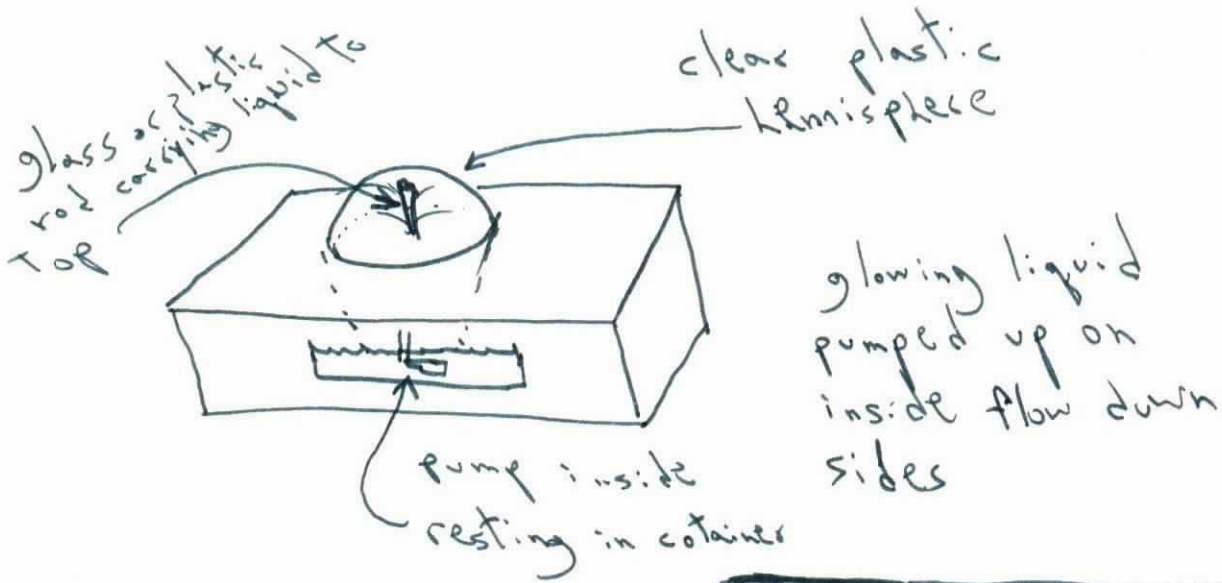
Luminescence

get a bunch of the emergency sticks and separate the chemicals.

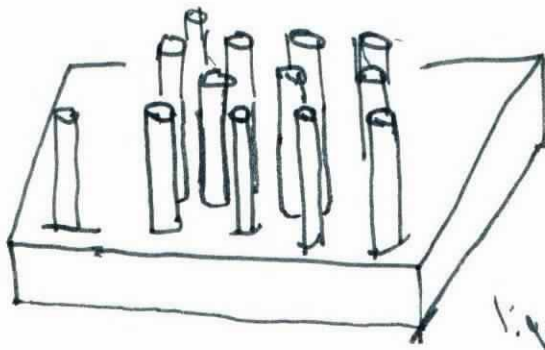


Blobs of glowing liquid floating up or down depending on density compared to water. May not be able to use water and may need a lot of NuJol.

Find a liquid that releases photons when energy is supplied to it i.e. UV light source
Black Light liquids!!



bulb shape could be an inflatable!



series of glass ~~tubes~~
can have very small diam. interior

liquid rising up one or two
randomly or semi randomly
How the ~~***@**~~ do you do it.

some kind of switching sys.

Pressure switch or photocell on top of each tube
when hand placed on top the liquid
rises in only that tube. can
have a separate pump for each
tube.

VERY
Expensive
Rough Estimate
of \$400-500

Pump should be weak so it can't push liq above
top of tube

Better yet a control board in front of piece where
pressure plates are. This way one hand could push
most plates. And plate can be several or even a lot
of feet away. 25 units
\$4 per switch \$5 per pump

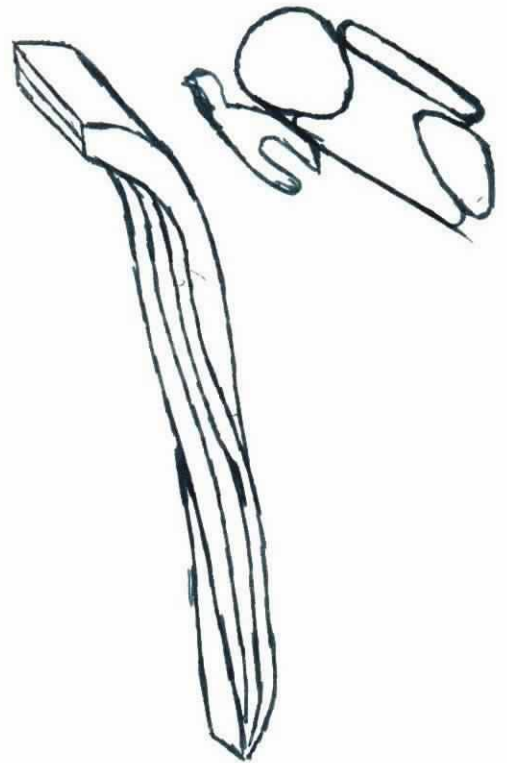
Movie

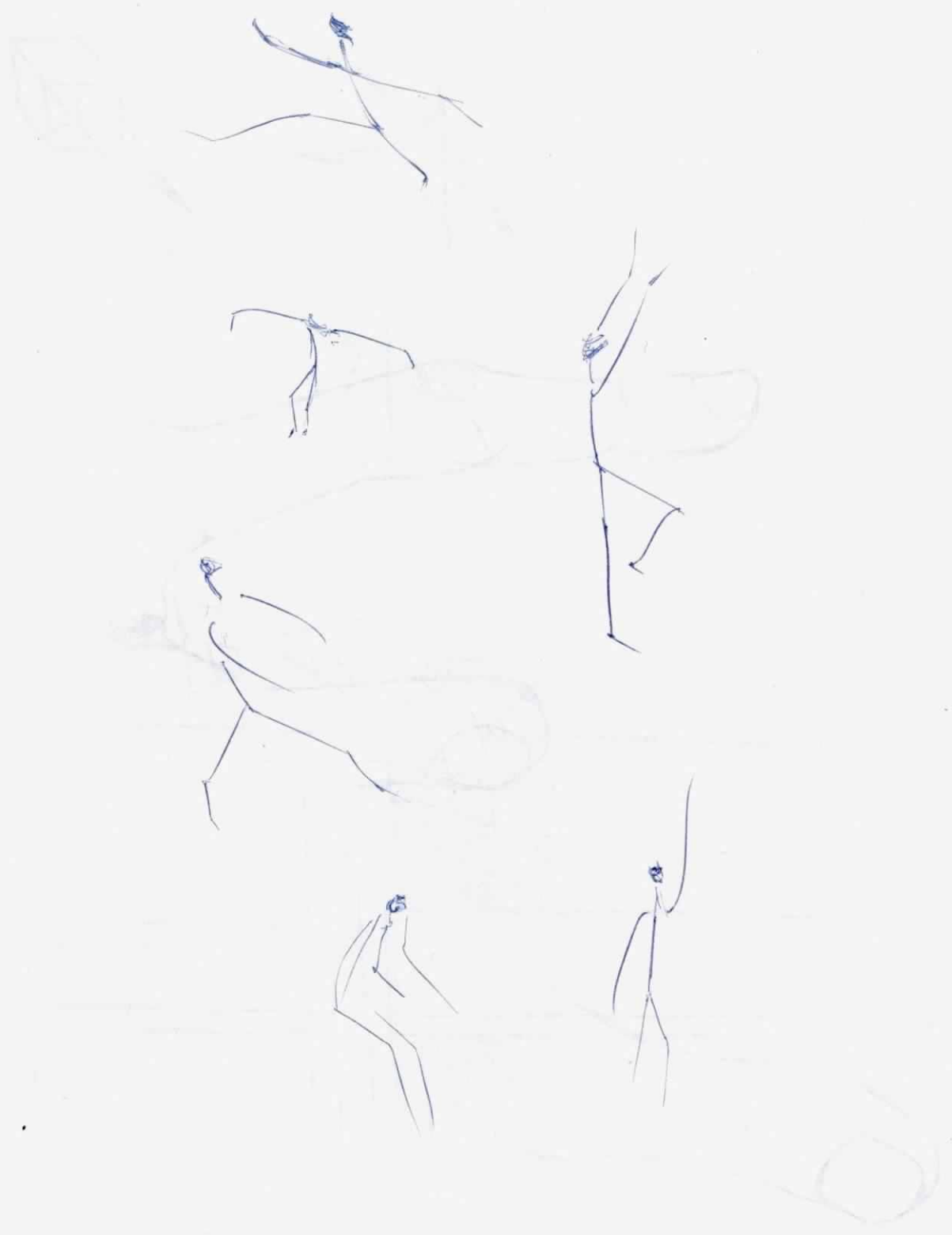


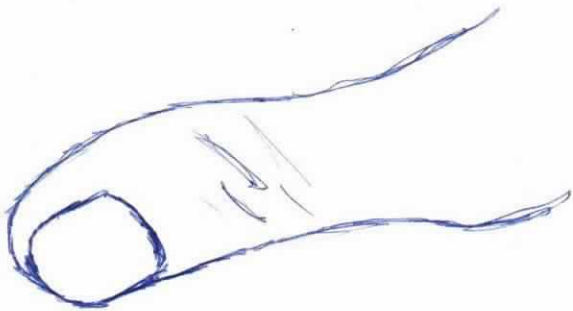
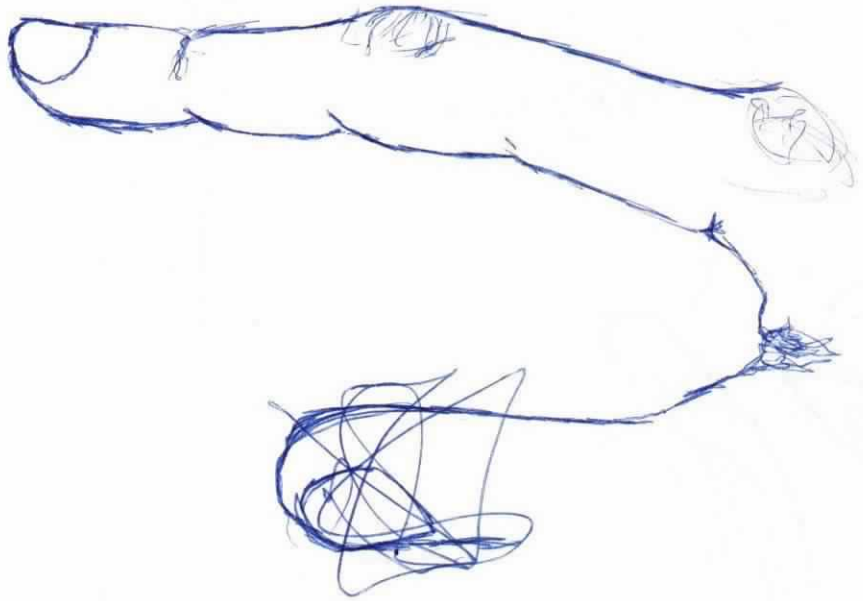
original sculpy is rot around scul

Blade ← piece cut

piece [i] cut 1 4P 1 x 70
cut 1 4P x 70 cut ~~piece~~ [app.
piece [1+piece]

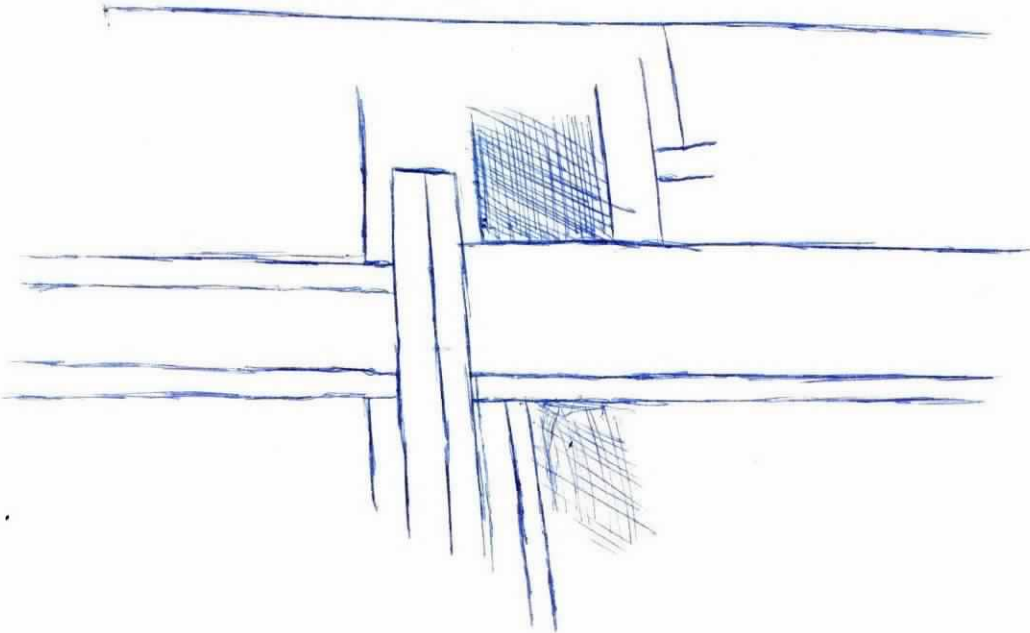
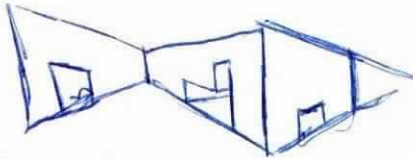
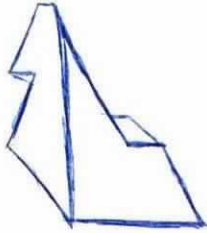
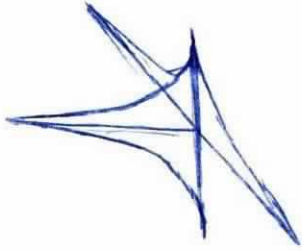




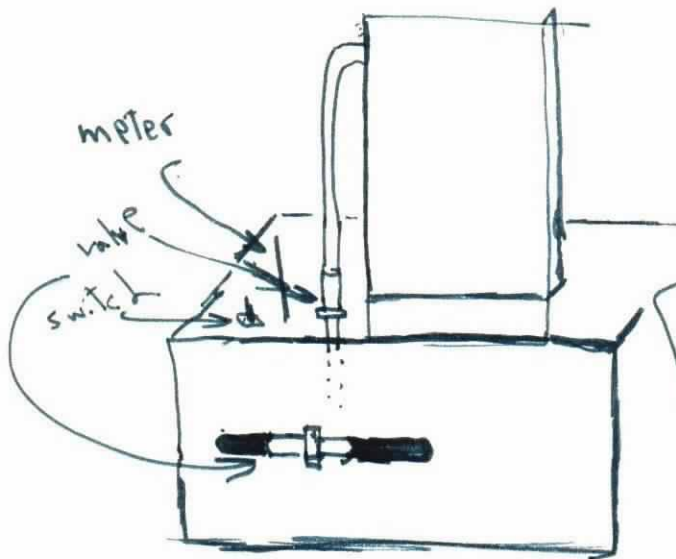




108

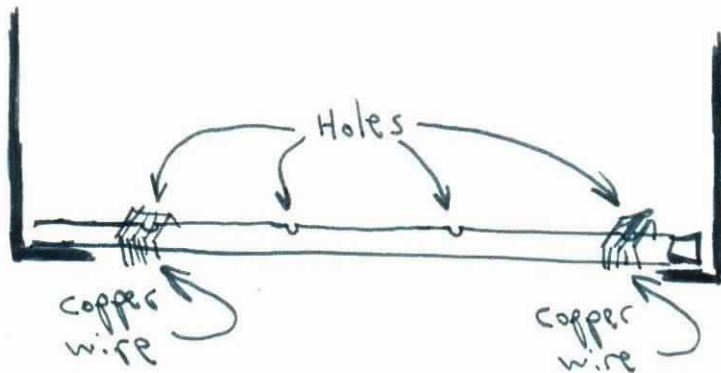


cut a test hole
for switch in
a piece of scrap $\frac{3}{4}$
plywood.



if above doesn't work
can shave down thickness
of plywood with drill

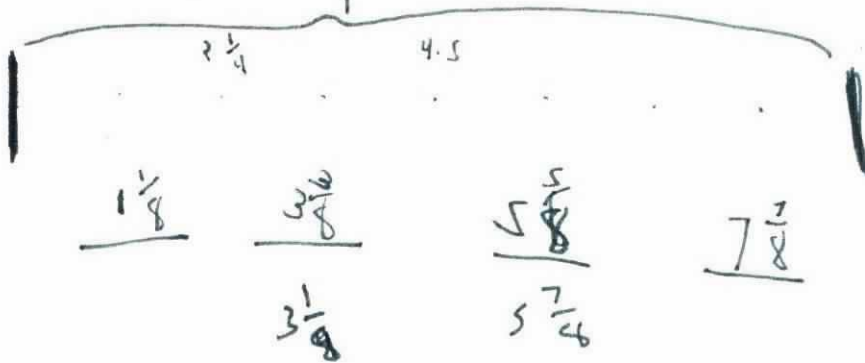
for bottom piece enclose
as little as possible so
I can get to pump and other slit



Glue down bottom tubing with
contact cement in sculp studio

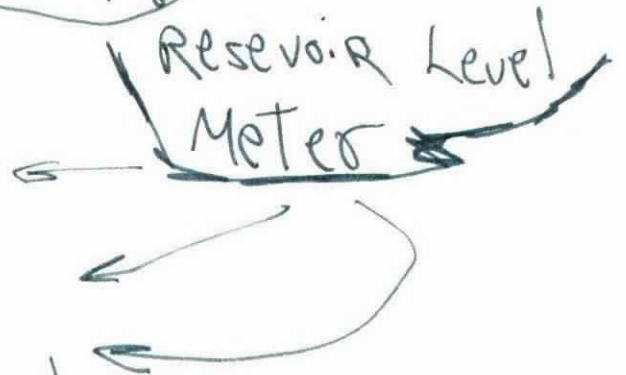
Ask distances

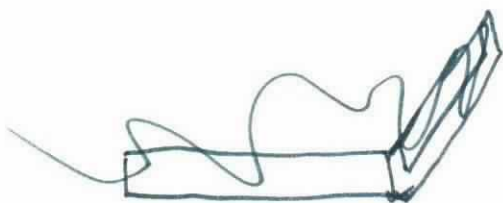
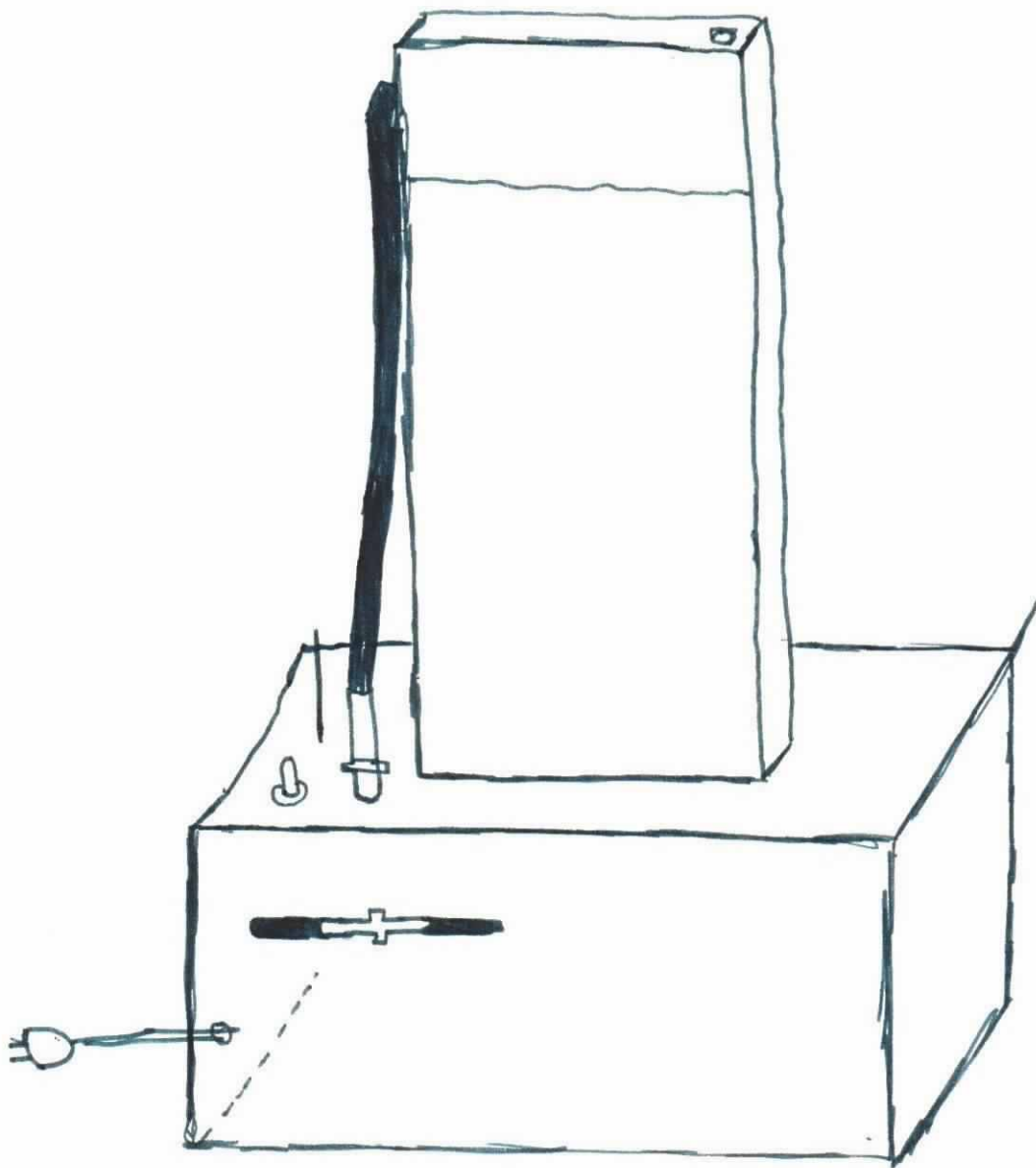
9"

