TIPPY TAP CONSTRUCTION GUIDE

HOUR LED

S



TABLE OF CONTENTS

- PG 3 INTRODUCTION
- PG 4 GENERAL ASSEMBLY
- PG 5 MATERIALS & CUT LIST
- PG 6 SUGGESTED TOOLS
- PG 7 STEP BY STEP INSTRUCTIONS
- PG 23 TIPPY TAP SIGNAGE (PRINT)

INTRODUCTION

This guide illustrates how to build a simple handwashing station using low cost materials and methods. We encourage you to modify the design as needed to suit project application and availability of tools and materials. The lists of suggested tools and materials provided in this guide are specific to the model illustrated in this document. To see a more simple design with backyard materials and more resources on tippy taps, visit watershedmg.org/tippytap.

Beyond the construction of the tippy tap, its upkeep and use will also determine its success as a hand washing station. Make sure to have a system to refill the water jug frequently. A one gallon jug has enough water for 15 to 30 people to wash their hands (depending on how efficient they are). The communal bar of soap is a standard element of the tippy tap design. This is not a sanitation concern; a good lather of soap kills any residual germs that may be living on the bar. For drying hands, we suggest air drying, and not providing a communal towel.

GENERAL ASSEMBLY



MATERIALS & CUT LIST

• (1) 4"x 4"x 6' Lumber

- (2) Legs @ 32"
- (2) 2"x 4"x 6' Lumber
 - (2) Feet @ 32"
 - (2) Cross Members @ 32"
- (1) ¹/₂"x 10' EMT Conduit
 - (1) Rod @ 36"
 - (2) Braces @ 15"- 18"
 - (1) Pedal @ 21" (Pedal Option B)
- (16) #8 x 3" Exterior Screw
- (1) #8 x 2" Pocket Screw (or Screw w/ Washer)
- (2) #8 x ¹/₂" Screw Eye
- (1) ~4" Extension Spring
- (1) Jug (Handle Design is Important)
- (1) Bar Soap
- (1) ¹/₂" Key Ring (or Bailing Wire / Other Clip)
- (1) Spray Paint (Designed for Plastic)
- (1) ~³⁄₄"x 2"x 17" Wood Survey Stake (Pedal Option A)
- (2) ¹/₂" EMT 2-Hole Strap (Optional - 4 Additional #8 x 3" Screws Needed)
- ~60" Mason's / Landscaping Line
- ~30" Rope
- Tape or Cap for End of EMT Conduit

SUGGESTED TOOLS

- Drill
- Impact Driver
- Hacksaw
- Circular Saw
- ¾" Forstner Bit
- 1/8" Drill Bit
- 3/16" Drill Bit
- 1/2" Drill Bit
- Speed Square
- Side Cutting Pliers
- Tape Measure
- Sledge Hammer
- Anvil / Concrete Slab
- Scissors
- Lighter
- Pencil
- PPE

STEP BY STEP INSTRUCTIONS



1 PREP JUG

- Drill 1/8" vent in a location that will remain above the water level whether the jug is in resting position or pouring position
- Drill 1/8" spout which will be above the water level when jug is in resting position and allow water out when in pouring position
- Wipe jug clean with cloth (optionally, use vinegar / solvent)
- Paint Jug with primer designed for plastics (optional)
- Paint Jug with paint to reduce UV damage and algae growth
- Allow to dry



2 MEASURE & CUT LUMBER

- (2) 4"x 4" legs @ 32"
- (2) 2"x 4" feet @ 32"
- (1) 2"x 4" top cross member
- (1) 2"x 4" lower cross member



3 MEASURE & CUT EMT CONDUIT

- (1) Rod @ 36"
- (2) Braces @ 15"- 18"
- (1) Pedal @ 18" (Pedal Option A)
- Use sledge hammer to smash ends of braces (keep conduit weld away from the fold)
- Drill pilot holes through the smashed ends of braces



4 DRILL ROD GUIDES

- Measure +/- 3" from top of leg centers
- Bore ³/₄" hole through each leg (use drill press if available)



