Tony's Aluminum Dry Washer Plans

This drywasher can be built in a few days time if the builder has access to the right materials and tools which are listed. The total estimated cost for materials for this plan is around $100.00 not including the cost of the aluminum sheeting. This Drywasher can be operated with a typical gas powered leaf blower. The hopper plans are different than what is showed on this page, the second hopper that was built was a much better design, but both work. Special thanks goes to TUMBLEWEED for his help and awesome tools. This site is best viewed with Microsoft Internet Explorer

For more help or questions e-mail me.

GENERAL NOTES ON MATERIALS

- **Aluminum of thickness between 0.061" and 0.071" can usually be found at scrap yards or can be purchased at Metal Supply Dealers.**
- **The Aluminum Angle used in this plan was purchased at Home Depot, it is supplied by Crown Bolt Inc. On some parts of the drywasher this angle can be substituted for other materials on hand. Where prices are known I have included them as side notes.**
- **Be sure to always wear safety glasses when cutting aluminum.**
- **Use a file or bench grinder to remove rough edges from cut aluminum sheets.**

TOOLS NEEDED

- **Table Saw or Circular Saw with Aluminum cutting Blade**
- **Drill with 1/8", 1/4" and 1/16" Drill Bits**
- **Sabre Saw**
- **Bench Grinder or Files**
- **Hacksaw**
- **Silicone Caulking**
- **Awl and Compass**
- **Tin Snips**
- **Hot Glue Gun**
- **Rivet Gun**

MATERIALS NEEDED

- Alum Sheeting, Approx 10 SqFt
- Alum Angle 2"x2"x96" (2) 1/16" Thick (#56790 $12.94 ea)
- Alum Angle 3/4"x3/4"x48" (4) 1/16" (#43240 $2.70 ea)
- Alum Square Tubing 3/4"x3/4"x48" (2) (#40630 $5.02 ea)
- Oatey ABS Fiberglass Shower Base Drain (#42077 $5.68)
- 1/2" Expanded Metal 14"x24" (#45710 (30"x16") $19.33)
- Batiste Cloth 10" x 21" ($2.97 yd Hancock Fabrics)
- Metal Screen 9"x20"
- Alum Rivets 1/8" Medium, Approx 150
- 3/4" Weather Stripping
- 1/4" Machine Bolts 3/4", 1-1/2", 2", 3"
- 1/4" Wingnuts (6)
- 1/4" Nuts (20)
- 1/4" Washers (10)
- 1/8" Eyebolts (4)
- 1/8" Nuts (8)
- 1/16" Machine Bolt w/2 Nuts
- 4" Spring (Semi-Stiff)
- 1/4" Shaft Collars (4) ($2.01 ea Ace Hardware)
- Duct Tape
- Small Link Chain 28"

Body

- **Bottom 9"x20"**
- **Sides 5-1/2"x20"**
- **Front 3-1/4"x9"**
- **Back 7"x9"**
- **3/4"x 3/4" Alum Angle 11'**
- **12" Chain**

Mark the center of the bottom piece and scribe a 3" diameter circle.

Drill 1/4" relief holes and cut out a 3" diameter hole with a jig saw, this will be the mounting area for the Fan Assembly **(Fig. 1)**.

Attach 3/4"x 3/4" aluminum angle around the perimeter of the body with rivets. Attach sides, back and front to bottom **(Fig. 2)**.

On the inside top of the front piece attach a 3/4" x 3/4" aluminum angle, along this same hieght attach angle along the sides and back of the body, this will be the support rails for the screen and riffle tray. Attach corners in the same manner with 3/4" x 3/4" aluminum angle **(Fig. 3)**.

Use silicone sealant to seal all joints in body. Drill 1/16" holes in the top corners on the back body, these will hold the rear springs to support the body. After riffle Tray and Cloth Screen are complete, install in body. Attach a metal strip above back riffle rail, this will hold the riffle tray down. Drill 1/8" holes through riffle rails 1" from front on both sides and insert 1/8" eyebolts and secure with nuts. Attach chain to both eyebolts. Click here for detailed drawing.