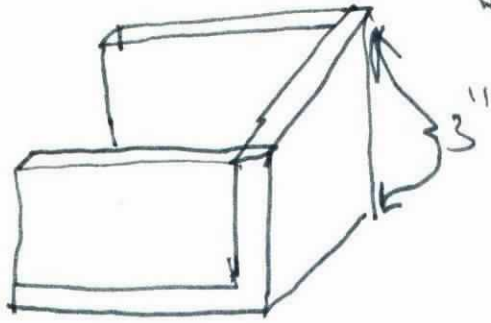


$1\frac{1}{8}$
 $3\frac{1}{8}$
 $5\frac{7}{8}$
 $7\frac{7}{8}$

To watch level in container
 can imbed a thin glass rod or
 aluminium wire in a cork that
 is floating on reservoir. Have
 wire stick ~~at~~ up box ~~with~~
 through a hole a good bit
 larger than diam of wire or rod



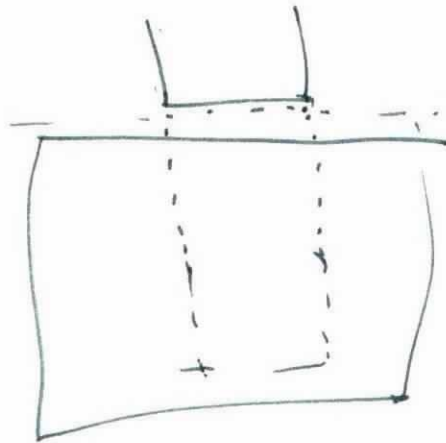




make little container
for reservoir

nails together
not screws

vertical supports may be
needed on inside to strengthen
base



More animation

Start of Movie

Control of blades around the center of struc.
+ a straight real time shot of the connect lines.

• change in control: ADD in a 2nd line of Draw.

input $\rightarrow 20^\circ$ 18 times calculated line

control of ~~big~~ struc twice.

5°	18 times	hor line.
-5°	18 times	hor line

\leftarrow of the original pix rot 90° hor/lat

The Path routine

Try and get figures to pass through each other

Flashes and random pos of struc. Draw sections of Scv's
Play with scan converter zoom + maybe intensity

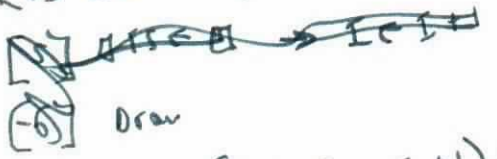
Rotations using Do routine

▽ setup

- [1] Draw ST, draw STR
- [2] $\square TS \leftarrow \square$
- [3] Draw ST ROT I° , Line
- [4] Draw STR ROT I° , Line 2

▽ setup; I

- [1] $I \leftarrow 0$
- [2] ^{Guts} Draw ST ROT I, Line
- [3] Draw STR ROT I, Line 2
- [4] $\square TS \leftarrow \square$
- [5] $\rightarrow (5 > I \leftarrow I + 1) / \text{Guts}$



$\rightarrow (5 > I \leftarrow I + 1) / \text{Guts}$

▽ setup

- (1) Draw ST
- (2) Draw ST2
- (3) $\square TS \leftarrow \square$
- (4) Draw ST
- (5) Draw ST2
- (6) Draw ST ROT 5, Line
- (7) Draw ST2 ROT 5, Line
- (8) $\square TS \leftarrow \square$
- (9) Draw ST
- (10) Draw ST2
- (11) Draw ST ROT 10, Line
- (12) Draw ST2 ROT 10, Line
- (13) Draw ST ROT 15, Line
- (14) " ST2 " 10, Line
- (15) $\square TS \leftarrow \square$
- (16) Draw ST
- (17) Draw ST2
- (18) Draw ST ROT 5, Line
- (19) " ST2 " 5, Line
- (20) " ST " 10 "
- (21) " ST2 " 10 "
- (22) " ST " 15 "
- (23) " ST2 " 15 "
- (24) $\square TS \leftarrow \square$
- (25) Draw ST
- (26) Draw ST2
- (27) Draw ST ROT 5

Then the Do routine

Rotating around these v axes
→ at a constant speed but
growing and shrinking then
speeding up to explosion

conrot needs to be changed
% include conscale

After rotation hits a certain value
(fast enough spin) start randomizing
the stoves ~~at~~ with increasing
random values setting DRL back
to same value.

Fix in Mid

Play - used to put the sev's in places by hand.

VAxis - Find The vert Axis of scu

Syntax VAXIS SCU

Result is ~~AT~~ VAX

HAxis - Result is HAX

ZAxis - Result is ZAX

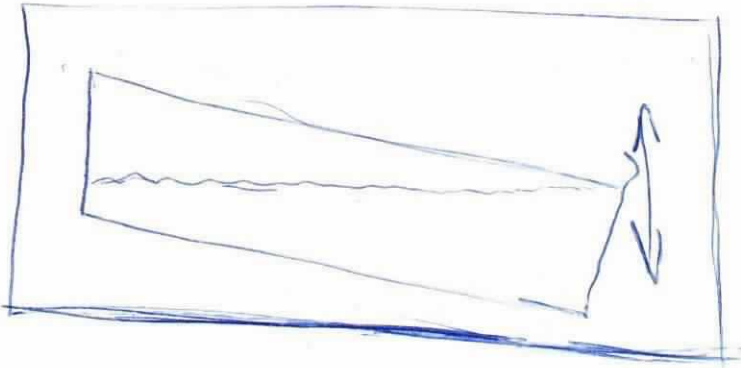
Dance - ~~is~~ A comput for the 3 sev's over the path.

Dance on path roted 60°

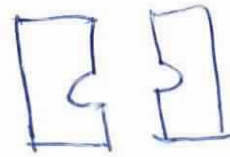
Rand I ← 2 changed out not a local
DRL ← 1
J ← I ← 0
Draw ~~I~~ I I Rand scu
~~I~~
J ← J + I
~~I~~



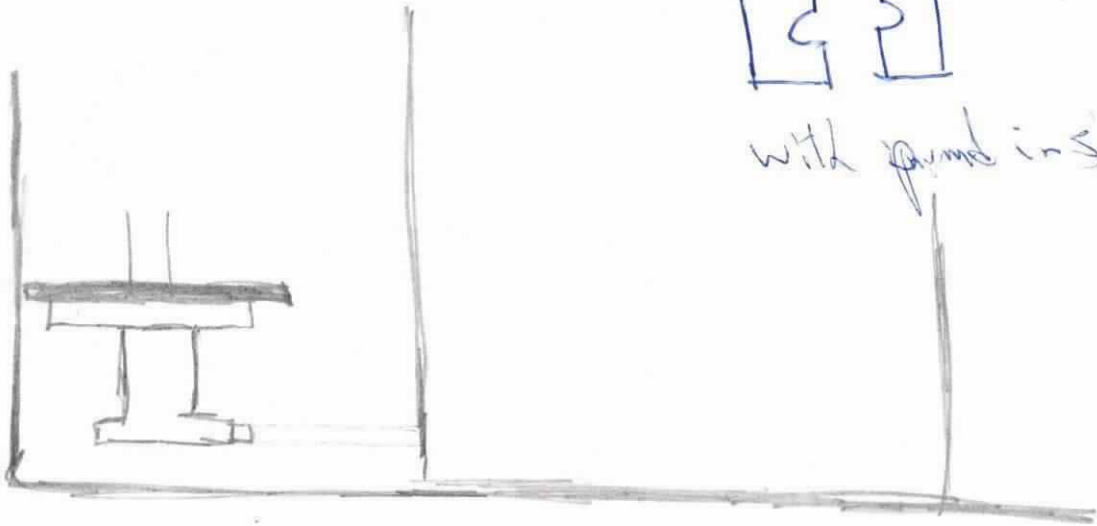
Wall liquid Seal

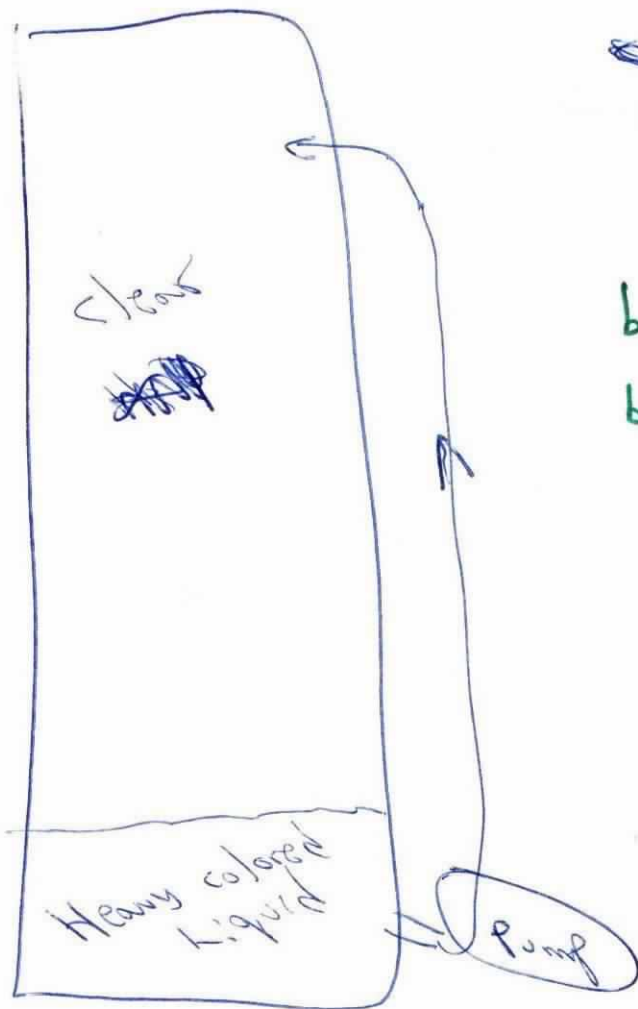


Glued Together



with pump inside





clear sols

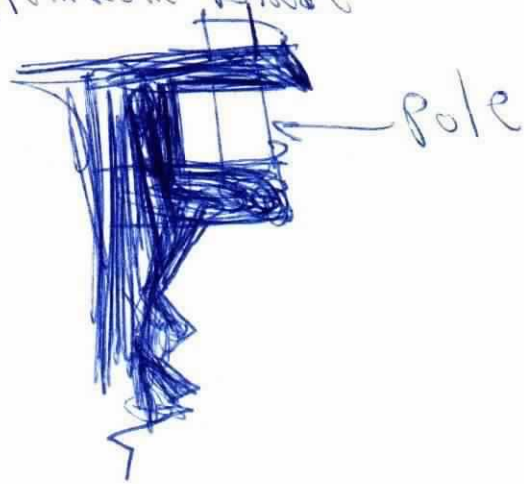
oil
water

bulk sol → oil

bottom sol → inked water

It can ~~do~~ get clear of yellow oil in
bulk can pump black or heavily dyed
water up.

Aluminum Blade



Foam Rubber Scis

Can they be cut using a hot wire

or

hot wire to cut wax

Random heights of mirror boxes



Random heights of clear plastic boxes
with cigarette butts in them

Random heights of pens

Random heights of wire in closely
space holes with things (sty balls on tips)

could put the sand table on each piece with a key to decipher the numbers

Rand sticks of things (cardboard boxes etc.)
wrapped in aluminum

can make little wooden cubes

Put up the sin cos drawings
with pieces of people stuck on them.
Should look like some kind of terrain

Round light bulbs

Put pictures for magazines on plotter

Make Rand cubes on plotter



Matrix: $I \leftarrow 1$

125 long Vec

~~TRSP~~
Vec \leftarrow ? 125 0 8

Gets: $X \leftarrow 100 \times \text{Mat}[I]$

~~Draw (100x)~~ $Y \leftarrow 100 \times \text{Vec}[25+I]$

$Z \leftarrow 100 \times \text{Vec}[50+I]$

Draw (x, y, z) Put cube

$I \leftarrow I + 1$

\rightarrow Gets

Probability of cube ~~star~~ being placed in Mat $(5 \times 5 \times 5)$

IF no. is a 1 then draw else don't draw

" " " 1 or 2 " " " "

etc

Movie

Have object move about on paper
cut up something to give illusion
of passing through paper.

Build a molecule with model kit

Sheet of glass or plexiglass (can put inks or water
and shit on)

Put calculator on
syringe

~~Use~~

Use The Dymo Labels

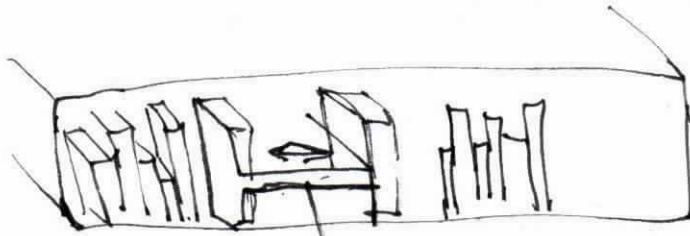
Adjustable curve (shake action)

Photograph through slinky

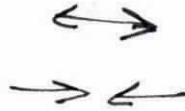


Invention

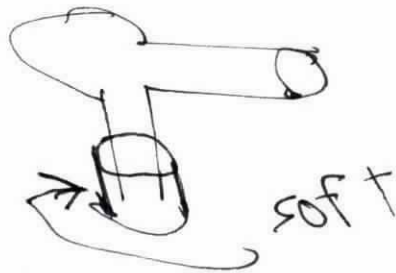
Inflatable Book end holders



Blocks up can move
or



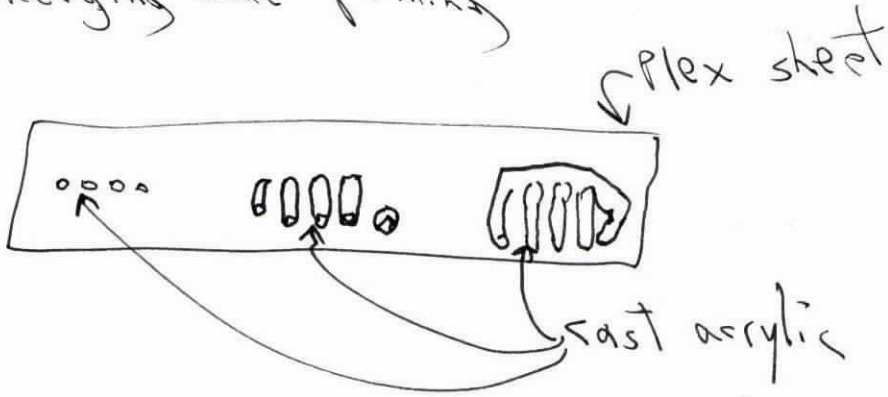
Squeeze Hair Dryer Switches



squeeze to change from style to dry
or on off

sculpture

Do plastic sculpture of the
emerging hand painting



Top view



A variation of above would be to make
these fingers slowly move.

would need clear casting rubber and
several small motors.

Very Difficult

1/10/77

A Science

Animation of a real cellular process using an e^- microscope.
Take 1000 ^{exact} cells and ~~at~~ kill sequentially and then ~~at~~ make
your slices in exact same spots of cell and film.

may not be possible to get 1000 ~~exact~~ cells but
worth a try!

If you can get an exact detailed structure of
a chemical from its NMR. Then take many
NMR's ~~at~~ ~~at~~ in sequence and film the structures
and you will see the actual movement of the compounds.

combine NMR and e^- microscope to "see"
compounds in position of cell.

Perspective.

The existence of a vanishing point is dependent on the fact that we see the world through a "visual cone."

objects appear bigger because they take up more of visible area ~~at~~ the closer they are.

Science

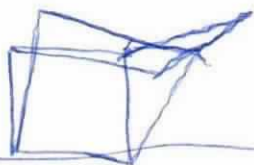
If a computer can induce a person to see through electrical connection directly to optic nerve, (There exists research in this field) then why not let a computer display what a person can see. Has great potential for use in psych. studies. And tremendous potential for misuse (i.e. invasion of privacy... surveillance)

Also if computer can convey ~~information~~ visual information through optic nerve then it should be able to convey textual information through nerve. Would be like reading a book but your eyes are closed. OR. why not have the computer read to you through the cochlear nerve in deaf people. For ~~the~~ normal people just use a telephone to call up some kind of central vortex reading center.

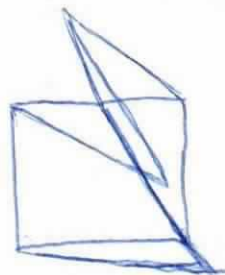
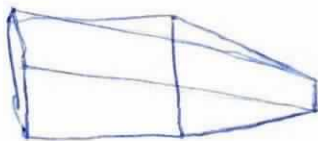
computer picture

Do a picture involving random VP's

i.e. of the 4 lines in a cube going back to the VP
let each one go at random to a randomly
chosen VP.



can use only 2 VP's chosen at random
2 point random perspective (Nice name!)



computer

1/26/74

New way of producing sculpture objects analogous to the scu series.

Take a closed object ie dectedron

Randomize it once

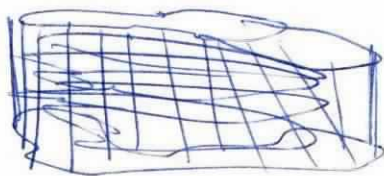


Then again to get 2 separate rand. figures
Place one on top of the other rot. 90°



and do a Trans.