5 CONNECT LEGS TO FEET

- Measure to find center of foot
- Drill two pilot holes through the foot and into the leg (be sure rod guide is perpendicular to the length of the foot)
- Drive #8 x 3" screws to connect the leg to the foot



6 CONNECT CROSS MEMBERS

- Square the edge of the lower cross member to the leg and foot
- Drill two pilot holes through the lower cross member into the foot
- Drive #8 x 3" screws to connect lower cross member to foot (the side of the leg with the lower cross member will be referred to as the back side of the tippy tap)
- Square upper cross member to leg
- Drill two pilot holes through the upper cross member into the leg
- Drive #8 x 3" screws to connect the upper cross member to the leg



7 CONNECT BRACES

- Drill pilot hole in the inside face of leg @ 8" 10" up from bottom of leg and 1½" in from back of leg
- Drive #8 x 3" screw to begin to fasten brace to leg, allowing brace to rotate freely
- Mark and drill pilot into foot where pilot hole in brace aligns with center of the foot
- Drive #8 x 3" screw to connect brace to foot, tighten
- Tighten initial screw (brace leg)



8 CONNECT FOOT PEDAL

Pedal Option A

- Drill a pilot hole in survey stake @ centered 1" from squared end
- Drill a second pilot hole in survey stake centered @ 13" from squared end
- Drill a pilot hole in foot on outer face centered @ 1" from front end
- Drive #8 x 2" pocket screw to fasten survey stake (foot pedal) to foot, allowing pedal to move freely

Pedal Option B

- Drill a pilot hole in foot on outer face centered @ 1" from front end
- Drive #8 x 2" pocket screw to connect pedal to foot, allowing pedal to move freely



9 INSTALL ROD

- Deburr the cut ends of the rod
- Send rod through one of the rod guides; if rod doesn't glide freely, ream guides w/ forstner bit or other
- Before rod reaches other guide, slide the rod between jug* handle
- Finish sending rod until end is just short of protruding through the second leg
- Wrap portuding end of rod with tape to provide grip for use as a handle, or use end cap

*Paint and drill jug before starting tippy tap construction



10 INSTALL EYE SCREWS

- Drill pilot hole in front face of upper cross member centered
 @ 10¹/₂" from right side (21¹/₂" from left side)
- Drill pilot in front face of left leg @ 10" up from bottom and 1" from right side of leg
- Screw eye screws in tightly

Pedal Option B

 Drill pilot in **back** face of left leg @ 10" up 10 from bottom and 1" from left (see pg 4)



11 CONNECT SPRING TO EYE SCREW

• Use a key ring or bailing wire to connect one end of the spring to the eye screw



12 ADD SOAP

- Tie a loop in rope; use to secure rope around rod to the right of jug
- Drill hole through center of soap slightly larger than rope
- Push rope through soap and tie knot to secure bar



13 CONNECT LINE TO JUG

- Tie a loop in mason's line
- Send loop through open end of the spring
- Use loop to make a slip-loop around the mouth of jug



14 CONNECT LINE TO PEDAL

- Send the other end of the mason's line through the lower eye screw then through the open pilot hole in the foot pedal
- Pull slack through the foot pedal and set the upper limit of travel
- Wrap the line around the foot pedal to use up slack
- Tie off remainder of line





Watershed Management Group

Hand Washing Station

Step on the wood lever to wet your hands and the bar of soap. Release it and lather up! Step on it again to rinse off.

Lavamanos Aplaste el "pedal" de palo-madera para enjuagar sus manos y jabón. iSuelte el pedal y enjabonarse! Aplaste el pedal de nuevo para enjuagarse.

This System:

- 1 Lather your hands by rubbing them together with the soap. Lather the backs of your hands, between your fingers, and under your nails.
- **2** Scrub your hands for at least 20 seconds, then rinse.
- **3** Prevents the passage of unwanted germs because it is hands free.

Este Sistema:

- Enjabona tus manos frotándolas con el jabón. Enjabona detrás de tus manos, entre tus dedos y debajo de tus uñas.
- 2 Frote sus manos por lo menos 20 segundos, luego enjuague.
- 3 Previene la contaminación de gérmenes ya que no se usan las manos para activar.