DIRT CHEEP™ STRONGHOLDS

from MicroTactix Games
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MICROTACTIX

DISCLAIMER

We have made every effort to make sure that all parts fit together properly, but sometimes tolerances are tight and mistakes do happen. Test fit all pieces before applying glue. Some trimming may be required.

Before photocopying or printing these pages on cardstock, you may wish to assemble a test copy on plain paper to better understand the construction. A minimum of 65# cover stock is recommended for constructing the final models. Regular 20 lb. bond paper can be used, but these items were designed for a heavier stock for extra durability and coloring.

Tools Required:

Scalpel or sharp-bladed hobby knife
Metal ruler or straightedge

Cutting surface - a self-healing cutting mat is recommended, but a sheet of corrugated cardboard or even heavy poster board will work as well.

Glue - white glue, glue stick or wax stick. Double sided cellophane tape also works well. Rubber cement can be used, but will sometimes stain the cardstock or discolor colored inks and cause them to run.

A Note About Using White Glue

White glue contains a good deal of water. Too much glue will warp the card stock so that its almost unusable. Warping may also cause the parts to fit together incorrectly. If you use white glue, put a very thin coat on the glue tabs - the thinner the better. You can use a cotton swab or your finger to spread the glue thin. Remember to keep a damp paper towel handy to remove any excess glue.

PLEASE NOTE:

Each item has been marked with a series of Grey Lines that are an indicator that these lines are Fold or Score lines. All Tabs which are to be glued to hold the structures together are marked with a capital letter (G). Unless otherwise noted, all Glue Tabs fold inwards to the structure.

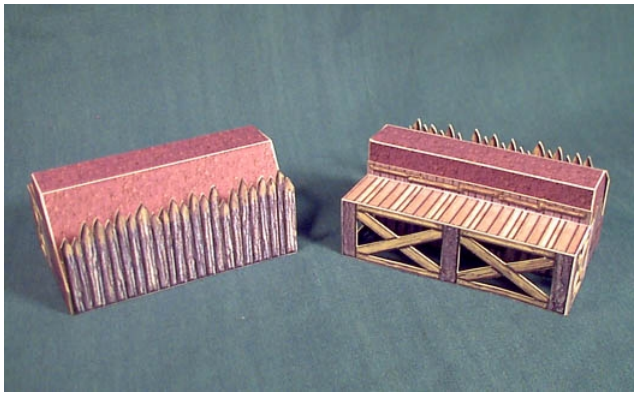
Most of the pieces in Dirt Cheep Strongholds were designed to be printed in multiples and connected together for larger structures. The two most modular pieces in the set are the earthenwork fortifications and the trenches. A number of fortifications can be built and by including the corner sections can be made to turn at right and left angles. Examples of the types of fortifications that can be built are shown in the photographs in these instructions.

EARTHWORK FORTIFICATION

2 Pages

Each completed piece will consist of 3 parts, an earthen mound, a catwalk that attaches to the back of the mound and a wooden palisade. To construct the earthen mound, cut out and score as indicated. Fold down the sides first and fold the front panels to match the angles on the side panels. Glue down one side at a time. When finished with both sides, fold the tabs on the back panel in and glue to the inside of the side panels. Set this section aside to dry.

Cut out and score the catwalk. If you wish to cut out the white spaces between the supports, do not do it at this time. Fold up the back panel and glue to the inside of the panel it is attached to. This will create a two sided panel with printing on the front and back. When the two sides are dry, cut out the white spaces between the supports if desired. Fold in the 2 side panels and fold down the glue tabs along the top. Fold down the top panel and glue the two tabs on the side panels to the underside. Fold up the long, narrow panel at the top edge of the catwalk top. When dry, apply glue to the long narrow panel and apply glue to the inside (unprinted) of the two support posts at the ends of the side panels. Place the catwalk at the back of the earthen fortification and press into place. Set this section aside to dry.



The Earthworks shown from the front and back. Note the cutouts between the support beams. Ladders to the catwalk are optional and not shown on the right.

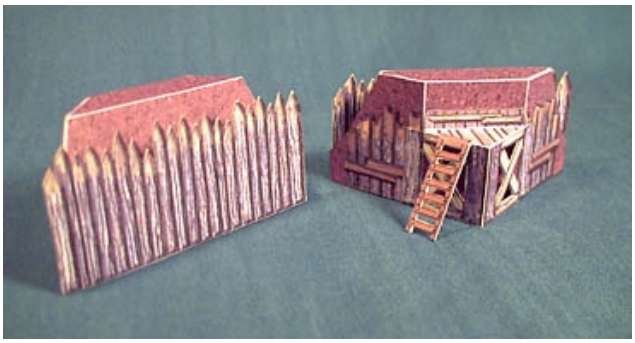
Go to Page 2 of this section and cut out the wooden palisade. Score and fold along the center and glue the 2 halves together, front to back, creating a 2 sided panel. When dry, the white areas along the top can be cut out to create a more dimensional look as shown in the photographs. Cut out and score the ladders on this page. Fold in the center and glue together. When dry, cut out the white areas between the rungs if desired. To attach to the catwalks, fold down the top panel, apply glue to the unprinted side and place on the catwalk as desired. NOTE: This page contains

enough pieces to finish 2 earthworks, so if you print 4 of the first page (the earthworks and catwalk) you'll only need to print 2 of this page to finish the pieces. While you can fit all 4 ladders on this page on a single catwalk, you can fit on only 1 palisade.

