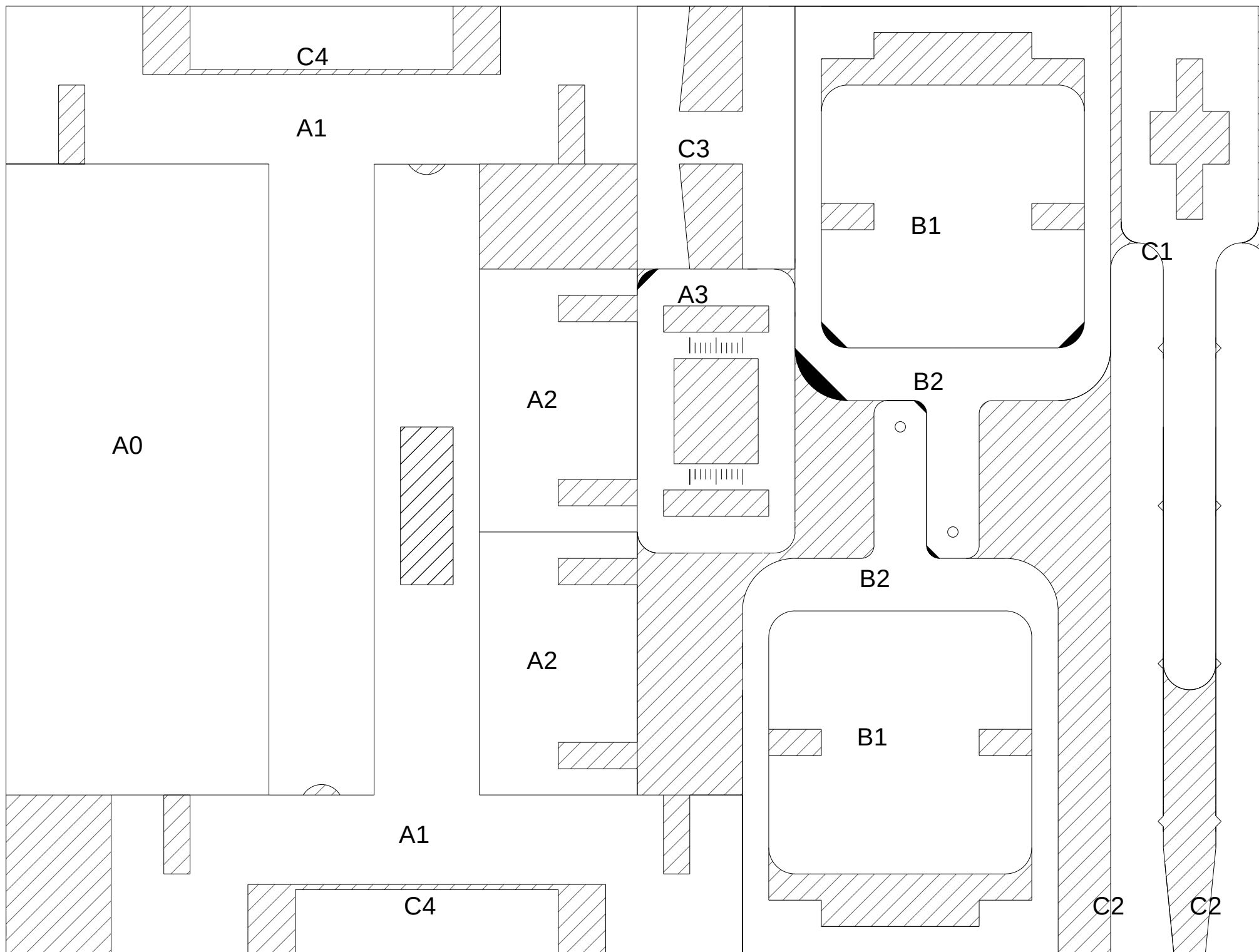


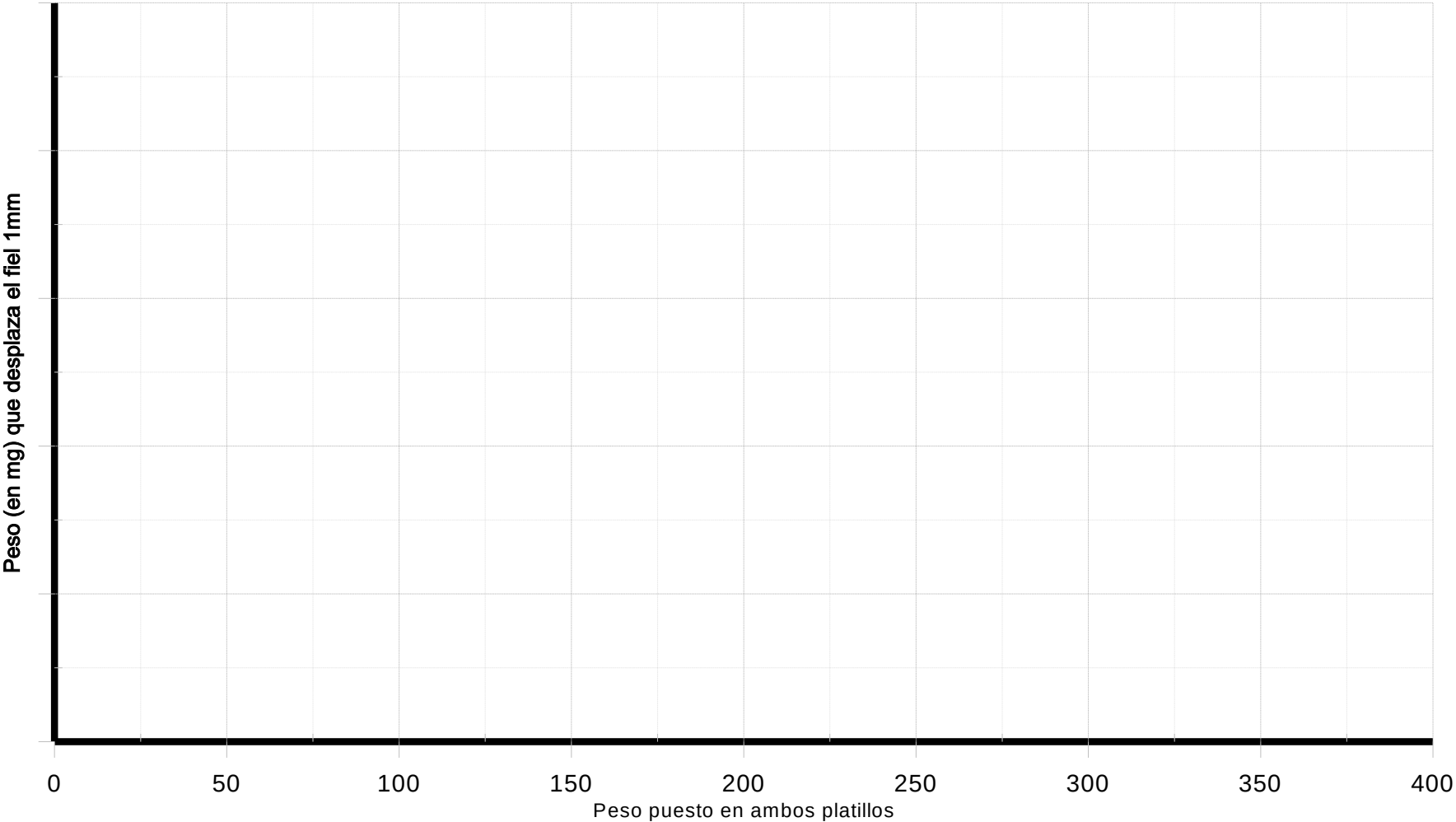
Materiales de Física
Básica tomados del
libro “Construcción de
material de bajo coste
para la Física de E.G.B.”
y otros posteriores
(1985-1996)

La balanza
Algunos diseños antes
y después de la patente
Calibración y juego de
pesas



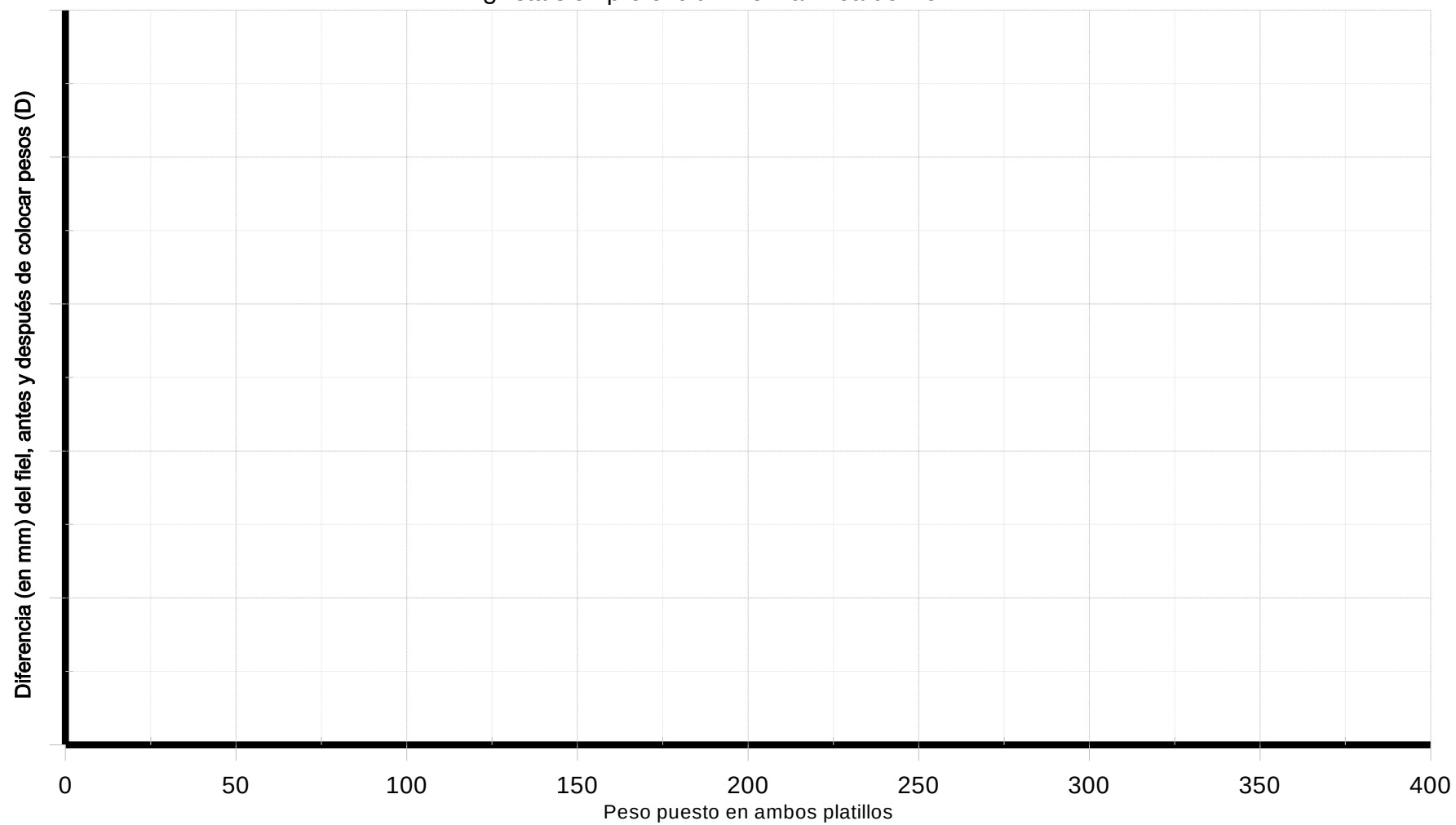
Gráfica para tablas 1 y 3

Sensibilidad de la balanza



Gráfica para tabla 2

¿Está siempre el c.d.m. en la línea del fiel?



(1/0)

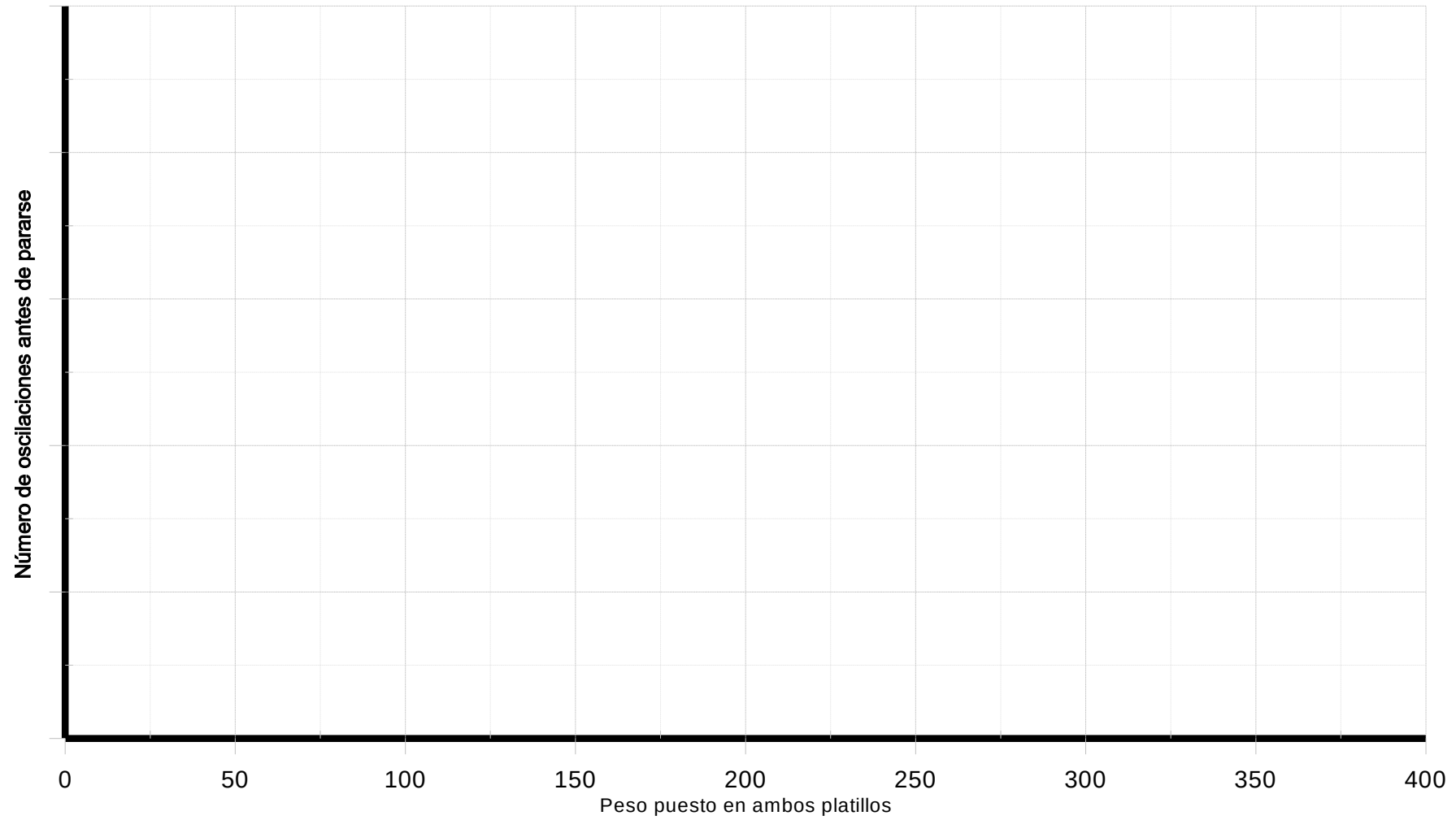
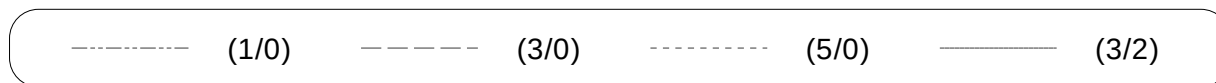
(3/0)

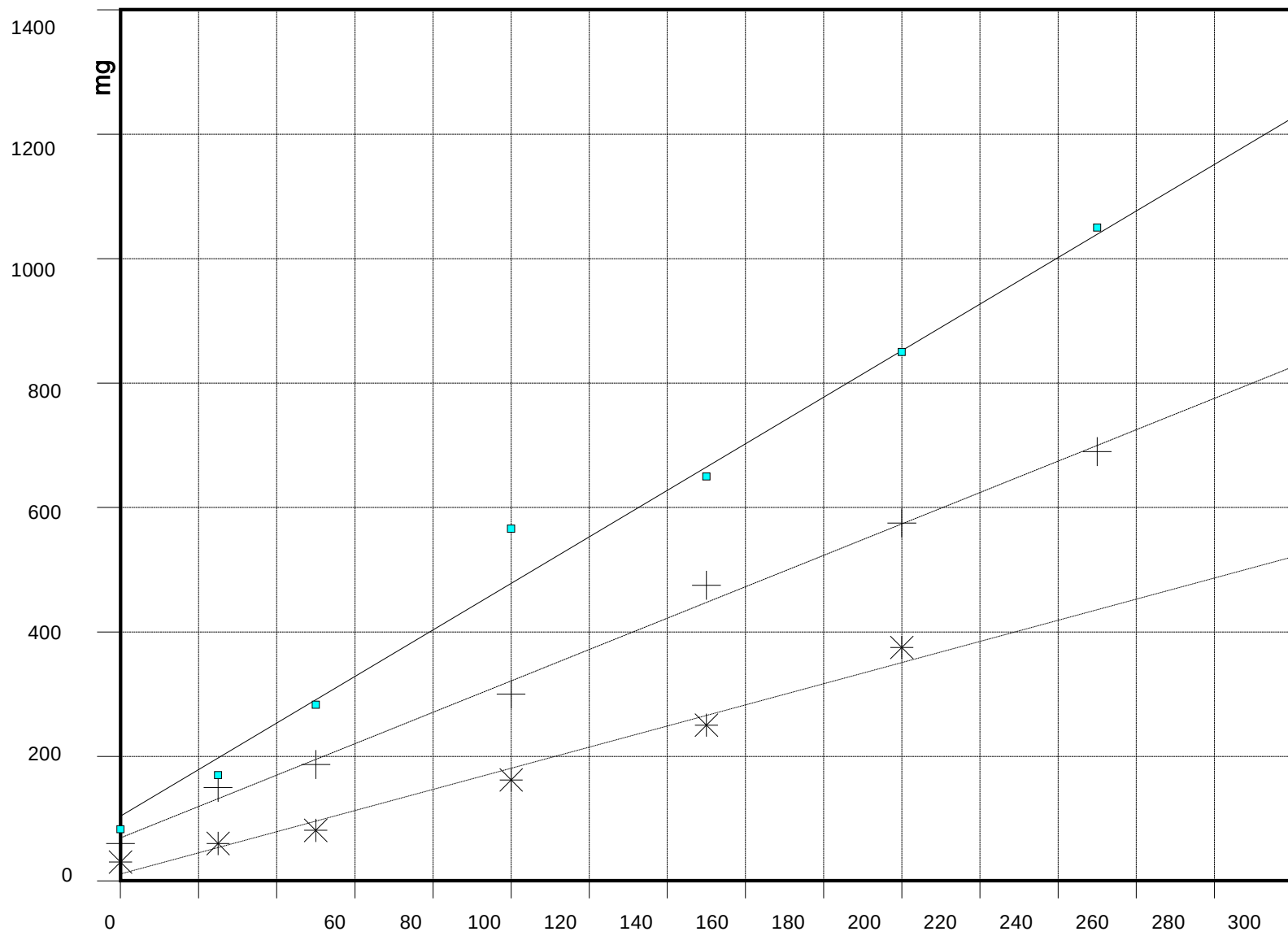
(5/0)

(3/2)

