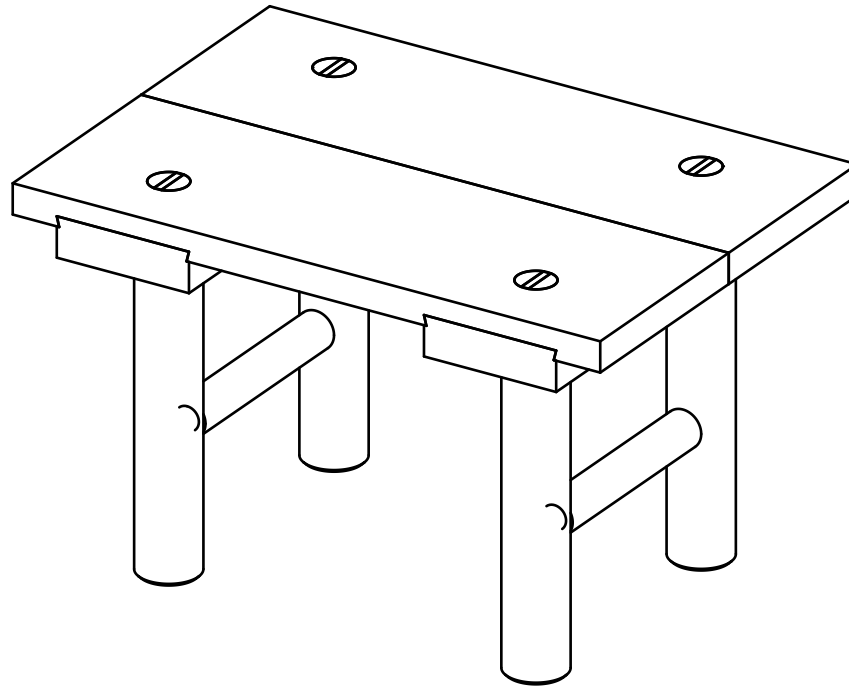


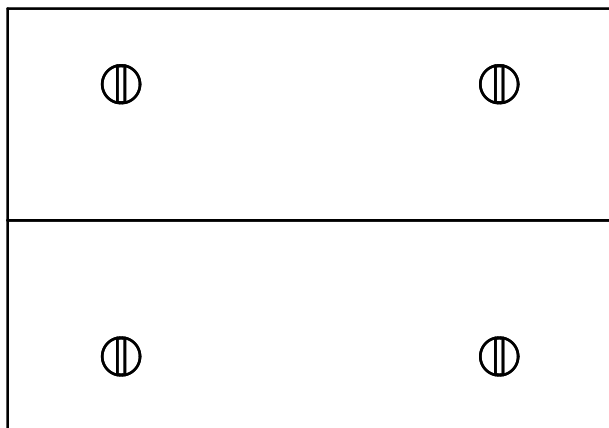
Stepstool



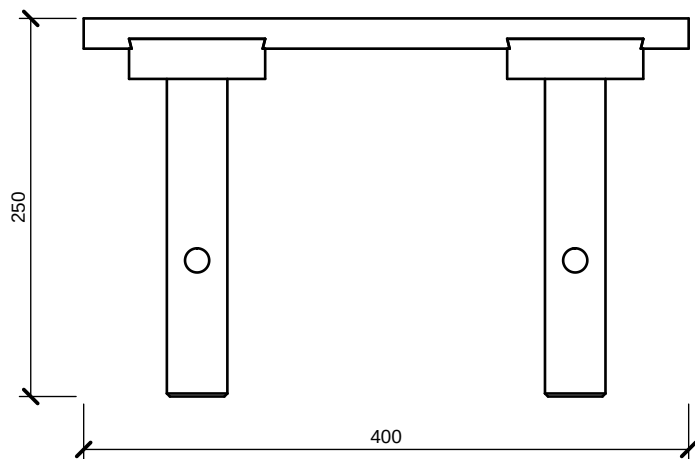
parts	14 (5 different)
overall	400 x 280 x 250 (W x D x H)
material	oak
date	2026-10-25
made with	woodwright 0.9.0