EARTHWORK CORNERS

1 Page Each

These two pieces will construct like the pieces given above except for the catwalk on the first corner. The floor on this catwalk is triangular shaped and has 2 panels attached on either side. These are the outside panels. The 2 panels attache to them are the inside panels. Fold up the bottom (inside) panels and glue front to back. When dry, cut out the spaces between the supports. Fold the completed sides down from the floor. Fold in the extra side support on the inside. This will act as the glue tab that will hold the



Front and back views of each of the completed corner pieces. Note that there is not a palisade on the second corner.

2 sides together. When dry, fold up the narrow panel attached to the floor and glue the entire piece to the back of the earthwork as above. The ladders and palisade will construct and attach exactly the same way as in the section above.

The second corner will construct the same way, but note the steeper angle in the front and at the sides of the catwalk. The ladders will construct as given above. Note that this section has no palisade as it was designed to accommodate a earthwork section for a left angle turn. When placing a completed earthwork to the left and right of this corner piece, the palisades will butt together making a palisade for the corner piece necessary.

THE GATE

1 Page

When competed, the gate section has been designed to fit between 2 earthworks as show in the photographs. There are 7 pieces needed for construction of this piece, the crossbeam, 2 uprights and 4 leg supports and two upper supports. Cut out and score all pieces as indicated. Each of the pieces will fold into a box shape. Glue the tab to the inside to create a box and when dry, fold down the triangular tabs along the top and bottom edges, apply glue, and fold the tops and bottoms into place. The upper supports and folded in the middle and glued together and the tabs on either end are folded out. For final construction, glue the two uprights over the blank (white) squares on the underside of crossbeam. When this section is dry, attach the 2 upper supports to the inside of the uprights and the underside of the crossbeam. See photograph for proper placement of these pieces. The lower leg supports will construct like the other pieces on this page, but do not have a top and bottom piece. After assembly, fold in the tabs at the top, apply glue and attach to the front and back of the upright. Repeat for the second side. See

The finished gate and gate frame.

photograph for proper placement of these pieces. The gate is folded down the middle and glued together front to back exactly like the palisades given above. White space can be cut out if desired after the piece is dry. In order for the gate to be free standing (but not swinging) build the two "feet" on this page. Cut out and score as indicated, being sure to cut out the slot in the middle. Fold the piece in half and fold the 2 bottom panels under. Glue 1 of bottom panels on top of the other to make a triangular shape. When dry, apply a small bead of glue to the bottom edge of the gate and attach the "foot" at the extreme left and right of the gate at the bottom. See photograph for particulars.

ARCHER SHIELDS

1 Page

This page contains enough pieces to construct 3 archer shields. Each shield consists of 6 pieces, 1 front shield, 2 wheels, 1 axle and 2 side-bar. Cut out and score the front shield, fold in the middle and glue together to form a two sided panel. When dry, cut out the archer's ports. Cut out the wheels as squares, fold in the center and glue together, front to back. When dry, cut out round. Do not cut out the white square on the back of the wheel. This is only a marker for axle placement. Fold the axle into a box shape and glue the tab to the inside. When dry, fold down the triangular tabs on either end and glue the ends in place on top. The 2 side-bar will construct the same way except that only the back of the side-bar has an end that folds

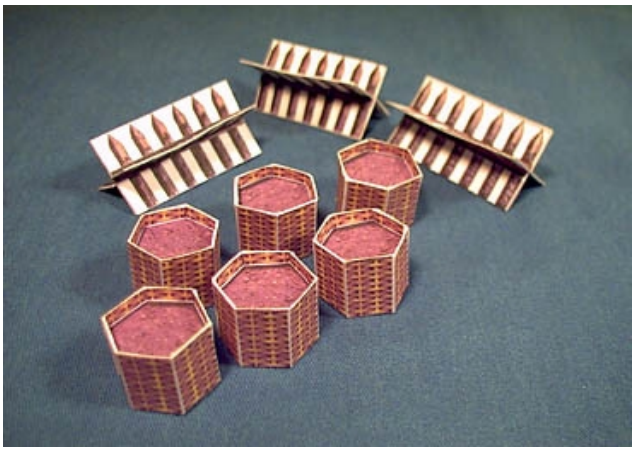
The archer shields. Each page contains enough parts to make three complete units.

down. What look like glue tabs at the front of the side-bar will be used for attaching to the axle. For final construction, attach the axle to the back of the shield in the white strip marked with a "G" across the bottom. Attach the wheels to either side of the axle. Attach the side-bar to either side of the axle so that they are even with the sides of the front shield.