Gráfica para tabla 5

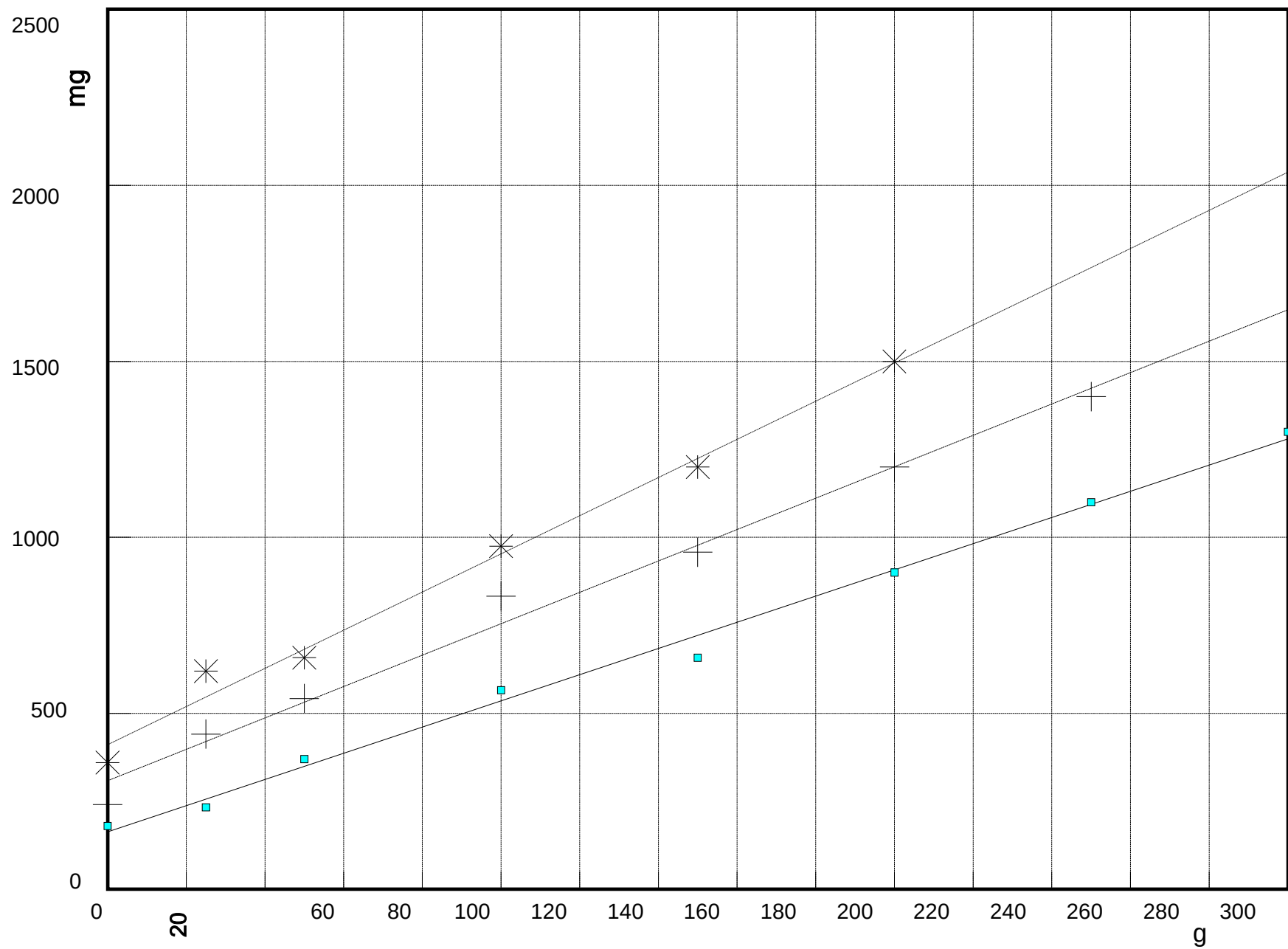
Fiabilidad de la balanza





20
40

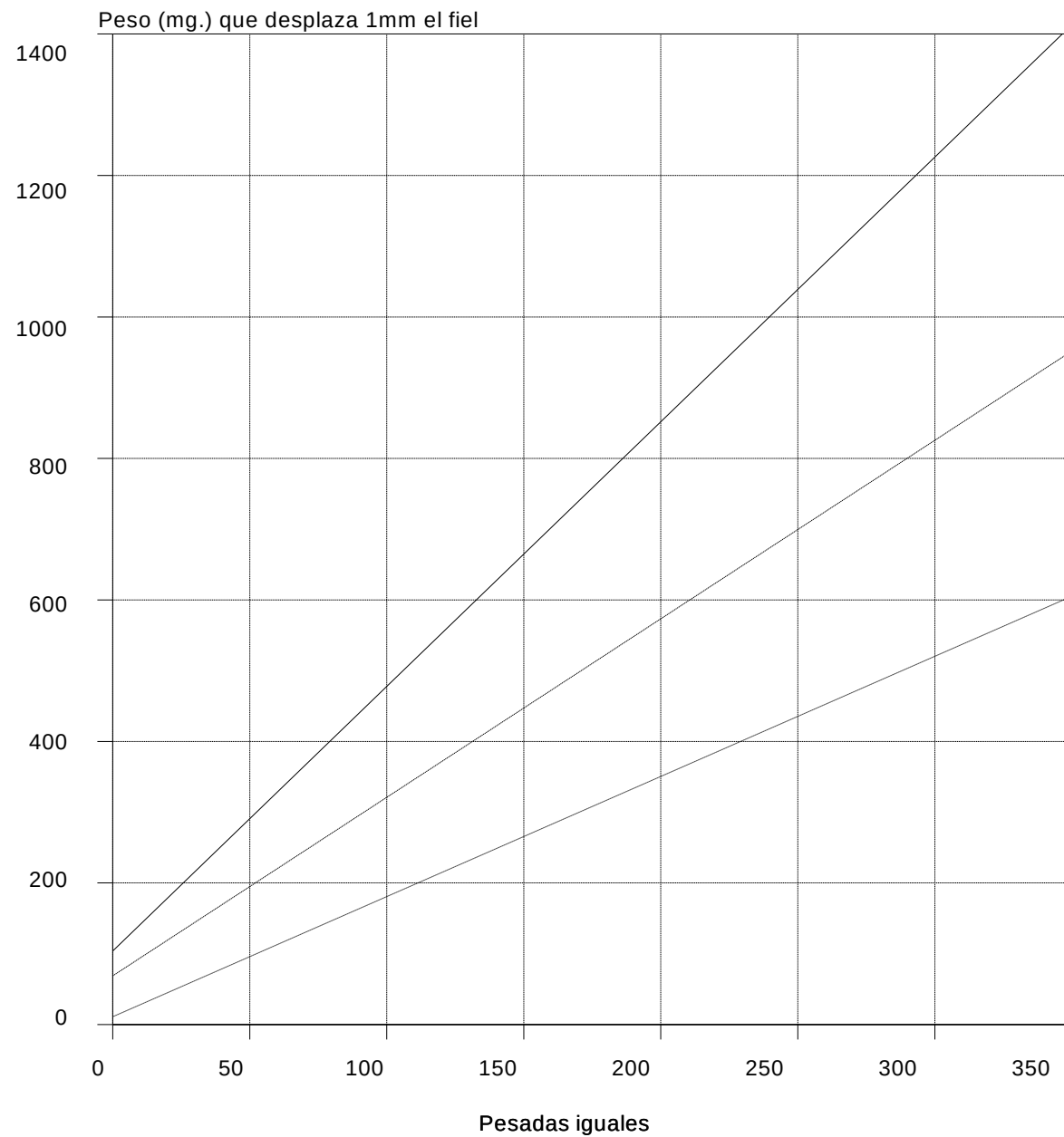
—■— Pivote 1 —+— Pivote 2 —*— Pivote 3



—■— Lastre de 12g

—+— Lastre de 24g

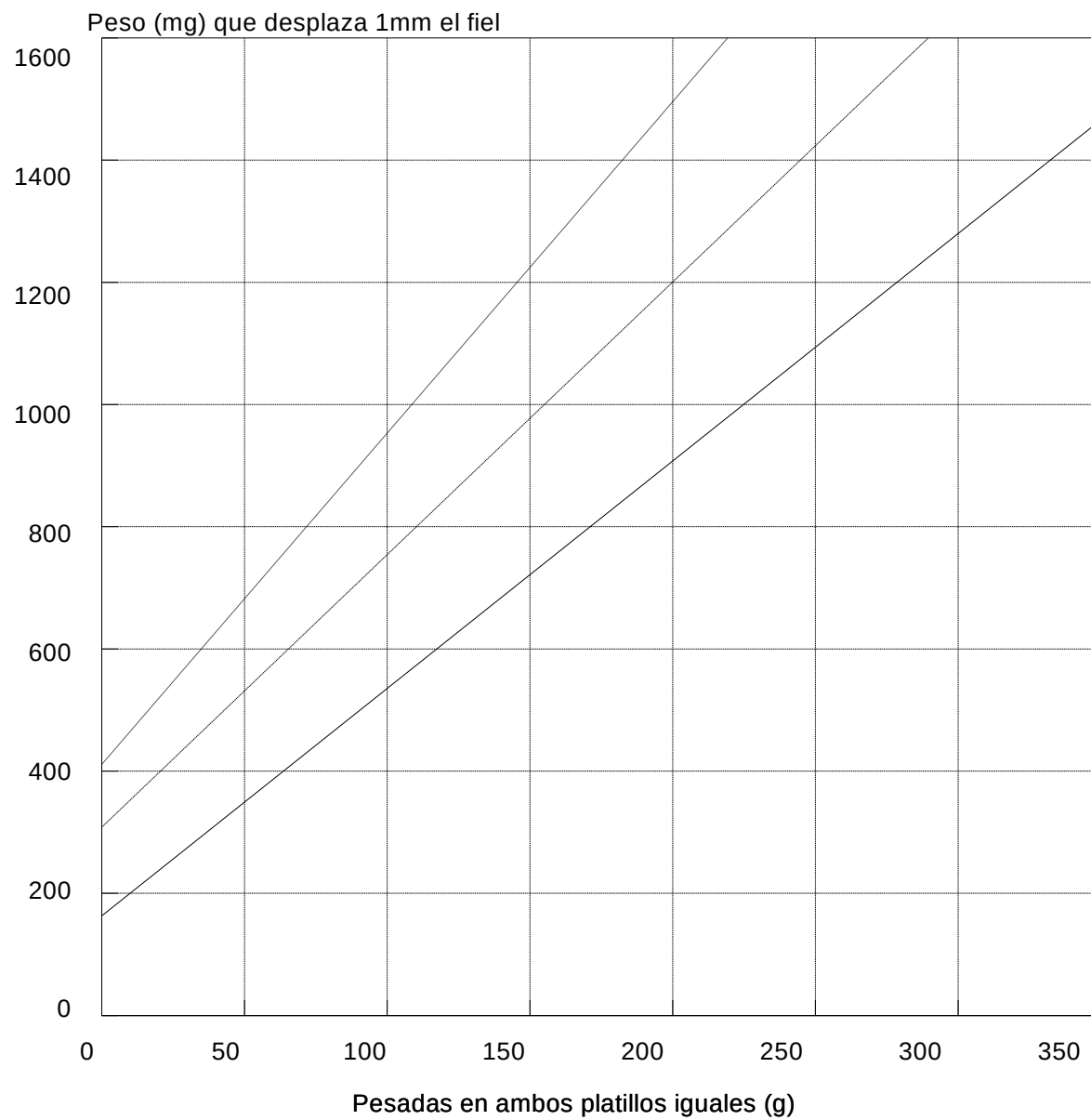
—*— Lastre de 36g



____ Pivote 1

____ Pivote 2

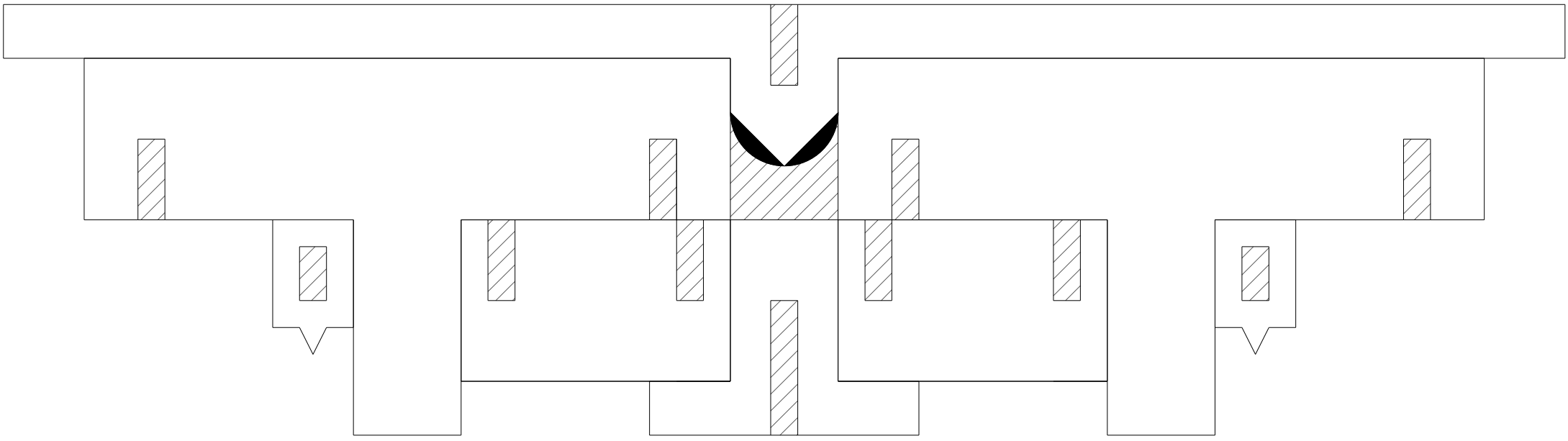
____ Pivote 3



_____ Lastre de 12g

_____ Lastre de 24g

_____ Lastre de 36g



BALANZA DIDACTICA DE PRECISION VARIABLE

 Nicolás Marín Martínez
Nº Pat. 9000043 y Nº de Publ. 2029569
Fecha de v.5: 27-9-93

1
2
3
4
5
6
7
8

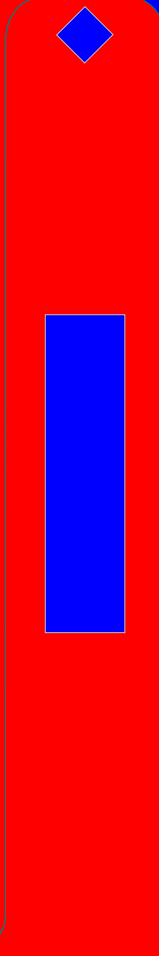
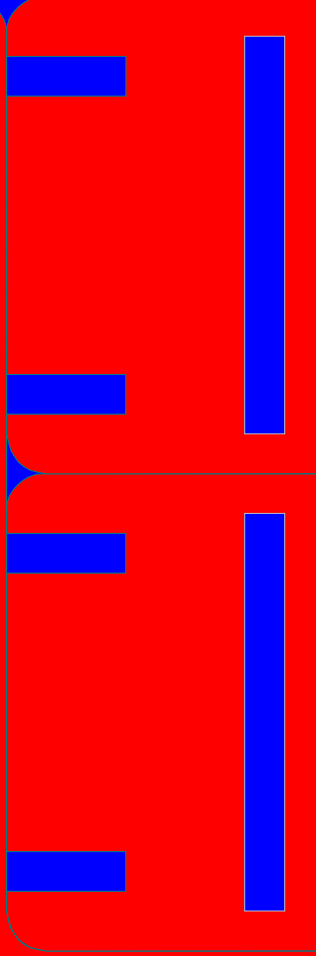
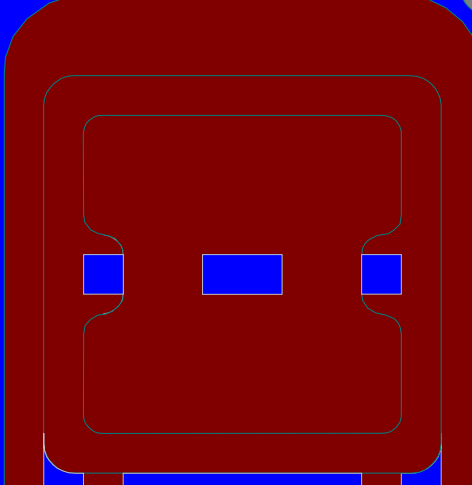
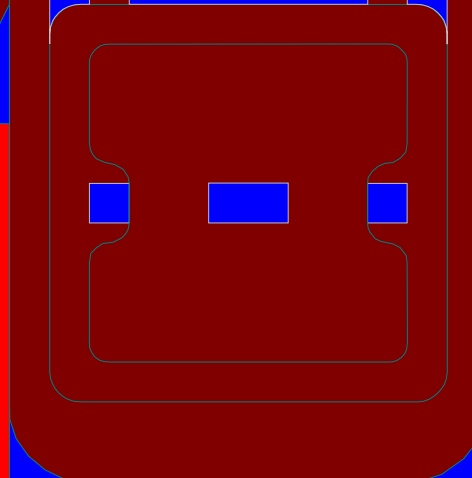
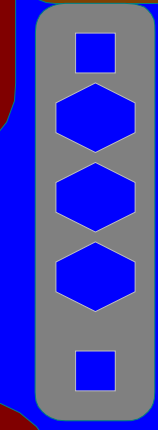
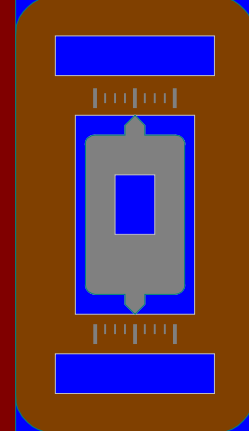
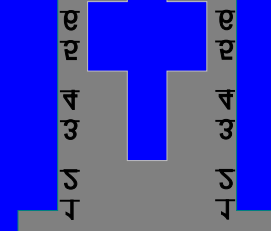
1
2
3
4
5
6
7
8

BALANZA DIDACTICA DE PRECISION VARIABLE

 Nicolás Marín Martínez

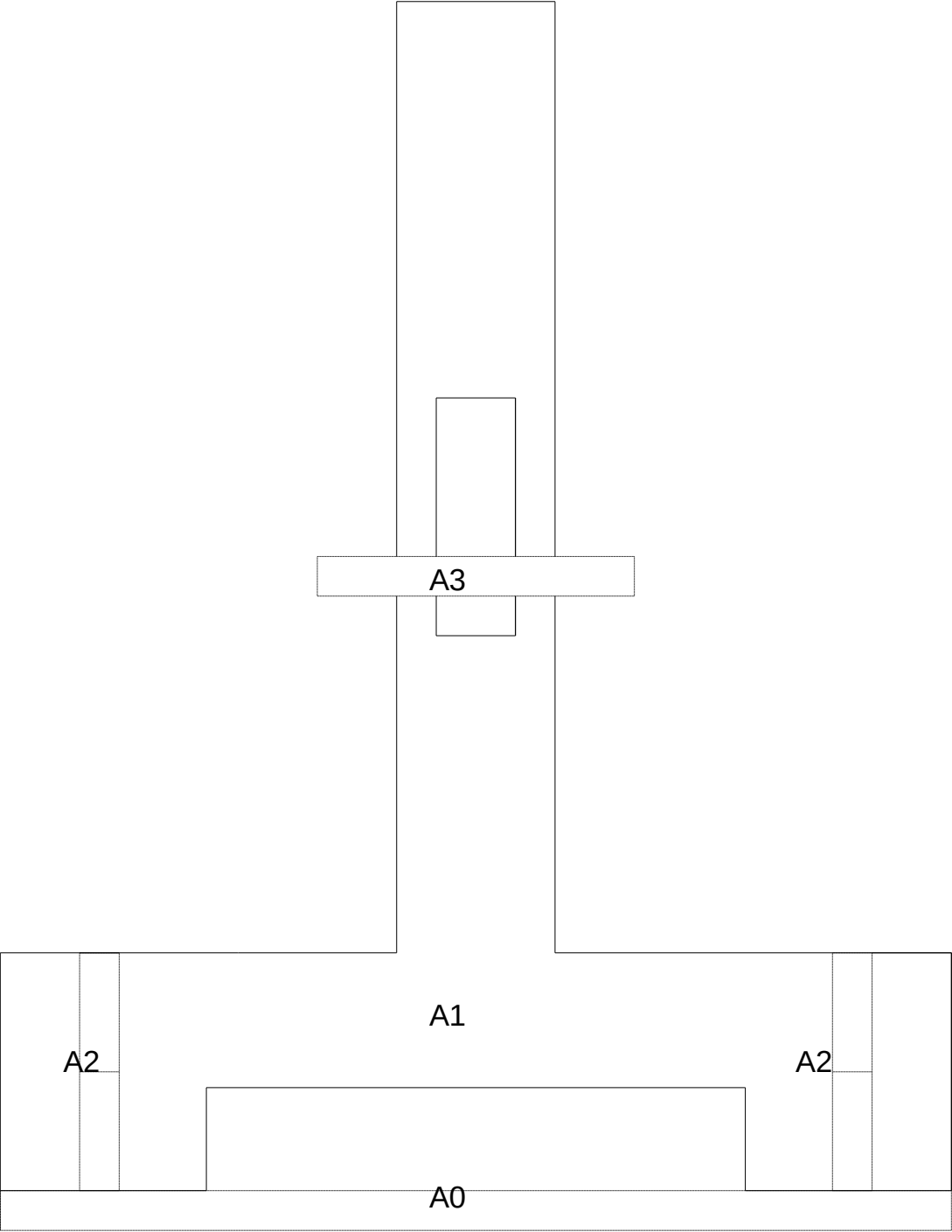
Nº de Pat. 9000043 y Nº de Publ. 2029569