Contents

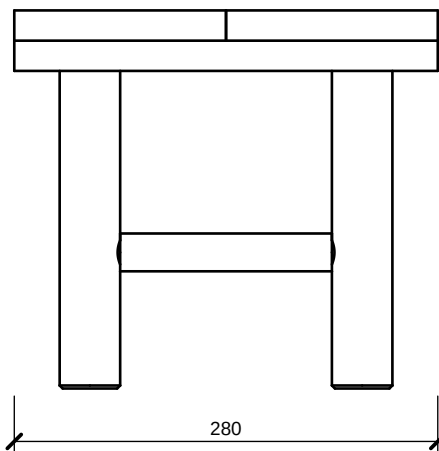
Drawings	3
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1 seat	5
2 batten	6
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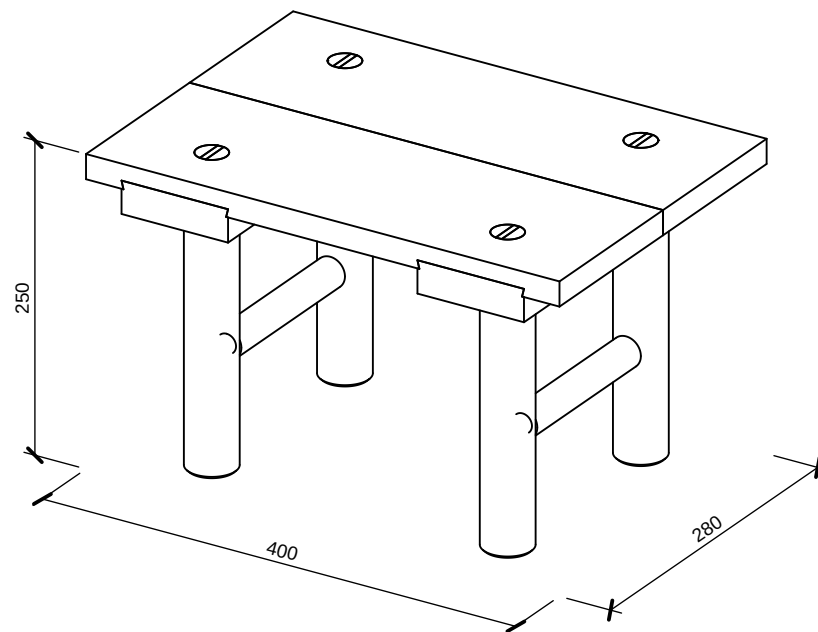
TOP