GABIONS & CHEVAUX-DE-FRISE

1 Page

Historical Note: Gabions were usually built on-site by sappers (military construction crews) of reeds, river cane or green saplings woven into large baskets and filled with earth. Stacked in a single line, staggered line or one on top of another, they were often covered over with even more dirt to create walls and quick fortresses. Gabions were a common fortification method from the time of the Roman conquests up to the First World War. Chevaux-De-Frise were a series of sharpened wooden stakes that were lashed or otherwise secured to a central post in a X configuration. They were often set out in rows to hinder troop movement. In use up to the American Civil War, they were surpassed by the invention of barbed wire in the 1870s.



The finished Gabions with three Chevaux-De-Frise in the background.

To construct the gabions, cut out and score as indicated. Fold up all side panels around the top and fold down the outside facing panels. Glue the top panels to the inside of the outside panels to create a recessed top. Work all the way round and when reaching the last panel, glue the tab to the inside.

To construct the chevaux-de-frise note that each will consist of 2 pieces. Build one at a time to keep the left and right sides from getting mixed up. Fold in the middle and glue together front to back. When dry, make a cut along the dotted line on both of the pieces. Slide the 2 pieces together at the cut line forming a X. If the 2 panels bind together to tightly, widen the cut line on both sides.

LOOKOUT TOWER

2 Pages

This piece will consist of 4 sections to complete, the sentry box, the roof, the frame and the ladders. Note that if you choose to cut out the white areas on the frame section and the sentry box, it should be done after gluing the 2 sides together and before final construction. Start with the sentry box first. Cut out, score and fold. The outside of the sentry box will be the panels with the glue tabs attached to the top and bottom. Fold the piece in half where the floor sections join. When dry, cut out the white areas in the openings if desired. Fold the entire piece into a box shape and fold the floor up. Fold the side panels around the floor and glue the tabs along the bottom edges of the side panels to the bottom outside of the floor. When coming to the last panel, use the extra support post as a glue tab by gluing to the outside. This will for the piece into a box shape and hold it together. Cut out and score the roof and make all folds. Glue the tab on the side roof panel to the underside of the opposing panel to close. When dry, apply glue to the tabs along the top edges of the sentry box and set the roof in place. Set this section aside to dry and move along to the frame section.

Note: For this section, the inside panels are the ones with the glue tabs along the top. The outside panels have the extra upright post on the far left panel. Be sure not to trim this off as you will need it later. Cut out, score and fold the frame section. Apply glue to the inside (unprinted) areas and glue the two sides together, front to back. When dry, cut out all the white areas between the support struts. This step can be a bit time consuming and nerve wracking, but the

The Lookout Towers from the front and back.

final effect is well worth it. When finished, fold the frame into a box shape and glue the extra upright post to the outside to close. Check fit this first without glue as some trimming may be required to make the top of the post line up with the top of panel. For final construction, fold down the tabs along the top edges of the tower section, apply glue and center the sentry box on top. The ladder should be constructed like the ladders in the earthworks section and the white spaces can be cut out if desired. A second ladder has been included on the first page for the option of making to entry points on a tower. If you wish to construct this option, cut an extra doorway panel on the sentry box before building.

THE STRONGHOLD

5 Pages

NOTE: In order to correctly build this piece you will need to print 2 copies of Page 1 (the mound side wall, palisades, and front ladder), Page 3 (the main building body), and Page 4 (the roof section, door and windows). You will need only 1 copy of Page 2 (the mound) and Page 5 (palisade walls).

Cut out and score the mound and 2 mound side walls. Fold down the sides of the mound. Fold down the tab along the top of the mound side walls and fold in the two tabs at either end. Apply glue to the tab along the top of the side wall and attach to the underside of the mound. When dry, glue the tabs at either end to the ends of the side walls already attached to the mound. Repeat for the other side. Set aside to dry. Cut out the front ladder and make all scores and folds. Glue the two sides together, front to back. When dry, cut out the white spaces between the supports if desired. For final construction, fold the two sides back from the front. The front will be the one with the floor attached to the top. Fold down the two tabs at the top of the sides and glue the floor in place. Fold the two tabs with the grass pattern to the inside, apply glue and attach to the front of the mound in the center. See photograph for example. A second ladder can be placed at the back of the mound if desired. Set aside to dry.