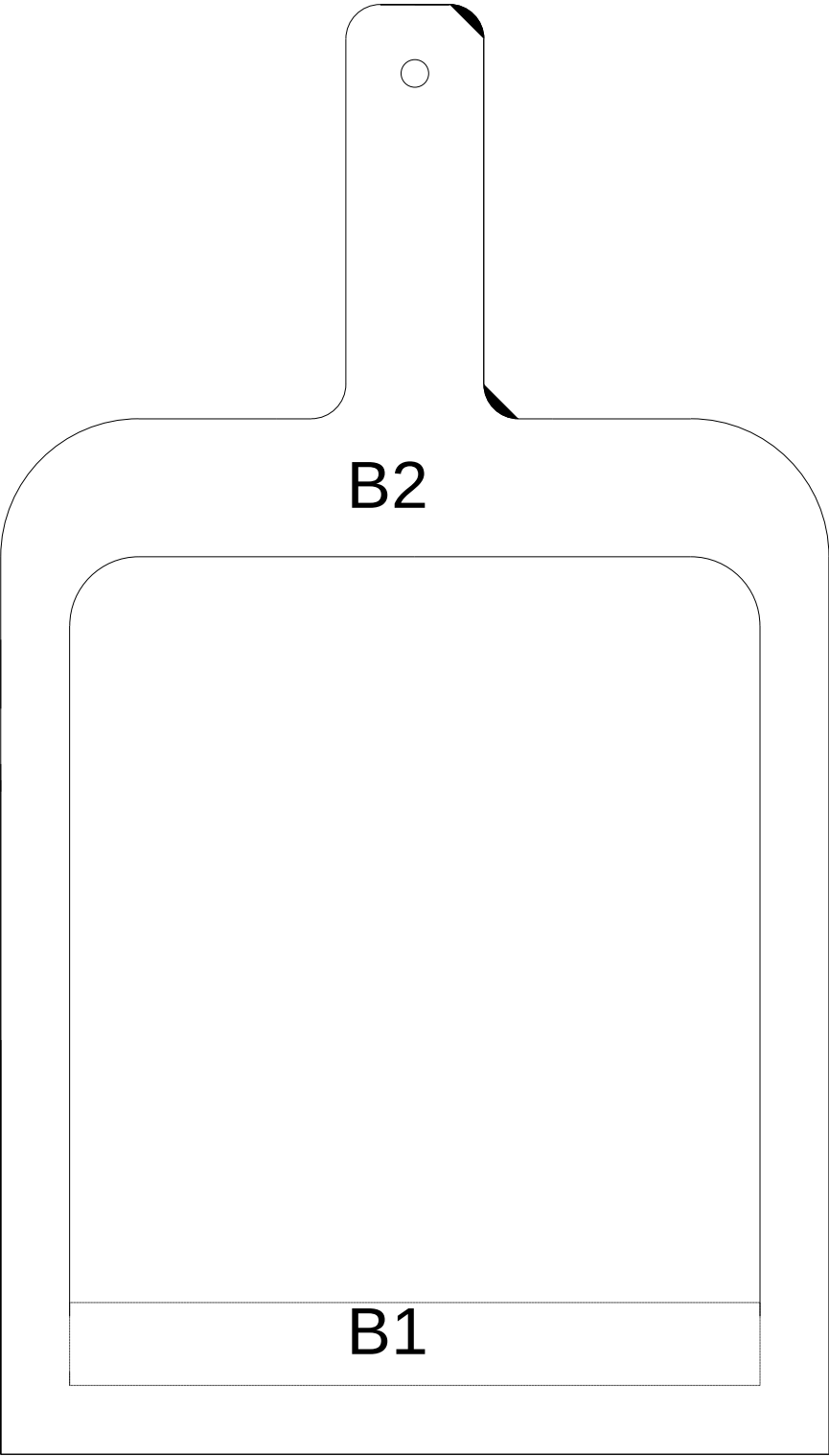
Fecha de versión 5: 27-9-93

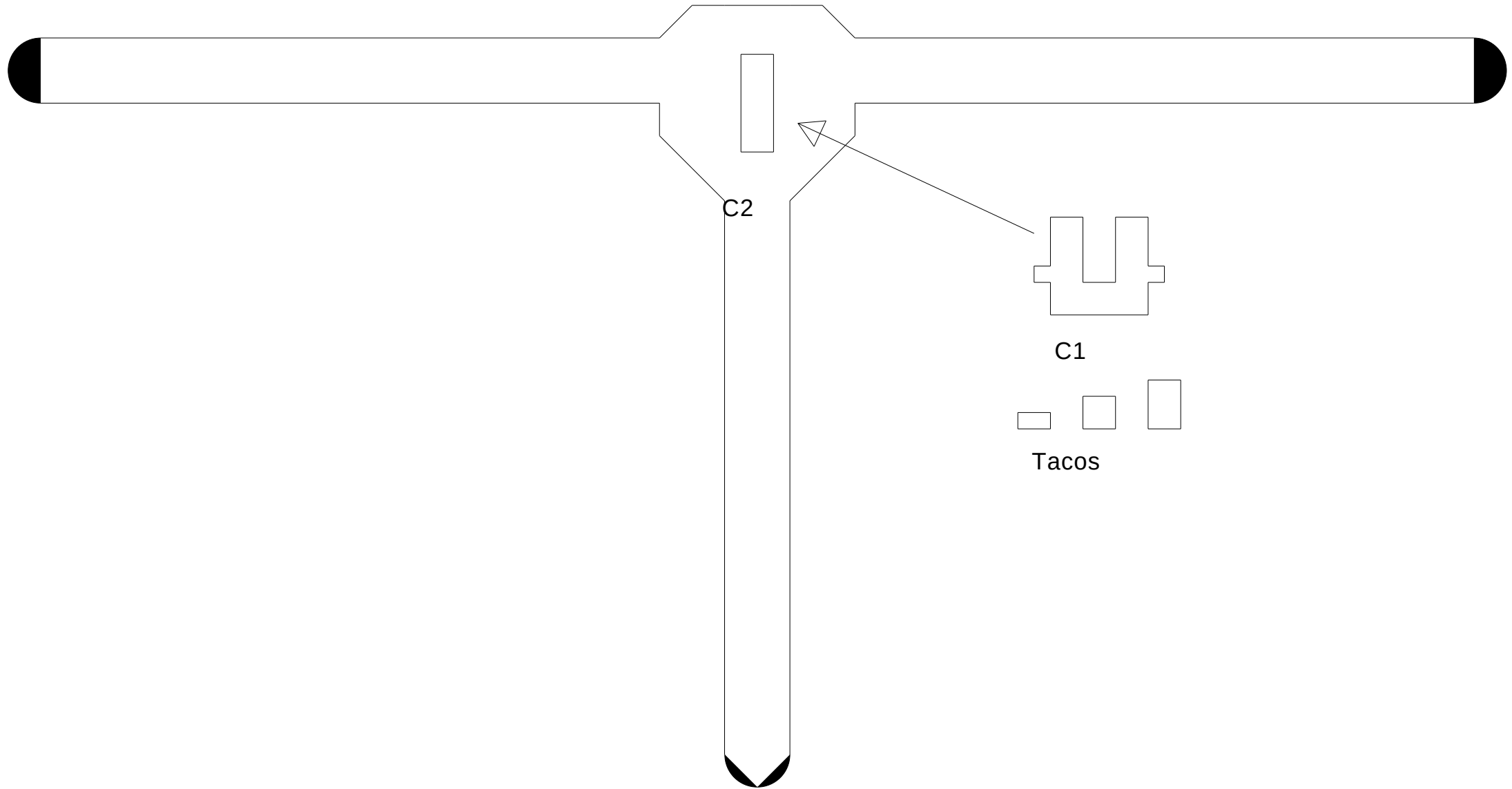


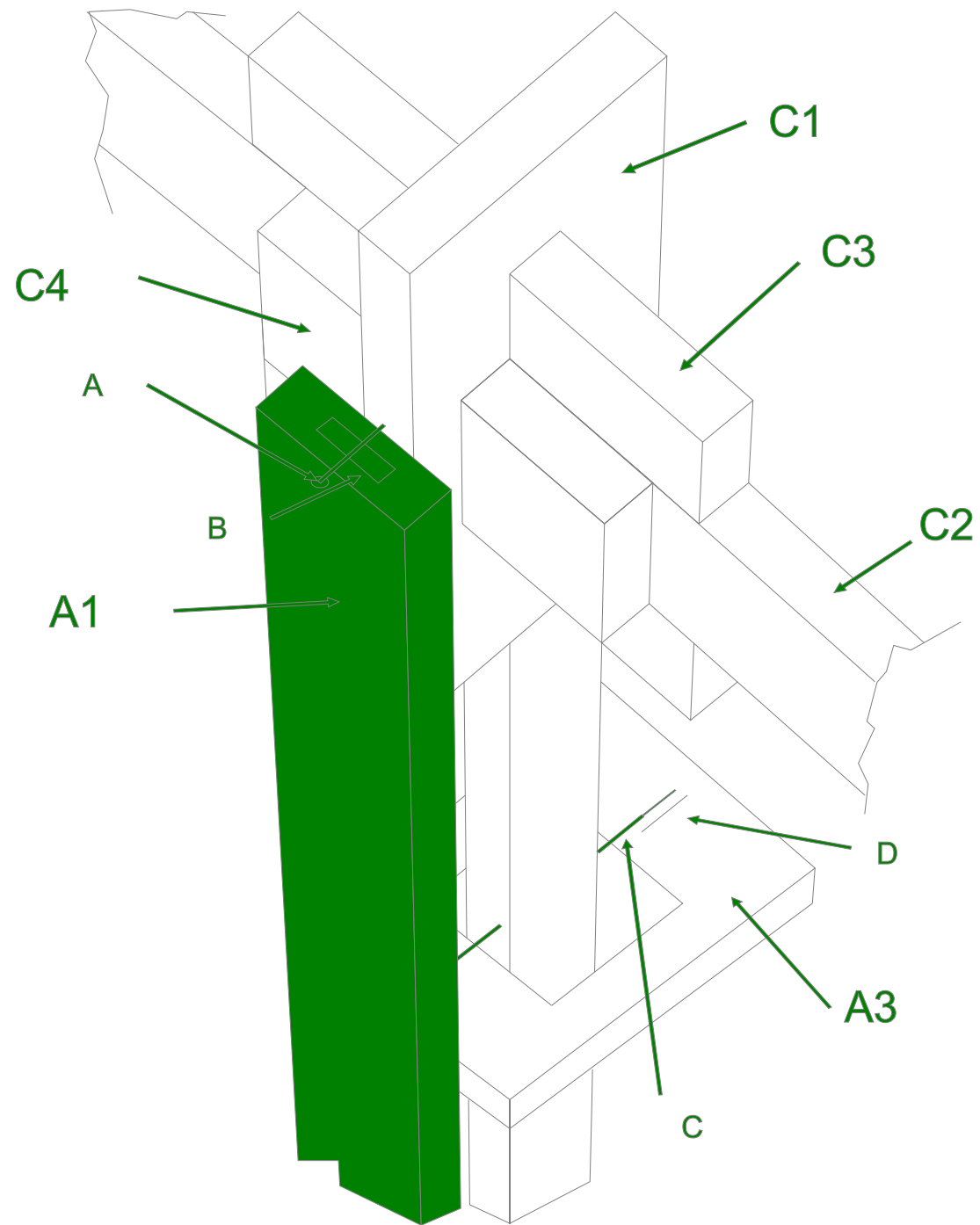
BALANZA DE PRECISION VARIABLE
Nicolás Marín Martínez
Patente nº 9000043
27-9-93

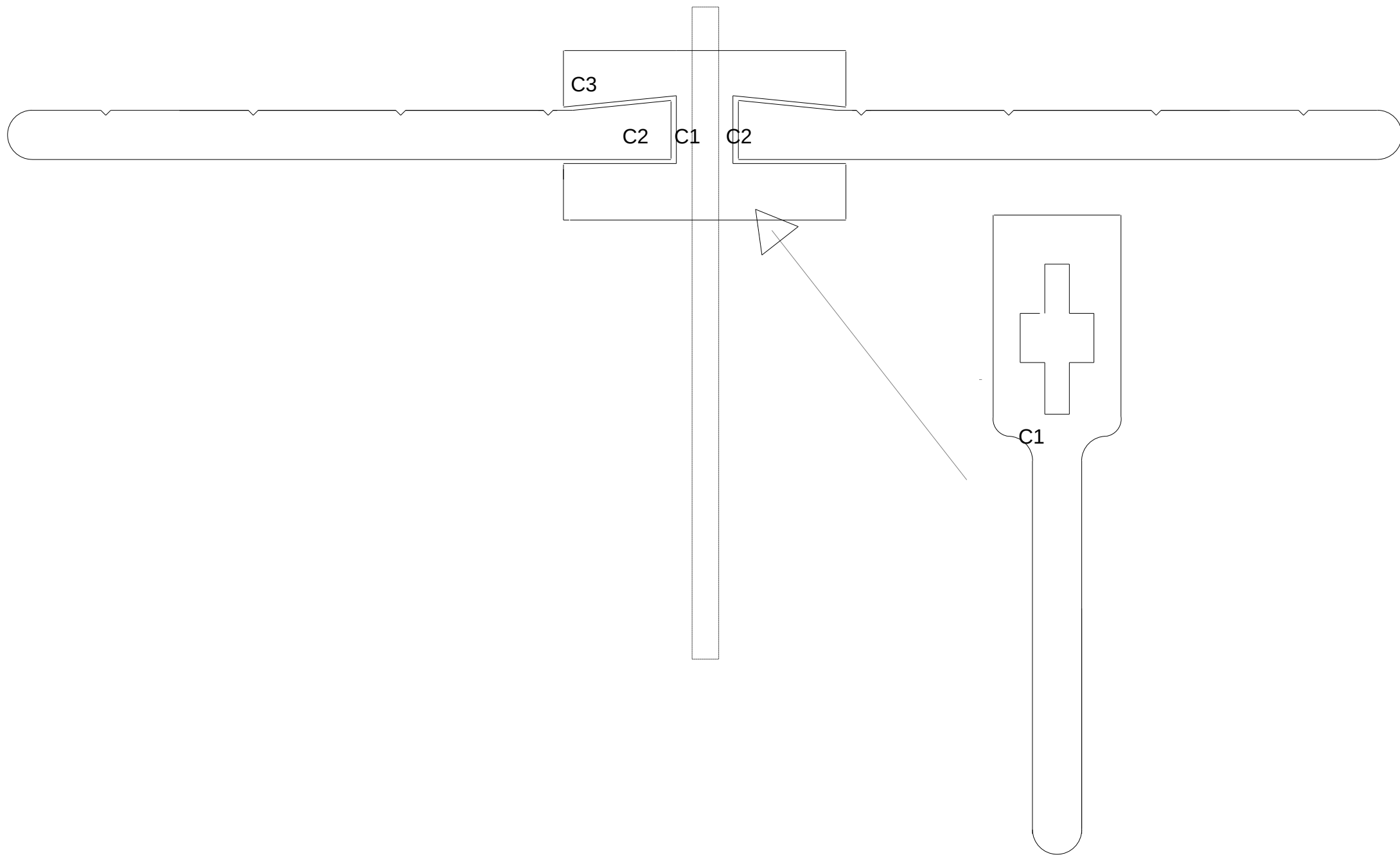
6 5 4 3 2 1
6 5 4 3 2 1





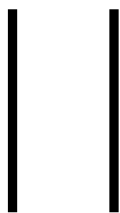




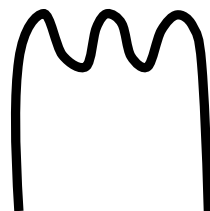




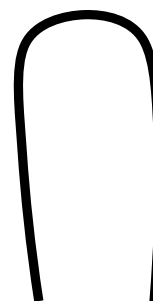
5cg (2)



10cg (2)



30cg



30cg



1g



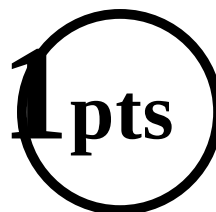
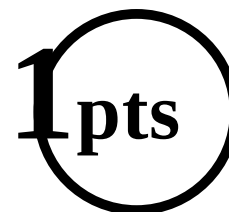
90cg



70cg

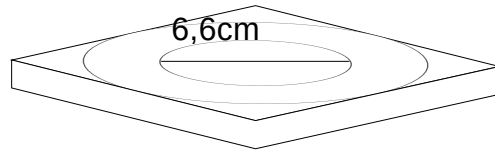


50cg

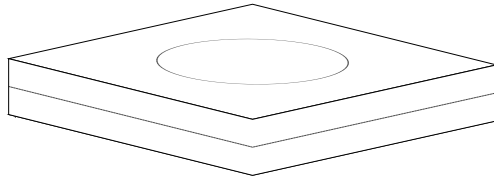


Calorímetro (versión
mejorada del libro)
Algunas calibraciones

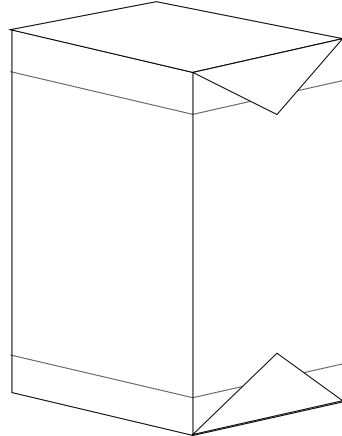
Bloque de corcho blanco de
9,92cm x 9,92cm x 2cm



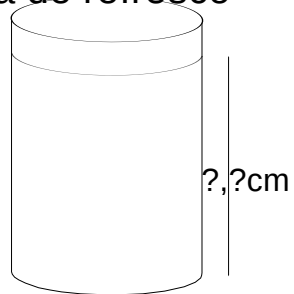
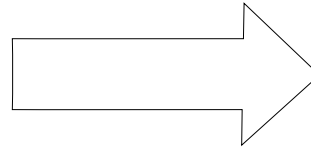
Bloque de corcho blanco de
9,92cm x 9,92cm x 5cm



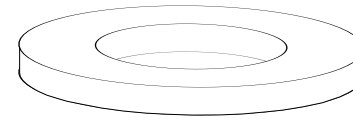
Envase de tetrabrik



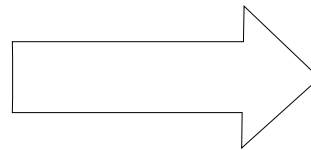
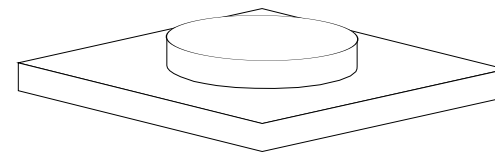
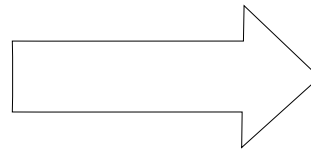
Lata de refresco



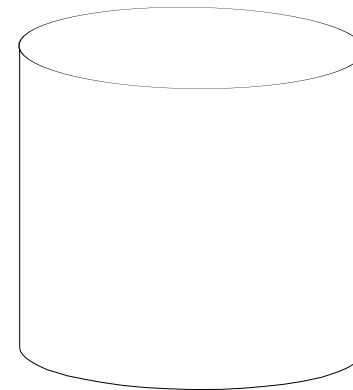
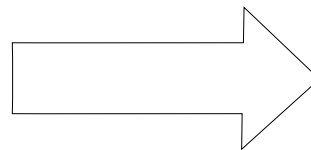
Corona circular
(2 piezas)



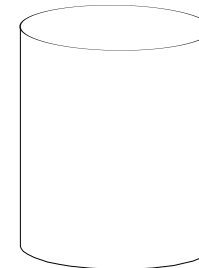
Tapón
(1 pieza)

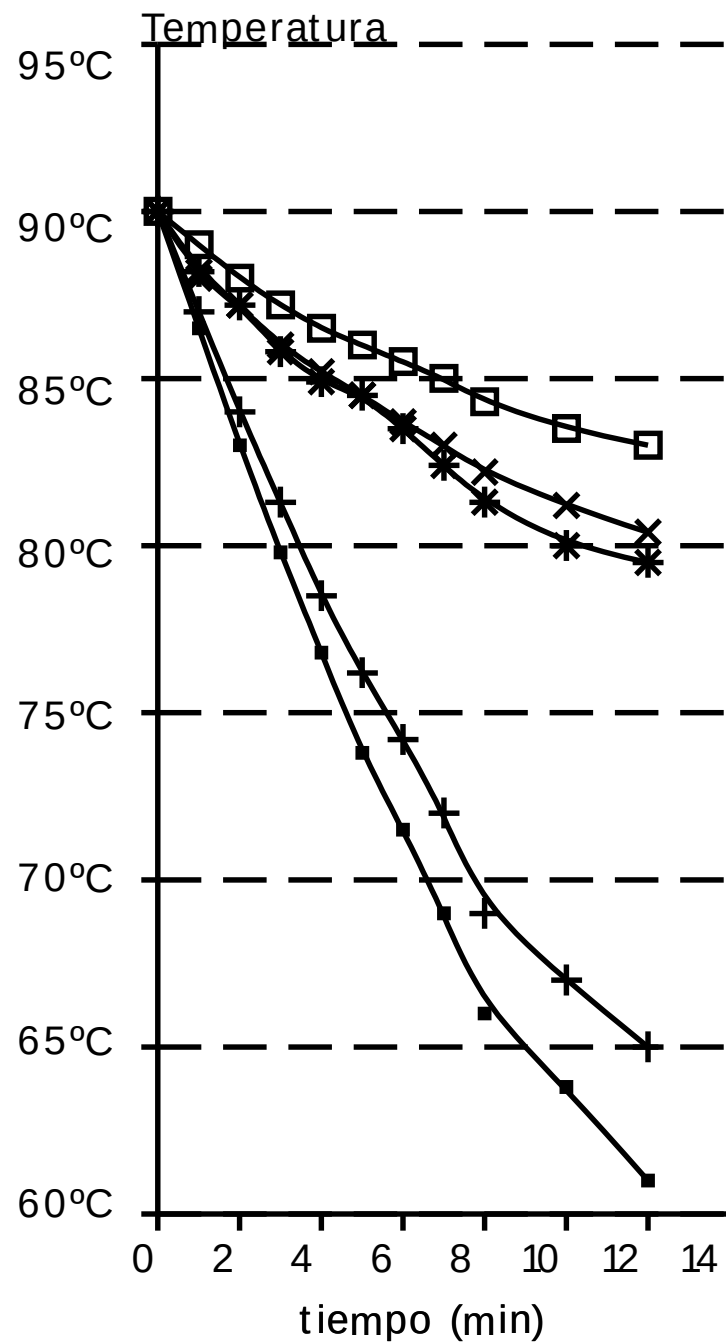
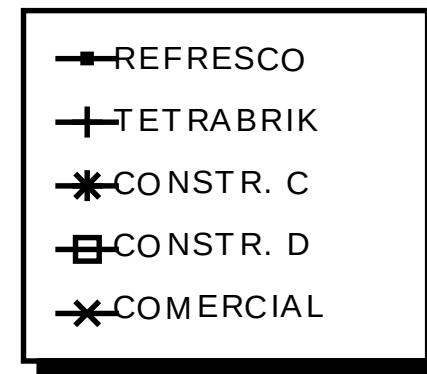