FRONT

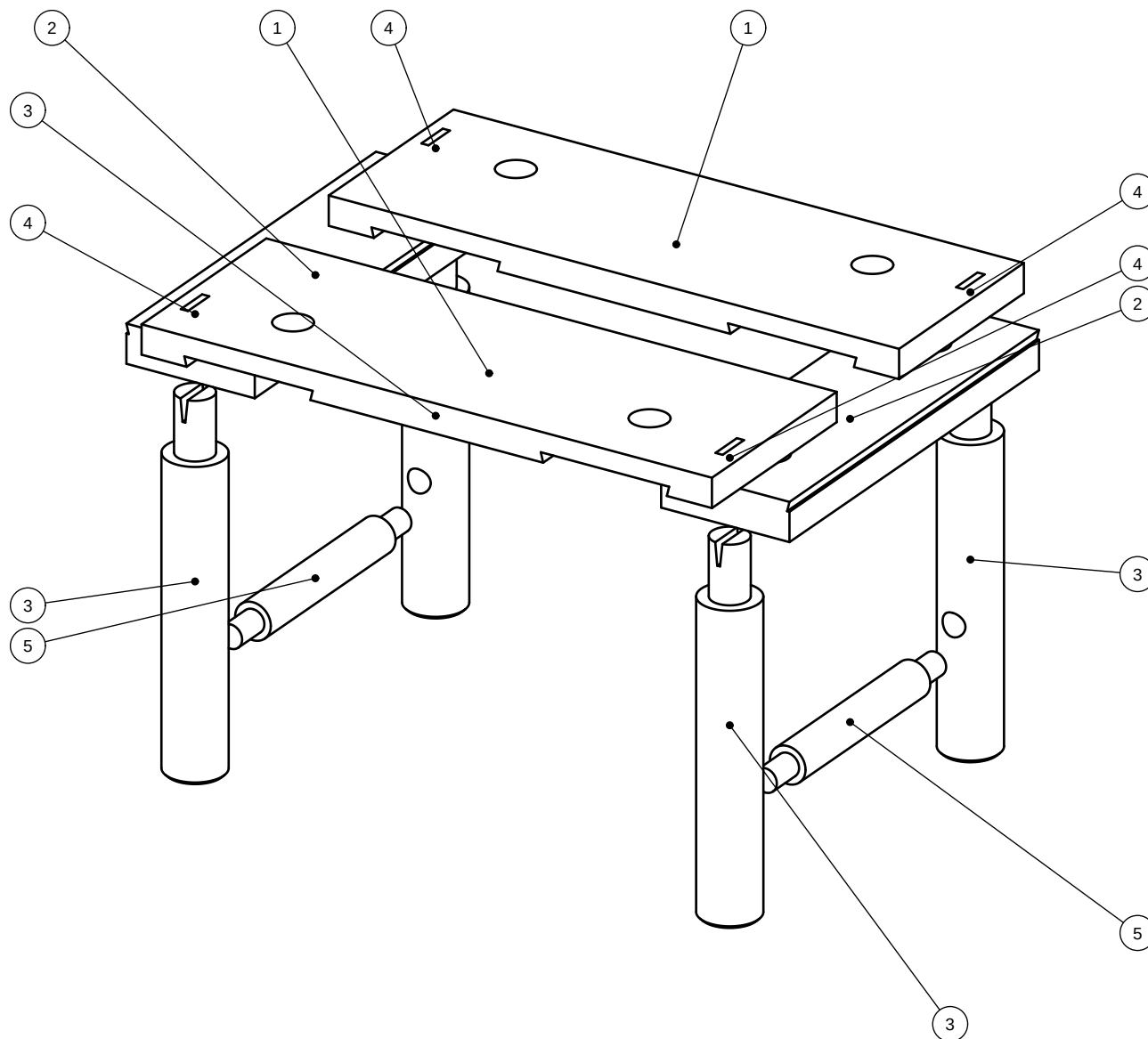


RIGHT SIDE



ISOMETRIC

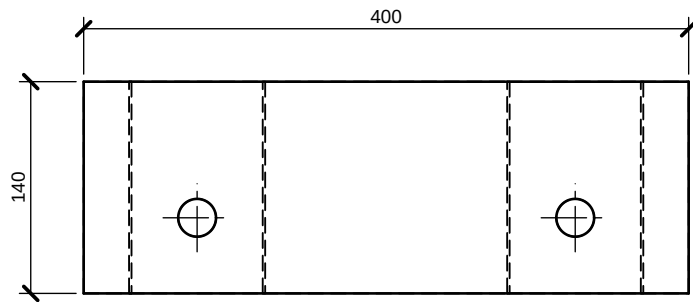
assembly	stepstool
parts	14 (5 different)
overall	400 x 280 x 250 (W x D x H)
material	oak
scale	1:5, mm



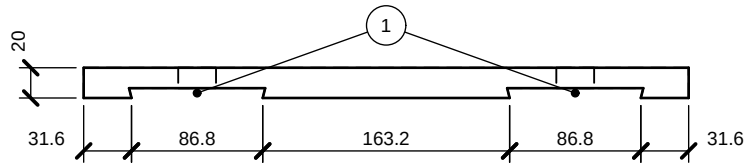
EXPLODED

no.	part	qty	cut size (L x W x T)	material
1	seat	2	400 x 140 x 20	oak
2	batten	2	280 x 90 x 26.5	oak
3	leg	4	ø40 x 250	oak
4	wedge	4	15 x 5 x 24	oak
5	stretcher	2	ø25 x 190	oak