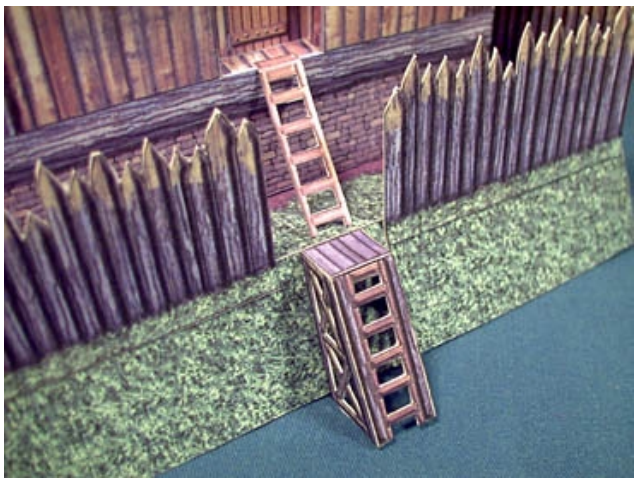
Cut out and score the 2 palisade walls on this page as indicated. Note that each wall has a tab on back that must be folded out. Glue the 2 sides together, front to back, being careful not to glue down the tab at the back. When dry, cut out the white areas as on the earthwork walls given above. To finish, attach the wall to either side of the front of mound by applying glue to the underside of the back tab and a small bead of glue along the bottom of the front wall. This will leave a 1" gap in the center just over the ladder. Repeat this process for the back. NOTE: If you do not wish to have a back exit for your model, omit these steps and instead of using the 2 short walls for the back, make an extra copy of Page 5 and substitute the long wall instead.

Assemble the side walls (on Page 5) the same way. These walls will attach to the mound on the left and right sides the same way as the front and rear walls with one added step. The 2 extra posts (on either side of the walls) will fold in and glue to the inside of the front and back walls as a glue tab with the printed side facing out. The basic mound is now finished and can be set aside to dry.

To construct the building, make 2 copies of Page 3. Cut out and score 1 of the copies as indicated. On the second copy, cut out a glue tab on either end when cutting out this piece. Size restrictions on the image area did not allow for placement of the tabs on the graphic, but there should be enough room on the page

The finished Stronghold.

once printed. If desired instead, tabs can be cut from scrap cardstock and attached the walls after cutting out. Before assembly, locate the door and door template on Page 4 and cut out both pieces. Place the template on one of the walls so that it is centered and on top of the area with the wood pattern (just above the rock wall). Trace around the template and cut out. To assemble the doorway, cut out and score. Fold up the side and bottom panels from the front and fold and glue the triangular tabs to the outside. This will create a shallow box shape with all the printed panels on the inside. When dry, fold out the tabs along all 4 edges. Glue the completed doorway over the cutout area in the wall from the inside, matching up the edges. Set aside to dry. The same method can be used to create a back door if desired. It can also be placed at ground level with no effect on final construction. Before final assembly, it is recommended that the windows be placed at this time. There are 2 sets of window types included on this page, with shutters open and with shutters closed. See photographs for examples. When all sections are dry, fold the building into a box shape and glue the tabs to the inside. Set aside to dry.

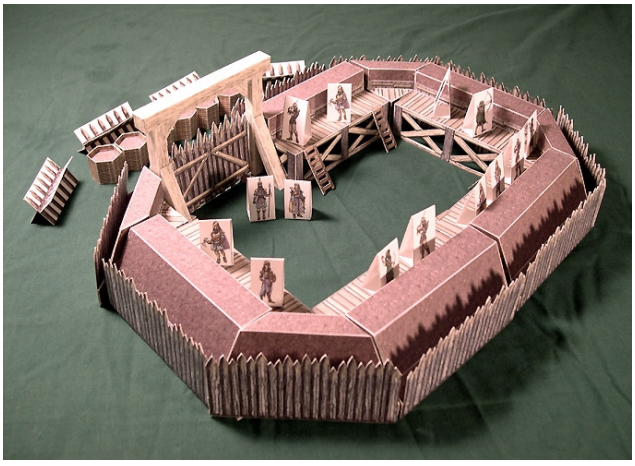


A close-up of the ladder arrangement at the front of the Stronghold. This arrangement can be used for a back entrance as well.

To construct the roof, cut out both copies and score as indicated. On at least one copy of the roof, trim off the tabs. Glue the two sides of the roof together and glue the last tab to the underside of the opposing panel. Except for being in 2 pieces, this roof will assemble the same way as the roof on the lookout tower. When dry, apply glue to the tabs along the top of the building and set the roof in place. For final assembly, fold up the glue tabs along the bottom edges of the building, apply glue and place in the center of the mound. For a final touch, assemble the ladder on Page 4 (it will go together like all the other ladders in this set) and attach to the bottom of the recessed doorway as shown in the photograph.

TILE CLIPS

The last page of this set contains 24 tile clips that are handy little items for holding terrain elements together so that they can be broken down for transport. To assemble, cut out and score as inicated. Cut out the slot in the center of the clip. Fold in the middle and fold the two base panels to the underside, gluing one panel on top of the other. This will create a triangular shape with a slot in the middle. To connnect 2 pieces of tettain together, place the side of one piece in the slot and place a second piece next to it, also fitting the edge in the slot. These clips will keep the pieces from sliding around during game play.



An alternate small fort using the same elements as the basic set without the towers and stronghold.