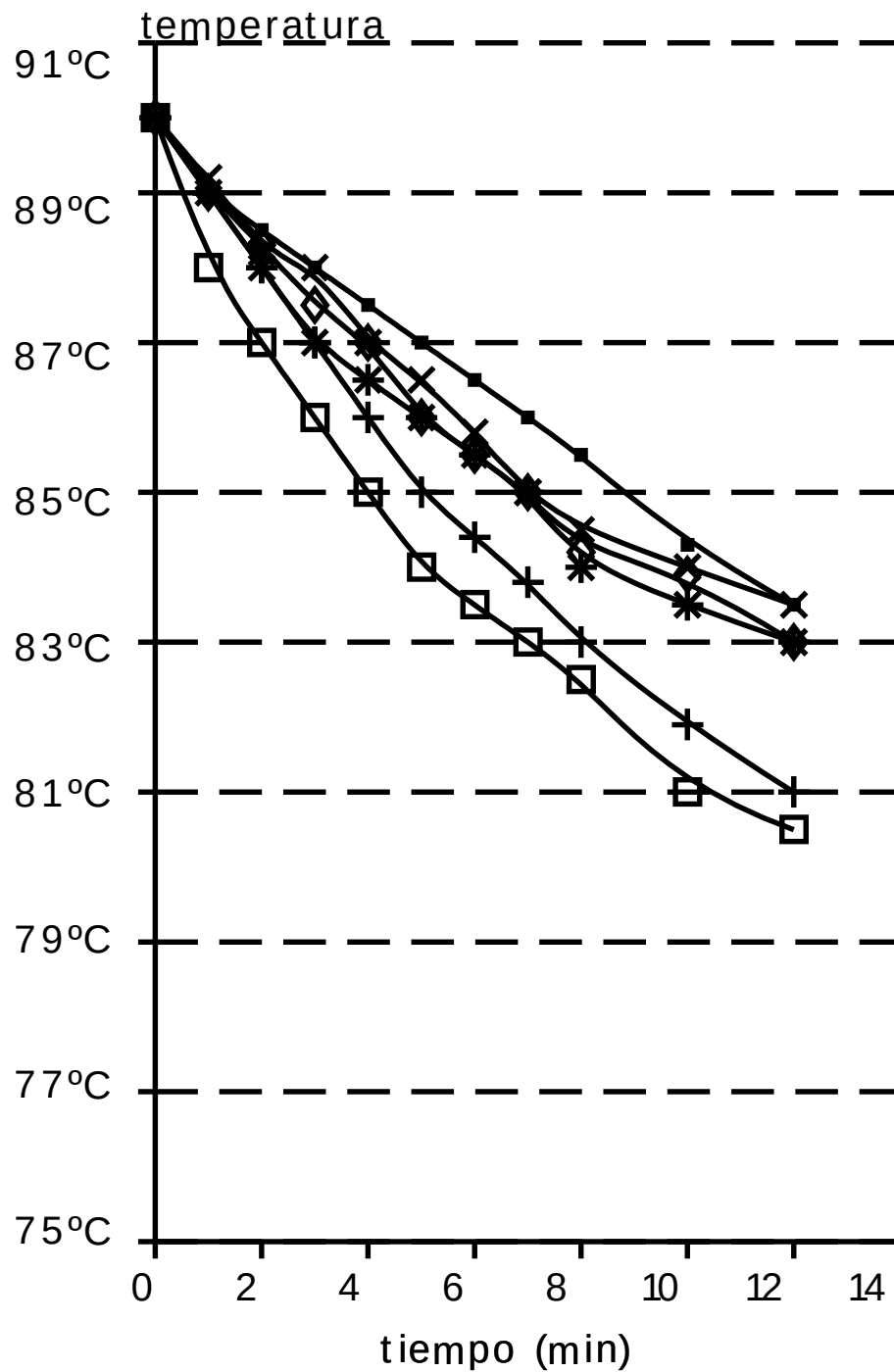
Cilindro exterior



Cilindro interior

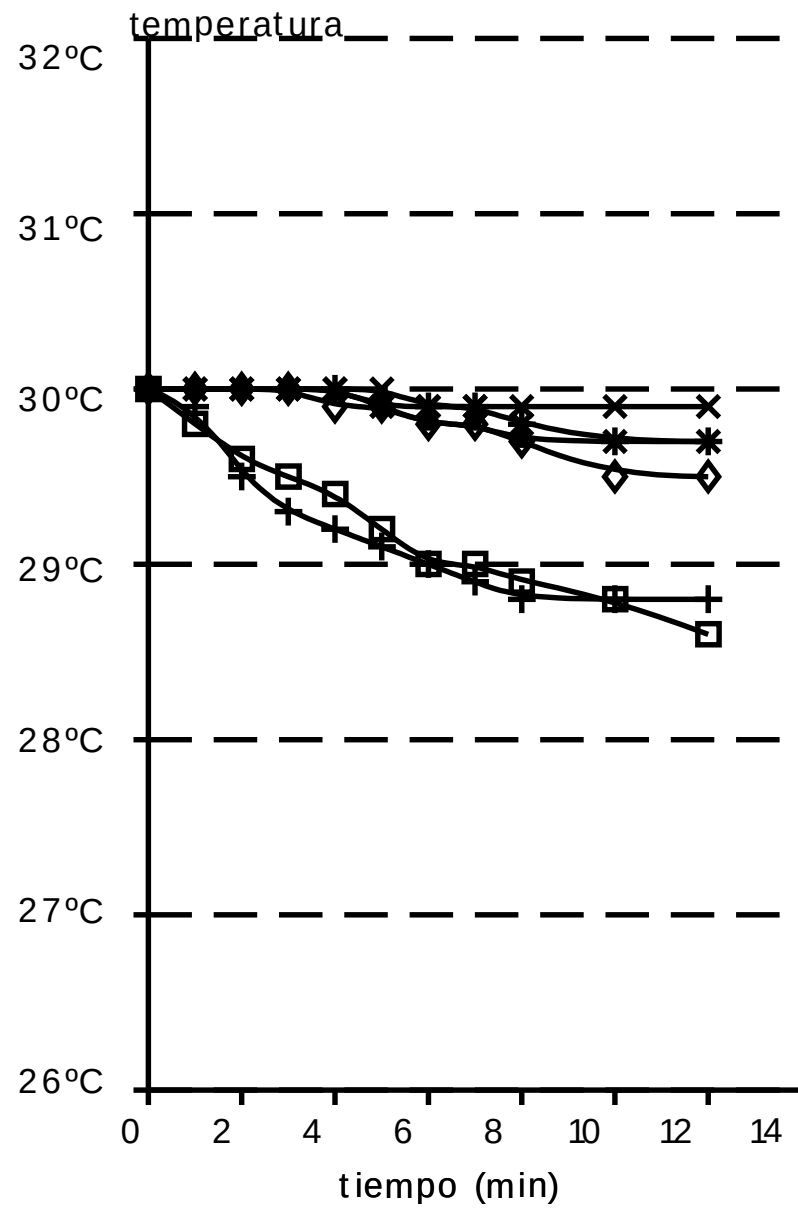
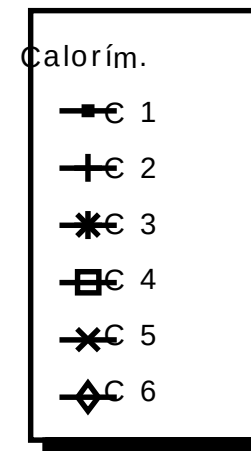


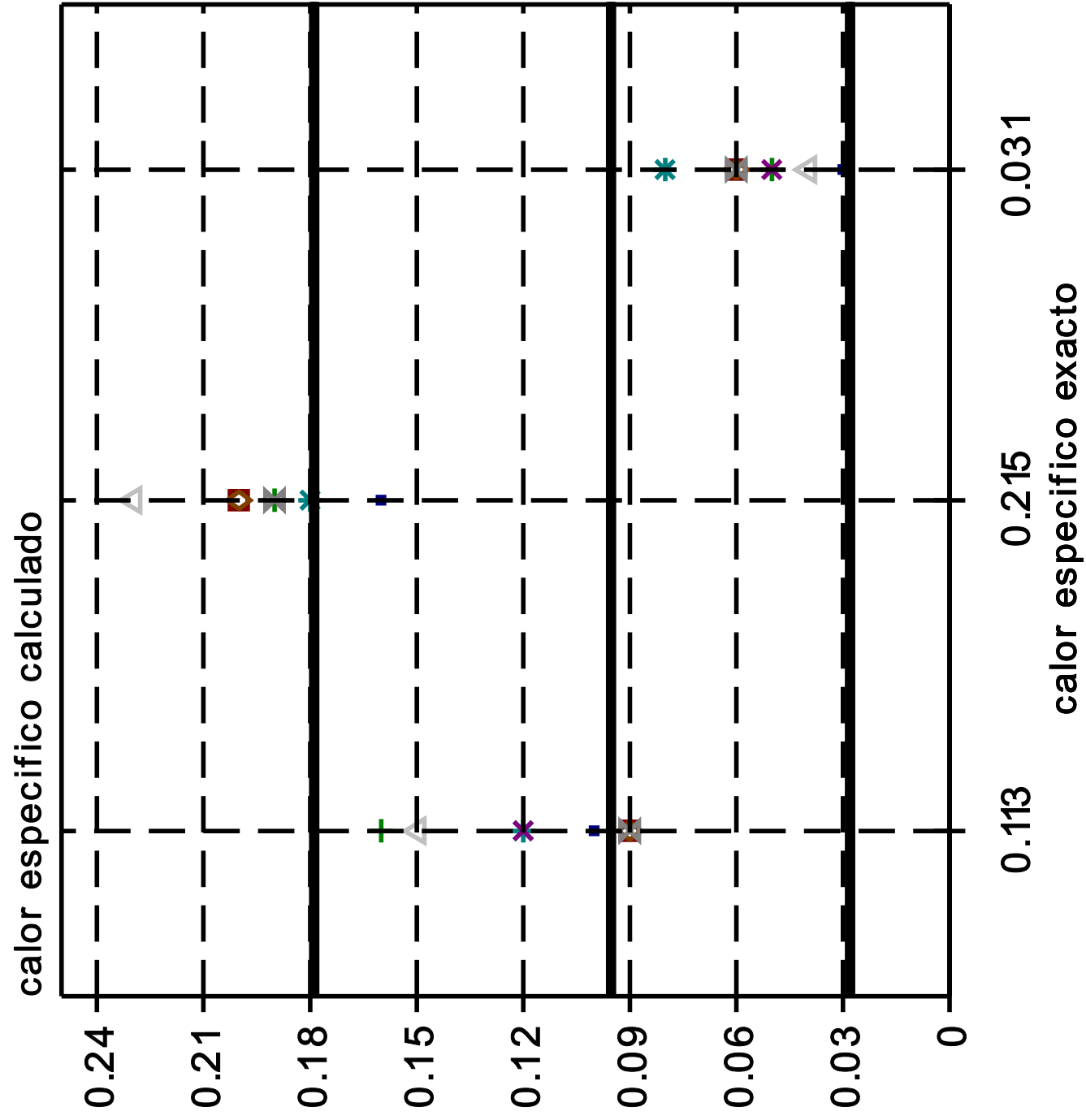




Calorím.

- C 1
- +— C 2
- *— C 3
- C 4
- x— C 5
- ◇— C 6



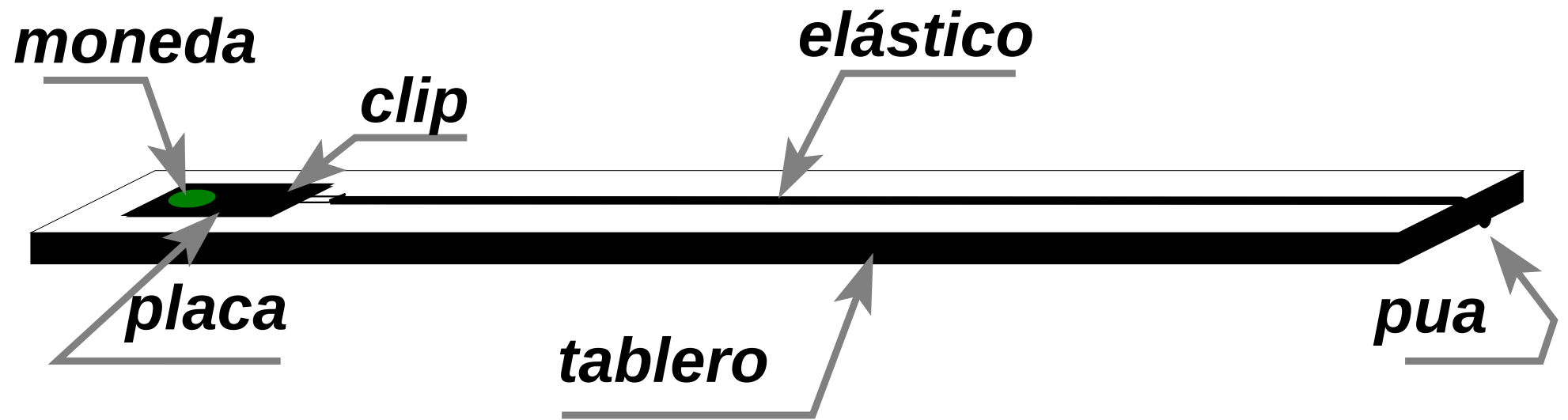


Aparato para constatar
empíricamente

$$\bar{F} = m^x a$$

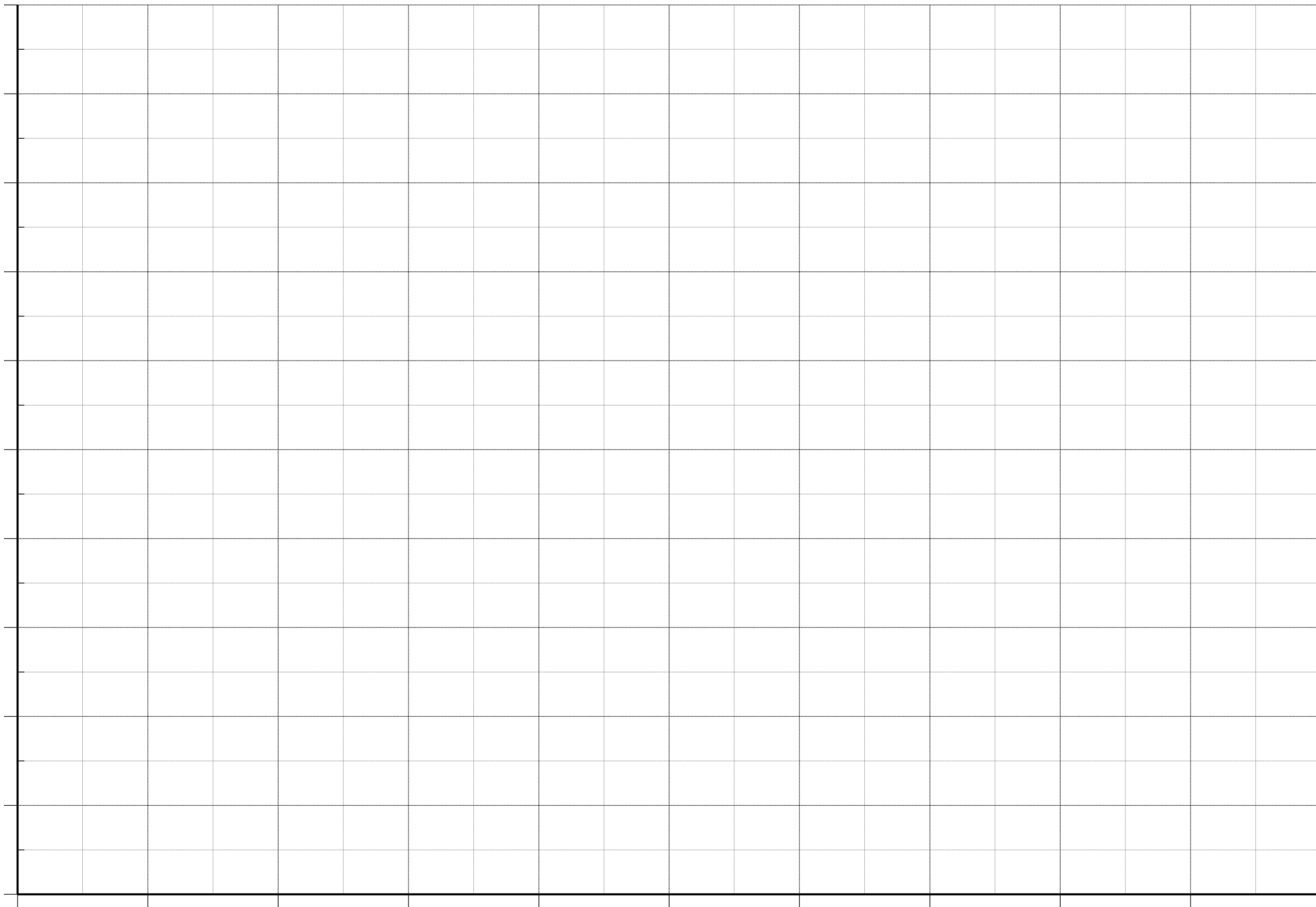
(material nuevo)

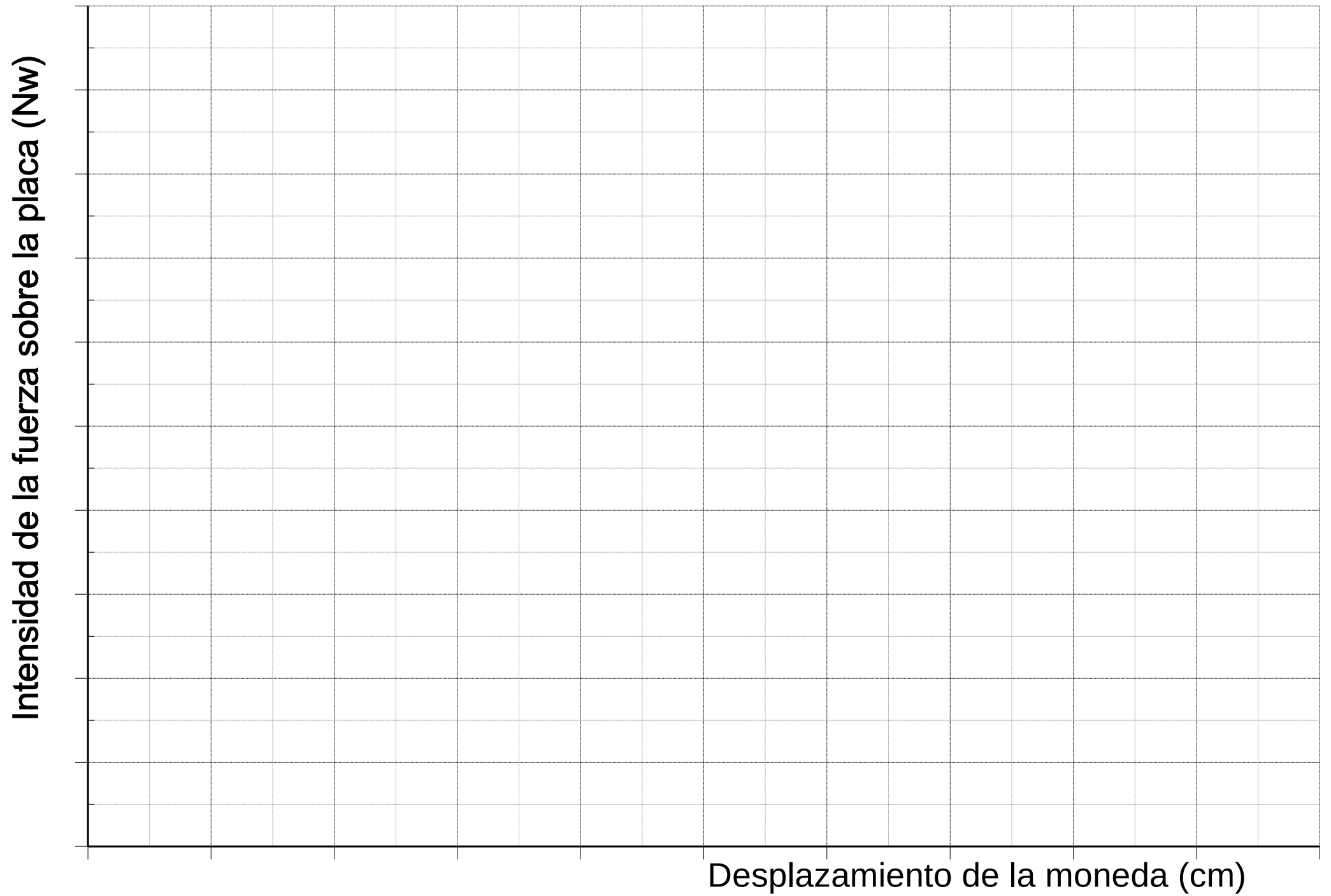
Algunas calibraciones

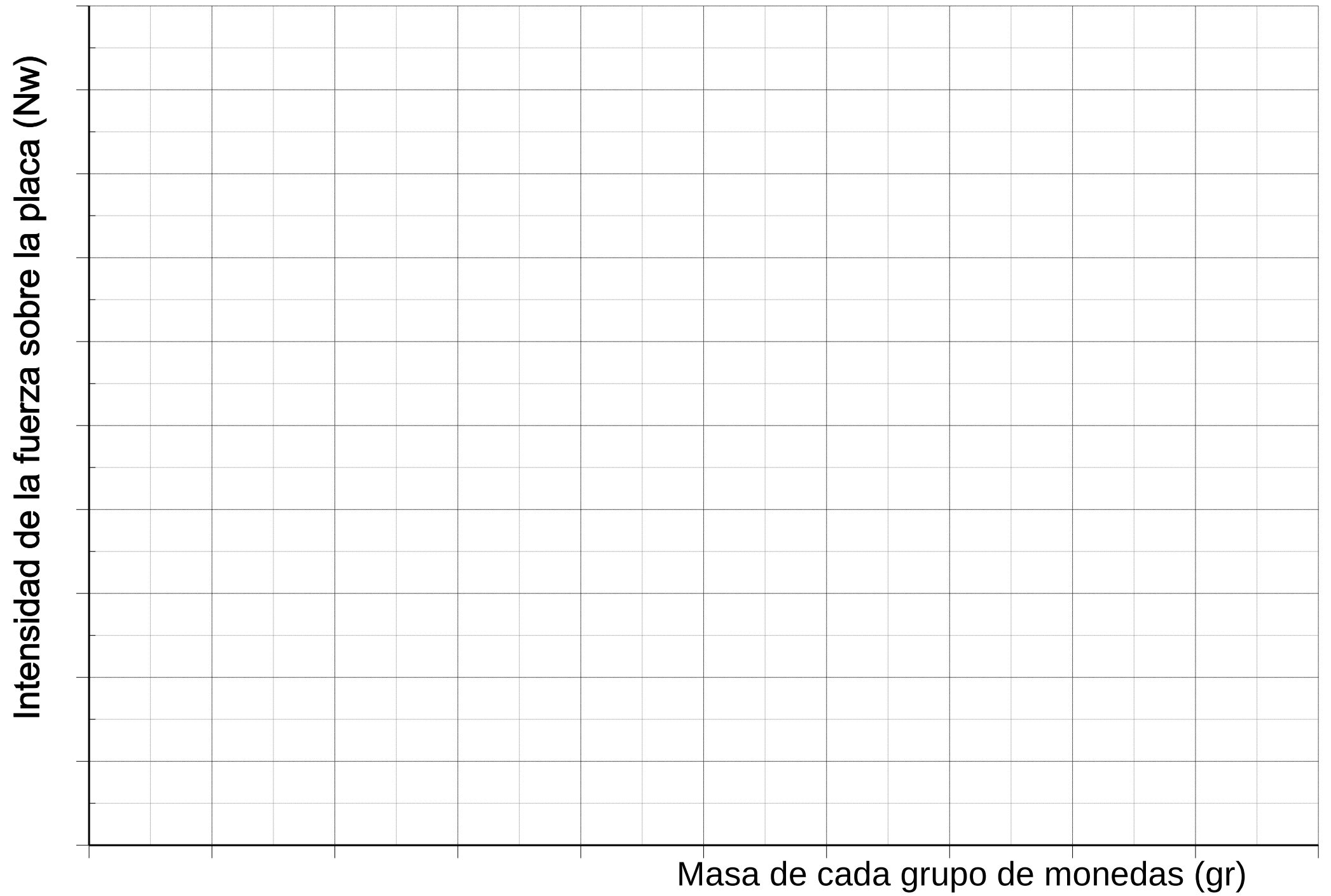


Intensidad de la fuerza sobre la placa (Nw)

Masa de la moneda (gr)



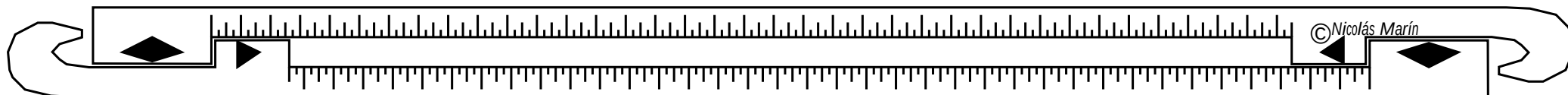
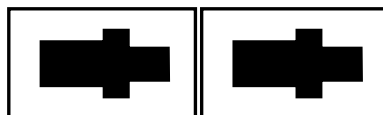