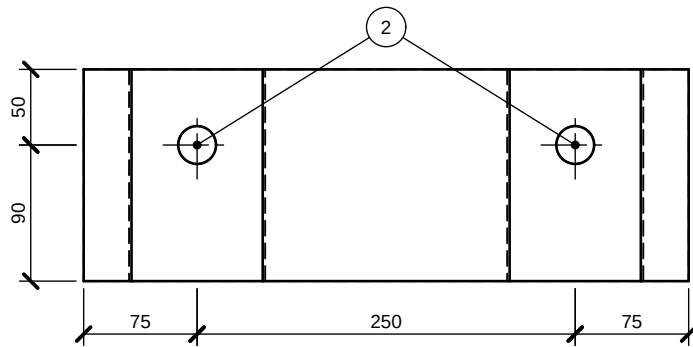
assembly	stepstool
parts	14 (5 different)
overall	400 x 280 x 250 (W x D x H)
material	oak
scale	not to scale, mm



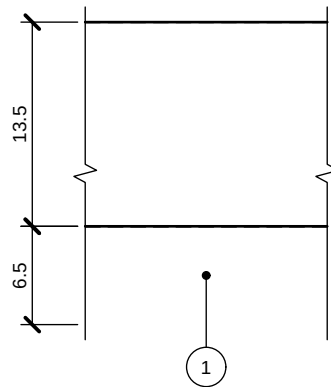
TOP FACE



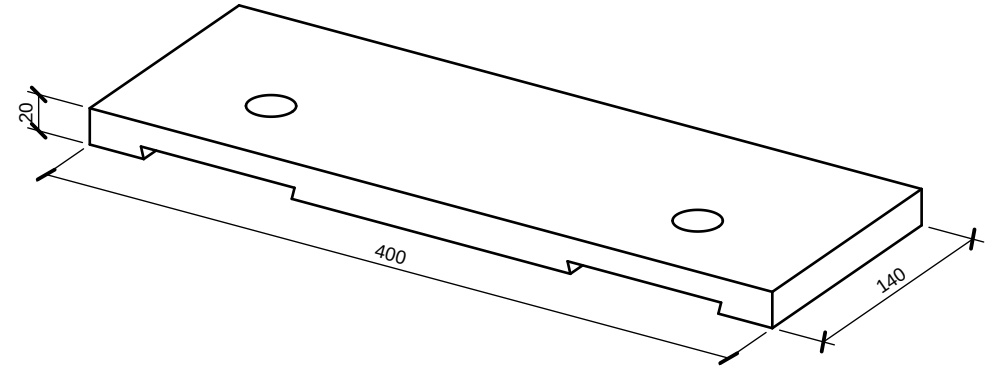
FRONT EDGE



BOTTOM FACE



FRONT EDGE: 1 2:1



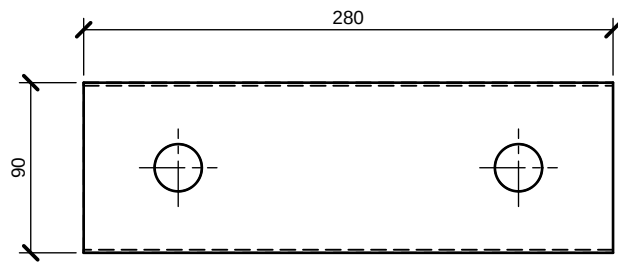
ISOMETRIC

2 pieces: seat_1, seat_2

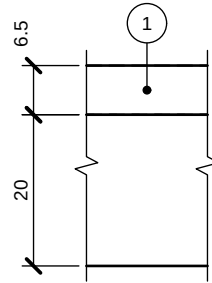
1 2 x dovetail socket 86.75 mm at the face, 6.5 deep, 1:4, in bottom_face

2 2 x through hole $\varnothing 25$, in bottom_face

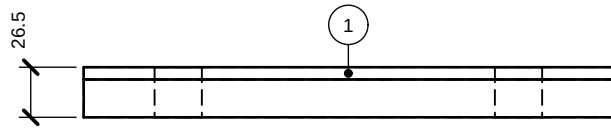
part	seat
of	stepstool
make	2
cut size	400 x 140 x 20
material	oak
scale	1:5, mm