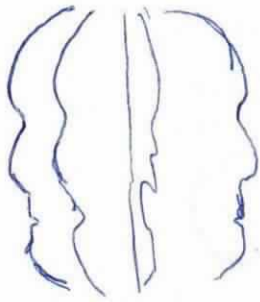
The connect lines ~~is~~ should be straight from top to bottom



may look better with only a few or none of Trans generated figures.

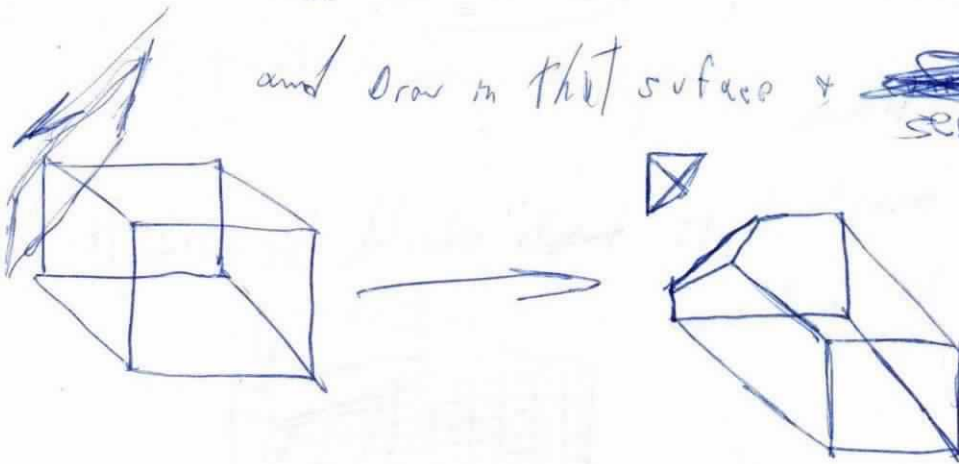
Draw outline of face with Computer
open up in middle of rot mouth separate to

mouth opens by Trans



Take slices out of cube randomly
create a random plane and find its intersection
with cube

and draw in that surface & ~~separate~~
separate



SCU SERIES

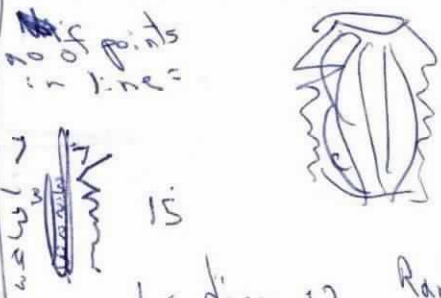
Put about 200 SCUs in a book for use
as a reference book in design of cylindrical objects.
Each page should contain the SCU and
The random line with the length of each
segment of the line. Total ~~of~~ vertical distance

Angle of rotation = 20° Title

no of points
in line = 15

Hor dis - 12

Ver/Hor ratio - 2:1



radii

12
7
10
9
2
4

Random Seed = ~~4234769~~ 4234769

vertical axis

distance from ax to point on line \perp to axis is radii

$$\text{Hor dis is } \frac{r/\text{Line}[z]}{\text{Line}[z]} - L/\text{Line}[z]$$

$$\text{vert dis is } \frac{r/\text{Line}[z]}{\text{Line}[z]} - L/\text{Line}[z]$$

I goes from 1 to \perp \perp P Line

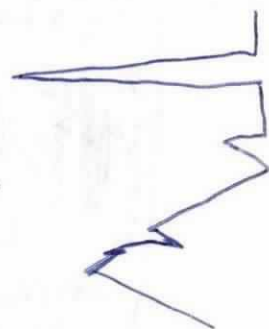
$$\text{radii} = R\text{Line}[I; z] - \text{Axis}[z]$$

← Radii; P_0, P_5

Down $(\infty, R\text{Line}[I; z], 0)$ put Radii

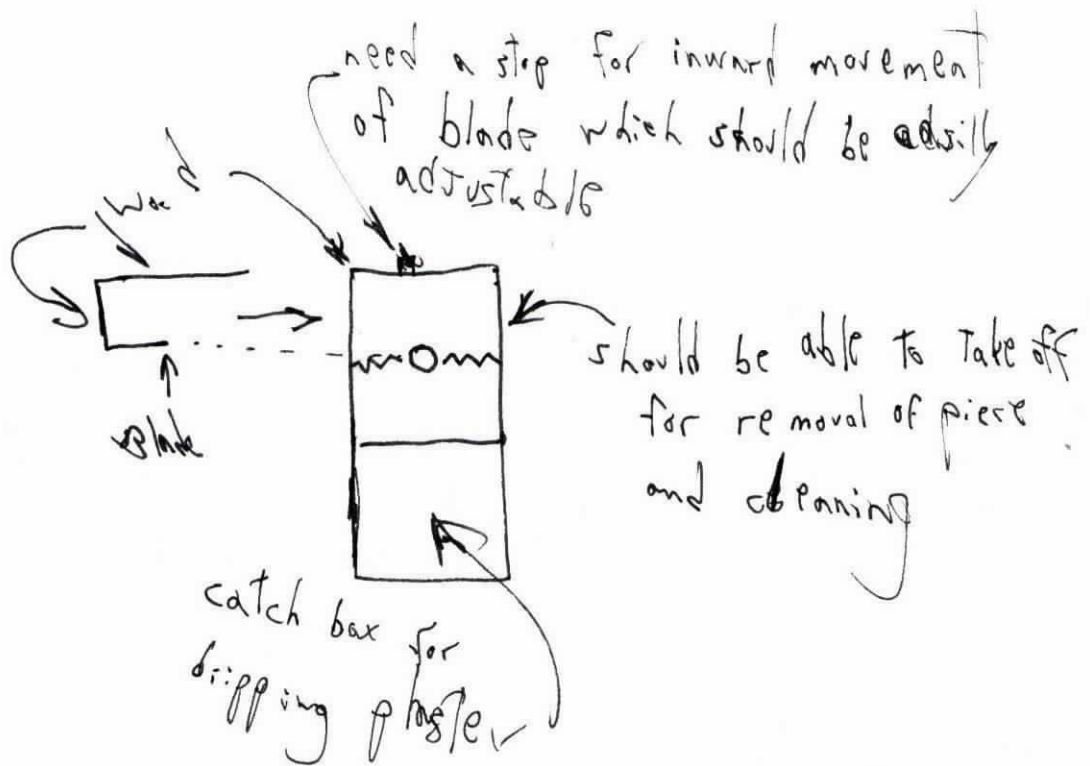
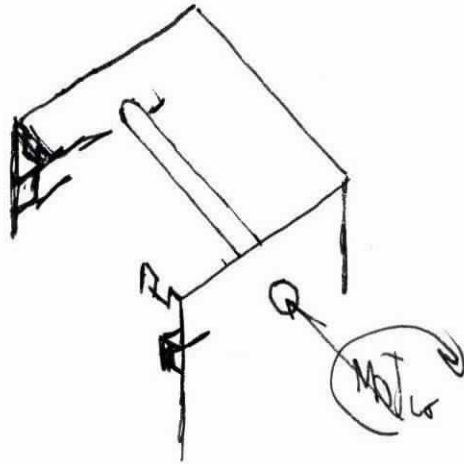
$$\frac{\Delta y}{\Delta x} \sqrt{\Delta y^2 + \Delta x^2}$$

Distance between 2 points

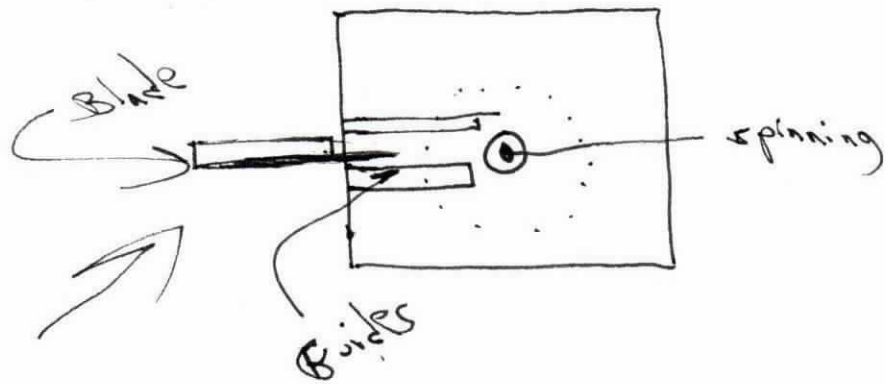
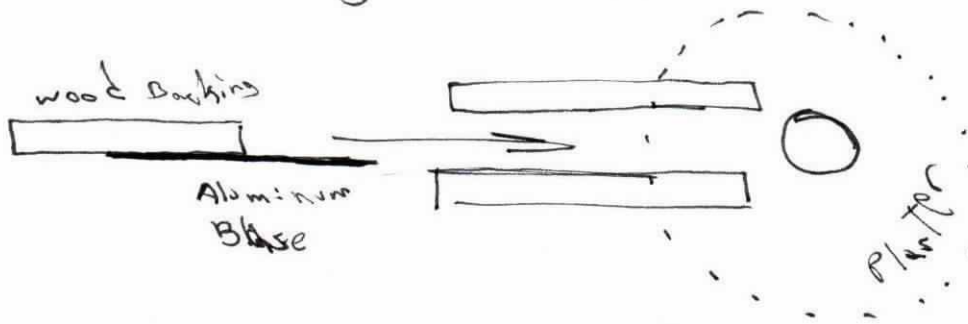


Building Saw's

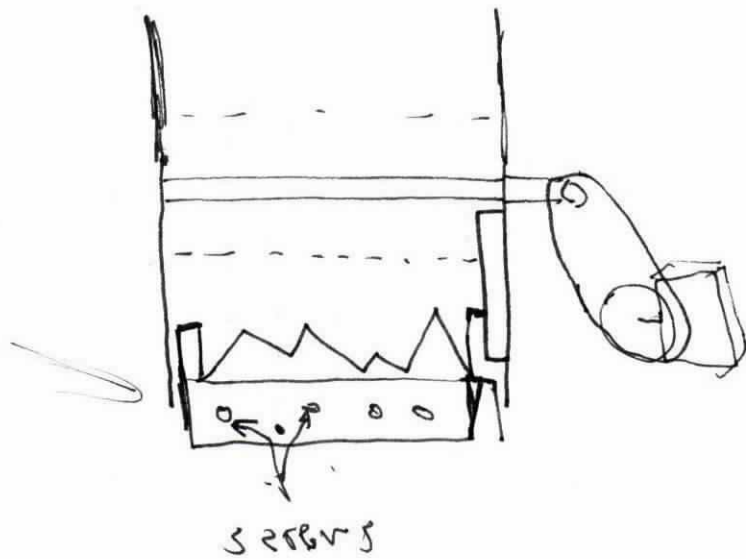
A lathe type machine where a blade which was cut out is moved in to cut away rotating clay or plaster



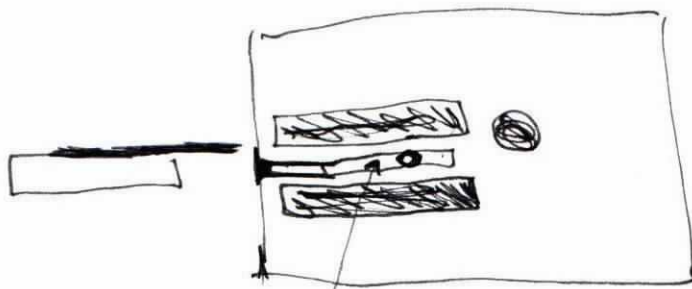
Blade should be guided in by a full track
 not just resting on one side



Blade should
 be on top of
 wood so screws
 don't screw up
 sliding in



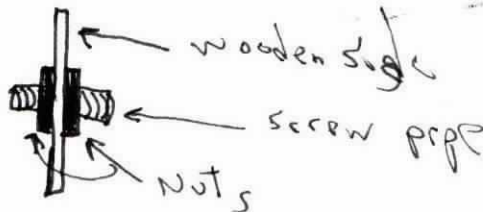
Whole thing may have to be vertical
 to add on plaster while rotating



slot for a
screw in stop

STOP Design

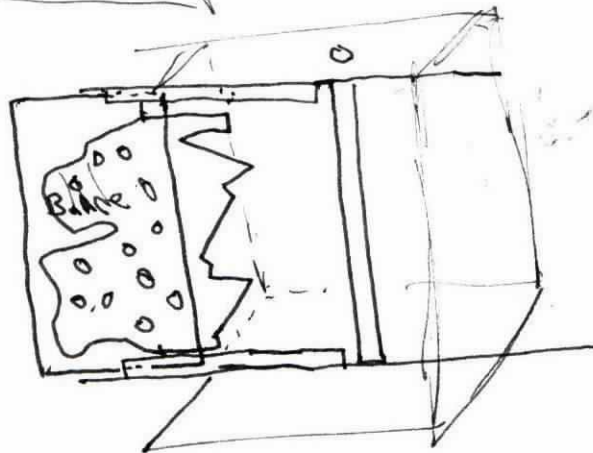
sc



side view
~~wood~~

screen is going through slot in between
blade guide.

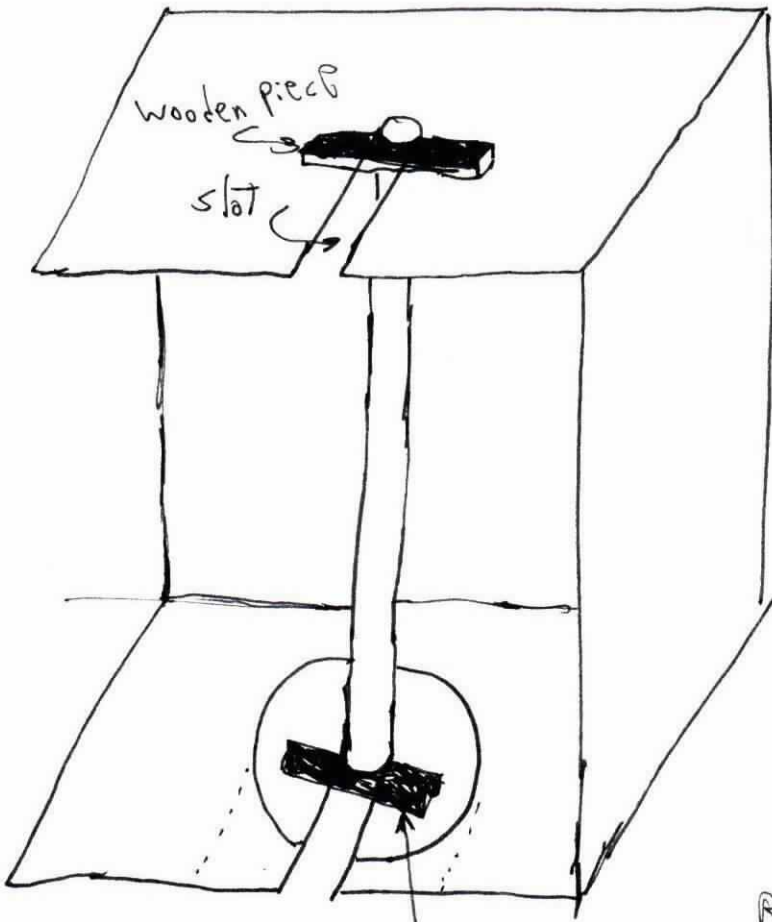
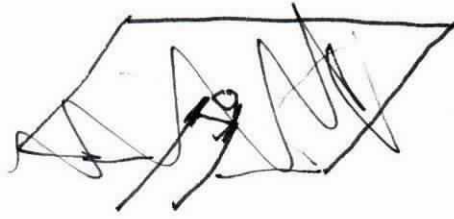
vertical shaft set up



must be
able to remove



Better to have
slots to remove whole
shaft with piece



wooden piece
easily removably
by peg insertion
used to hold shaft
in place

wooden piece
on Bottom
so piece doesn't
rest on it

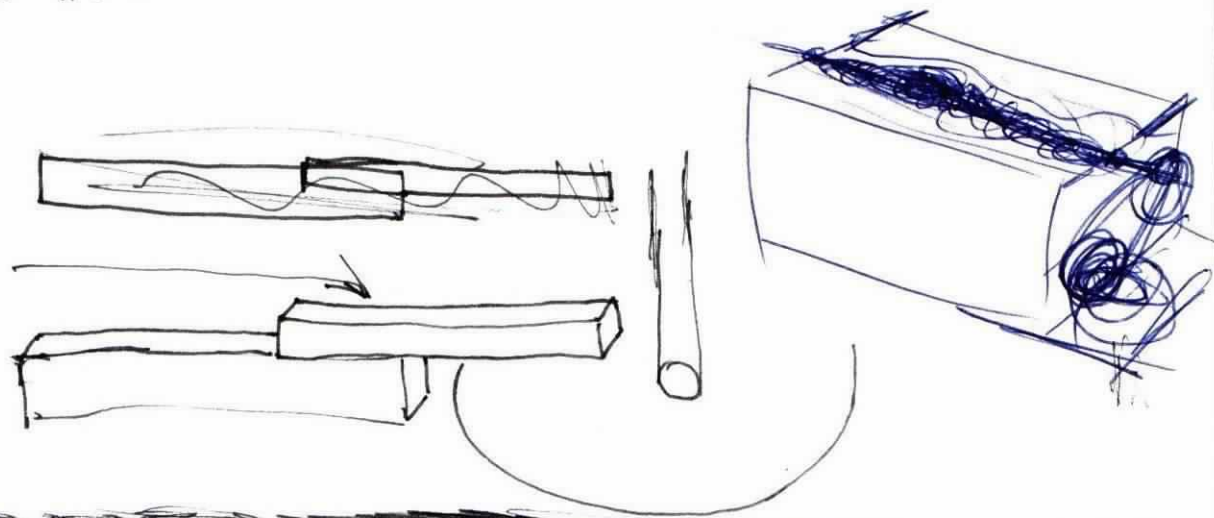
Base that piece sits
on should rotate

Problem with Bottom Guides

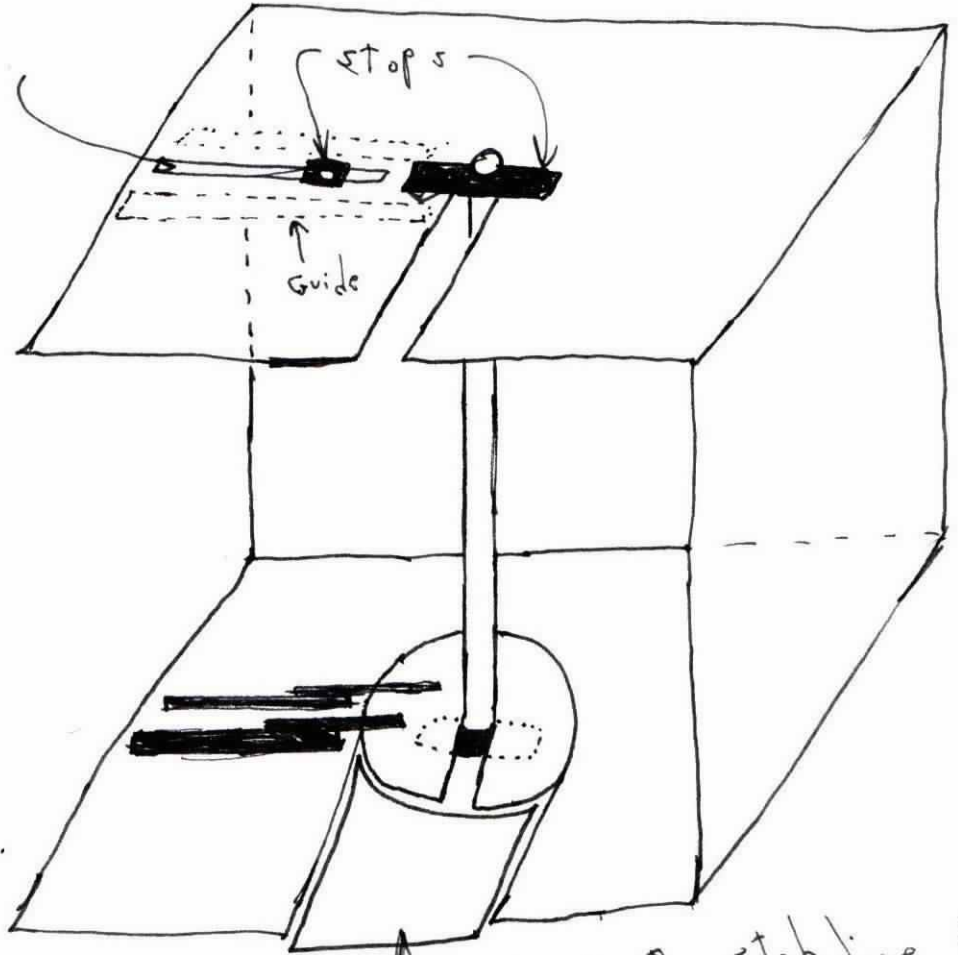
[Handwritten signature or scribble]