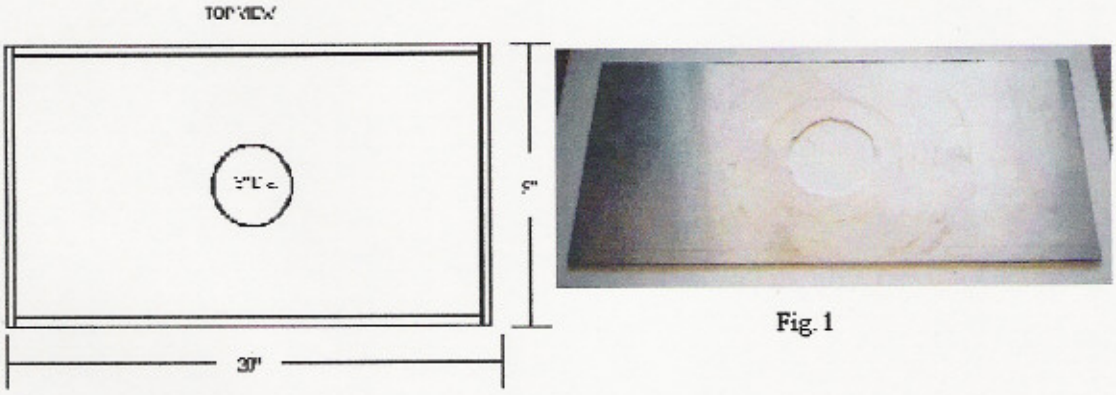


Fig. 1

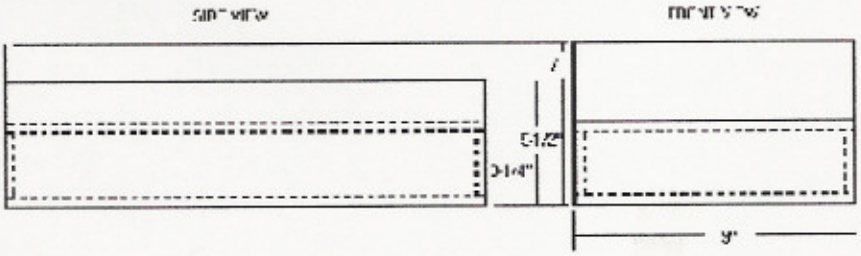
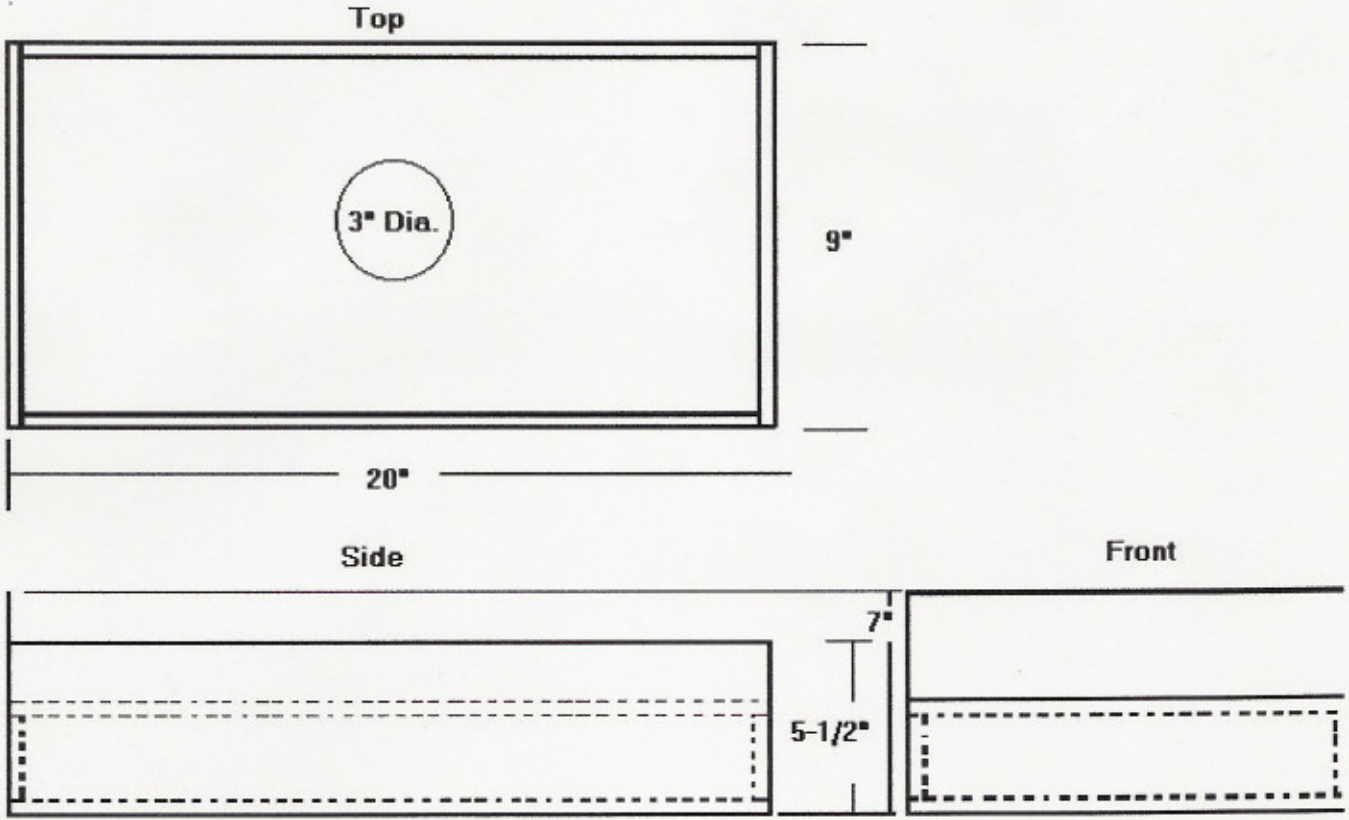