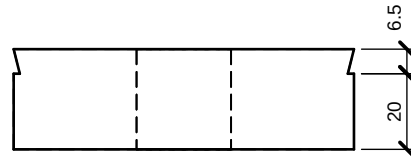
TOP FACE



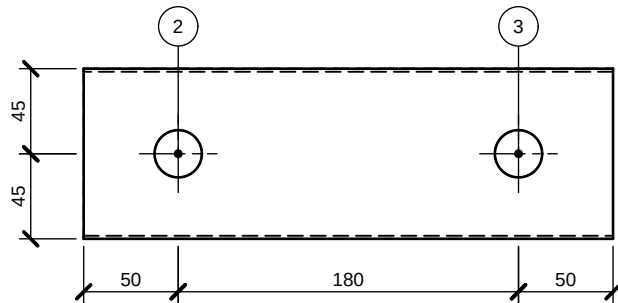
FRONT EDGE: 1 1:1



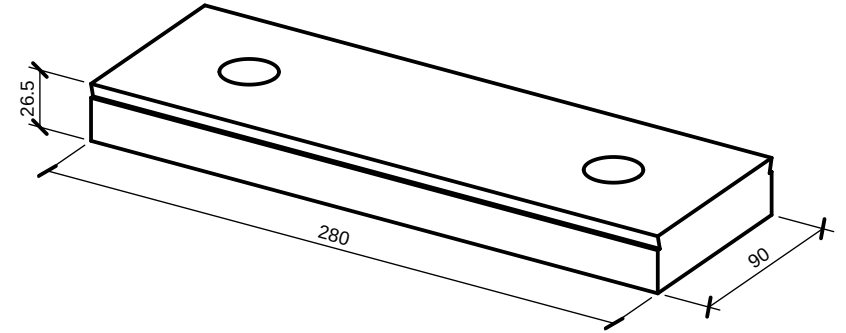
FRONT EDGE



RIGHT END 1:2



BOTTOM FACE



ISOMETRIC

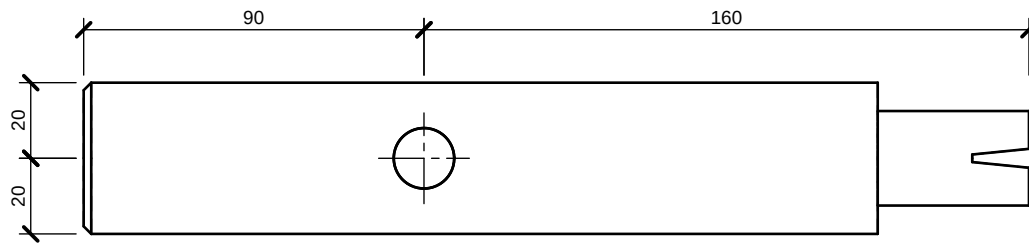
2 pieces: batten_left, batten_right

1 dovetail tongue 86.75 mm wide at the shoulder, 6.5 deep, 1:4, on top_face

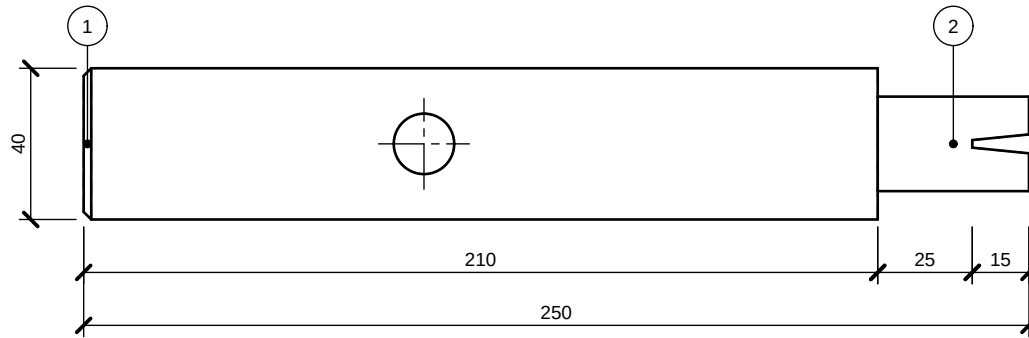
2 through hole $\varnothing 25$, in bottom_face, for the tenon on leg_front_left.right_end

3 through hole $\varnothing 25$, in bottom_face, for the tenon on leg_back_left.right_end

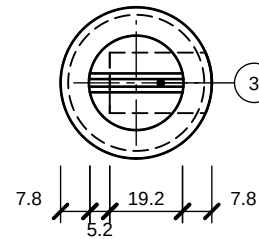
part	batten
of	stepstool
make	2
cut size	280 x 90 x 26.5
material	oak
scale	1:4, mm