DESIGNER'S NOTES:

At first glance there doesn't seem to be much to this set. A single earthen mound with a catwalk, a couple of corners and a gate. But, by printing and assembling multiple copies of these elements, a huge complex of earthworks and entire forts of just about any size and configuration can be obtained. These photograph show what can be done with 6 earthworks, 4 right corners, 2 left corners and a gate. Gabions and chevaux-de-frise placed around the fortifications can add as an extra hinderance to attackers. I hope that by designing this set I can help add a few new twists to your role-playing and wargaming needs. I must also mention that my personal thanks goes out to Greg Poehlein for his design skills in figuring out how to build the corner pieces. I must admit, that one stumped me.

Gary M. Williams
September, 2003

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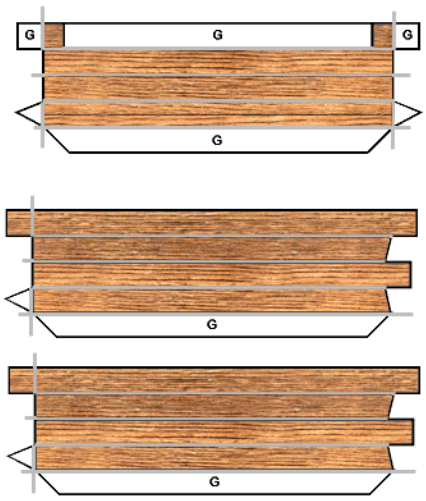

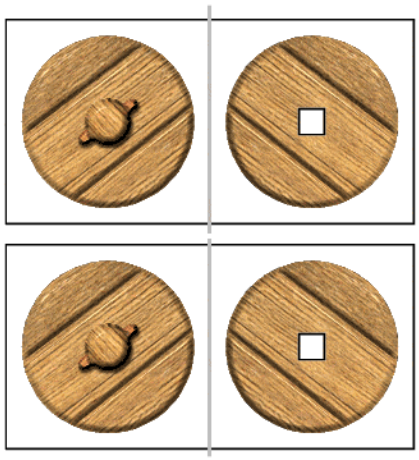

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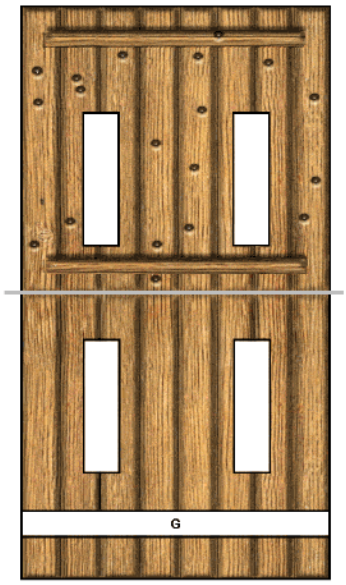