Fig. 2

Fig. 3


Top
3" Dia.
9"
20"
Side
7"
5-1/2"
Front

Riffle Tray

- **Alum Angle 2"x2"x20" (2)**
- **Alum Angle 2"x2"x9"**
- **Alum Angle 3/4"x3/4"x9" (5)**
- **Metal Screen 9"x20"**
- **Batiste Cloth 10"x21"**
- **1" Duct Tape**

Rip one edge of 2" x 2" Aluminum Angle to 1/2" on both 20" pieces. These will be the side rails for the riffle tray. Place these rails onto the 1/2" angle supports of the body, and measure the inside distance. File the 9" long piece of 2" x 2" angle to fit tightly and attach with 4 rivets. **(Fig. 1)**.

The flat edge of all rivet will be on the bottom of the riffle tray. The 3/4" x 3/4" riffles will be measured and trimmed the same way. Place riffles on a firm surface and pound firmly with a mallet to obtain an approximate 110 degree angle, attach these evenly throughout the riffle tray (approximately every 3 inches) **(Fig. 2)**. Click here for detailed drawing.

Drill 1/8" holes on the bottom of the back piece about every 1/2", this will allow air to flow through and break up clumps of dirt. Place 3/4" weather stripping on all bottom surfaces of riffle tray, including the back 3/4" of the 9" 2" x 2" angle.

Spread the batiste cloth flat and center metal screen on top **(Fig. 3)**. Use hot glue to attach cloth on one edge. Stretch cloth and secure other edge. Do the same for the ends. Punch a hole through the cloth 3/4" from the end centered and place the 1/16" bolt through and tightly secure with two nuts. This will keep the cloth screen from sliding out of the body while doing a cleanup.

Place riffle tray on screen and look up through bottom up to light, measure up 1/2" from each riffle and place a strip of 1" duct tape along each mark, this will create a dead-air space for the riffles.