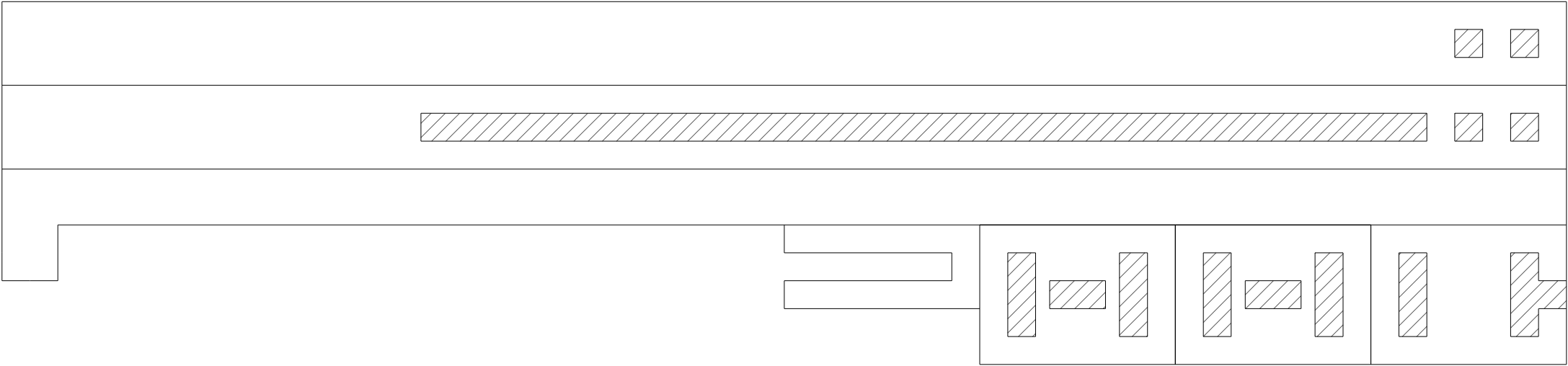
Dinamómetro

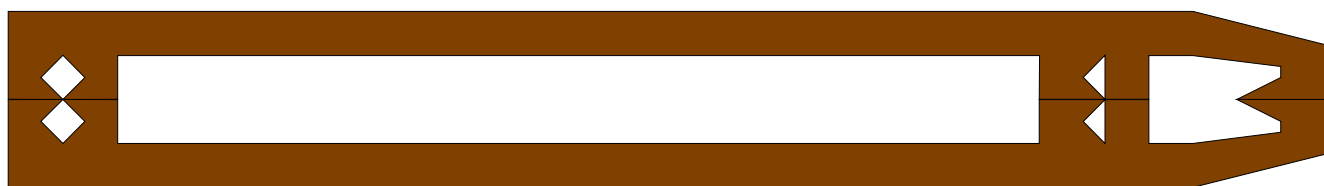
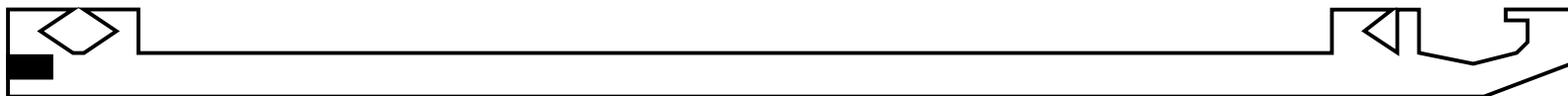
Algunos diseños

Calibración



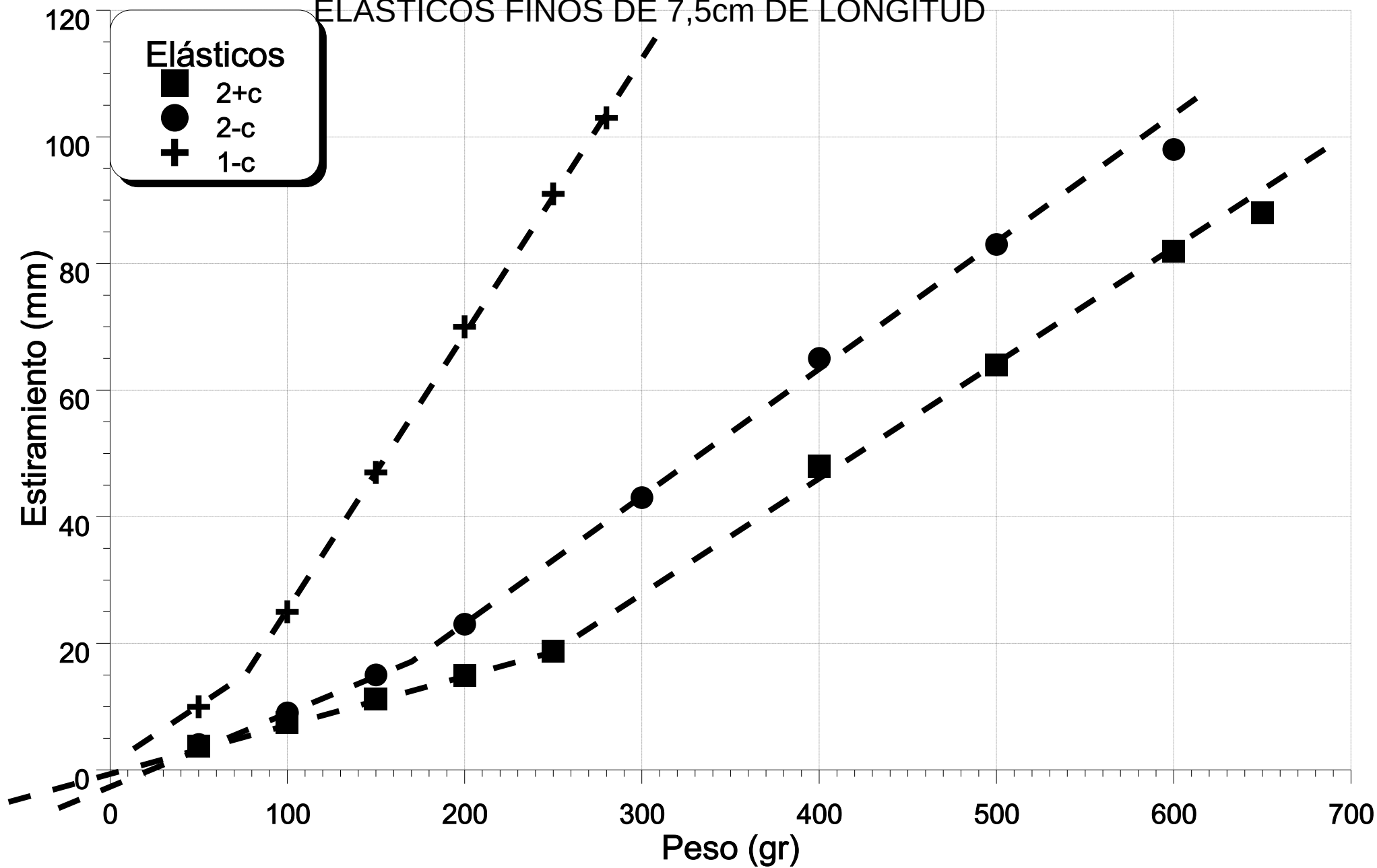




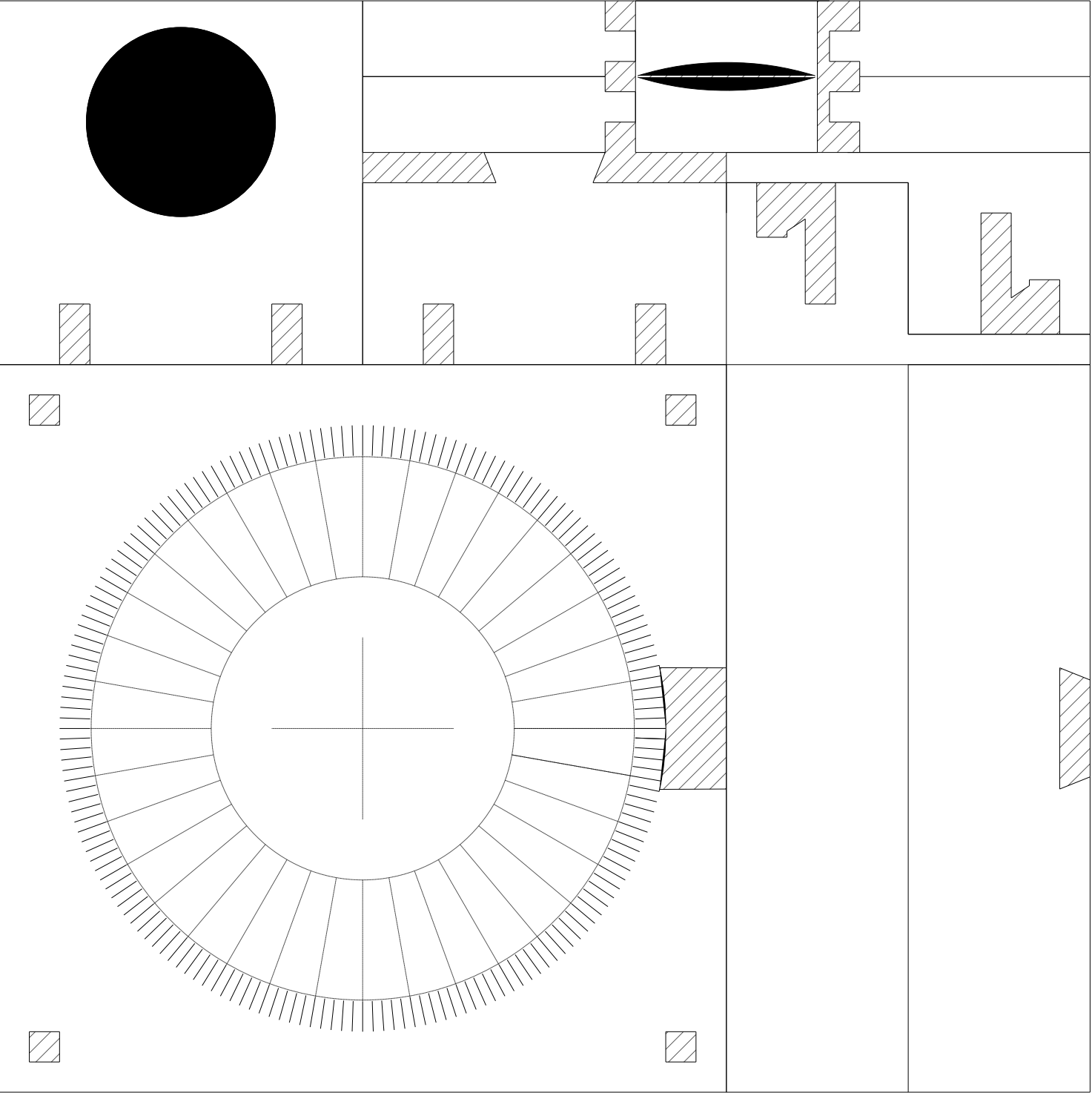
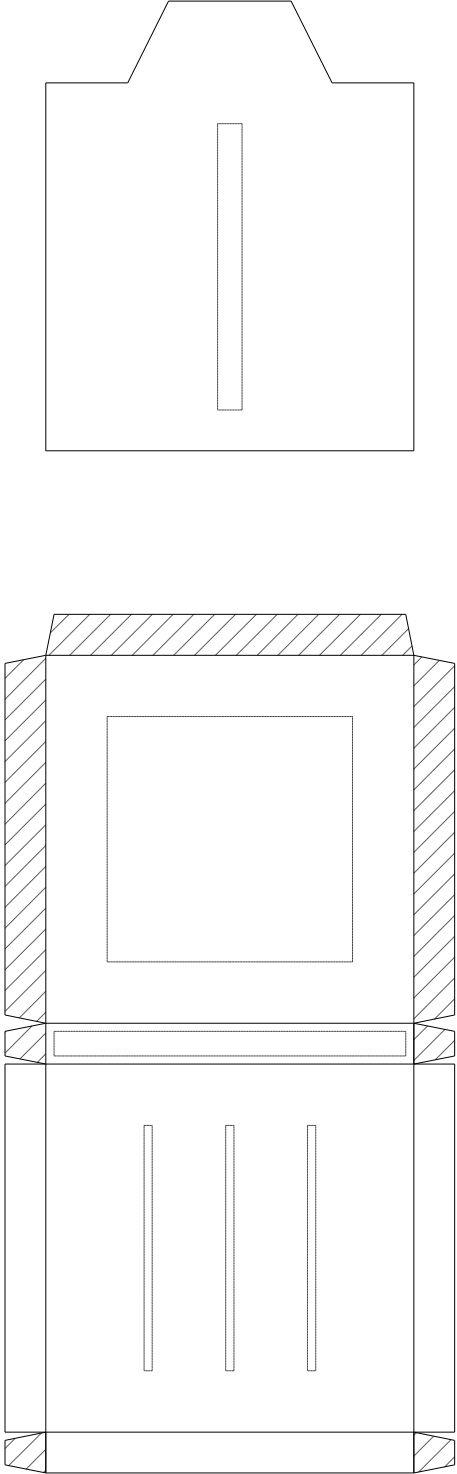