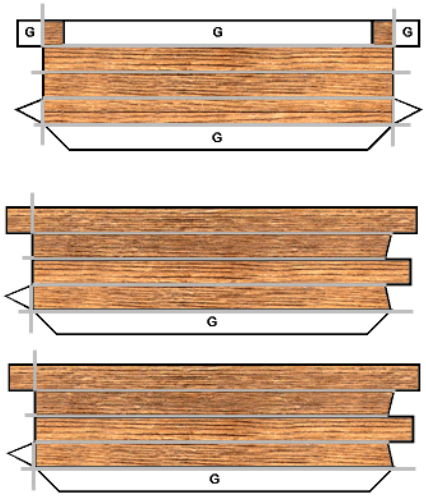

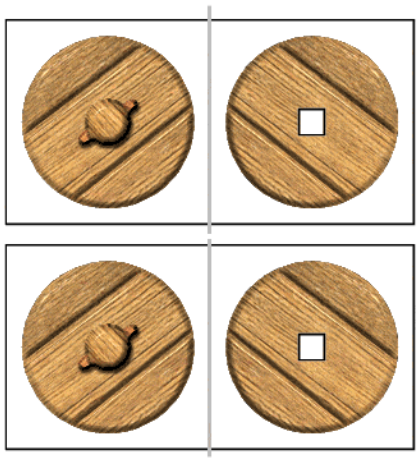

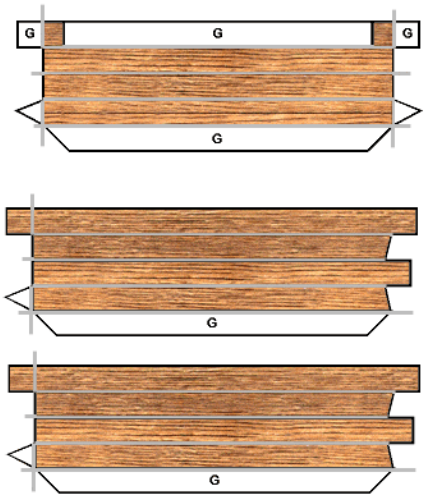

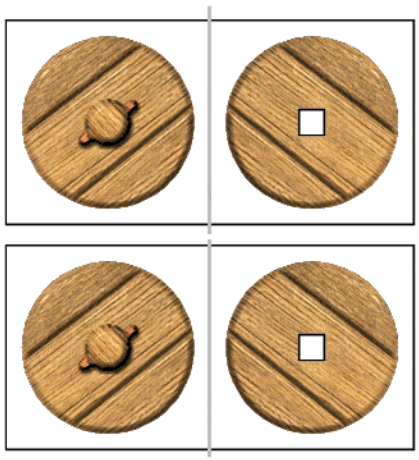

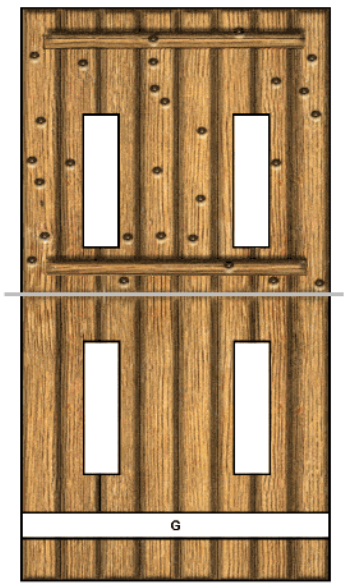

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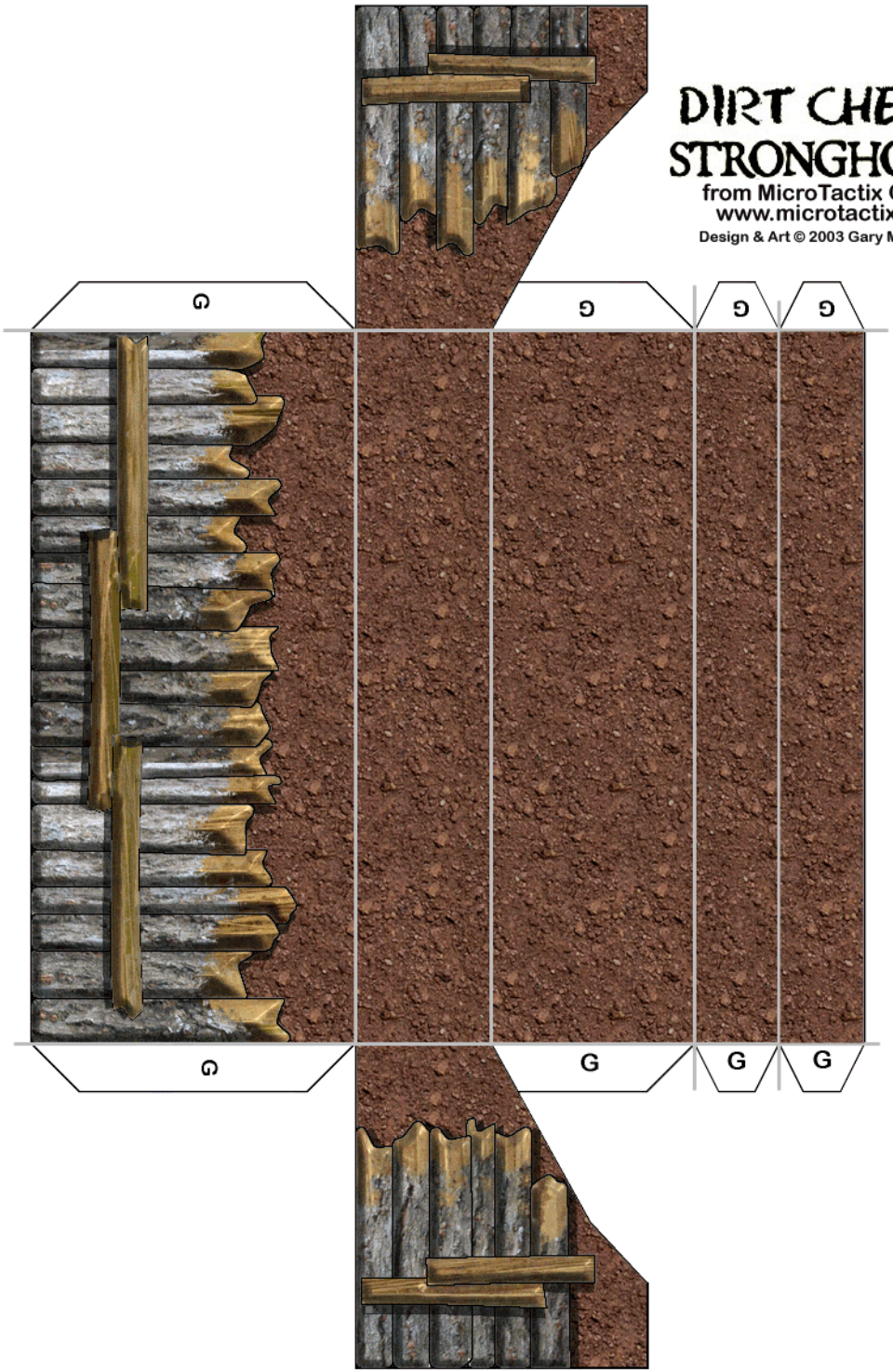