Bottom Cordes

Piece to
clear rotating
Base



slot



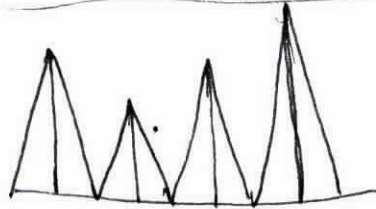
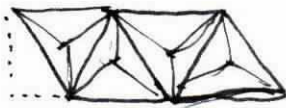
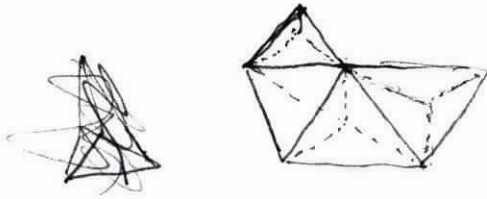
piece to stabilize rotation
can be clamped in place

Computer

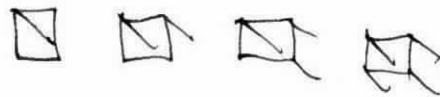
Modular structure to be put together

randomly. Problem is to figure out the module

Maybe a pyramid

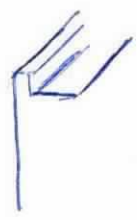
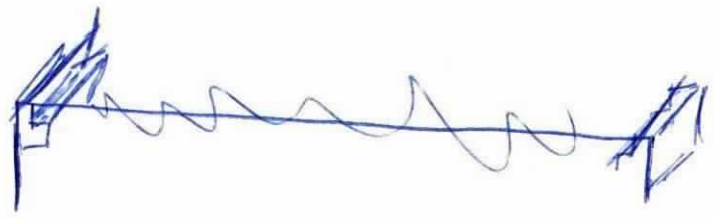
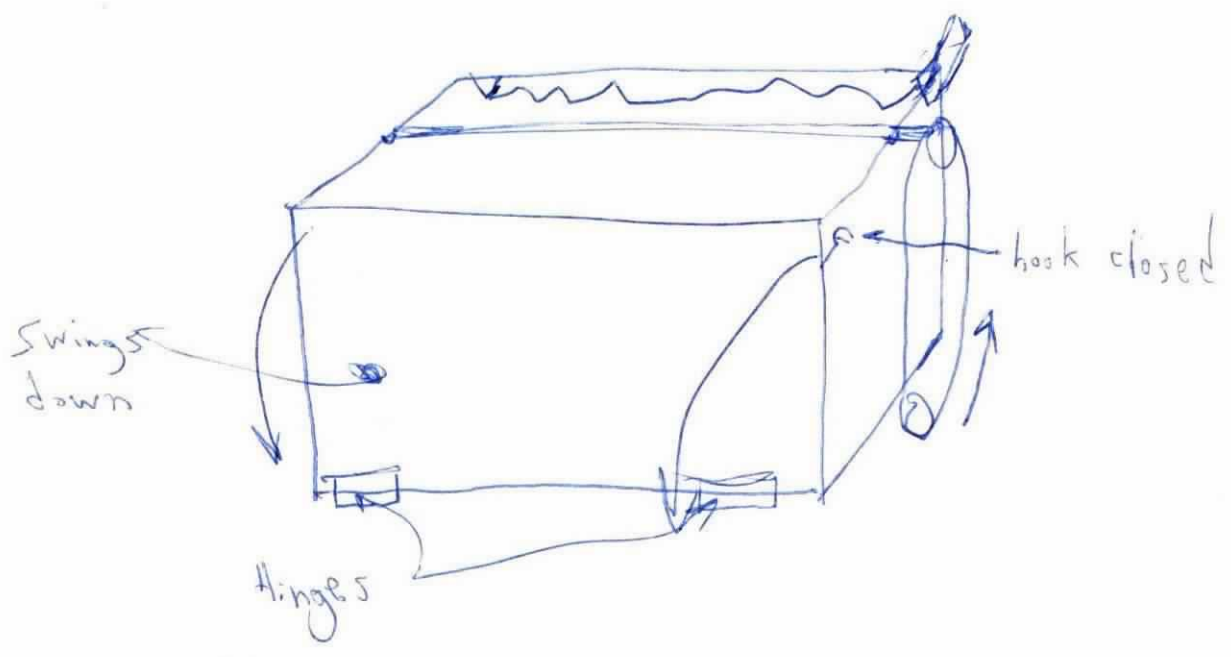


Generate all possible (views of cube or better yet a polygon of n sides combinations)

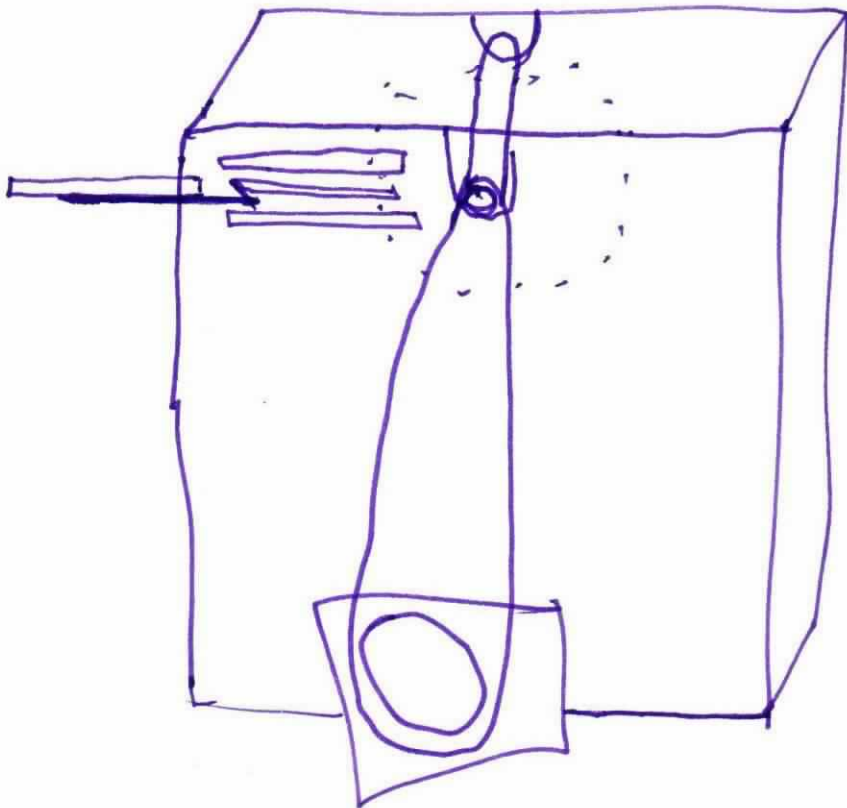
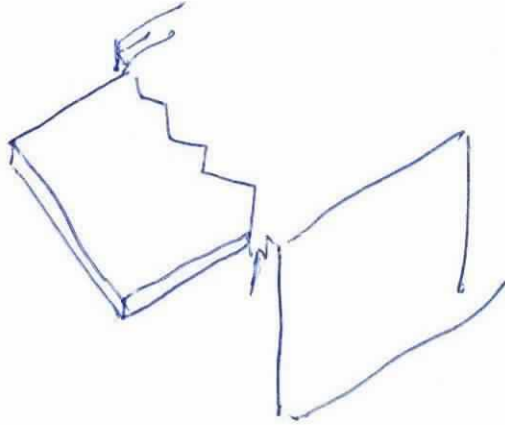
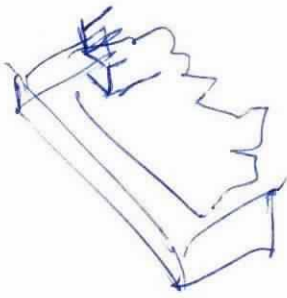


scu's

Electroplate the plaster scu's!!
All nice and shiny

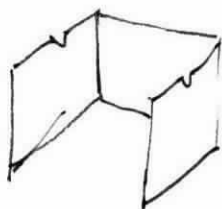


need something heavy to weight down blade
and prevent it being pushed up by ^{springy} plaster



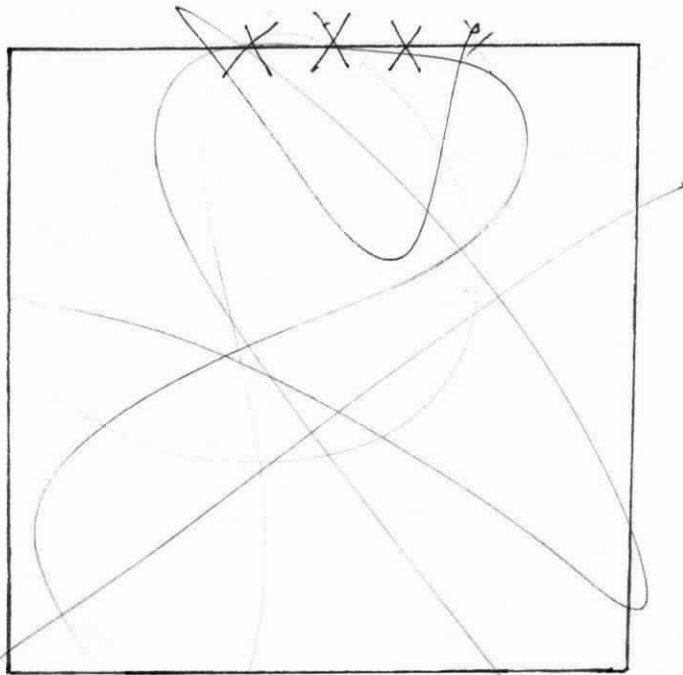
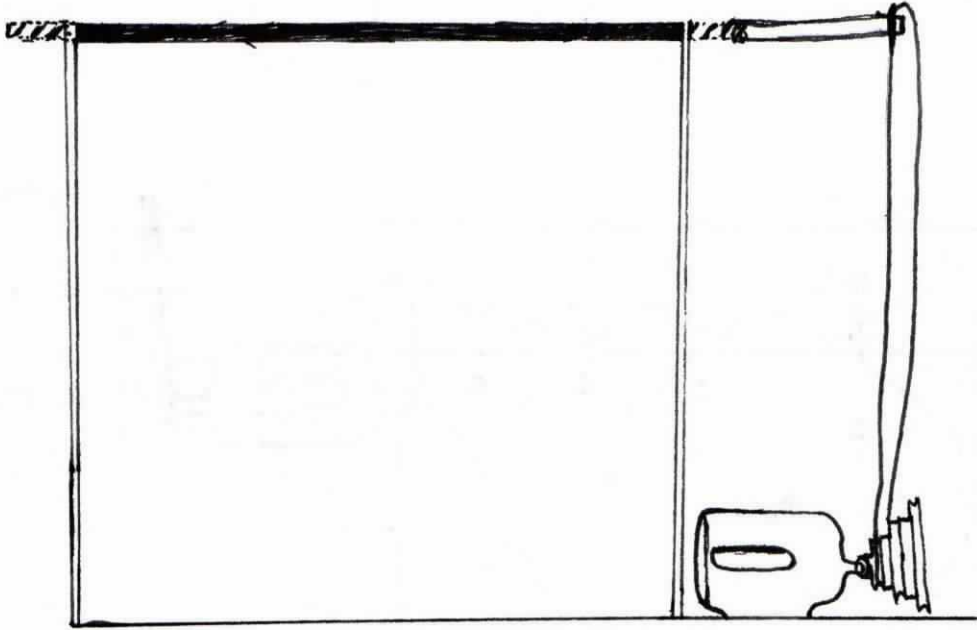


clots of paint on canvas which are exploded
by caps or whatever underneath

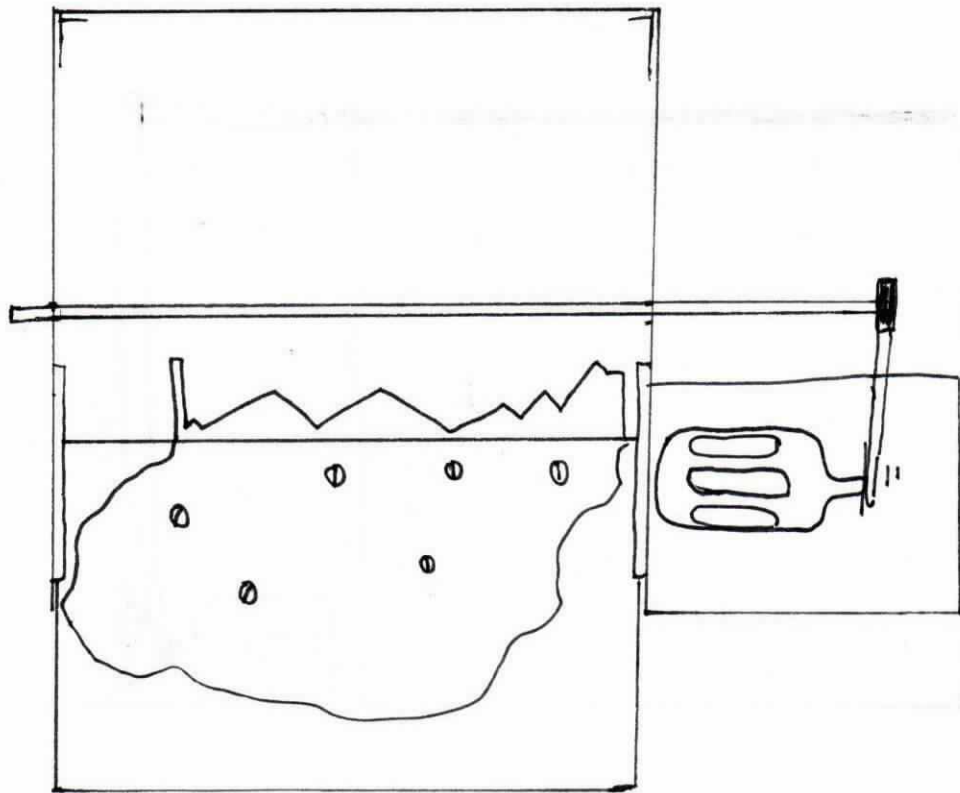


1 cm = 2 in

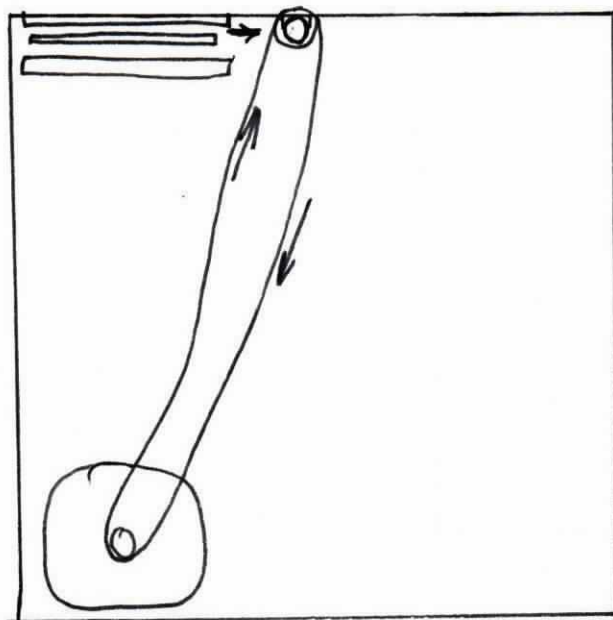
3/4" plywood



Box is 15 x 16 x 16

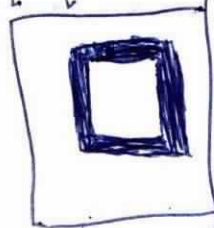
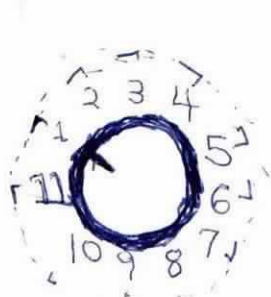
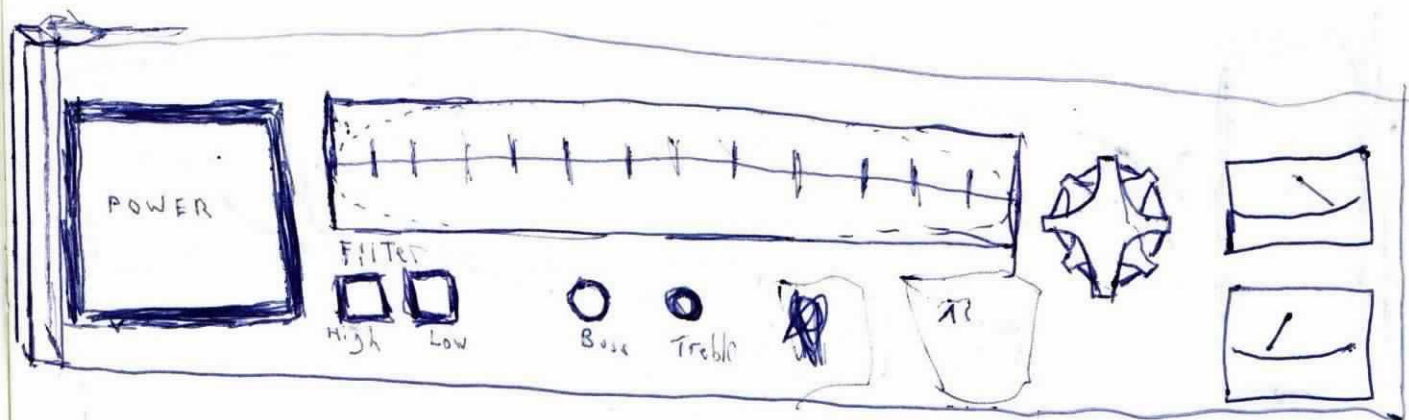


15 x 16 x 16

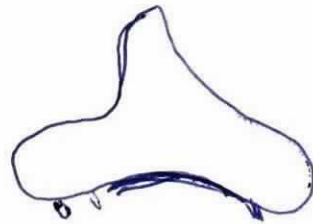
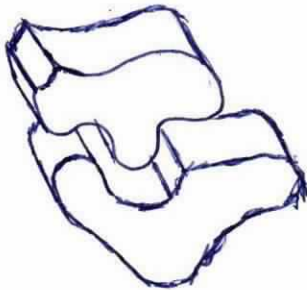
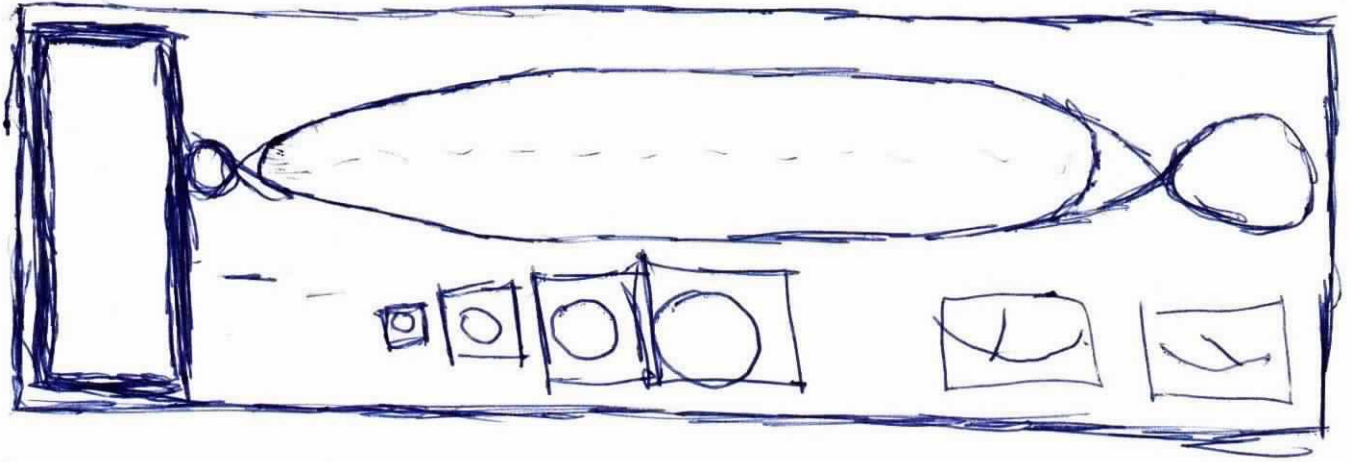