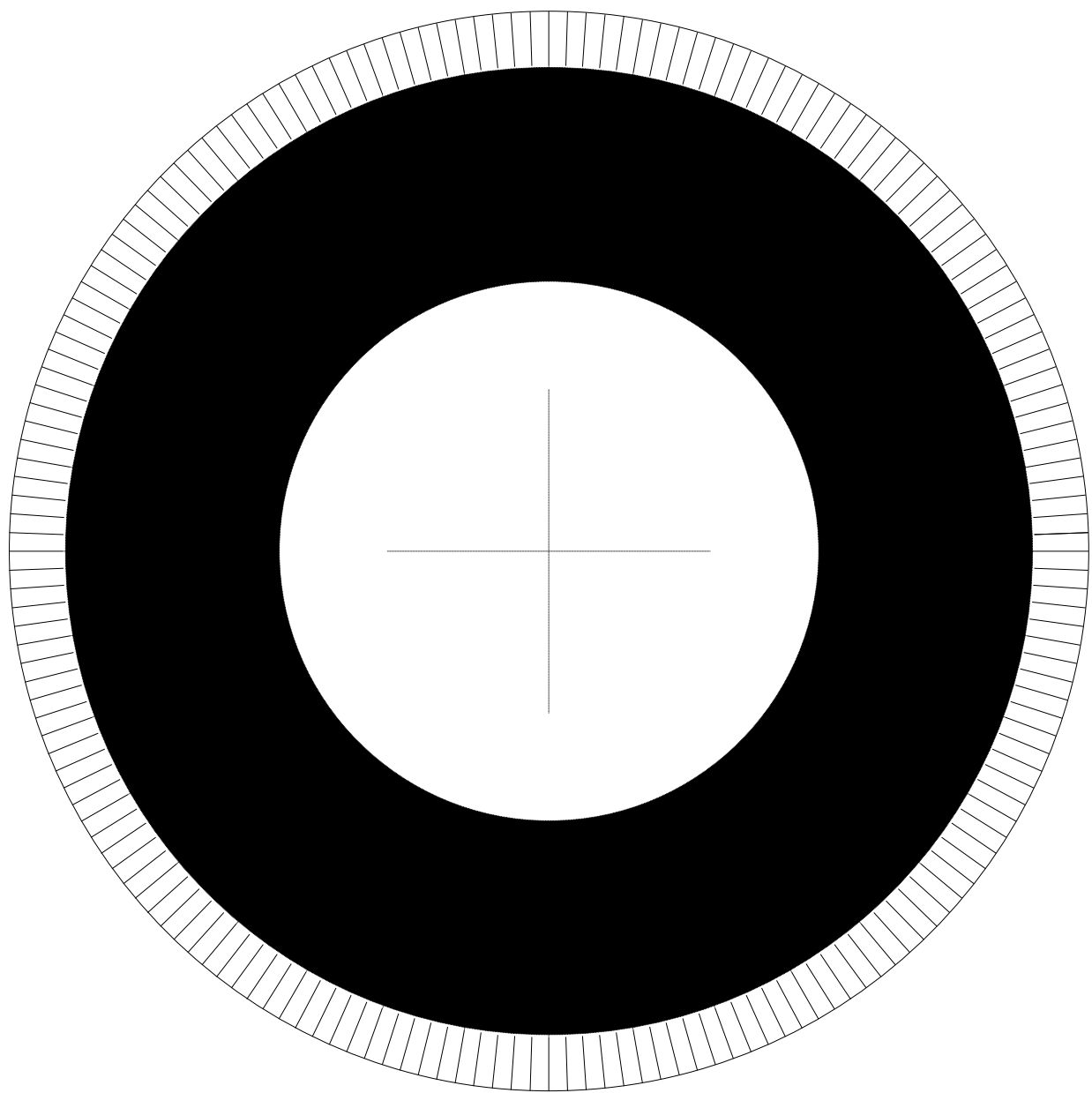
Calibrado del dinamómetro

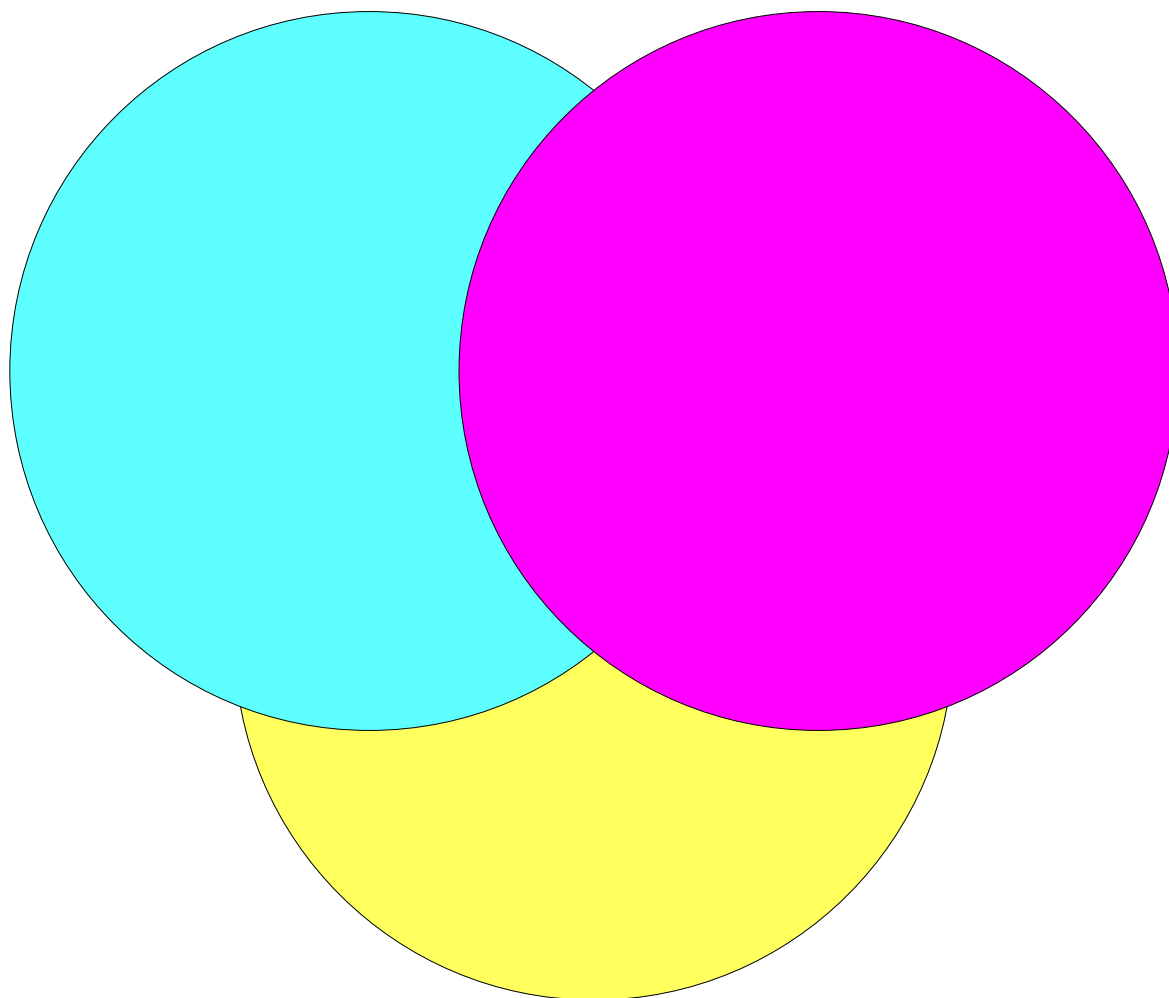
ELASTICOS FINOS DE 7,5cm DE LONGITUD



Tablero de Óptica

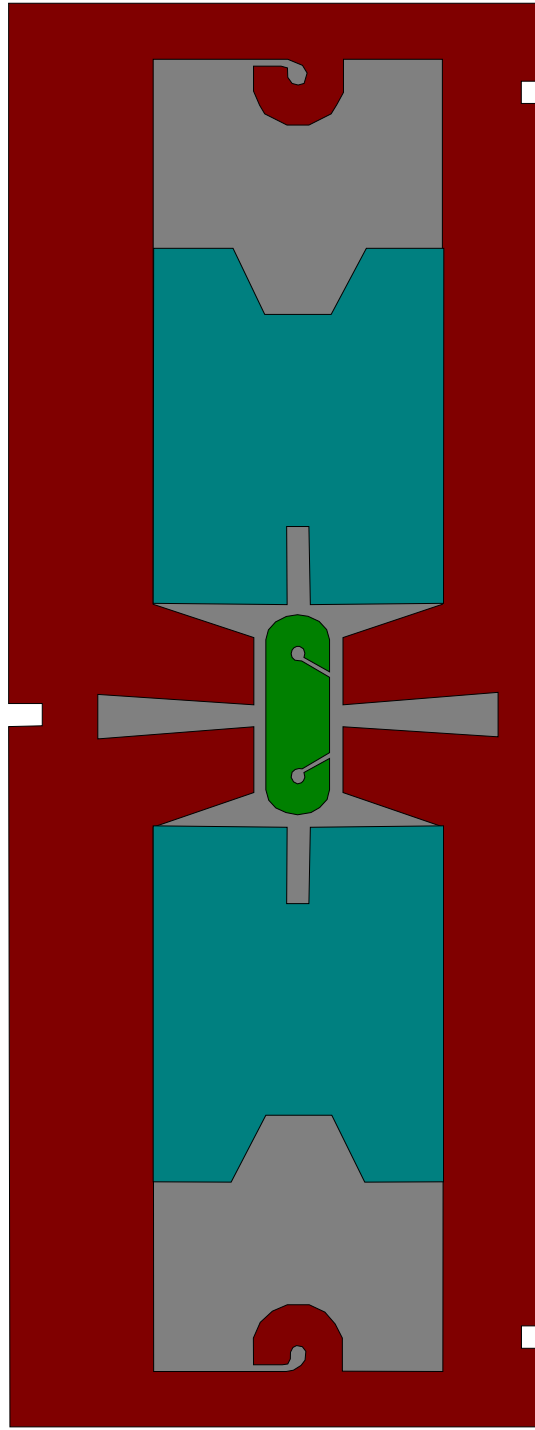


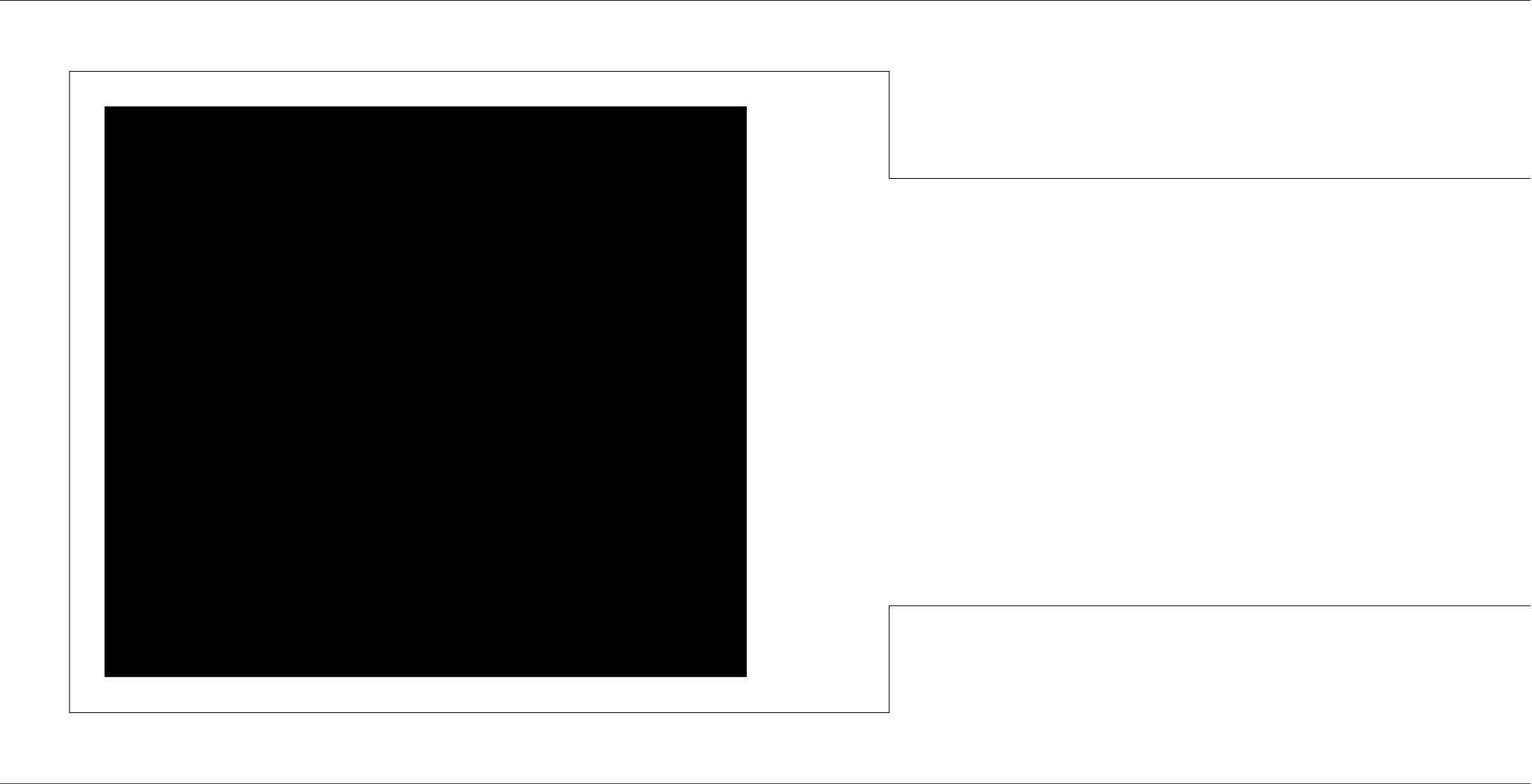


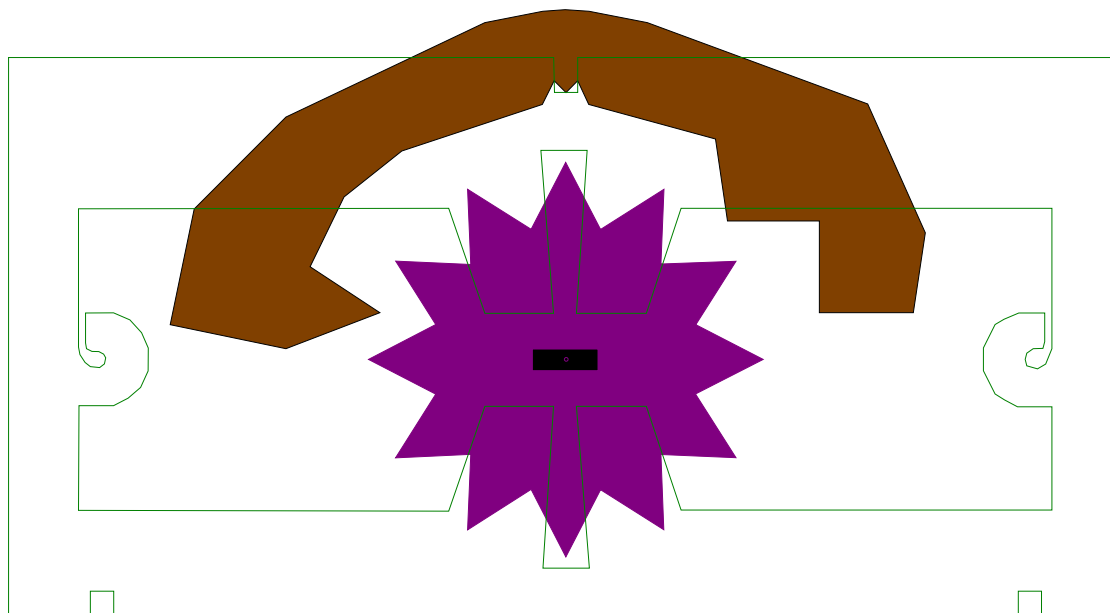
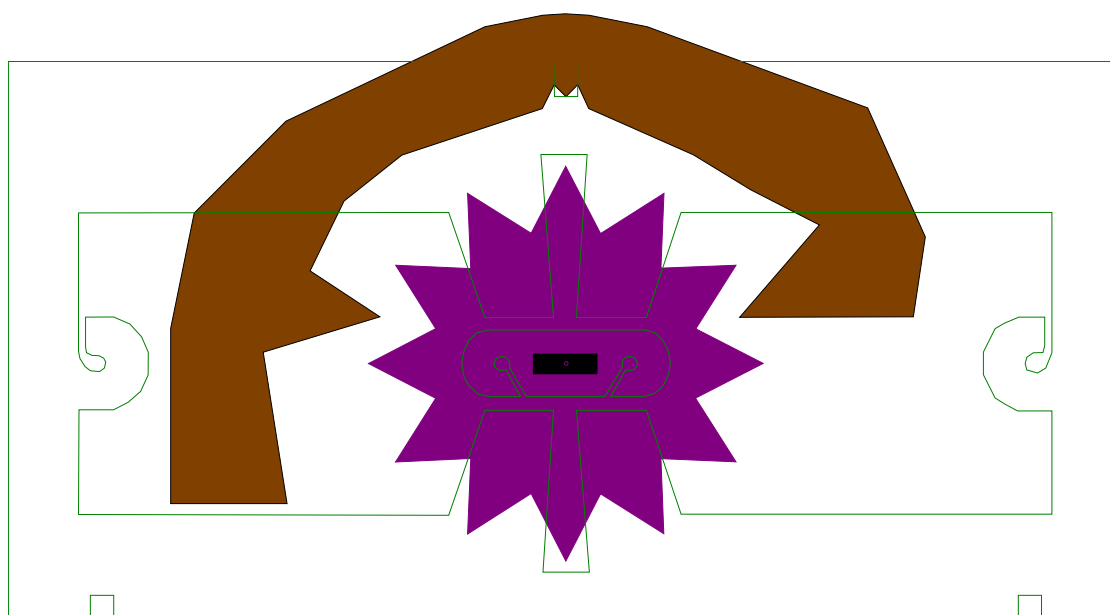




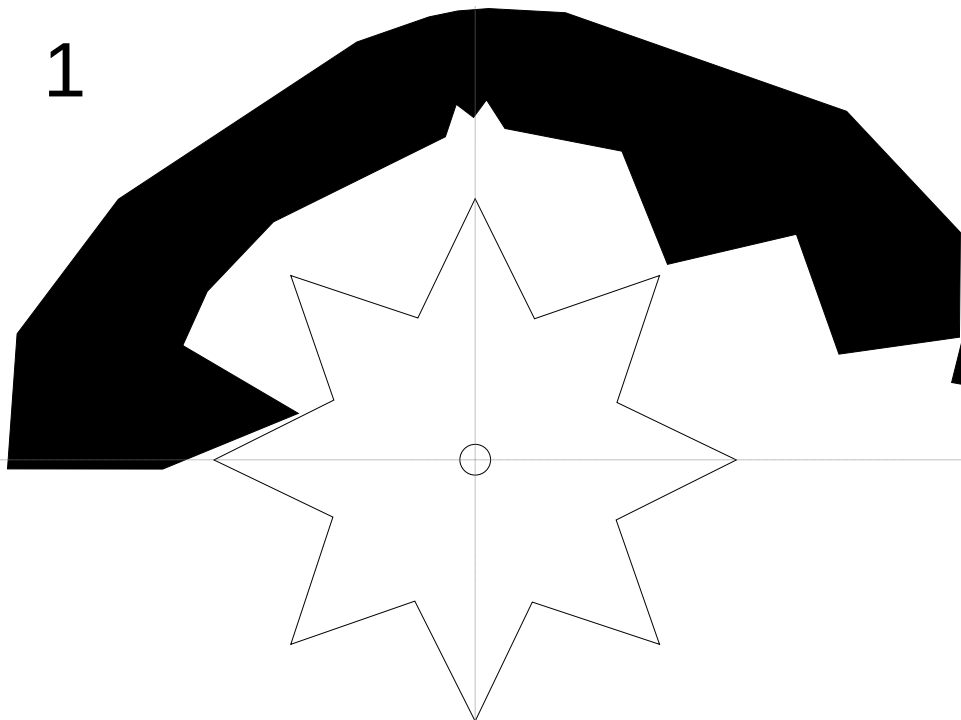
Varios diseños
de Reloj
Usando la energía
gravitatoria y la elástica