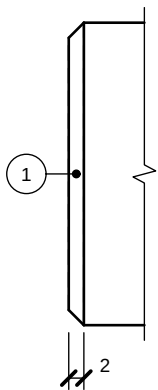
SIDE



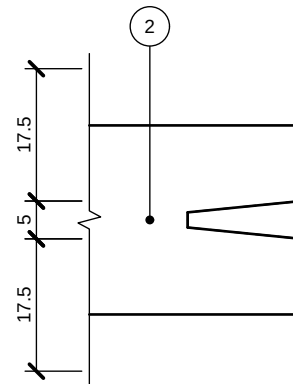
SIDE



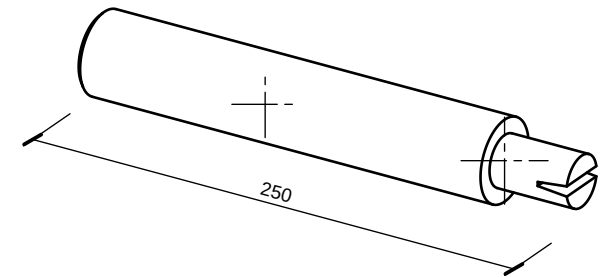
RIGHT END



SIDE: 1 1:1



SIDE: 2 1:1



ISOMETRIC

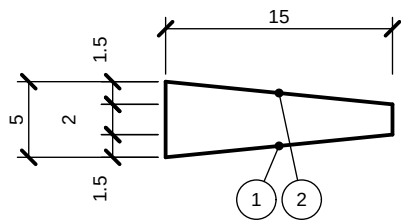
4 pieces: leg_front_left, leg_front_right, leg_back_right, leg_back_left

1 chamfer 2 mm around left_end

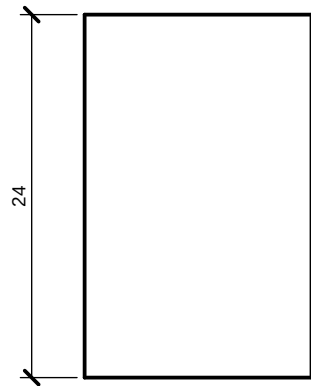
2 round tenon $\varnothing 25$, 40 long, a saw kerf 2 mm, 15 deep, for a wedge, on right_end

3 hole $\varnothing 16$, 27 deep, in back_edge

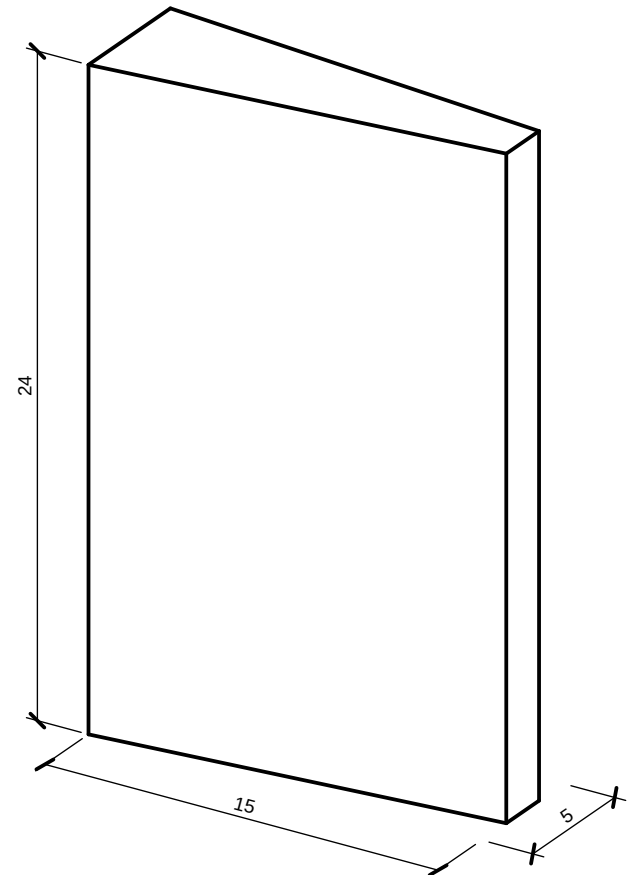
part	leg
of	stepstool
make	4
cut size	$\varnothing 40 \times 250$
material	oak
scale	1:2, mm