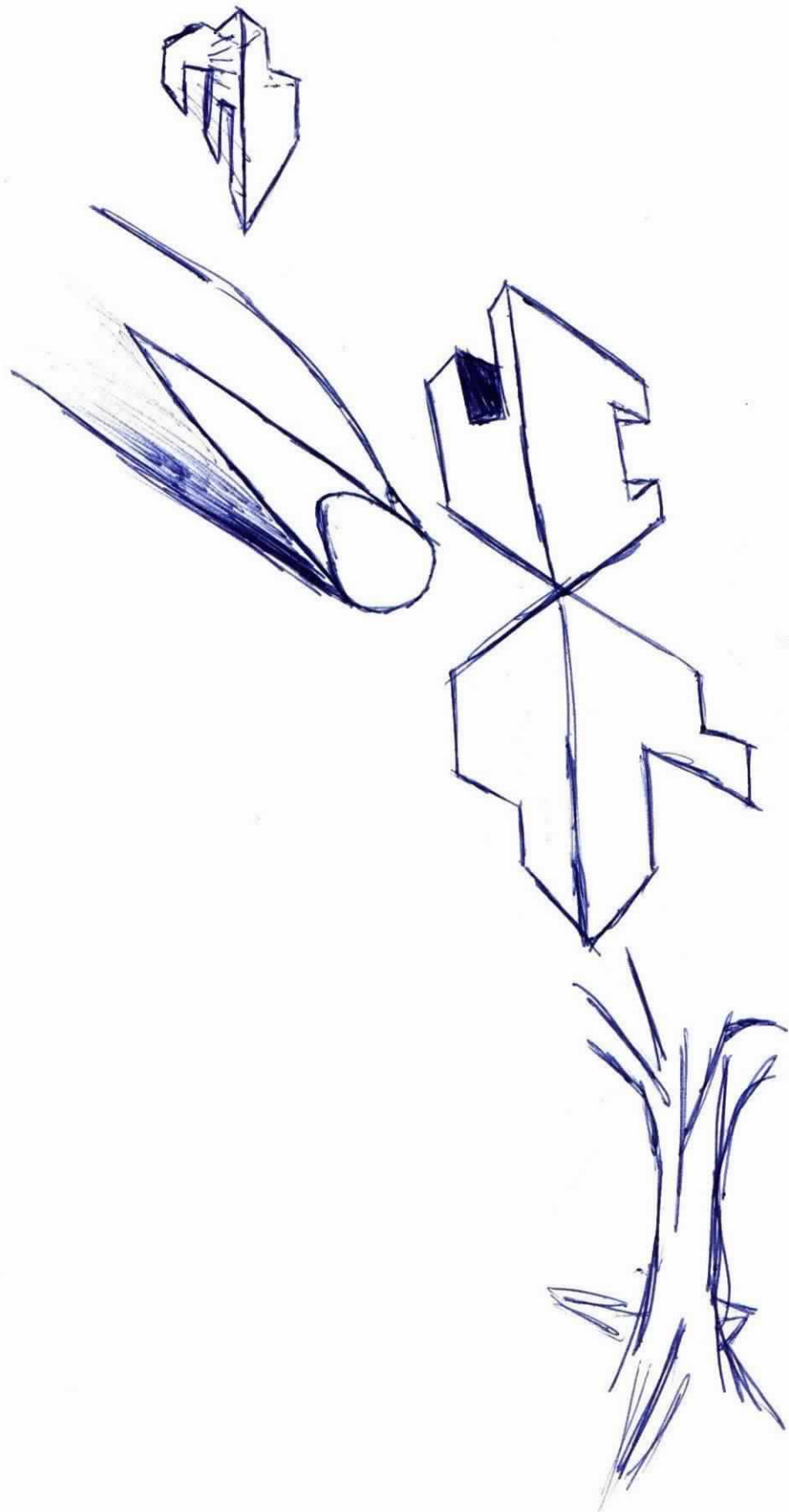
Tunes

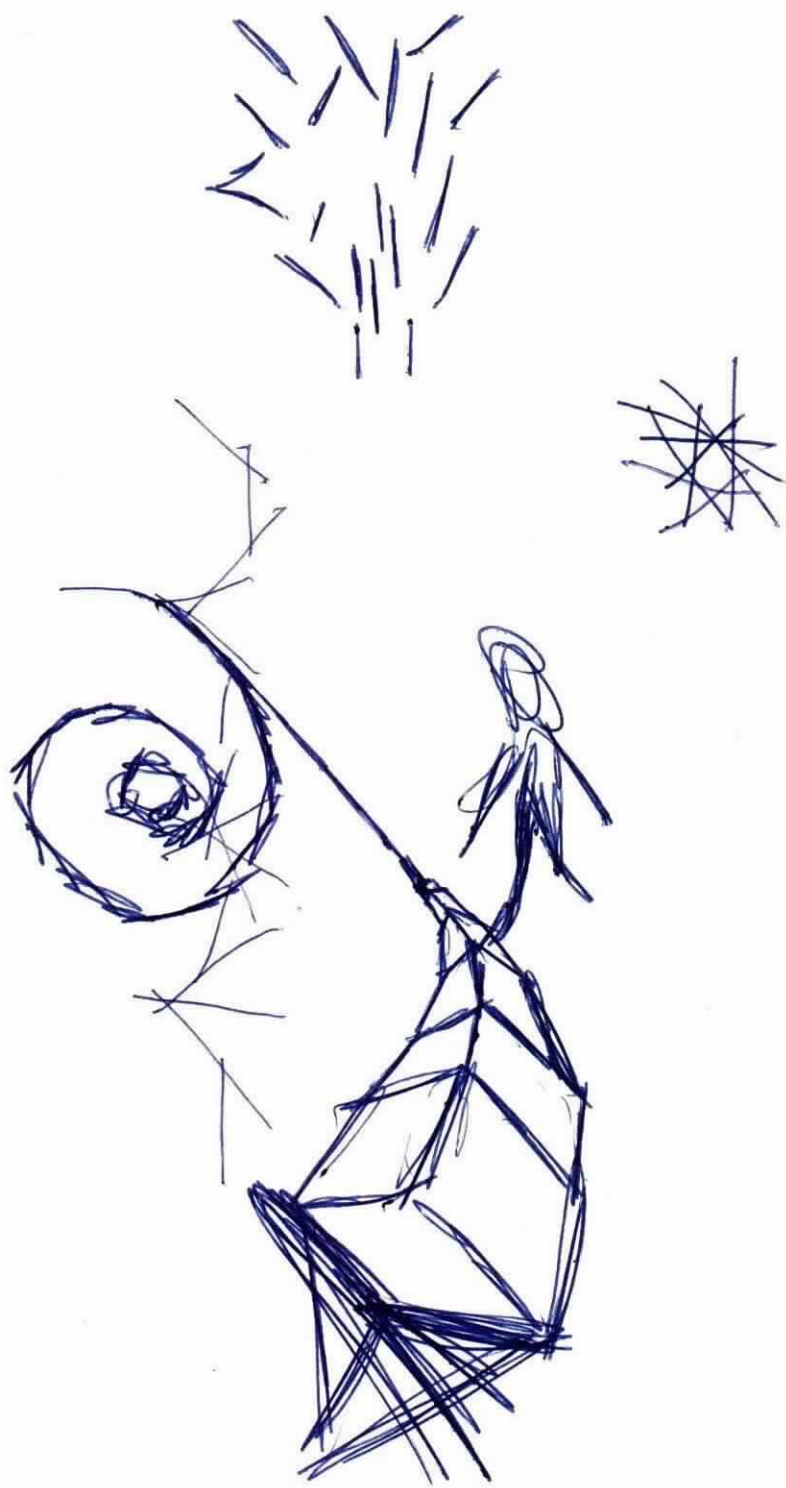
Tuning Dial / Power / Balance / High & Low Filter / Vol / Bass / Treble / Fns /
Signal & Tuning Meter /



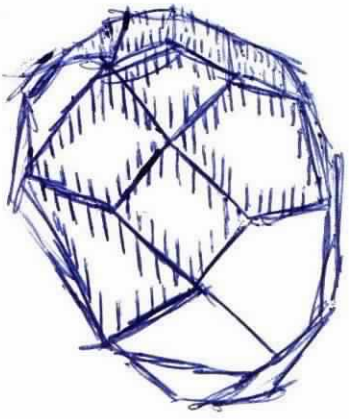
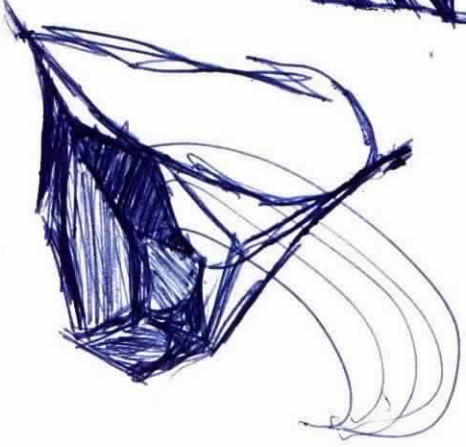
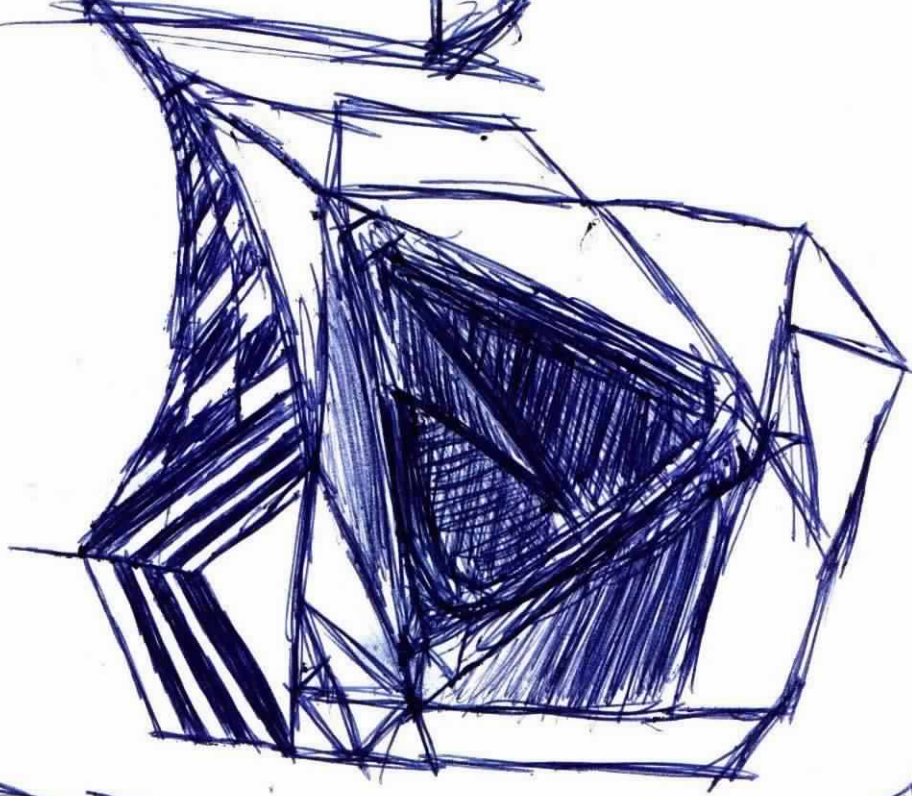
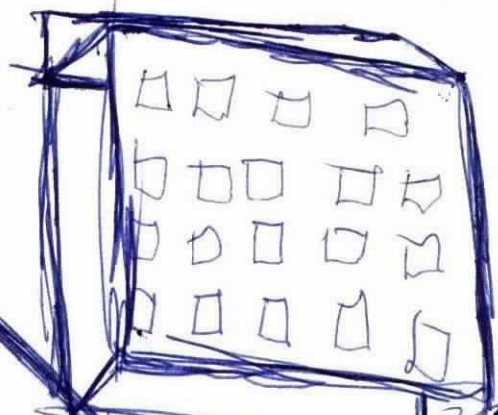
need a good dial

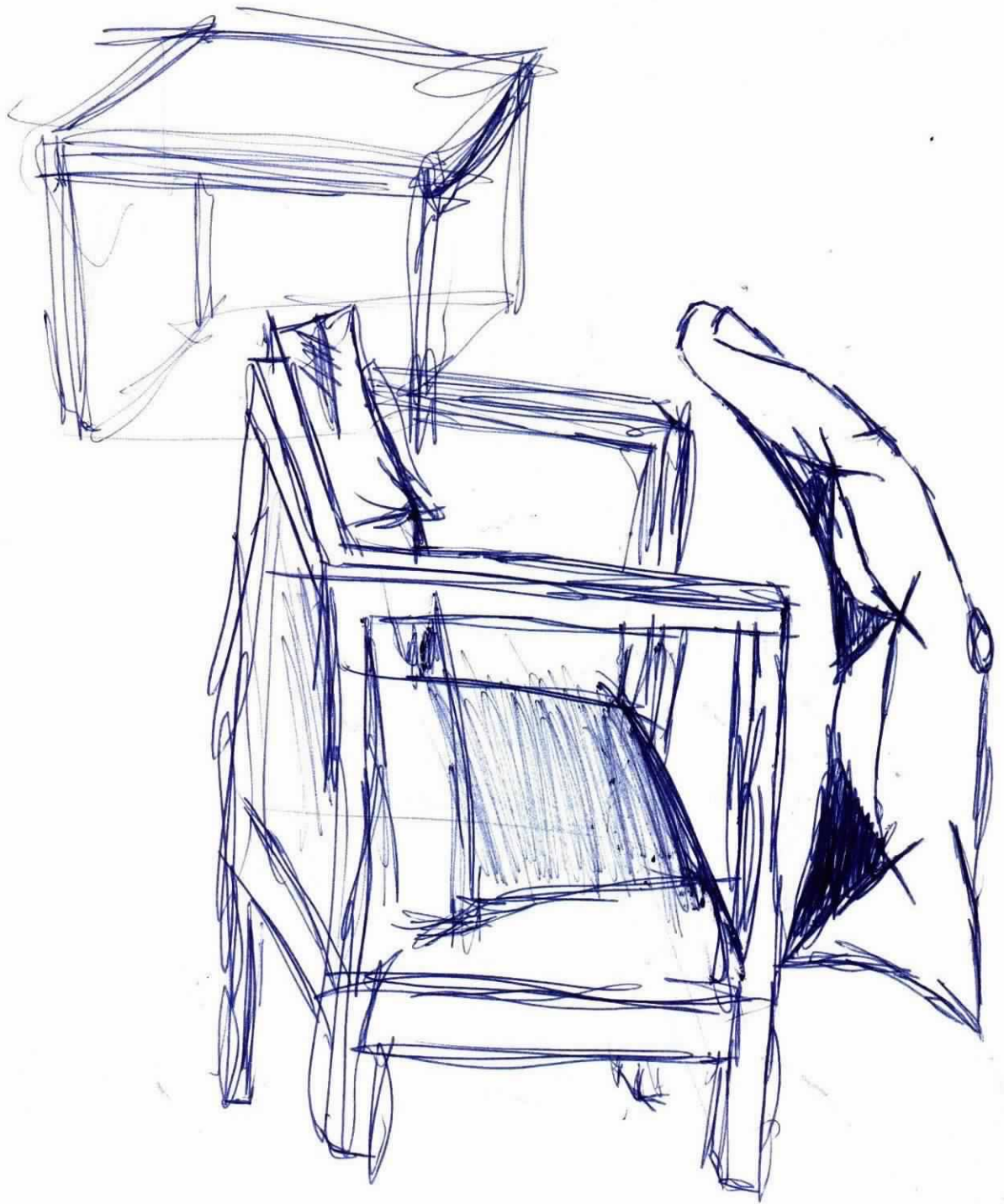




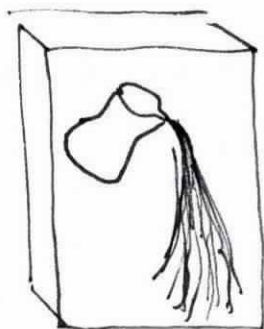


poster of 5005



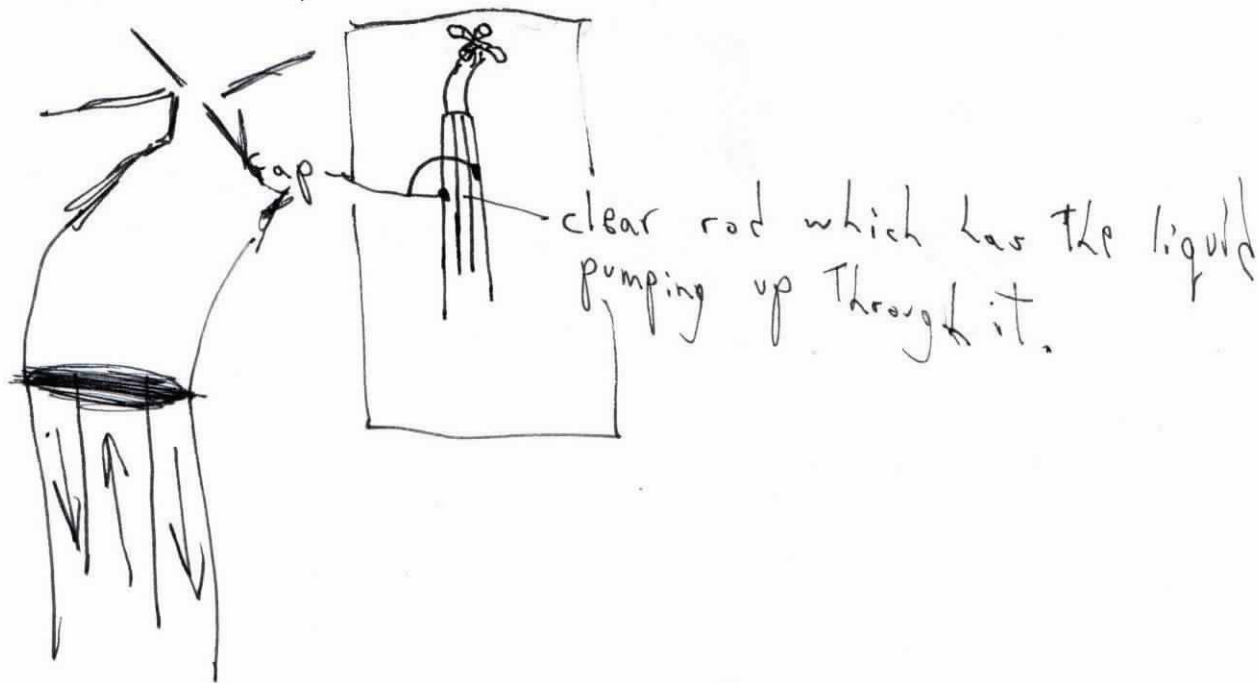


sculptures which cause kinetic events to stand still
is the pouring of a liquid out of a Jug
a liquid must be Trapped in ~~the~~ resin



a faucet suspended with liquid coming
out of it

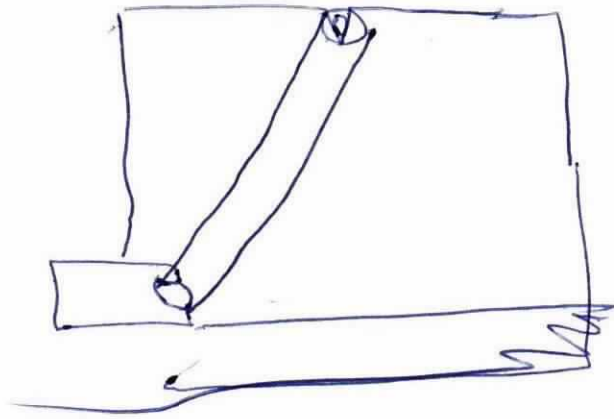
a faucet trapped in ~~the~~ resin with liquid that
really comes out of it.



maybe better to have the liquid flowing
from pitcher

Trapped action

some violent action that is contained
maybe slowed down



to give me a paper blade

~~Draw Piece rot~~

Line ← Piece [i; 3 4], Piece [i; 3], 100

Draw Piece Rot 90, Line

May need a constant scaling factor

~~maybe should standardize
and width and make length
them constant~~

ratio of original piece to



keep this ratio in enlarge version

Computer

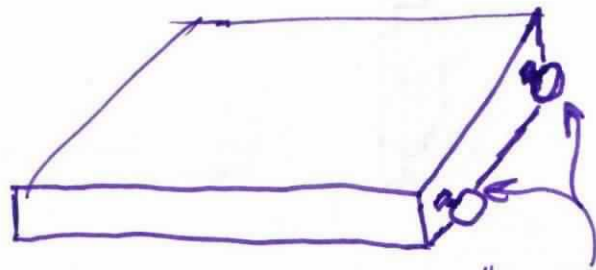
Take a digitized picture of person face
work that down to a line drawing and
Then work that to a drawing with slots and
Tabs which can be cut out and folded
up so you get a computer bust of
the face !!!