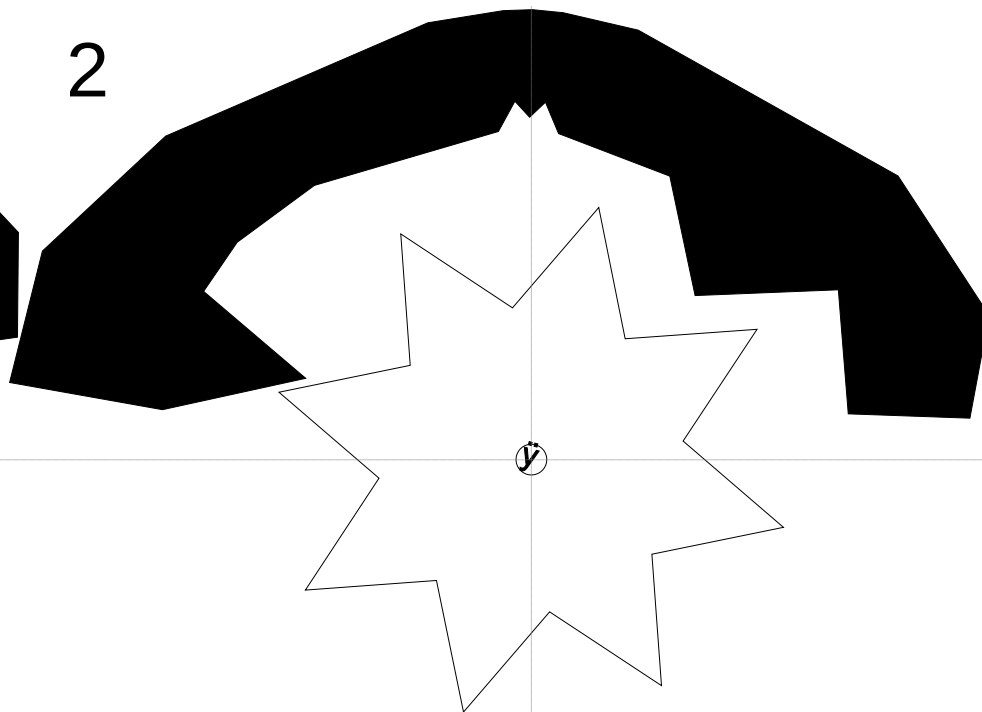




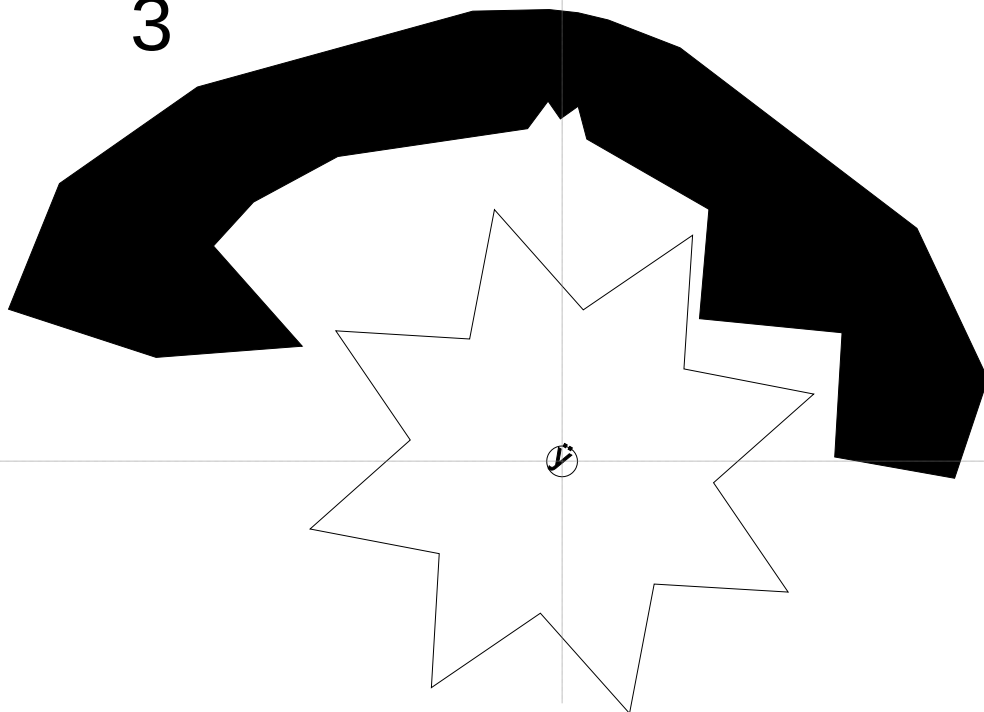
1



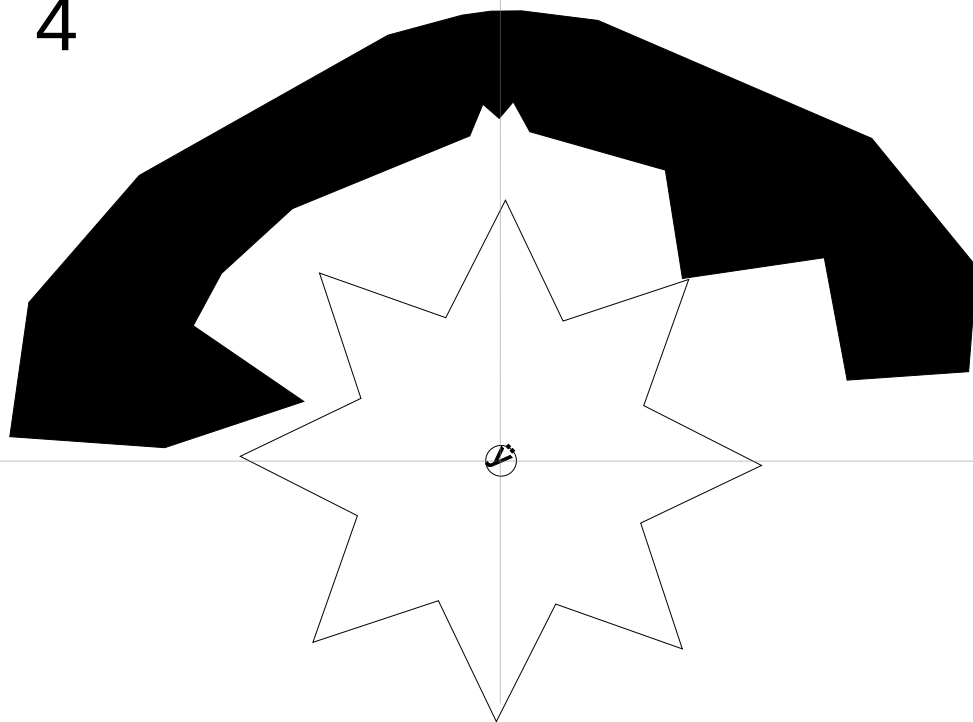
2

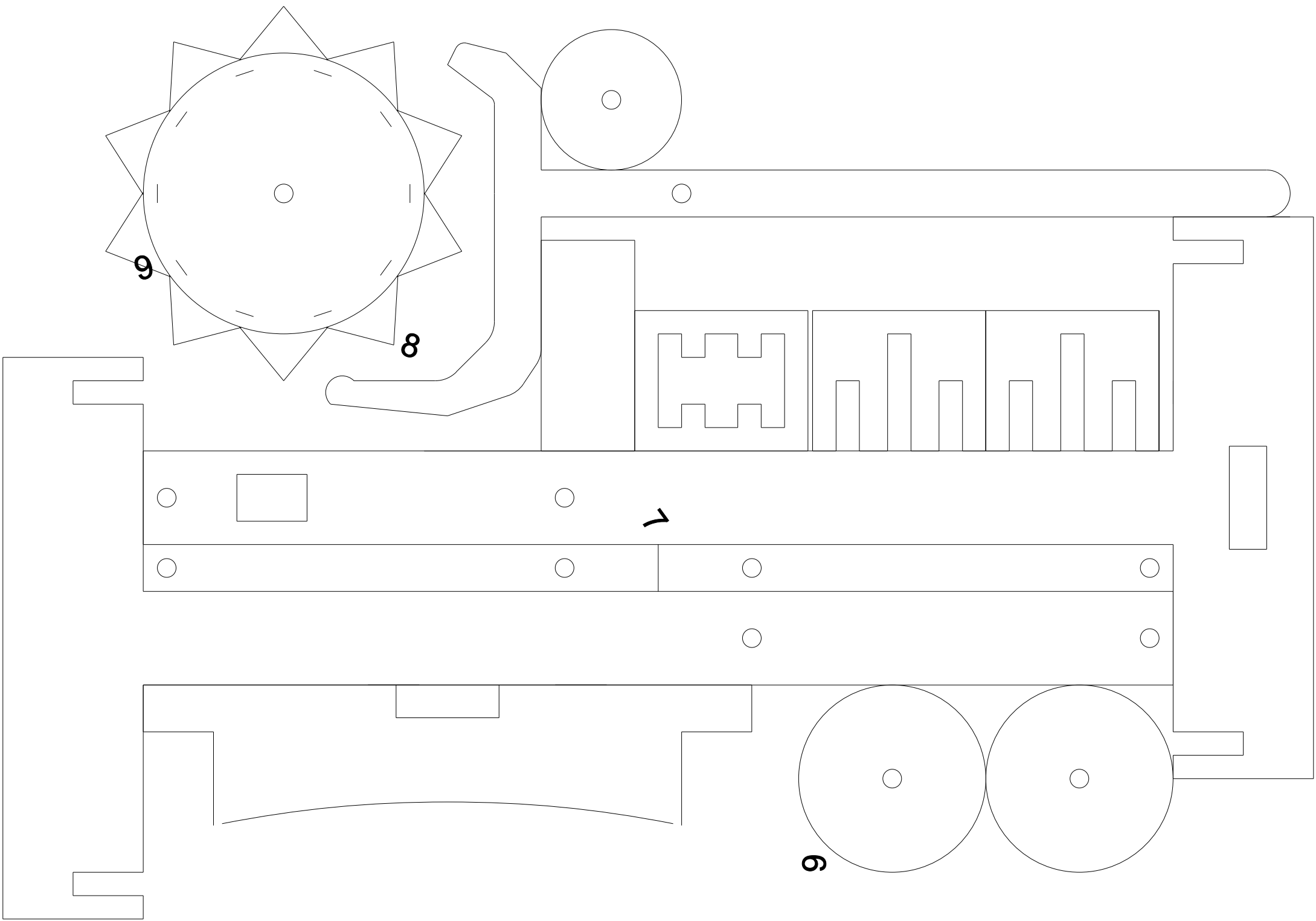


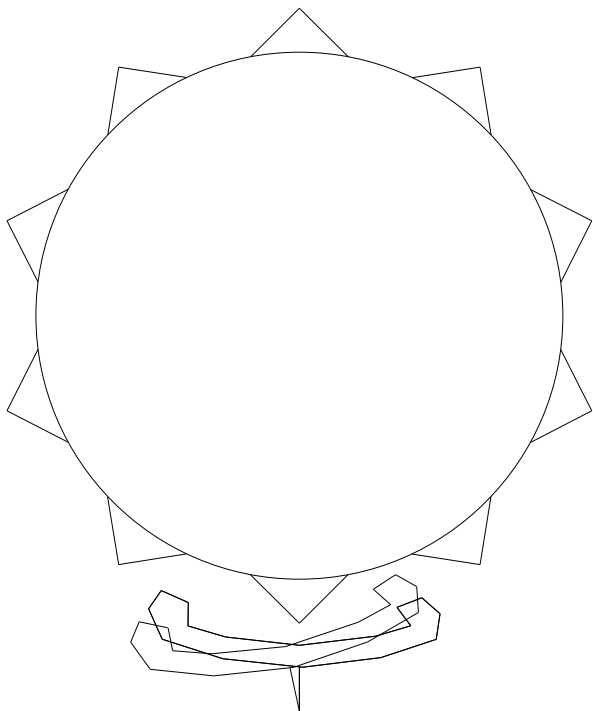
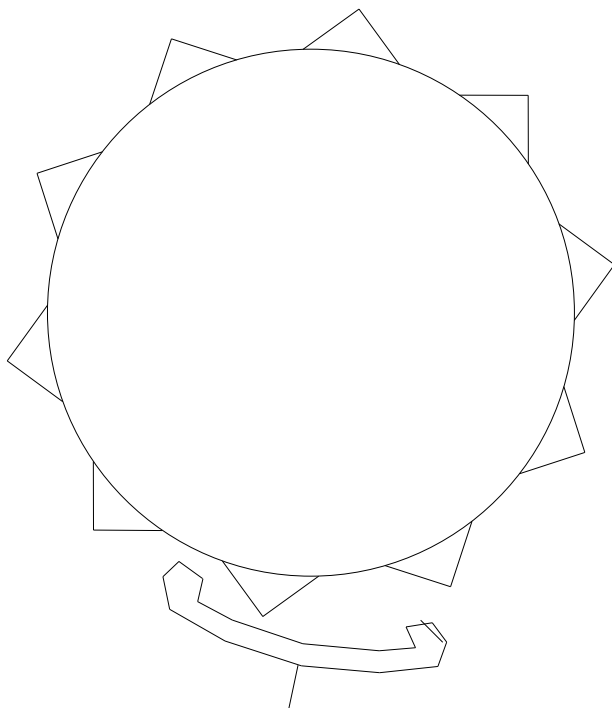
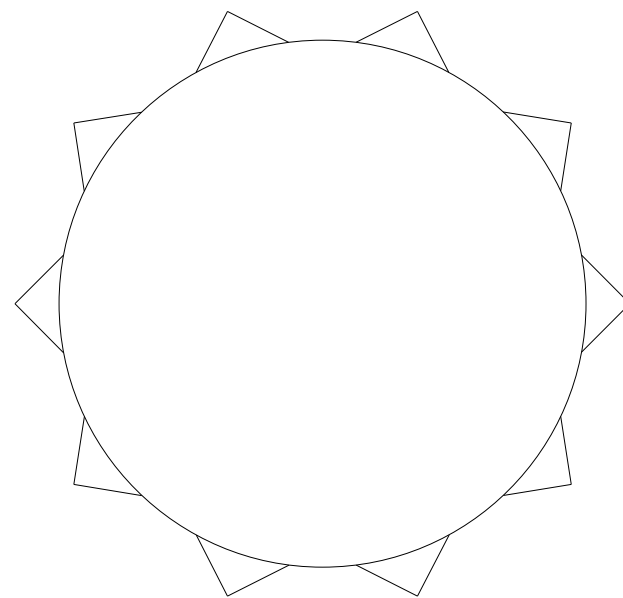
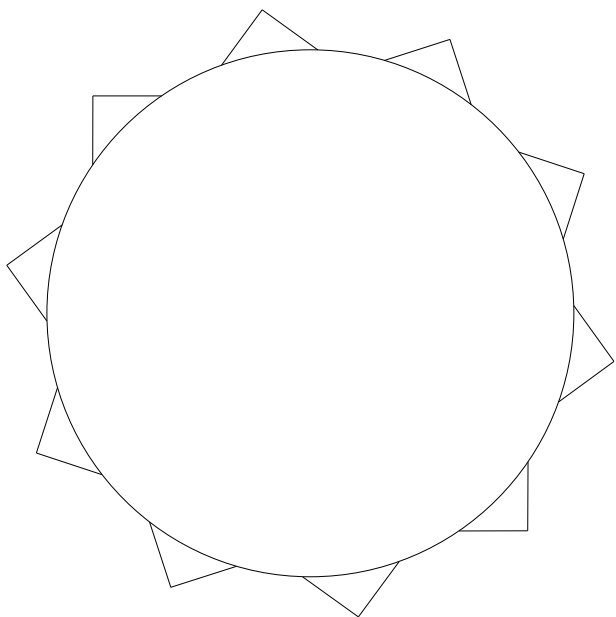
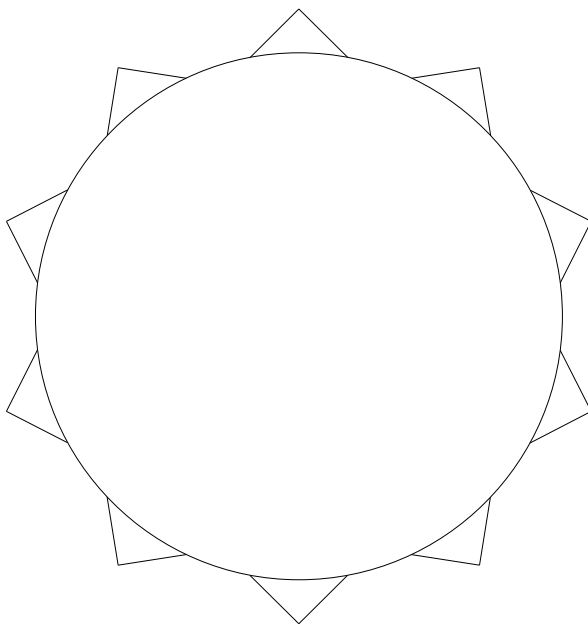
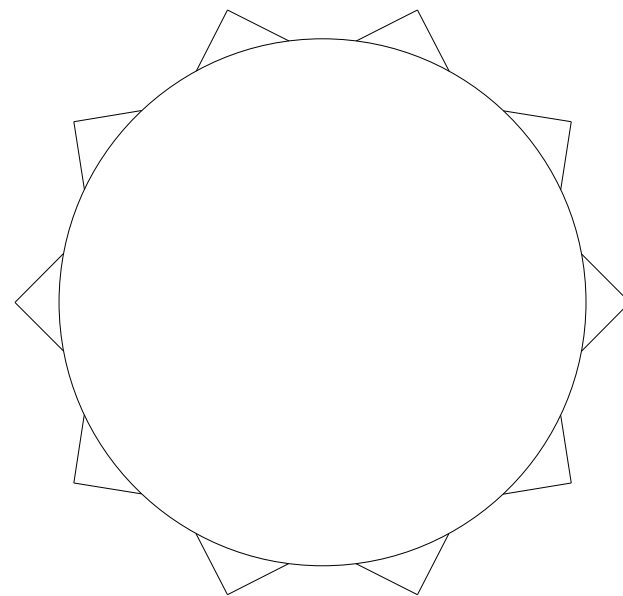
3



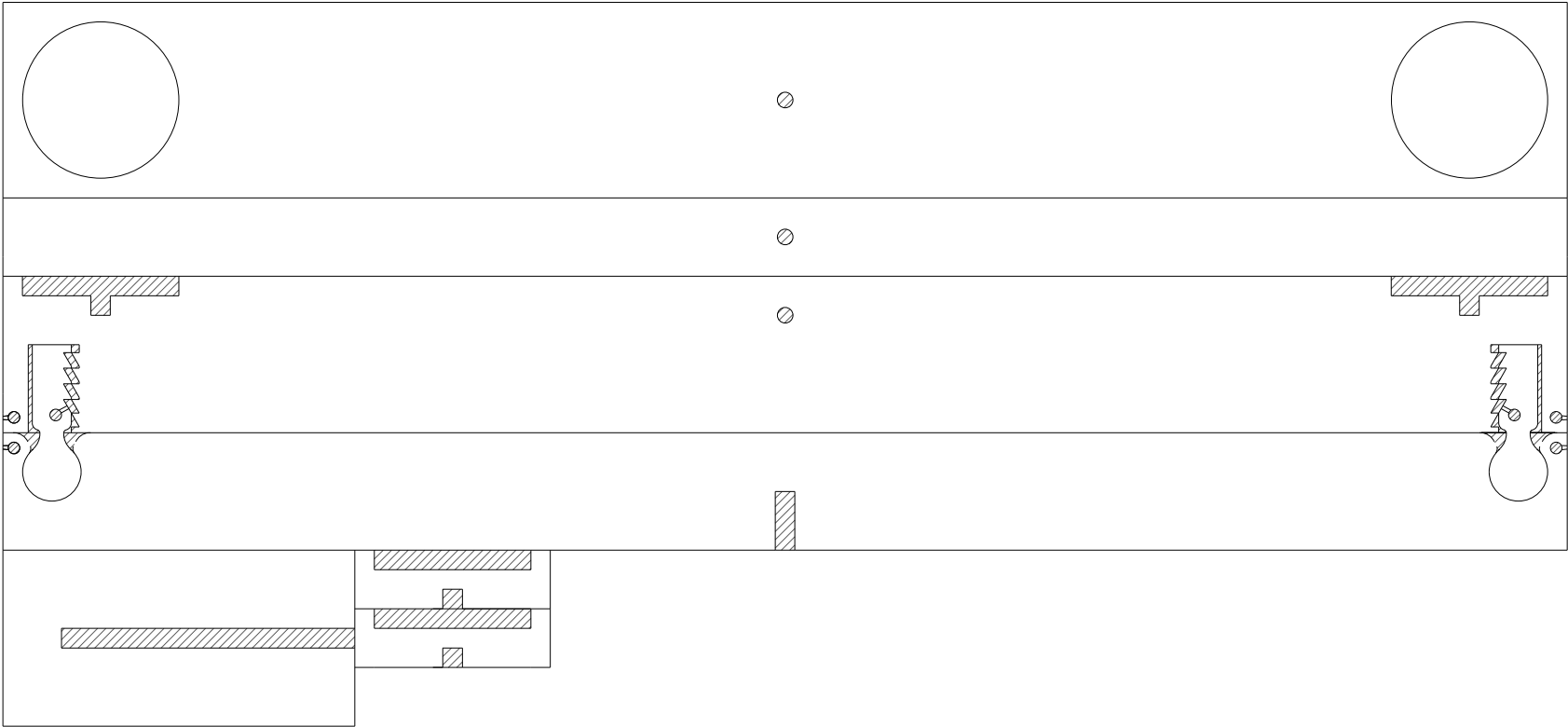
4



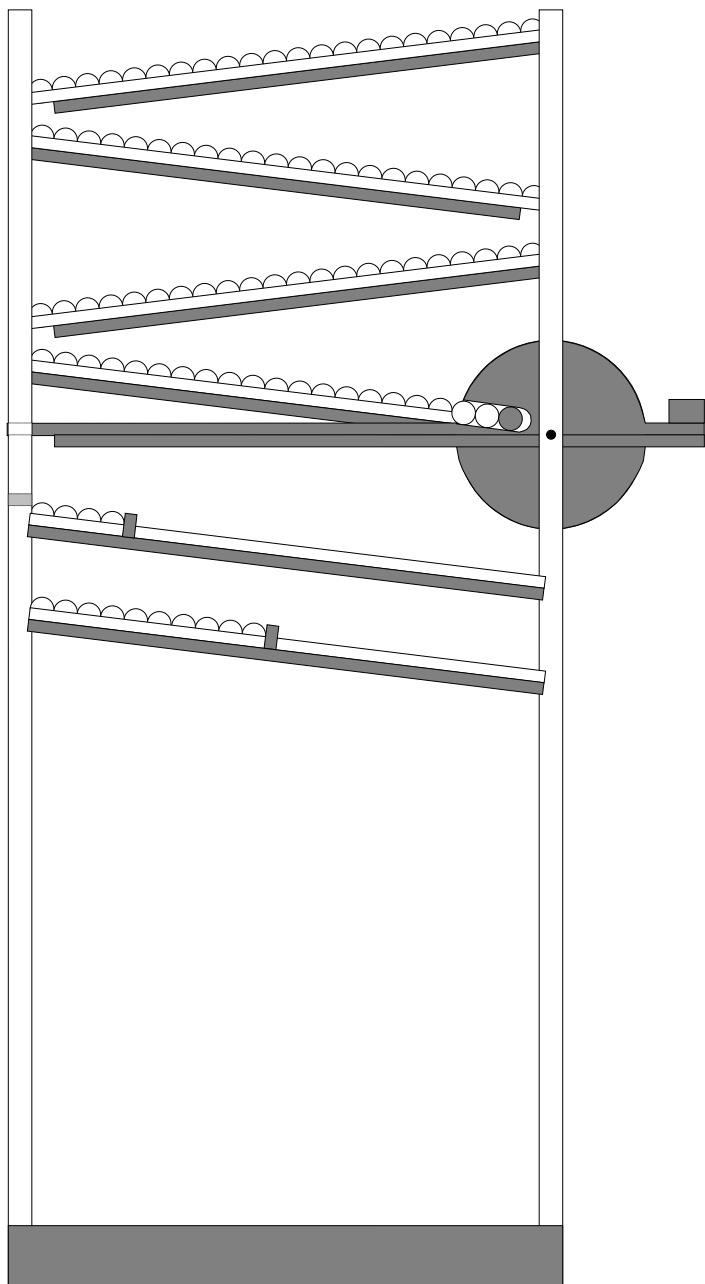




Aparato mecánico para
medir la caída de los
cuerpos en el campo
gravitatorio



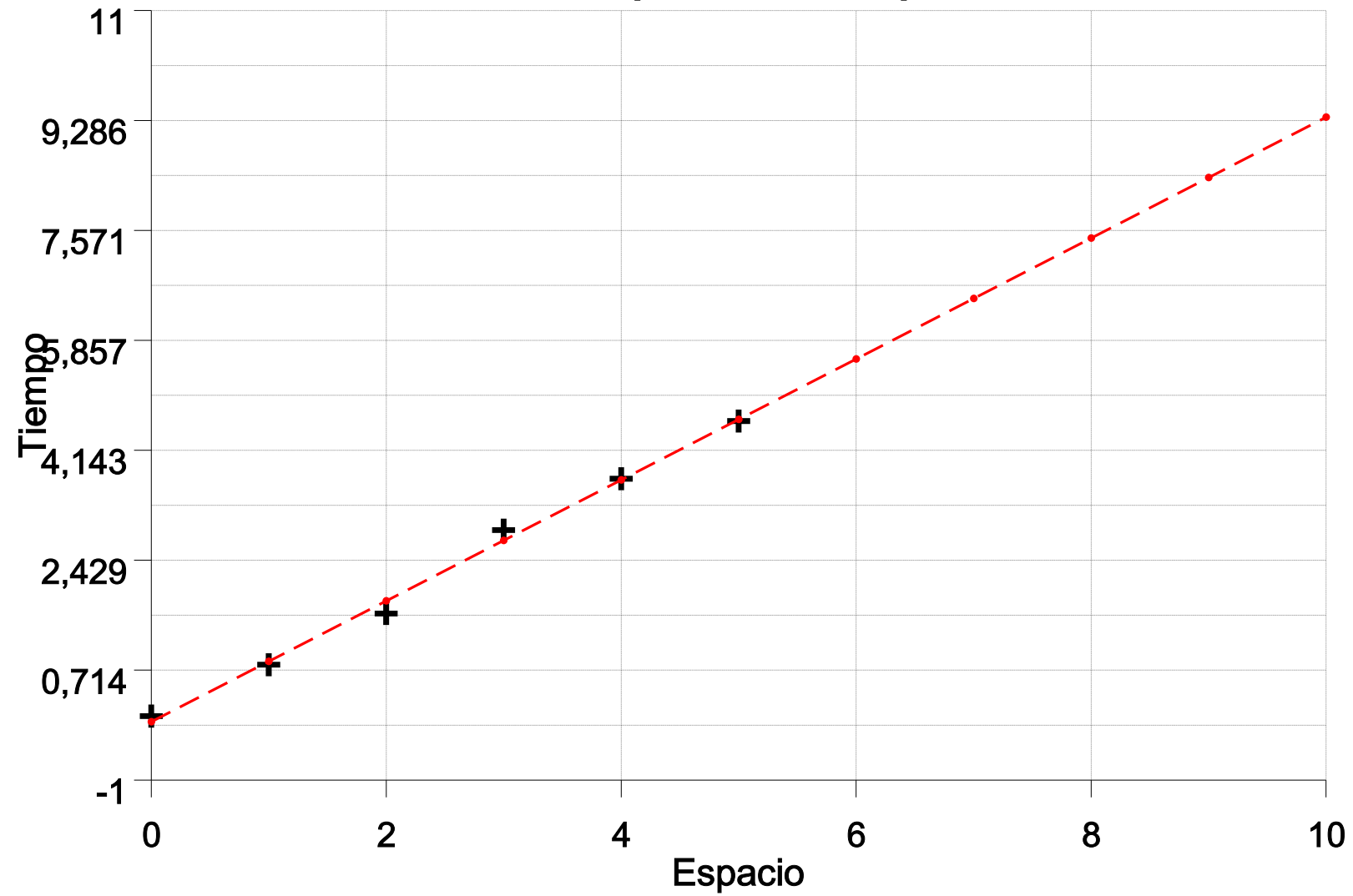
Aparato mecánico para
relentizar la caída de
una bola en el campo
gravitatorio