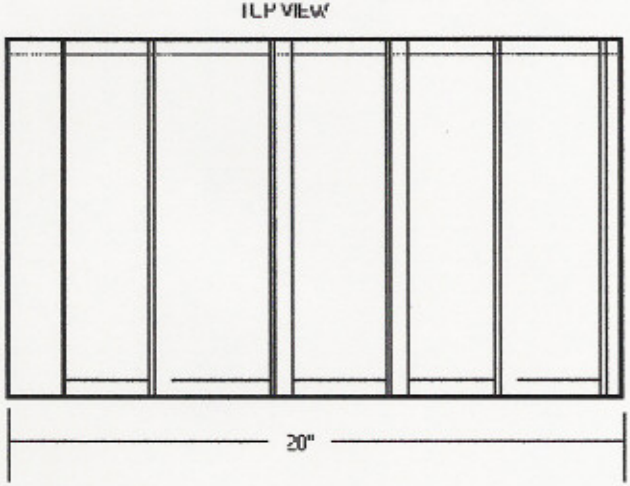


Fig. 3.

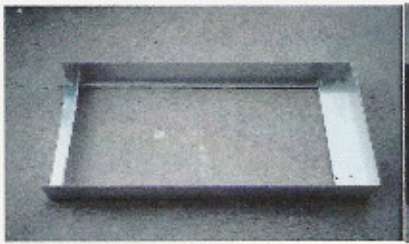


Fig. 1.

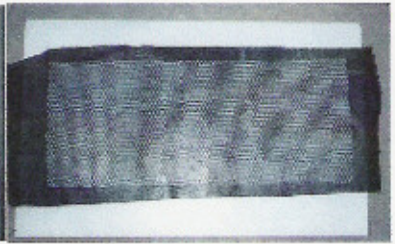
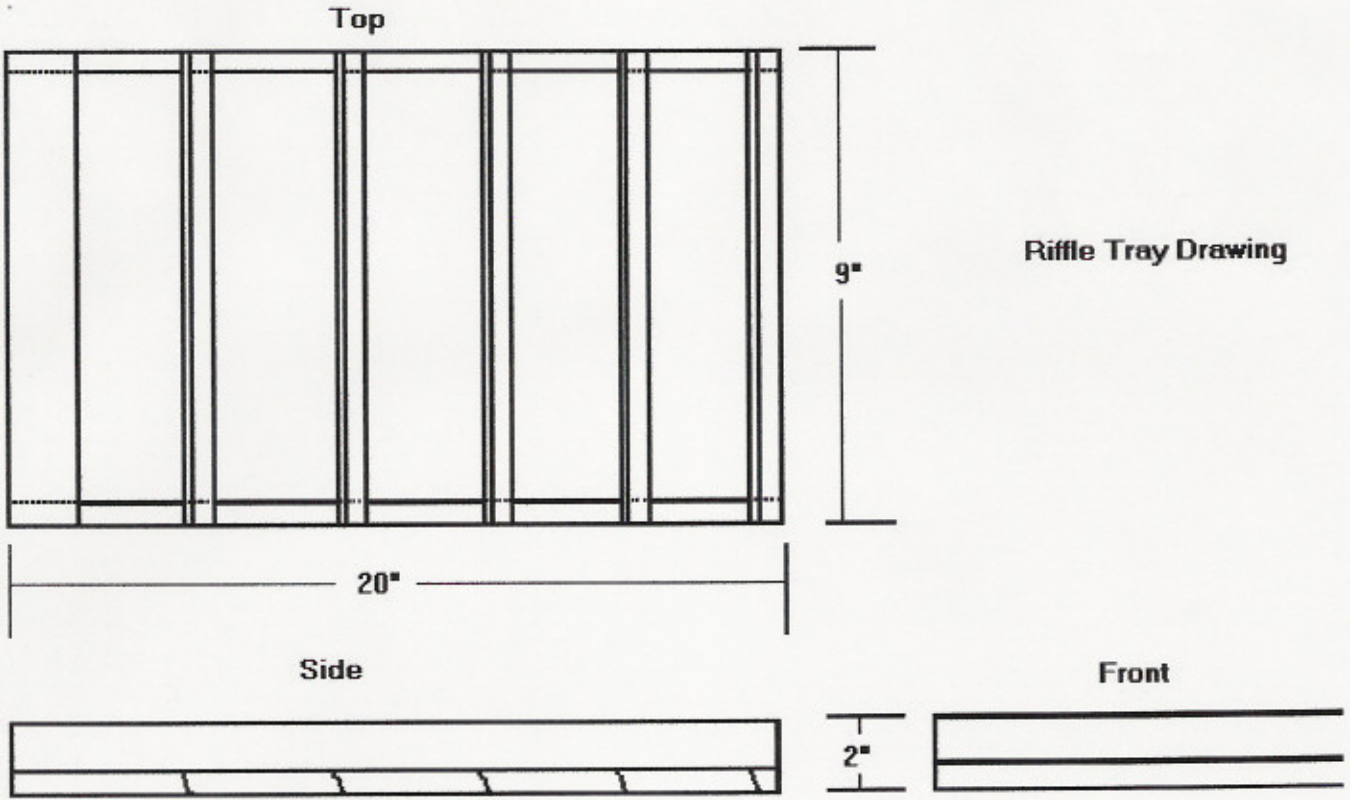
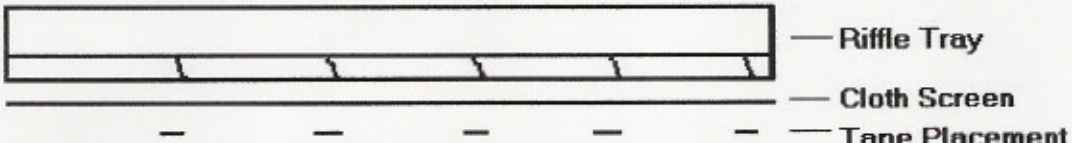
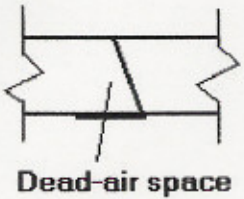