TOP FACE



FRONT EDGE



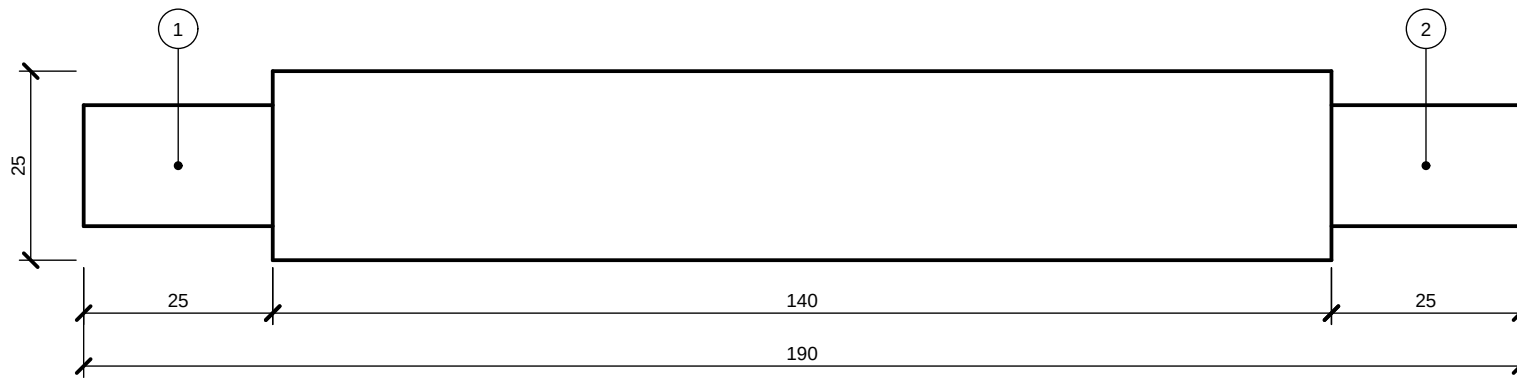
ISOMETRIC

4 pieces: wedge_front_left, wedge_front_right, wedge_back_right, wedge_back_left

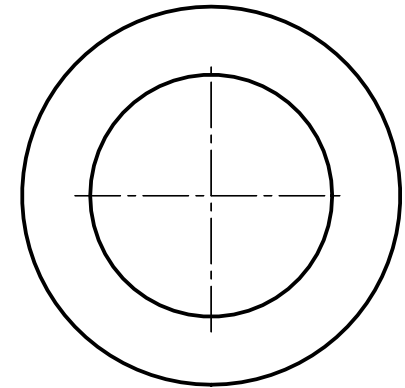
1 taper 1.5 mm on front_edge towards right_end

2 taper 1.5 mm on back_edge towards right_end

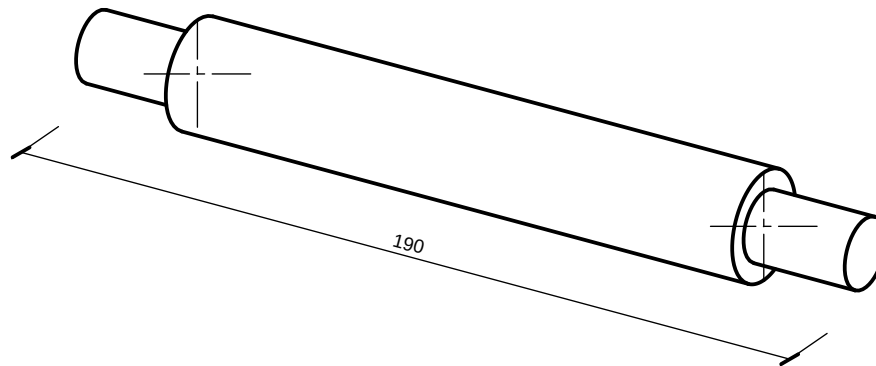
part	wedge
of	stepstool
make	4
cut size	15 x 5 x 24
material	oak
scale	2:1, mm