Have a basic Template form which is
Then modified to the particular
person.

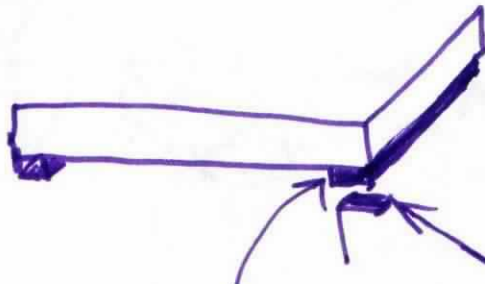
May have to do it in 3 or 4 pieces
not one single piece but that's not
a big prob.

Template could be like that picture of
a face made of polygons (from Utah?)

Lathe



rollers on wooden part of blade

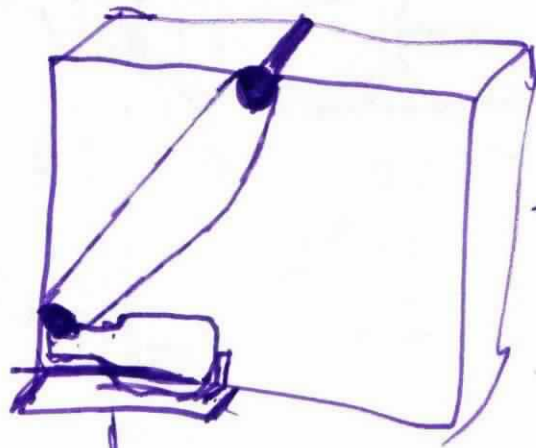


metal strip

metal strip on guide

Stand for Motor

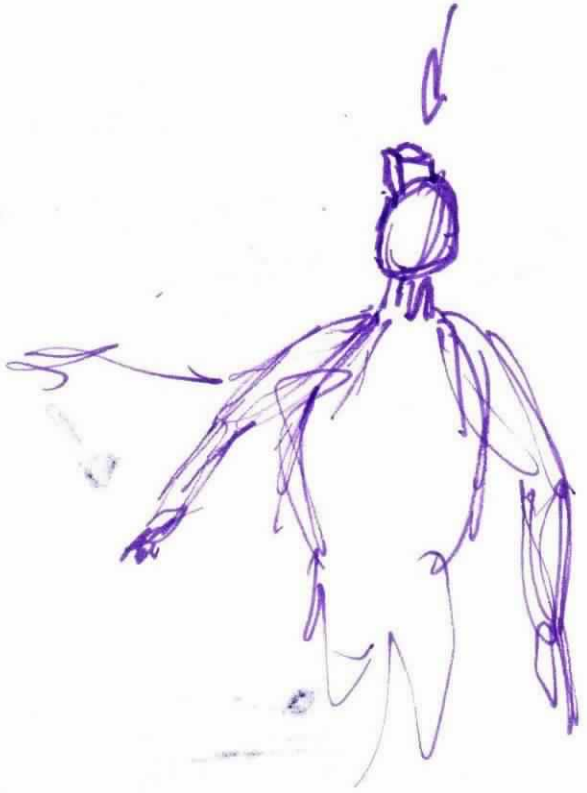
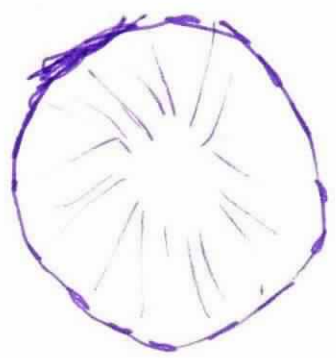
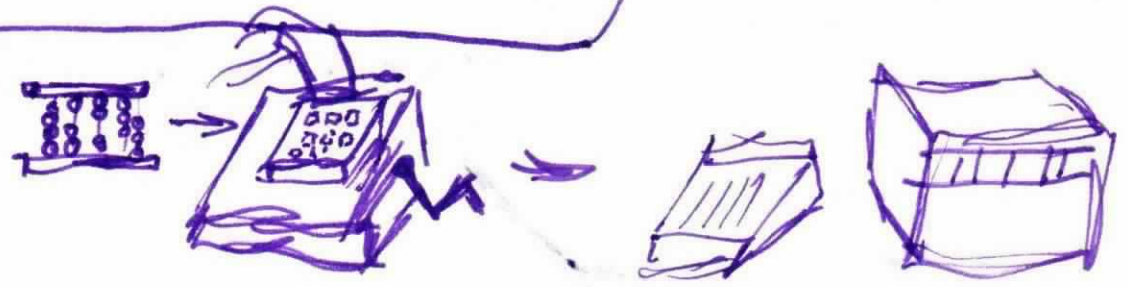
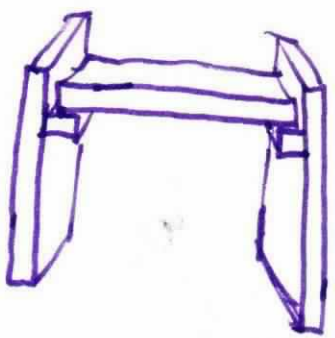
and grease it up for smooth sliding



metal brackets

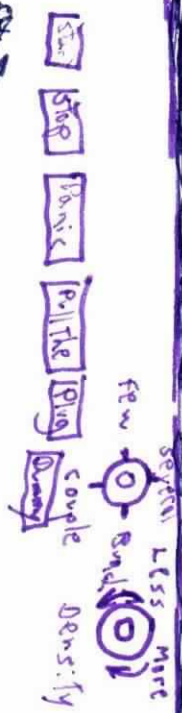
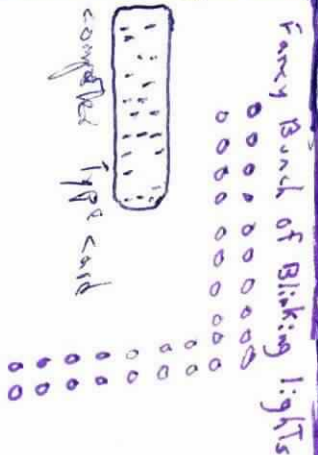
Base for motor

Moral for Hill

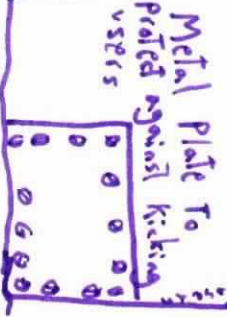
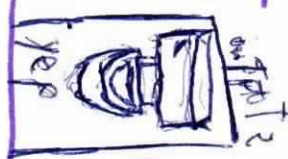
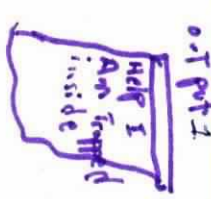
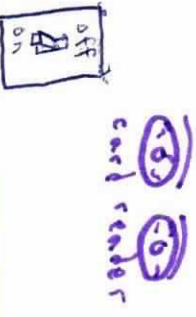
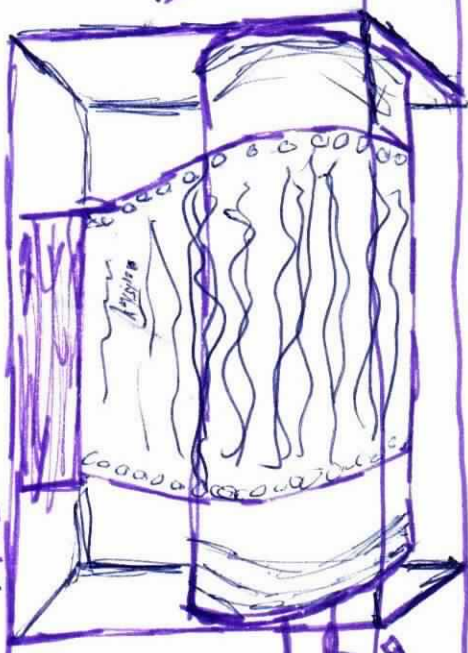


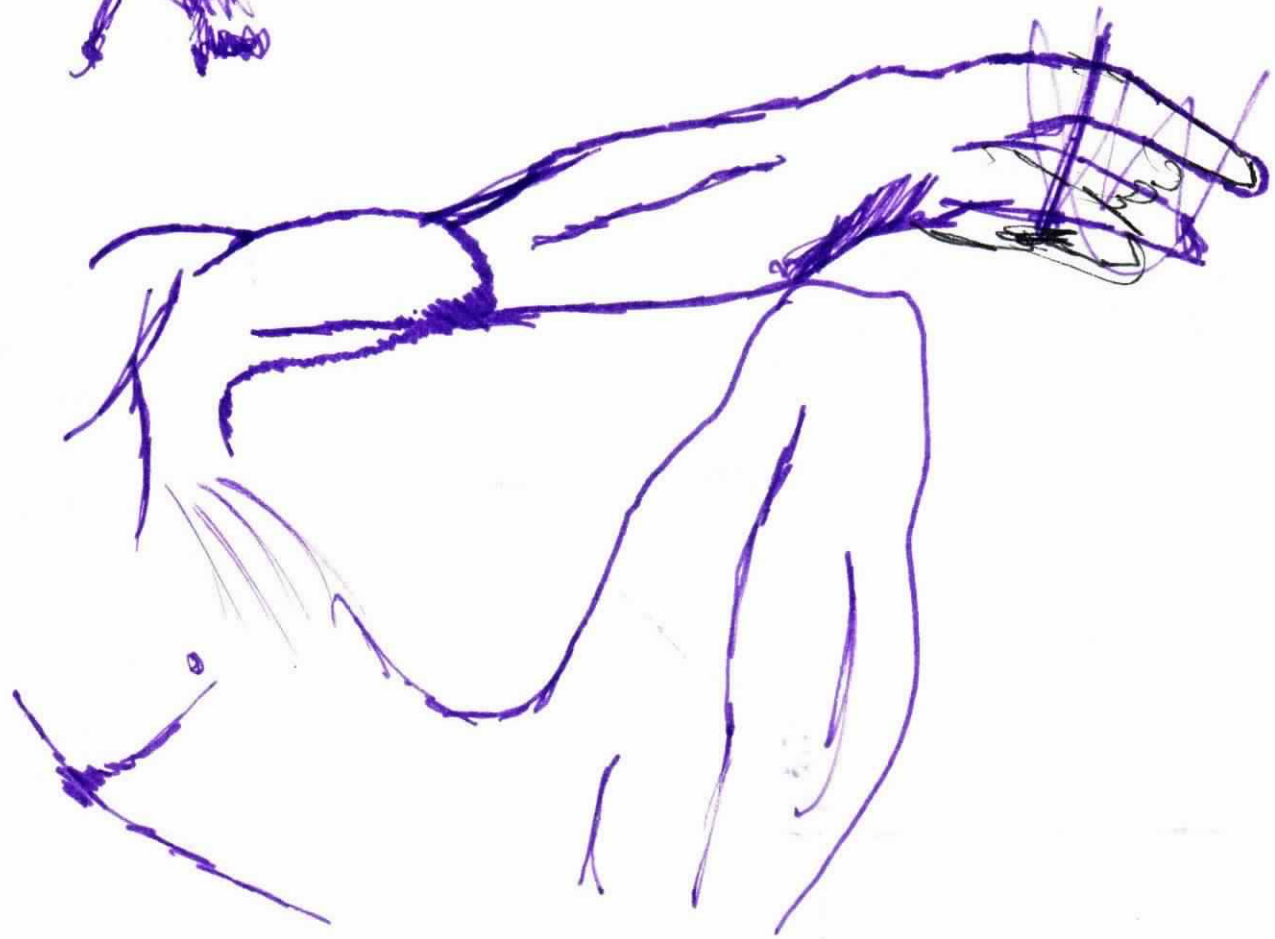


More Ballist Inc. (MBI) / 27 1/2

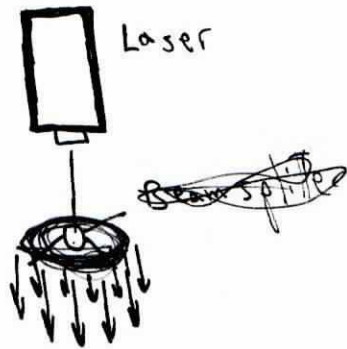


To mesmerize operators



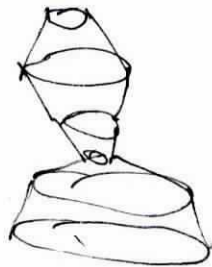


creat Sco's by light
↑
laser

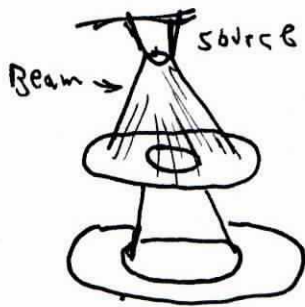


Need to create a cylinder
of light

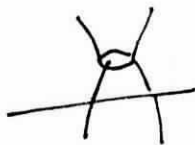
Maybe easier to have a
series of light rings



Beam



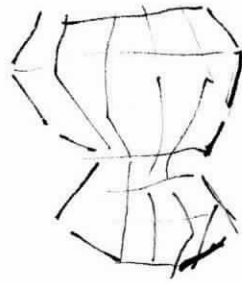
o



Need two sources
with this method
because you always get a
diverging cone and
if light source on top
how do you do



Neon Sci's



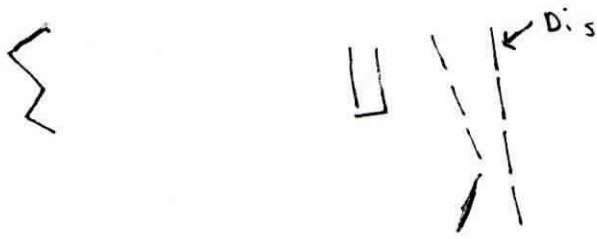
Need a Method
of using some kind
of template to ~~make~~
replicate shapes (the line)

light source Fiber optics sci (to be hung)



ends where light come out

computer generated Tab and slot
drawing of SCV's !!



angle between can be determined
by radius



Take the front panel of SCU (The n^{th} $\frac{n}{k} + 1$ rot)



Do rotations around these lines to flatten panel
2 values of zero



slot lines

Tabs added on

Then just make 18 copies
cut out and put together

18 segment circles



can also draw a top and bottom covering



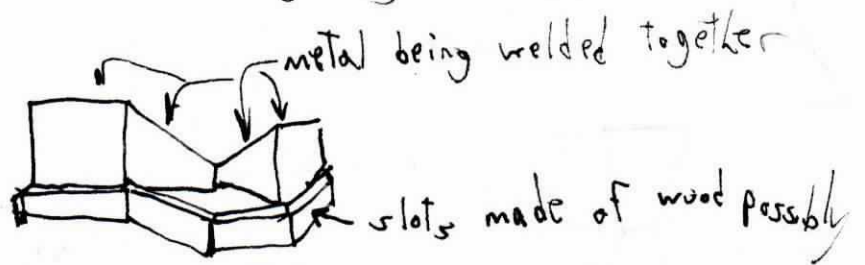
centered and Tabs
centered slots

some kind of alternating tab and slot sys. would be stronger

welding sev's

flat panels could be welded together
if cut out of aluminum steel, etc...

would need a method for getting accurate angle



slots to fit in metal panels to weld together one full side panel



slots to stand up completed panels
to weld together full sev

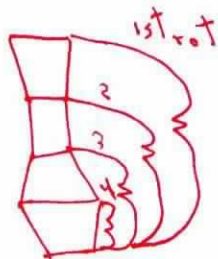
Rotation Algorithm To make a flat panel out of scv panel



First move panel in - or + z direction until z value of top line = 0

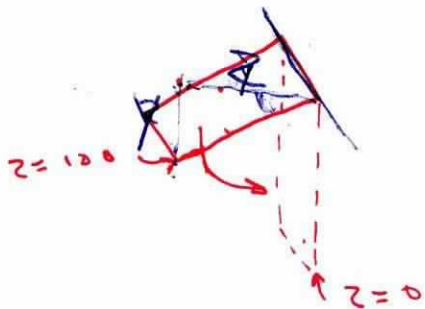
Then if z value of bottom line is + rot in one direction if - in other direction. rot is around top line.

problem of how many degrees to rot must be some trig function to figure it out



number of rot. necessary would be $(\# \text{ of pieces}) - 1$

need tab like sticks to support slots which must be an edge of panels



$$\left(90 - \left(\tan^{-1} \frac{y}{z} \right) \right) = \theta$$

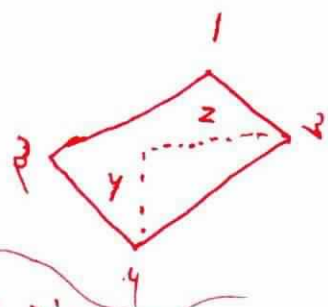
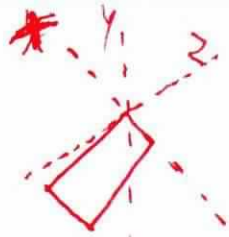
rad to deg

~~rad~~

$$2\pi \text{ radians} = 360^\circ$$

$$\pi \text{ radians} = 180^\circ$$

$$\text{rad} \left(\frac{\pi}{2} - \arctan \frac{y}{z} \right) = \theta$$



must deal with radians

check about $r - z$'s

Arctan is -30°

$$zDis \leftarrow P1[3;4] - P1[4;4]$$

$$yDis \leftarrow P1[3;3] - P1[4;3]$$

$$TopAngle \leftarrow \arctan \frac{yDis}{zDis}$$

~~Deal only with the line!~~
 Deal only with the line!
 use The connections for lines of rot