Fig. 3.



Riffle Tray Drawing


Riffle Tray
Cloth Screen
Tape Placement


Dead-air space

Hopper

- **Bottom 20"x24"**
- **Alum Angle 2"x2"x24" (2)**
- **Gate 2"x4-1/2"**
- **Gate Rails 1/2"x4" and 1"x4"alum strips (2 ea)**
- **Lower Screen Support 2"x2"x 14" Angle Alum**
- **Upper Screen Support 3/4"x 3/4"x14" Angle**
- **Expanded Metal 14"x24"**
- **End Plate 12"x8" Alum Sheet**

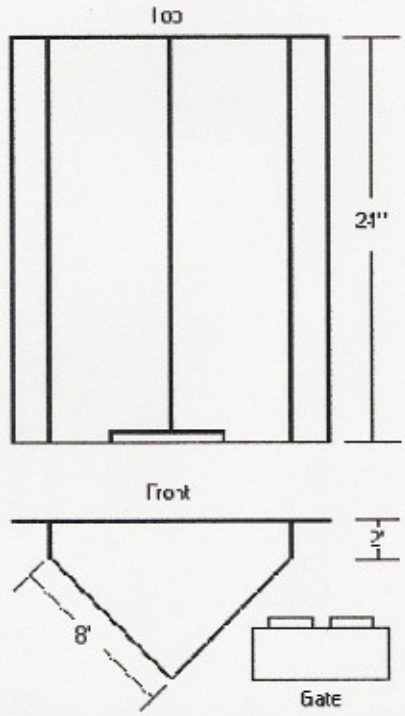
Cut a 1" x 4" slot on end of bottom. Bend a 90 degree angle down the center of the hopper. Bend a 45 degree angle 2" down on each edge. **(Fig. 1).**

Attach 2" x 2" x 24" aluminum angle to bottom on both sides with rivets **(Fig 2).** attach upper screen support. Fit endplate with 1/2" tabs to hopper, attach with rivets. Attach lower 2"x2"x14" screen support. Click here for hopper drawing.

Attach expanded metal grizzley with 1/4" bolts to upper and lower screen supports **(Fig. 4).**

Drill 1/16" holes on each lower corner of the screen supports, these will be used to attach sections of 4" chain to support the body. Drill a 1/16" hole centered at top of Hopper and attach a 8" piece of chain.

Bend the gate to a 90 degree angle and bend tabs to 90 degrees, secure gate to hopper by riveting rails to body and sliding in gate. Click here for gate drawing.