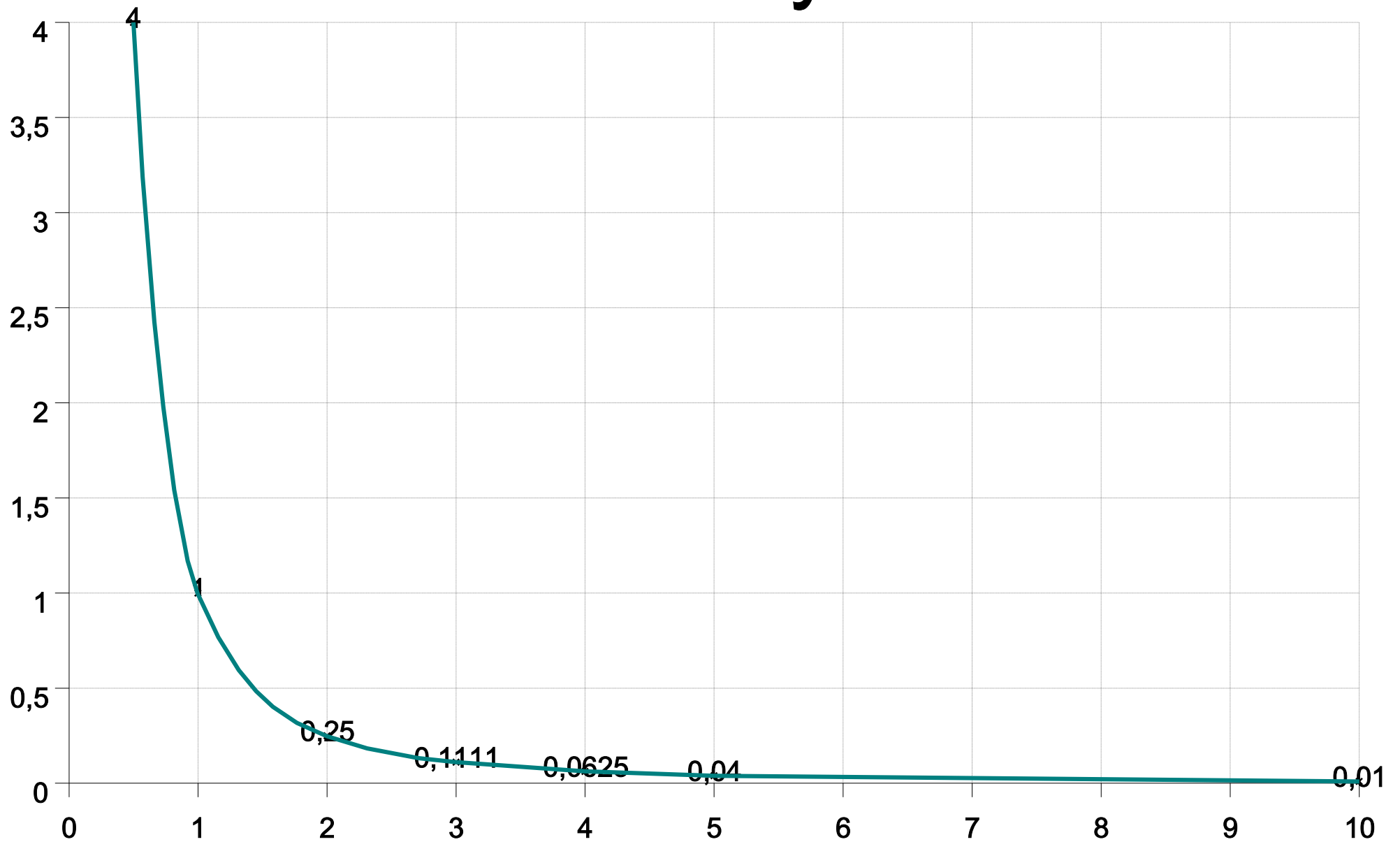


Distintas funciones
matemáticas para
ajustar los datos
empíricos no lineales

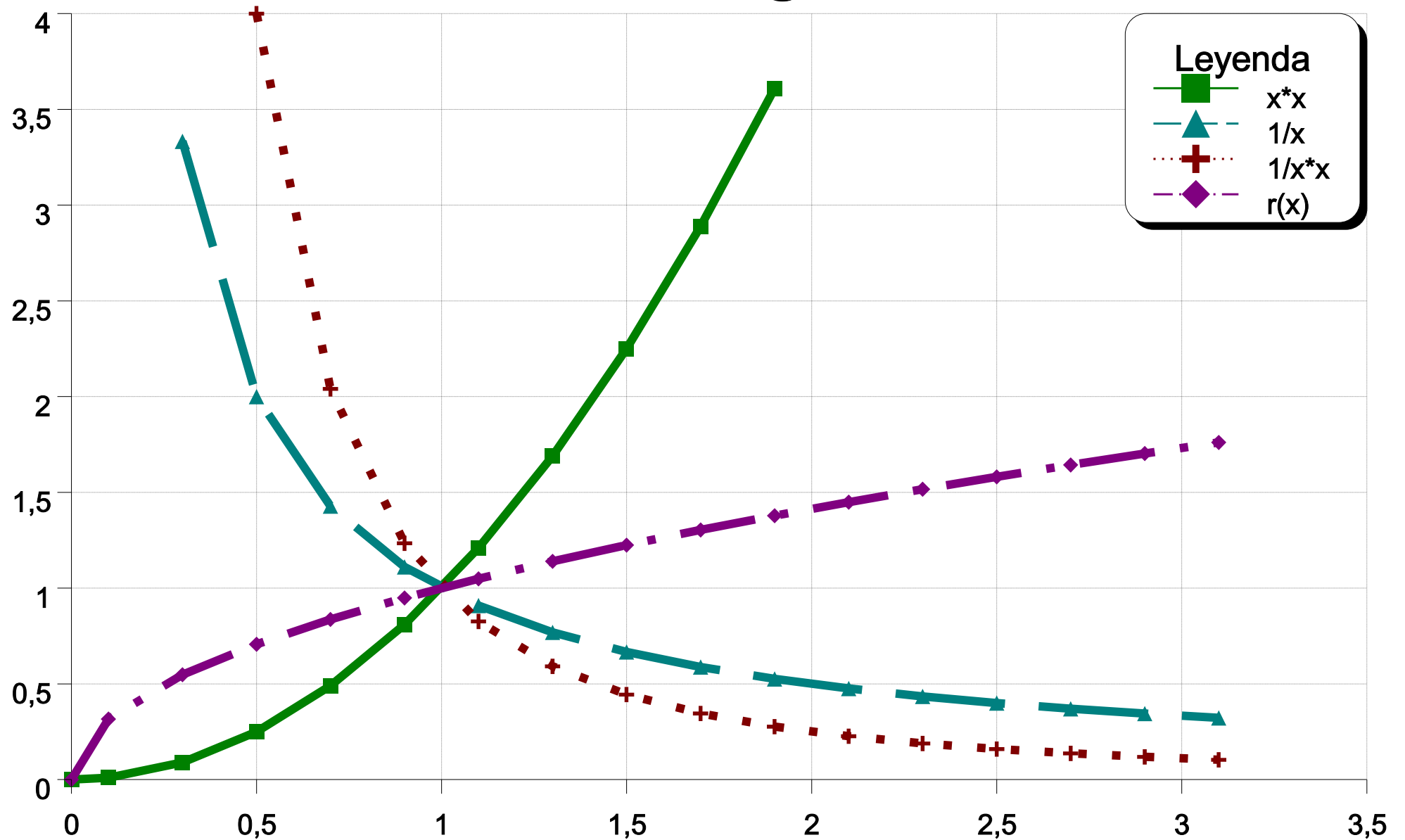
Gráfica espacio-tiempo

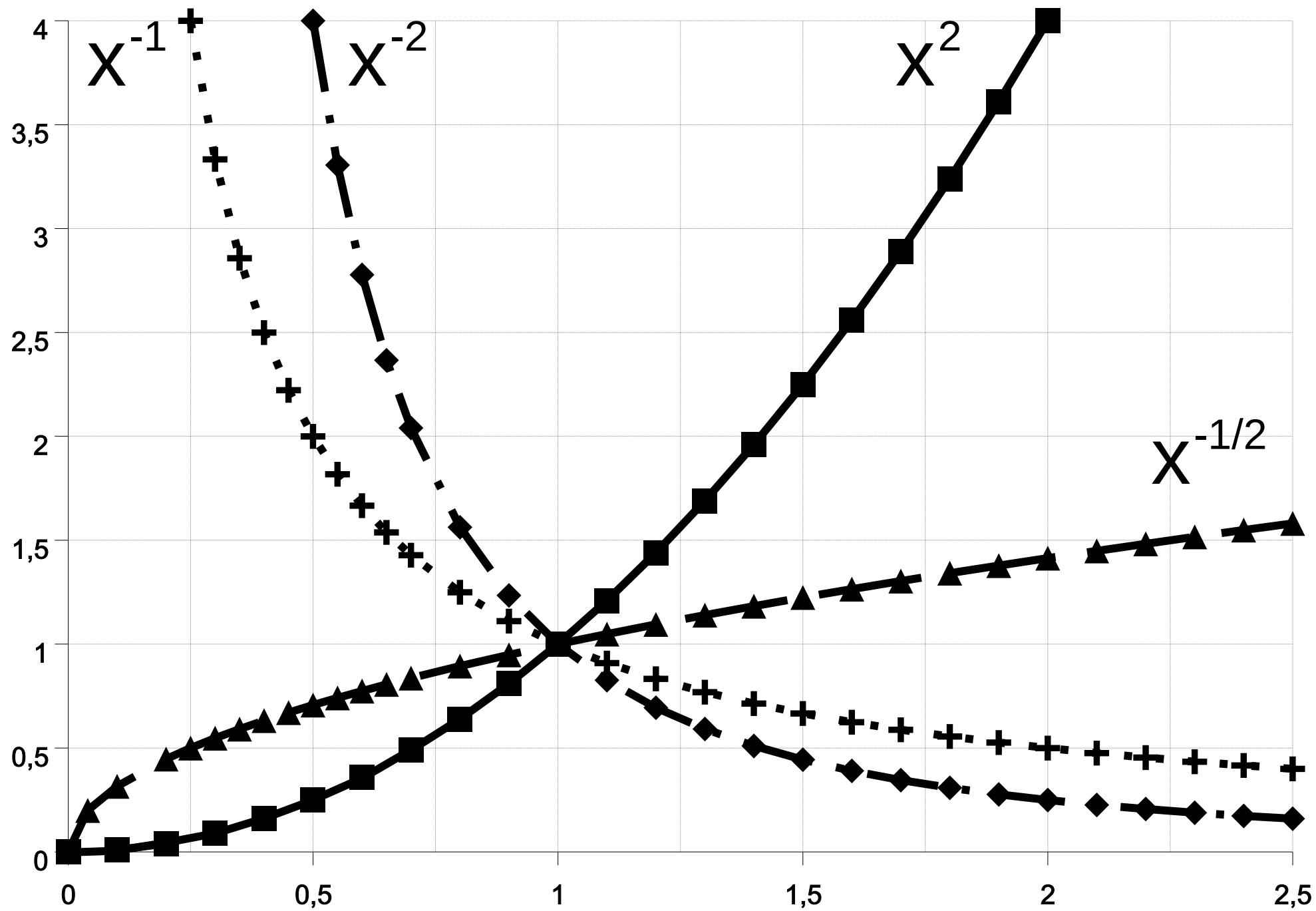


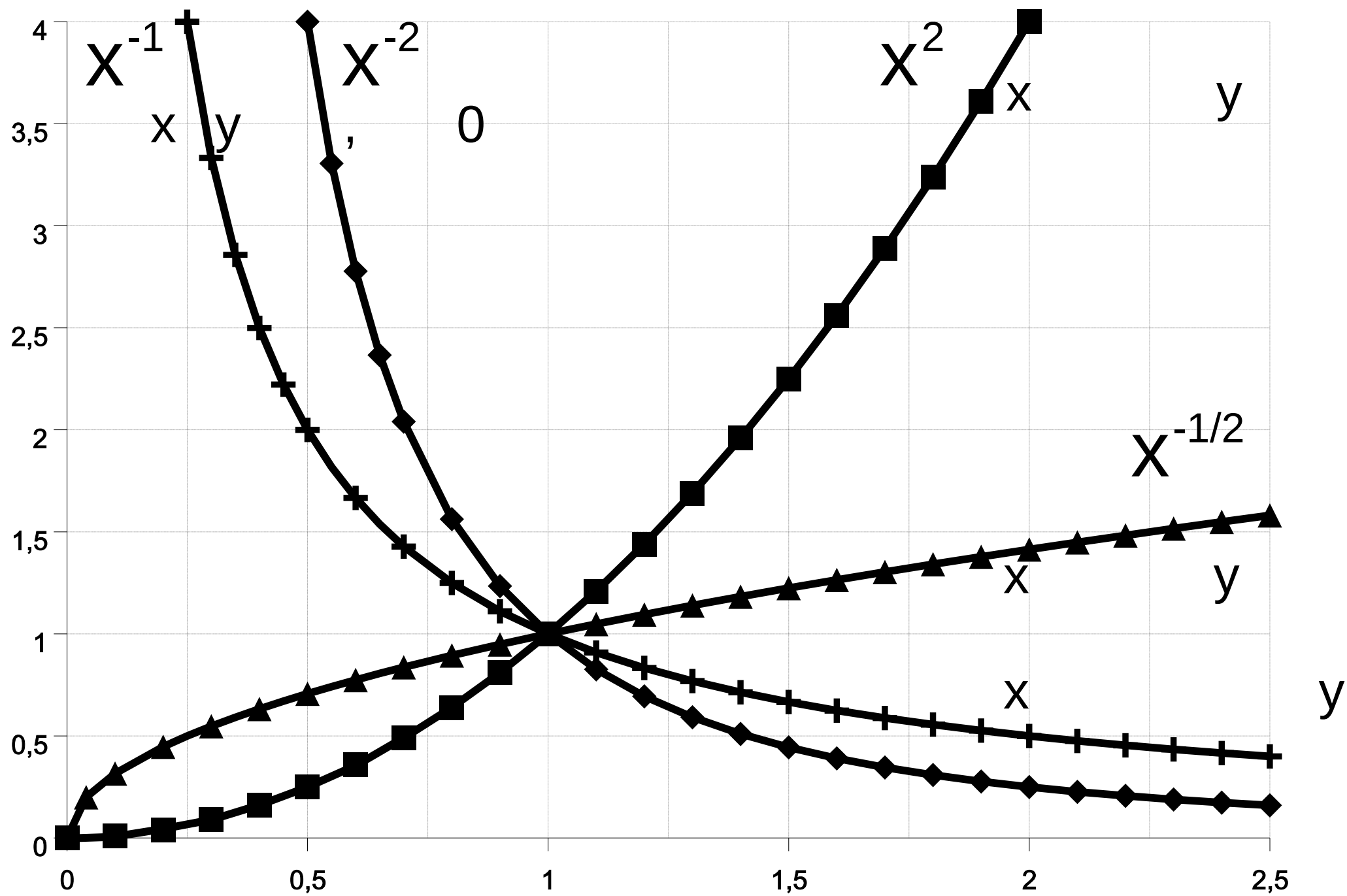
Función: $y=x^{-2}$

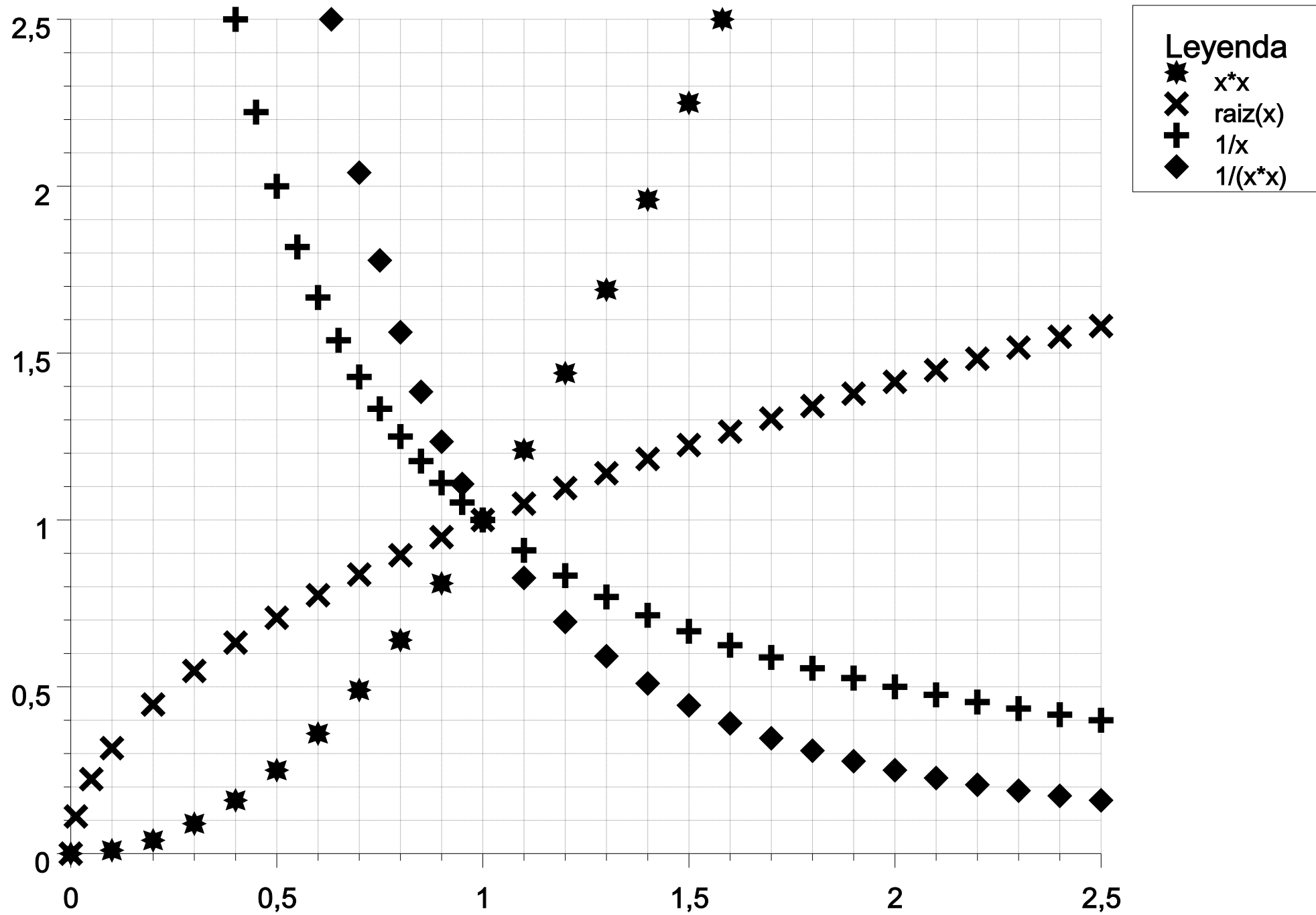


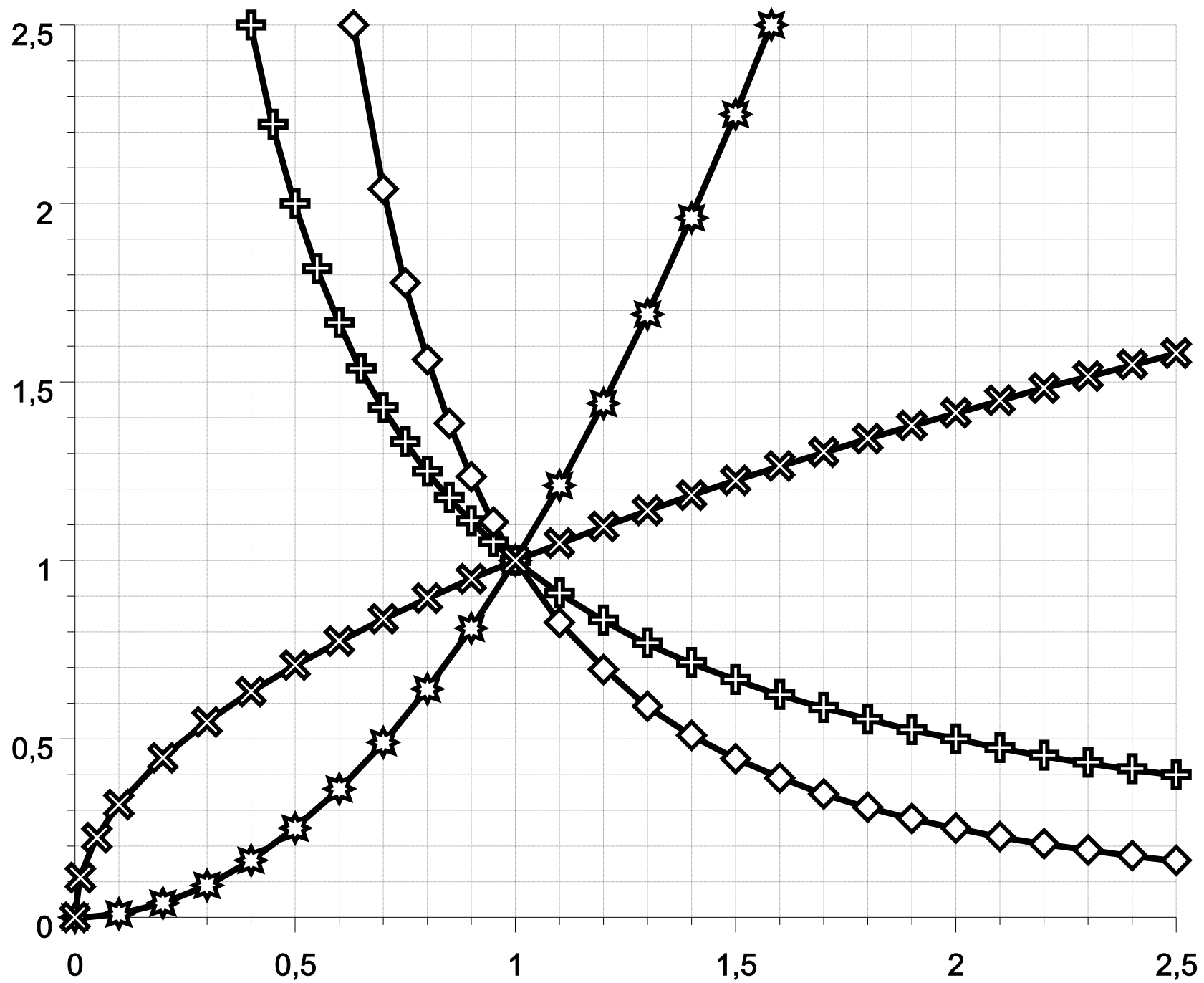
Título del gráfico





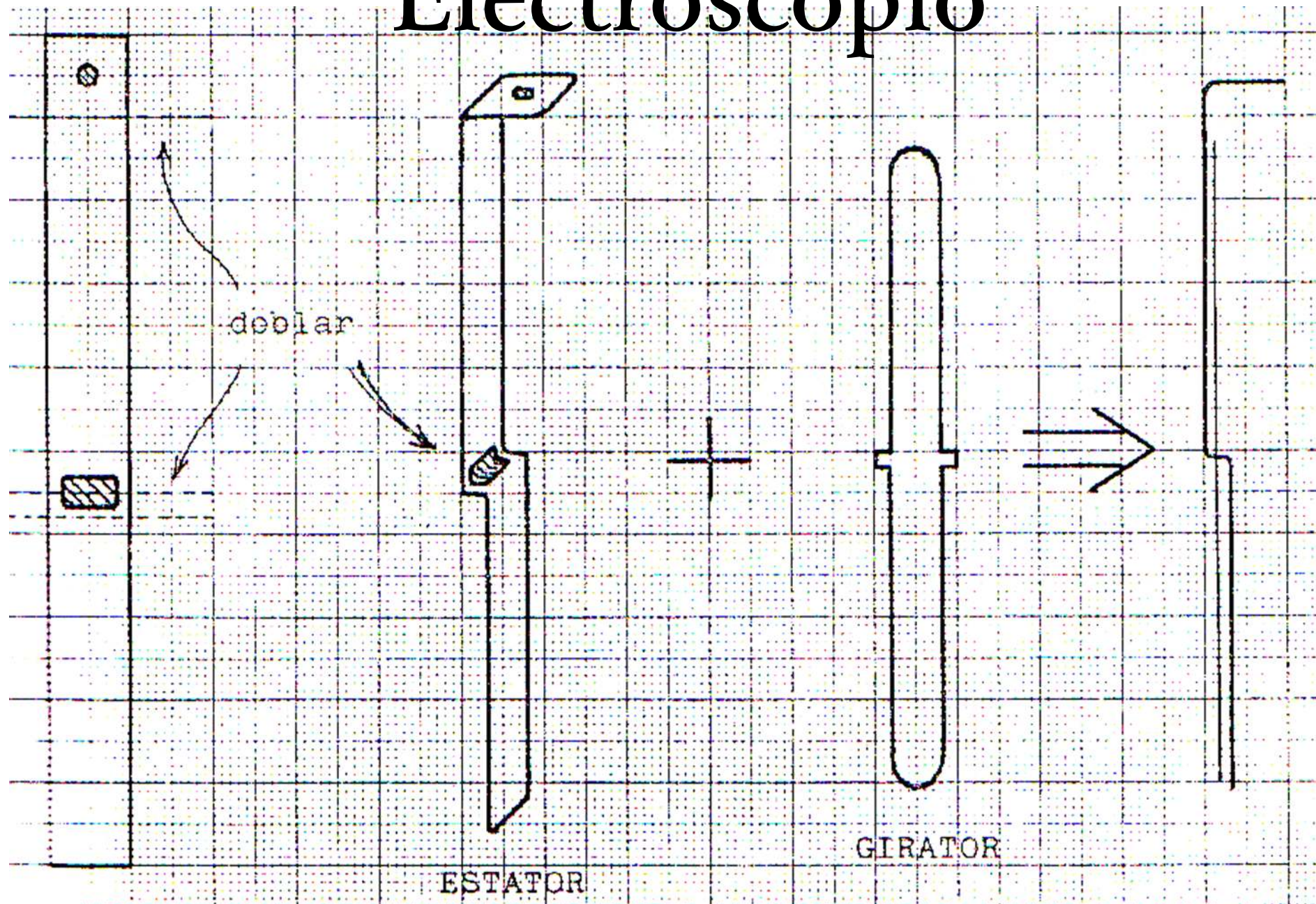


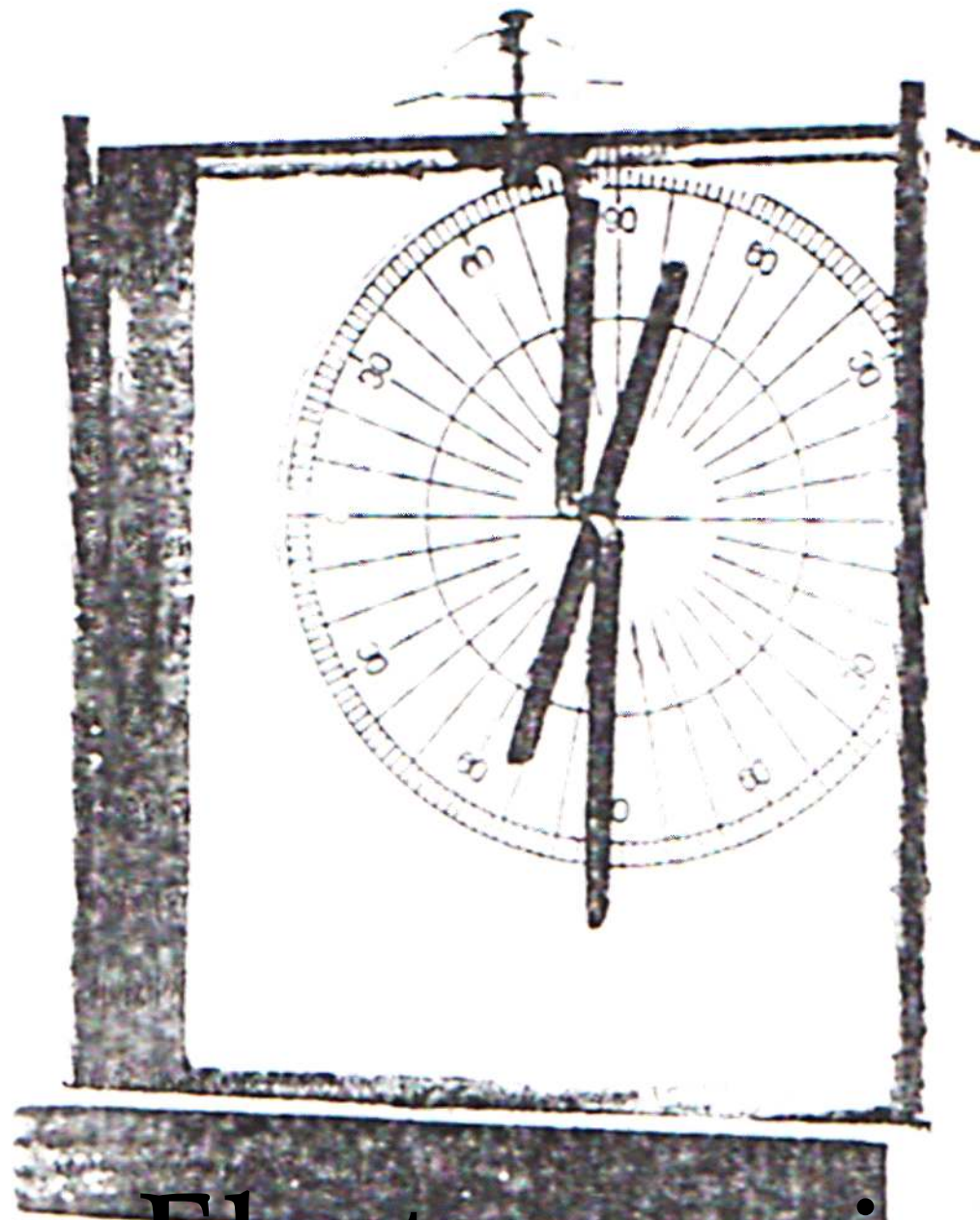




En esta colección de aparatos no están todos los publicados y están otros no publicados. El electroscopeo que sigue, si se publicó.

Electroscopio





Electroscopio