LLine \leftarrow Piece Rot \times , ~~line~~ Δu

RLine \leftarrow Piece Rot \times , Δu , line Δu

Conne \leftarrow LLine connect RLine

Limit ~~count~~ \leftarrow 1 Δ LLine
~~count~~ \leftarrow 1

Guts : ~~seg~~ \leftarrow [Line [~~count~~ \rightarrow j]]
~~seg~~ \leftarrow seg cut [Line [~~count~~ \rightarrow j]]
~~count~~ \leftarrow ~~count~~

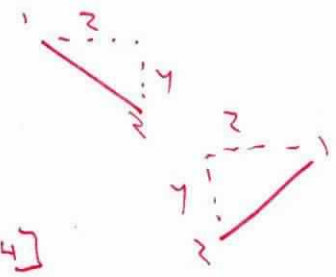


next page



// establish angle //

~~seg[1]~~



$$2D:s \leftarrow 12D:s \leftarrow |seg[1;4] - |seg[2;4]$$

$$YD:s \leftarrow 14D:s \leftarrow |seg[1;3] - |seg[2;3]$$

$$TopAng \leftarrow -30 YD:s \div 2D:s$$

// convert TopAng to degrees //

~~draw Line Rot TopAng,~~

// Establish line of Rot //

Line \leftarrow conn[count; 2 3 4]

Line \leftarrow Line, conn[count+1; 2 3 4]

Draw stretch \leftarrow stretch cat
~~Draw~~ LLine Rot TopAng, Line

LLine \leftarrow ~~limit~~ LLine

-(limit-1) 4 \uparrow LLine

\rightarrow Gut

// stretch is now a series of disconnected lines with 2's of // various

but paired

stretch[;4] \leftarrow 0

next

// stretch is now one half of schTick //

either move it a bit in x or rotate around the seg's axis

stretch (#, 0, 0) Move

~~stretch~~ stretch cat stretch

• cone stretch connect stretch

probe stretch cat stretch

// To Do //

Need to put on the ~~tab~~ tabs //

if Dis of a seg is less than set value don't put a tab

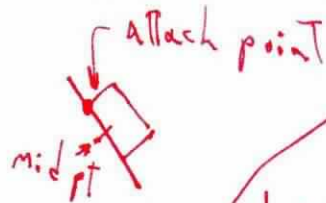
Should alternate sides of putting on tab.

create the tab out of the seg

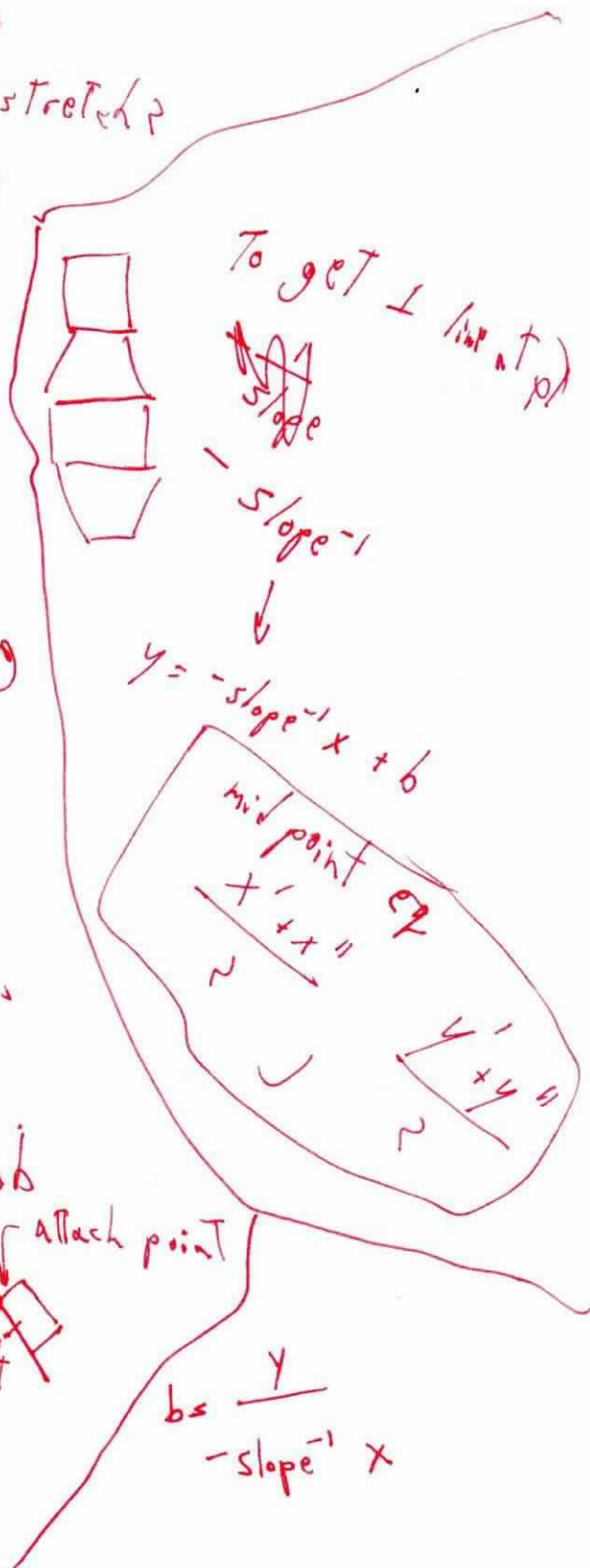
Take seg and make a box and scale it until it fits specs about a .5 scale

scaling will probably move tab of line of seg

so create an attach point and attach tab to it



$$b = \frac{y}{-slope^{-1} x}$$

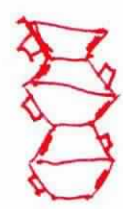
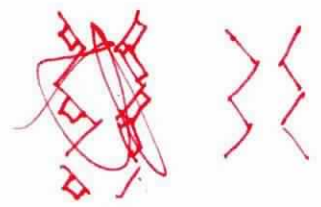


Tab should be .5 dis of seg
 slots sup " " .75 " " "
 slot " " .5 " " "

→ // First make the Tabs ←

stretch Identify what segs are to be Tabs and what slots.

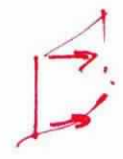
~~TabID ← IO1~~
 IO1: TabID ← TabID, IOS
 → (limit ≥ IOS ← IOS + 2) / IO1
 IO2: TabID ← TabID, IO2
 → (limit ≥ IO2 ← IO2 + 2) / IO2



// Pick out segs for tabs using IO vectors //
 count ← 1

IO1
 Tab ← stretch[IO[count]]

Tab ← Tab ← at ~~Tab~~
 stretch [1 + IO[count]]
 → ~~IO~~ IO ≥ count ← count + 1) / TIO



not yet →

find ↓ to top point

~~Tab~~
 Tab [1; 2; 3]

// ~~is~~ is the segment which needs a Tab on it //
Tseg

find slope $\frac{\Delta Y}{\Delta X}$

$$\text{slope} \leftarrow (\text{Tseg}[1;3] - \text{Tseg}[2;3]) \div (\text{Tseg}[1;2] - \text{Tseg}[2;2])$$

$$\text{BE} \leftarrow (\text{Tseg}[1;3] \div (-1 \div \text{slope}) \times \text{Tseg}[1;2])$$

Radians to Degree conversion

$$\pi \text{ radians} = 180^\circ$$

$$3.14159 \approx 180^\circ \text{ deg}$$

$$\frac{\pi}{180^\circ} = \frac{\text{RTA}}{\text{Degs}}$$

$$\pi \times \text{Degs} = 180 \times \text{RTA}$$

$$\text{Degs} = \frac{180 \times \text{RTA}}{\pi}$$

$$A_n = 90 - \text{Degs}$$

$$\begin{aligned} \text{[] Degs} &\leftarrow (180 \times \text{RTA}) \div \pi \\ \text{C } \rightarrow A_n &\leftarrow 90 - \text{Degs} \end{aligned}$$

need eq
for a point on
line a certain dis
from one end pt.

sth line is LLine

$$4 \times 20$$

$$80^\circ = \text{LLine}$$

▽ stretch ~~RAH~~

Piece; LLine; RLine; conn; conn2; limit; seg; zdis; ydis; RTA; An.

[1] LLine ← Piece Rot 80, Δvs ; RotL; str; str2

[2] RLine ← Piece Rot 100, Δvs

Initializations
count ← 1

[3] conn ← LLine connect RLine

[] Limit ← 1 ↑ LLine

[] Guts: seg ← ~~conn~~ LLine [1]

[] seg ← seg cat LLine [2]

// establish angle // } check order of seg

[] zdis ← |zdis ← |seg[1;4] - |seg[2;4]

[] ydis ← |ydis ← |seg[1;3] - |seg[2;3]

[] RTA ← -30 (ydis ÷ zdis)

[] Degs ← (180 × RTA) ÷ 02

[] An ← 90 - Degs

// convert RTA to degrees //
* find Angle //

[] ~~RA~~ ~~count~~ // get line of rotation //

[] RotL ← conn [~~count~~ 1 ; 2 3 4], conn [~~count~~ 2 ; 2 3 4]

[] Draw str ← str cat ~~conn~~ LLine Rot An, RotL

// A preliminary draw
Take out in finished
product //

[] LLine ← -(Limit - 1) ↑ LLine

[] ~~conn~~ → (Limit ≥ count ← count + 1) / Guts

~~str~~

ix
↓

[] str[4] ← 0

// create str by ~~name~~ rot

~~str ← [str[4]]~~
~~str ← [str[4]]~~

[] str2 ← str Rot 20, DVS

~~str~~

[] Draw str cat str2

[] Draw conn2 ← str connect str2

Fns for scu picture documentation

radii	Dis	# of pts in line.
DRL	ver/Hor ratio	hor distance
Title	Angle of rot	slope
	# of rotations	



Each sculpture should be accompanied by:

- drawing of scu
- blade drawing
- documentation page

(and if possible paper cut out)

can show several views of scu

(Top 45° rot, HAX)

Try to automate the production of sc's even more
program which automatically enter sc's
on file

and one which reads file.

~~At~~ get to calcomp

may need automatic prod of names
want a ref list of ORL's

▷ RLink

DLX ← 'Rlink'

[1] ORL ← ~~DIS[3], DIS~~

DIS[3], DIS[4], DIS[5]

▷

Put in Sc's WS

check out Deqs and RTA vars
in stack program.

Sports & Computers

Can refereeing &/or scoring of sports be computerized.

↓
Diving
Gymnastics

Scoring of diving

perfect
compares a known dive ~~with~~ with points on body
to present dive and determines score
by difference of points

would need ~~about a~~ Thousand frames for 1 dive
100 → 10000

* a pattern recognition program which
would recognize body and ~~bring~~ get down
to certain ~~to~~ key ID points
Diver could put a certain color path on bathing suit
for a reference

need to classify bodies on basis of height & build
and probably a sh.thood of other factors
would be involved.

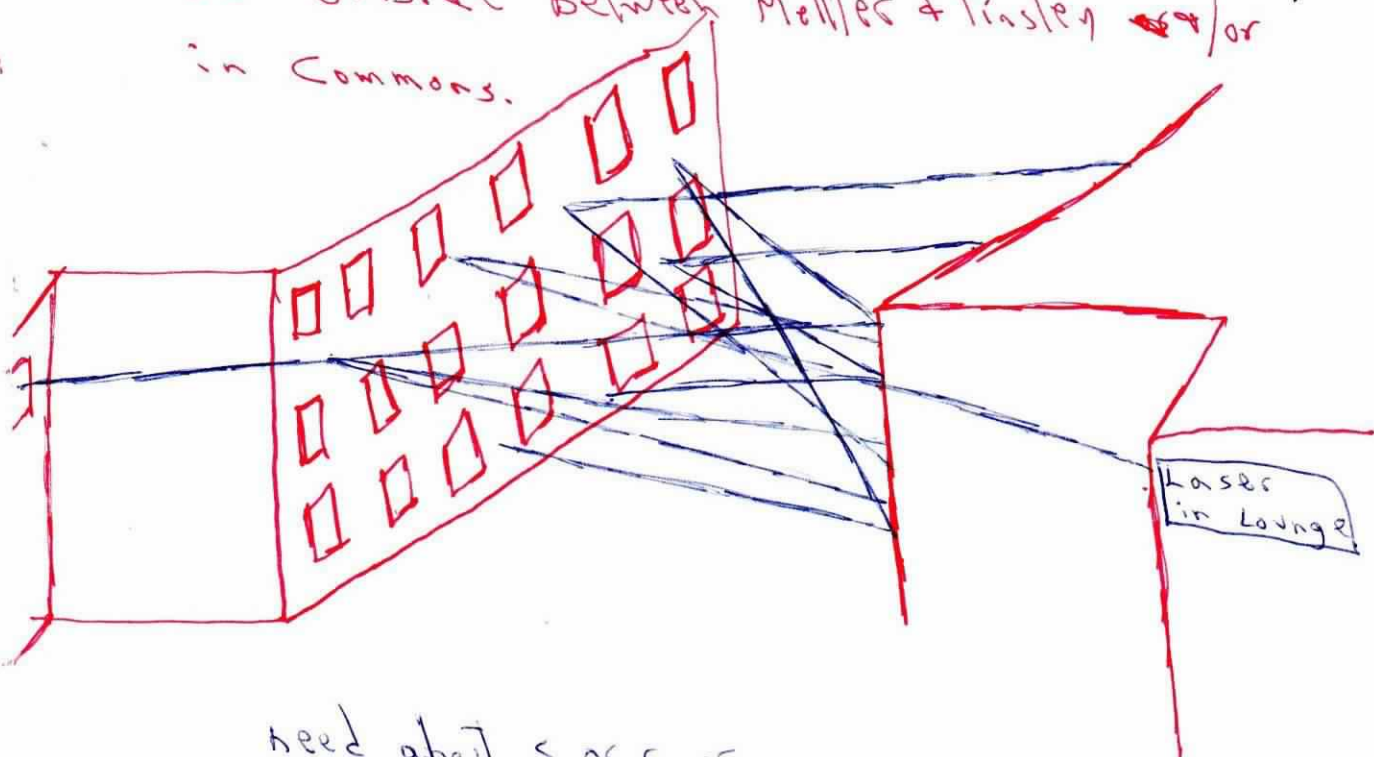
should be easy enough to determine angle of entrance of body into by a straight line interpolation of a few key points.

[could be a reference background or even just one point i.e. the edge of the diving board for calibration.]

~~1~~ 2 or 3 cameras can be used

Light Show

Laser light show which responds to music &/or some sequence. Show could be outside between Matthes + Tinsley &/or in Commons.



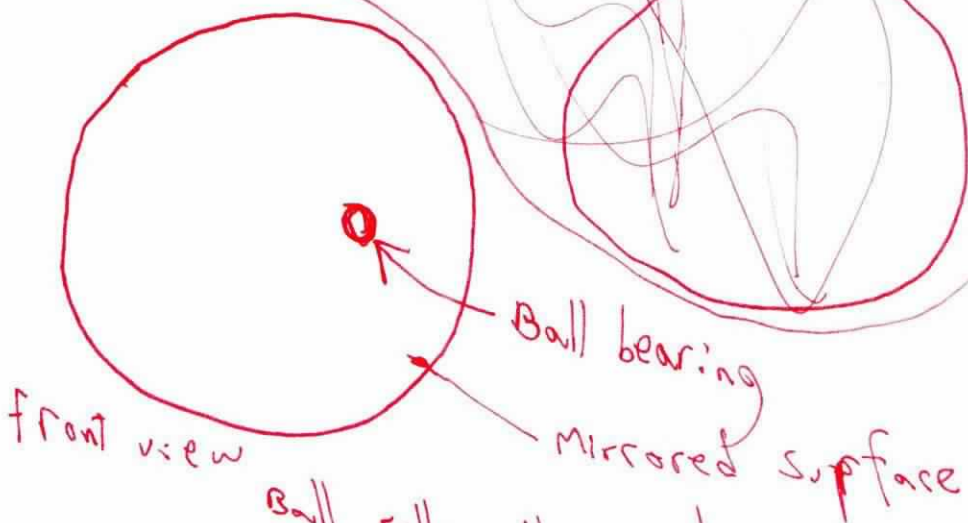
need about 5 or 6 or as many as possible lasers so when ~~the~~ one or two are off the whole light web doesn't collapse.

Sculpture



little tri moves around on surface

for no app



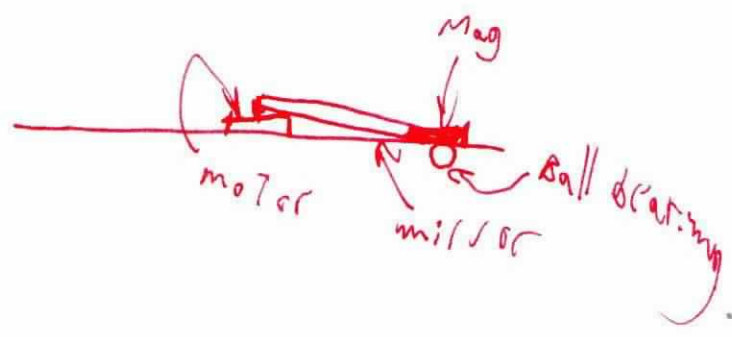
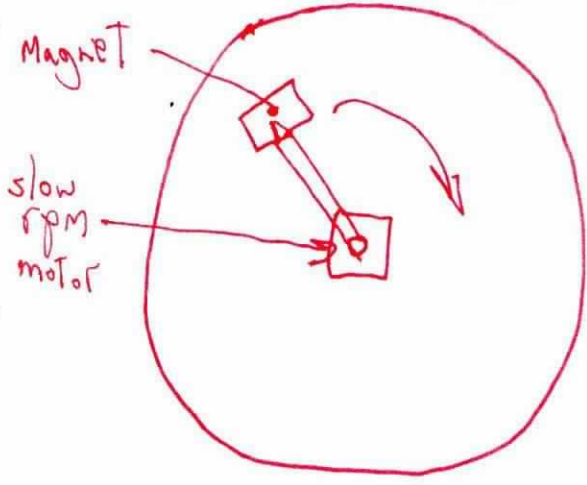
front view

Ball bearing
Mirrored surface

Ball rolls all around for no apparent reason
behind the scenes

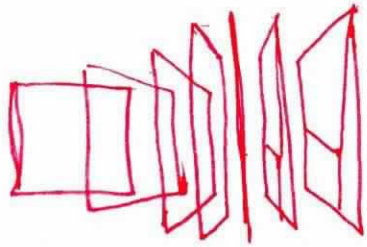
would be nice to get ball to follow an irregular track

electromagnet will be stronger

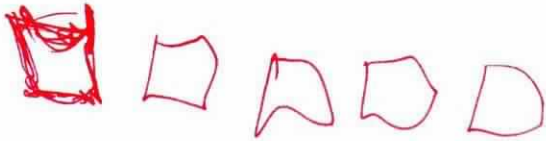


Computer ~~Area~~ Painting

Do a transformation



Do a 100 Sec's on a wall by projections

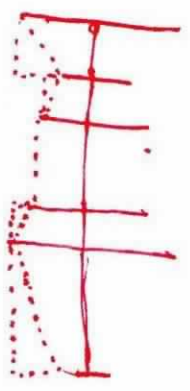
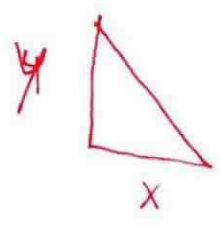


spray on emulsion & developer

still Flattening Sews



Dis
20
10
15
10
30



mid dis

- Get a Mat of connect lines
- Find Mid pts
- Find Distances between mid pt

$$\text{conn}[i][4] \leftarrow 0$$

$$\text{conn}[\text{count}][\text{count}+1][2]$$

$$\text{conn}[1][2] \leftarrow \text{conn}[1][2], 780, 0 \text{ put conn}[1][2]$$

$$\text{conn}[2][2] \leftarrow \text{conn}[2][2], 780, 0 \text{ put conn}[2][2]$$