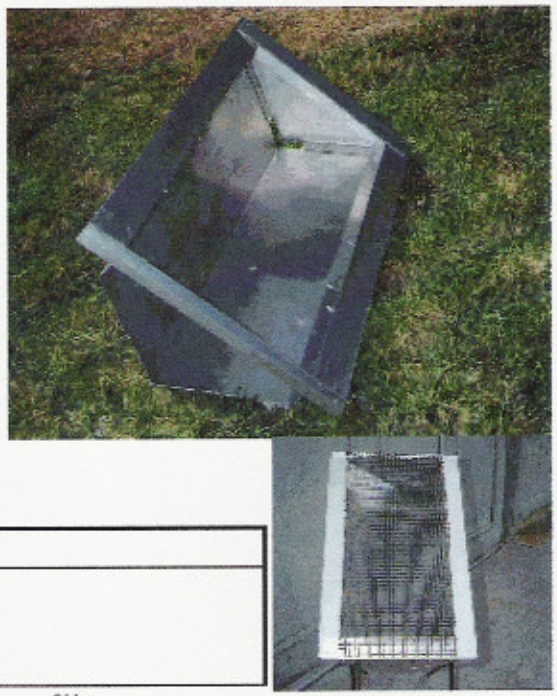


Fig. 4.

Legs And Misc

- **Alum Sq Stock 3/4"x3/4"x 48" (4)**
- **1/4" Bolts 2", 3"**
- **1/4" Nuts**
- **1/4" Washers**
- **1/4" Wingnuts**
- **Spring**
- **Chain**

Drill 1/4" holes 1" centered on sides of edge of body on top and bottom of hopper. Place 1/4"x3" bolts in the bottom holes of hopper and secure with (3) nuts. Place 1/4" x 2" bolts in the top holes of hopper and secure with (1) nut.

The forward legs have 1/4" holes drilled centered at 1" and 16".

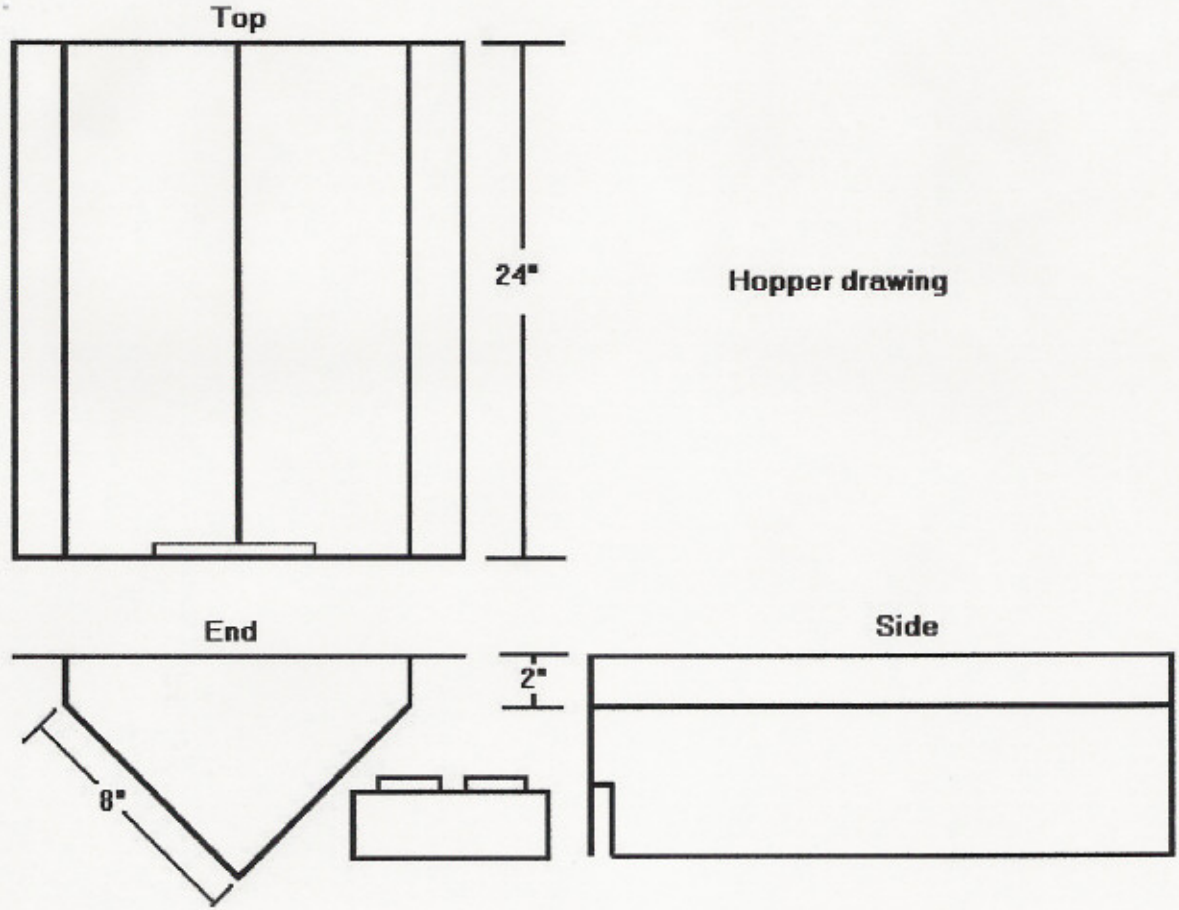
The rear legs have 1/4" holes drilled at 1" and 23".