SIDE



RIGHT END 2:1



ISOMETRIC

- 2 pieces: stretcher_right, stretcher_left
 1 round tenon $\varnothing 16$, 25 long, on left_end
 2 round tenon $\varnothing 16$, 25 long, on right_end

part	stretcher
of	stepstool
make	2
cut size	$\varnothing 25 \times 190$
material	oak
scale	1:1, mm

Cut list

seat	400 x 140 x 20 mm oak, 2 pieces: seat_1, seat_2
	- 2 x dovetail socket 86.75 mm at the face, 6.5 deep, 1:4, in bottom_face
	- 2 x through hole ø25, in bottom_face, 75 and 325 from left_end; 50 from front_edge
batten	280 x 90 x 26.5 mm oak, 2 pieces: batten_left, batten_right
	- dovetail tongue 86.75 mm wide at the shoulder, 6.5 deep, 1:4, on top_face
	- through hole ø25, in bottom_face, 50 from left_end, centered, for the tenon on leg_front_left.right_end
	- through hole ø25, in bottom_face, 230 from left_end, centered, for the tenon on leg_back_left.right_end
leg	ø40 x 250 mm oak, 4 pieces: leg_front_left, leg_front_right, leg_back_right, leg_back_left
	- chamfer 2 mm around left_end
	- round tenon ø25, 40 long, a saw kerf 2 mm, 15 deep, for a wedge, on right_end
	- hole ø16, 27 deep, in back_edge, 90 from left_end, centered
wedge	15 x 5 x 24 mm oak, 4 pieces: wedge_front_left, wedge_front_right, wedge_back_right, wedge_back_left
	- taper 1.5 mm on front_edge towards right_end
	- taper 1.5 mm on back_edge towards right_end
stretcher	ø25 x 190 mm oak, 2 pieces: stretcher_right, stretcher_left
	- round tenon ø16, 25 long, on left_end
	- round tenon ø16, 25 long, on right_end

Appendix: source

Made with woodwright 0.9.0, build123d 0.13.0, Python 3.14.4.

To make these plans again:

```
uvx --python 3.14 woodwright==0.9.0 export projects.stepstool
```

projects.stepstool, in woodwright/examples/projects.py

```
def stepstool(
    height: float = 250,
    length: float = 400,
    depth: float = 280,
    batten_width: float = 90,
    batten_inset: float = 30,
    leg_inset: float = 50,
    tenon: float = 25,
    stretcher_height: float = 90,
    stock: Stock = OAK,
) -> Assembly:
    """A step stool: the seat of `stepstool_seat` on four round legs, which go
    through the battens and the seat, wedged; straight legs (splayed ones
    come later).

    The legs stand under the middle of the battens, their axes `leg_inset`
    in from the front and the back. Their shoulders bear on the battens;
    the tenons, `tenon` wide, go through a hole bored through each batten
    and on through the seat, flush with its top, wedged across the seat's
    grain. The tenons cross the battens' grain, so that the battens hold the
    seat's boards. A round stretcher under each batten, its axis
    `stretcher_height` above the floor, joins the front and the back leg.
    """
    floor = orient(at=(0, 0, height - stock.thickness), top_face=UP, back_edge=BACK)
    asm = Assembly("stepstool", root_location=floor)
    seat, battens = _stepstool_seat(
        asm, length, depth, 2, batten_width, batten_inset, slope=4, stock=stock
    )
    batten = battens[0].thickness
    x = batten_inset + batten_width / 2
```

```

legs = _wedged_legs(
    asm,
    seat,
    height - stock.thickness - batten,
    (x, leg_inset),
    tenon,
    kerf=2,
    flare=1.5,
    wedge_length=15,
    gap=batten,
)
# The front left and the back left leg go through the left batten.
for leg, batten_part in zip(
    legs, [battens[0], battens[1], battens[1], battens[0]], strict=True
):
    asm.join(Bore(batten_part, leg.right_end, diameter=tenon))
spans = [("stretcher_right", 1, stretcher_height), ("stretcher_left", 3, stretcher_height)]
_rod_stretchers(asm, legs, spans, (length - 2 * x, depth - 2 * leg_inset), tenon=16)
return asm

```