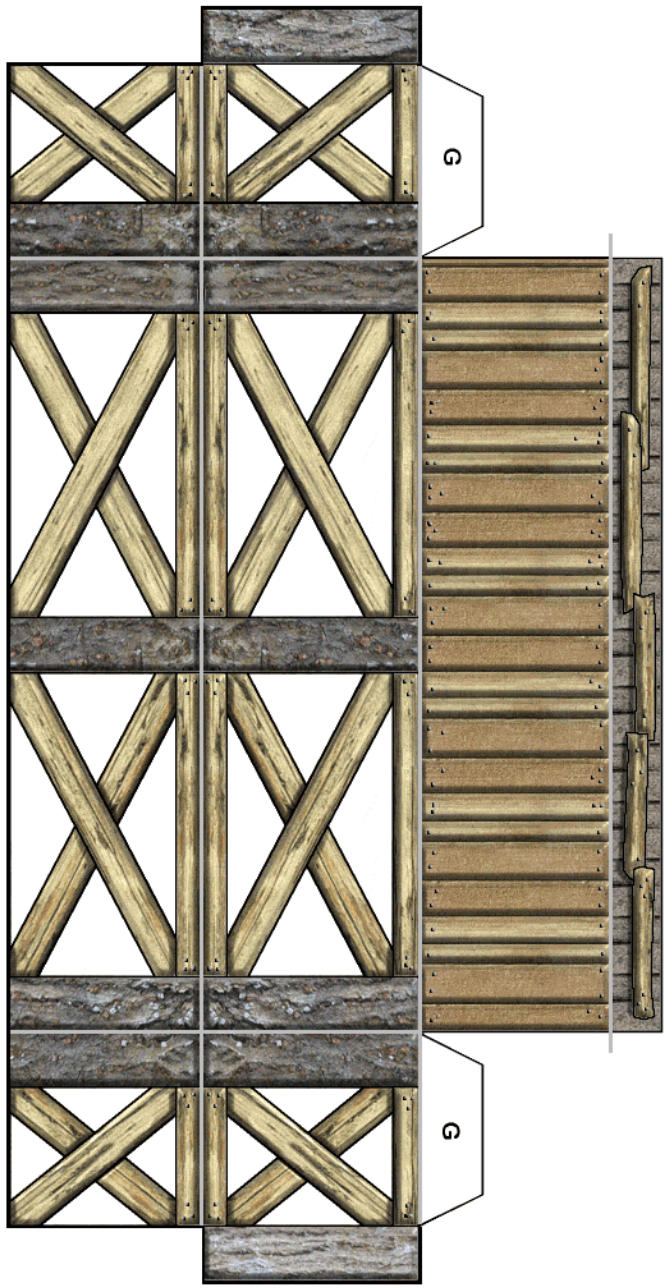

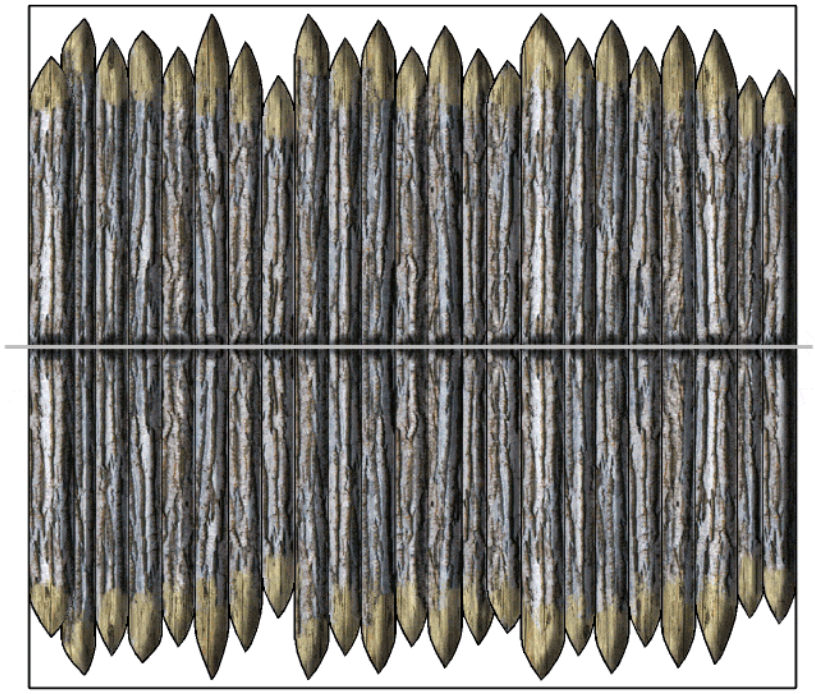

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