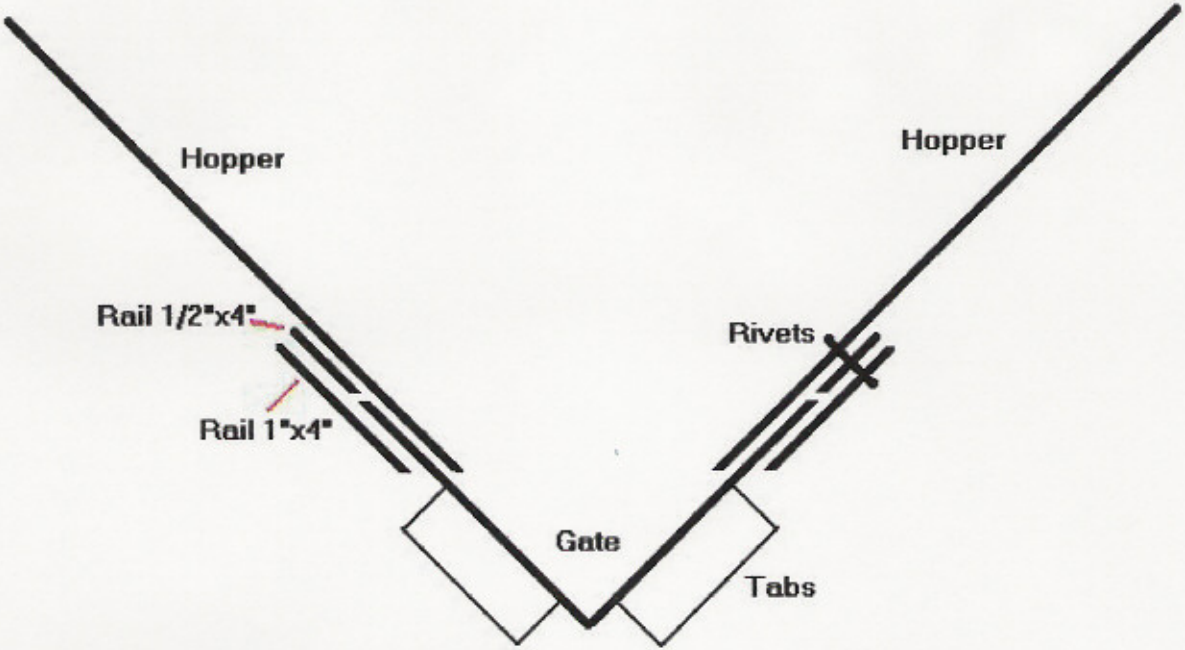
Attach legs to hopper with wingnuts and to each other with 2" bolts and wingnuts. **(Fig. 1)**

Suspend body from chains on hopper and to spring. **(Fig. 2)**

Fig. 1.

Fig. 2.


Top
24"
Hopper drawing
End
2"
8"
Side



End view showing how sliding gate is secured to hopper.