Then move conn: 0, ~~7~~ / count ↑ Dis

-1 + 2 x 1 P Piece P 10

$$\frac{x' + x''}{2}$$

conmat ← LLine connect RLine

~~→~~

10. 40

mid ← 1 3 P 30

$$MD \leftarrow (conmat[I; 2] + conmat[I+1; 2]) \div 2$$

$$Y \leftarrow (conmat[I; 3] + conmat[I+1; 3]) \div 2$$

$$Z \leftarrow (conmat[I; 4] + conmat[I+1; 4]) \div 2$$

Mid ← Mid cat ~~1 3 P~~ X Y Z

$$\rightarrow (1 \uparrow P conmat \geq I \leftarrow I+1) / MD$$

Dis Mid

get a vector of distances MidV

$$conmat[j; 4] \leftarrow 0$$

$$Putter : conmat[j; 3] \leftarrow conmat[j; 2], 780, \text{ a put } conmat[j; 2]$$

$$\rightarrow (1 \uparrow P conmat \geq j \leftarrow j+1) / Putter$$

$$F: X: conmat[k; 2] \leftarrow (0, + / k \uparrow MidV) \text{ Move } conmat[k; 2]$$

$$\rightarrow (1 \uparrow P conmat \geq k \leftarrow k+1) / F: X$$

Draw conmat

cross sections of scvs

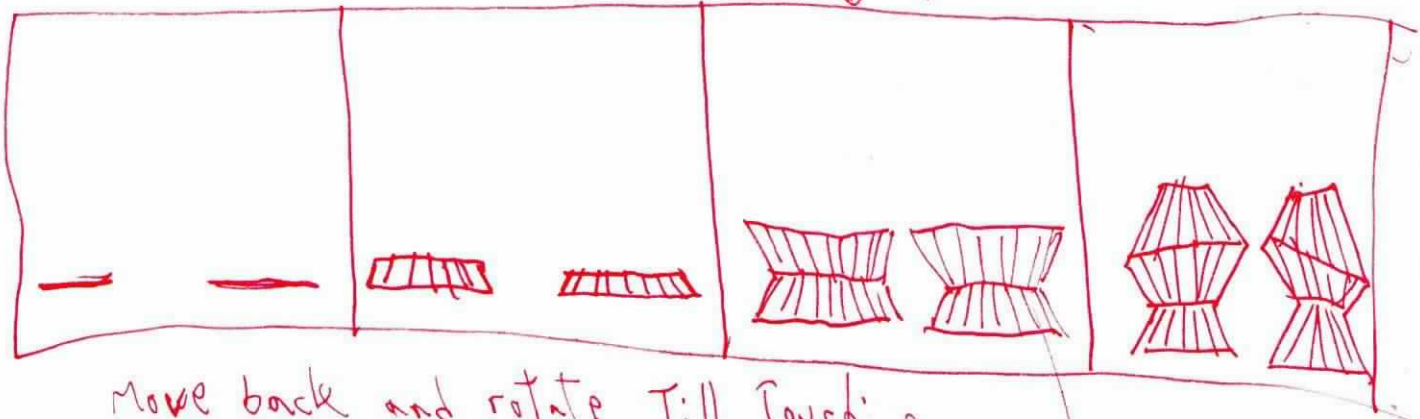
Just take ~~scvs~~ segs of price and

say

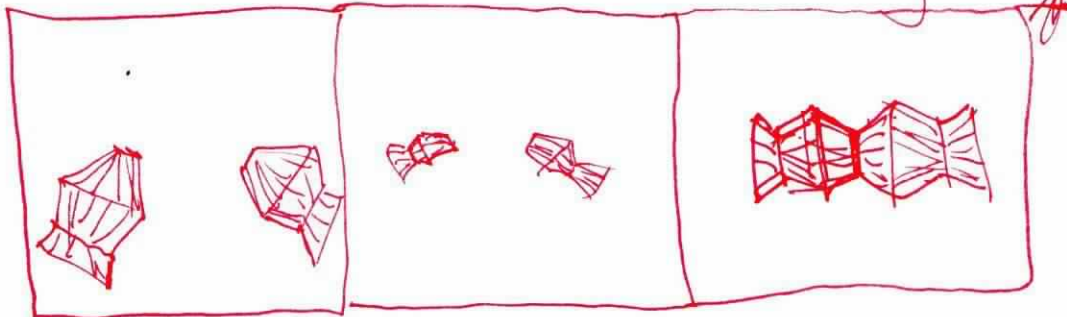
scvd seg

Movie

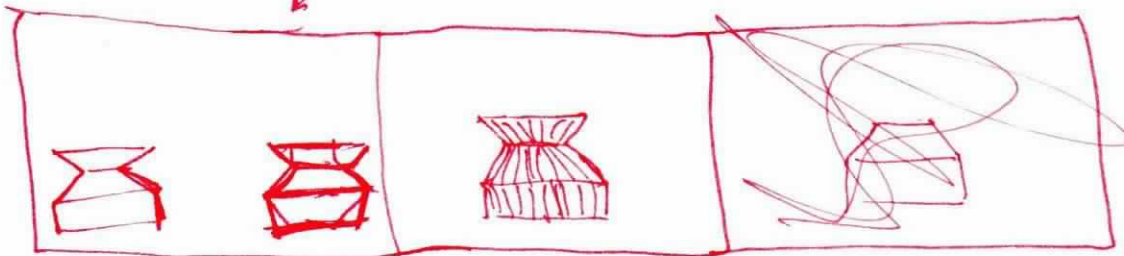
can have Two or X# of scv
growing from a line into a full scv
by scaling all the ^{cross} sections down to a line
and then having them scaled up one at a Time



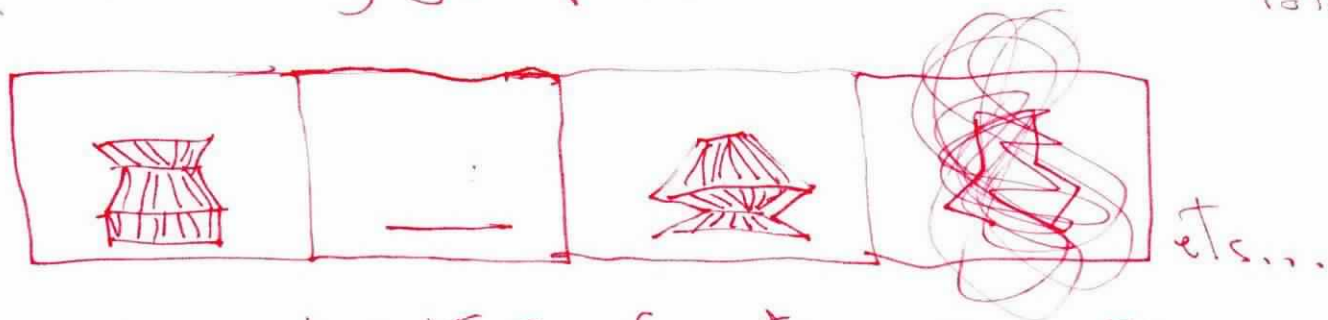
move back and rotate Till Touching



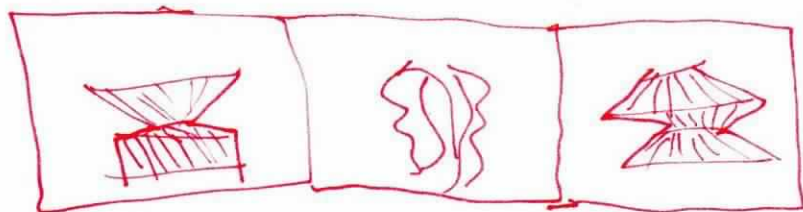
Transform To



Then shrink down to line
and grow up a different set for ~~total~~
about 10 times



Then straight transformations for 10 times α



Student Presentations at Conference

Show my films
Make video of a tutorial for Interest

Show man

Show sculptures

& Scr & variations books

get other peoples stuff.

Have a ~~expo~~ of peoples stuff advertising at H.A.
Hang up shit all over

Set up ~~one~~ ^{both} demo Textroics continuously running
& 4051

one 4013 can demo ABL pictures

one can demo dancing on G4010 stuff

Have a Table ~~for~~ with stuff for people to
browse through

Try to ~~protect~~ ^{video} my animations by not
getting a camera & filming the films.

get Larry's computer music
running in room

Take slides and have a multi-media show
Vertron can recite poetry

~~get some proof plots~~

See if calcomp can be moved into
a room for demo plots

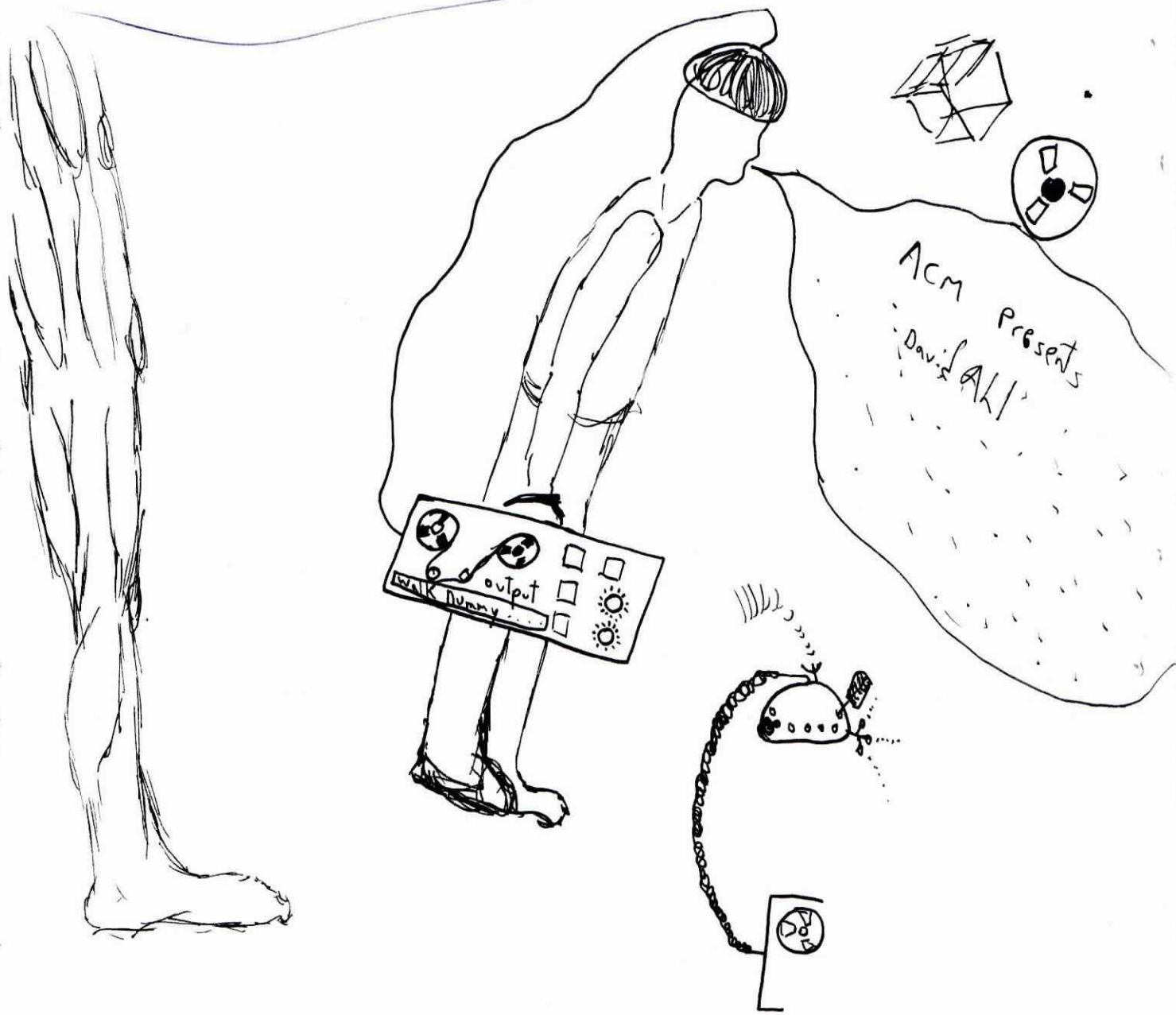
get some proof plots

do the mural

See Lyn best Manual, Hardcopy

Fix up calcomp plotting routine

set up about 5 Typing ball Terminals
all running using sv ~~is~~ a program which
sequences the terminals typing to a beat
or song kind of stick / someone can conduct
it a kind of computer event vortex can
also be involved. Singing



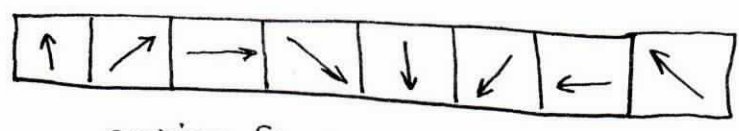
Video protections to fill room with light

Extend video games by putting optical (light sensitive) sensors around room

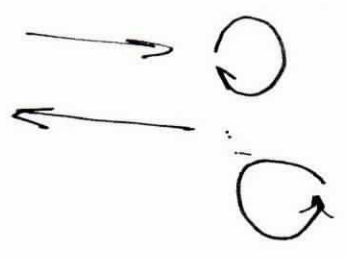
Project a little circle of light anywhere in room and can shoot at it. 30 skeet shooting targets

Target can react by breaking up when hit

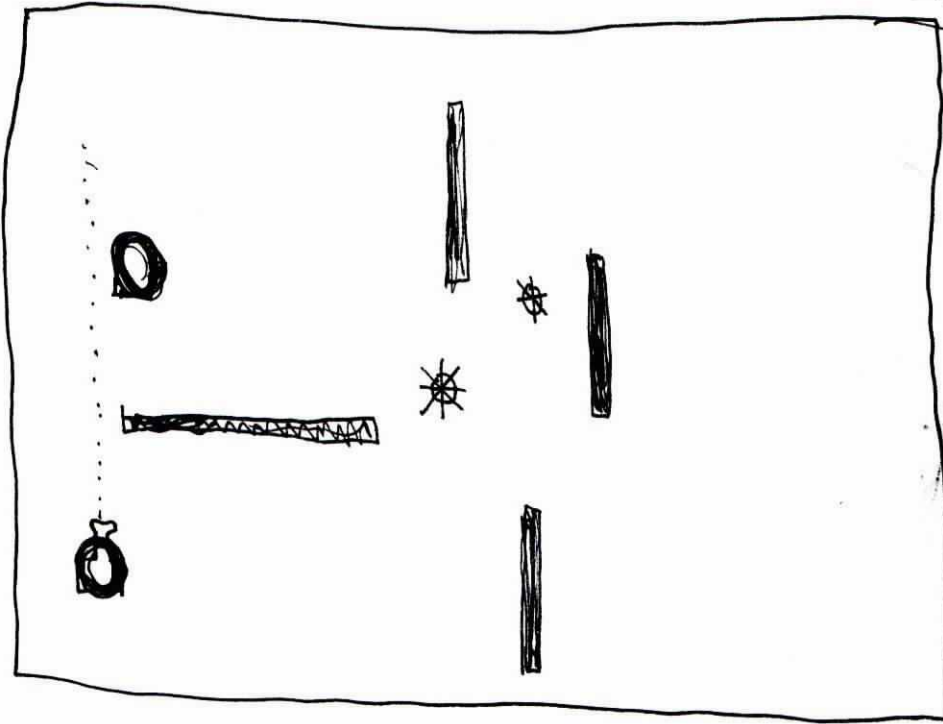
Pressure sensitive switches



running finger across cause complete circular motion



A chase game running through maze but maze can be changed by both players or more



chasers capabilities

5 shots a load

2 second delay between each load

Takes 2 hits on a wall to get rid of it

can leave a mine which takes up a shot but

can destroy himself

runners capabilities

can put up walls at rate of 2 initially and then 1 every 5 seconds has variable speed

can use a force field for total of 5 seconds

but it doesn't protect against mines

~~can activate a line segment of a grid covering~~

put up a wall by moving an arrow around and then pushing a button which makes a wall in the direction of arrow (4 direction) ↑ ↓ ← →

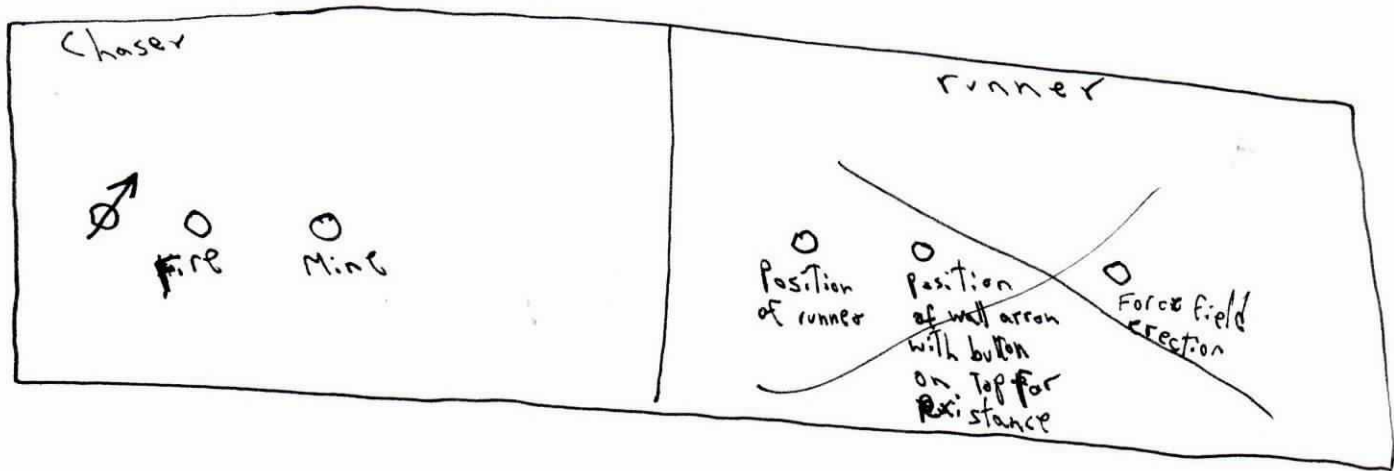
speed of moving arrow is very fast and position on screen controlled by Joystick.

chaser & runners movement controlled by Joystick
 walls disintegrate after 15 seconds of existence

Chasers Joystick has an arrow on top which shows position of gun

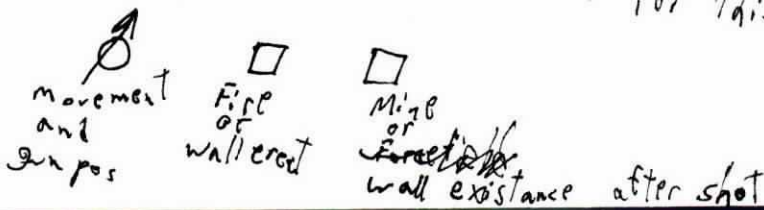


controls



would be better to erect a wall by kind of shooting it into existence

if runner can reach ~~the~~ a destination which is moving then the runner becomes the chaser need identical controls for this.



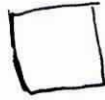
wall gets shot every 5 seconds and a stop button creates it
automatically



movement and
gun position



Fire
or
stop wall



Mine
or
Forcefield

may want
a separate dial for gun position

should be able to play by yourself against the computer

Automation of Scw production

create a new Scw file

▽ Auto

[1] Scw/g

[2] I ← 1

[3] I write ' '

[4] → ~~scw~~ (so ≥ I ← I+1) / scw/g

~~scw~~ stick to sub onto ~~scw/g~~ disk

For call program APLLOT

size

06

06

Colors

Black

Black

Black

} Repeat so Times

Using above method
can automate production of cut out pieces
or any thing on file.

Music for a dancing Figure(s)

~~relate~~ relate sounds qualities like volume pitch

To position of body

ie as the hip gets higher & higher (more y)
pitch goes up

or as hip gets moved more forward
(more or less z) volume increases

Do it in reverse

use musical pitches & volume whatever
to then change body positions !!