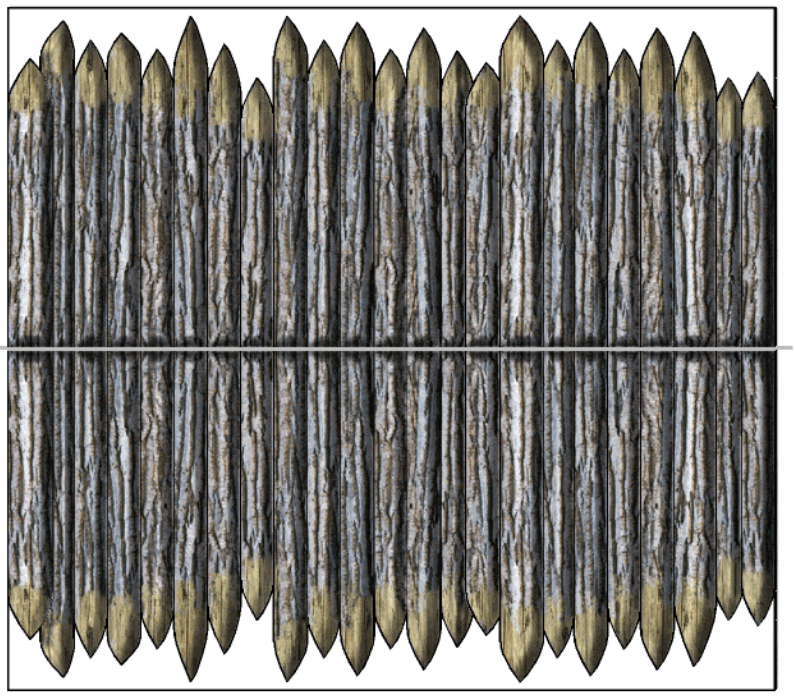

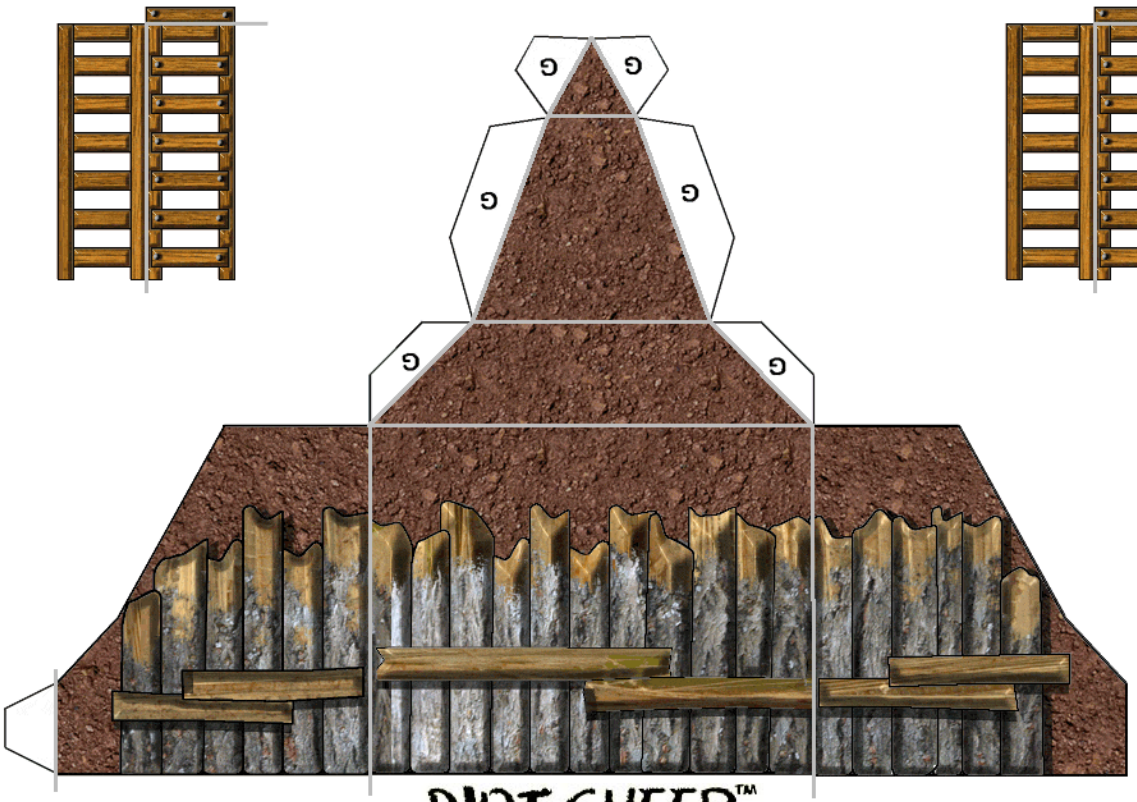

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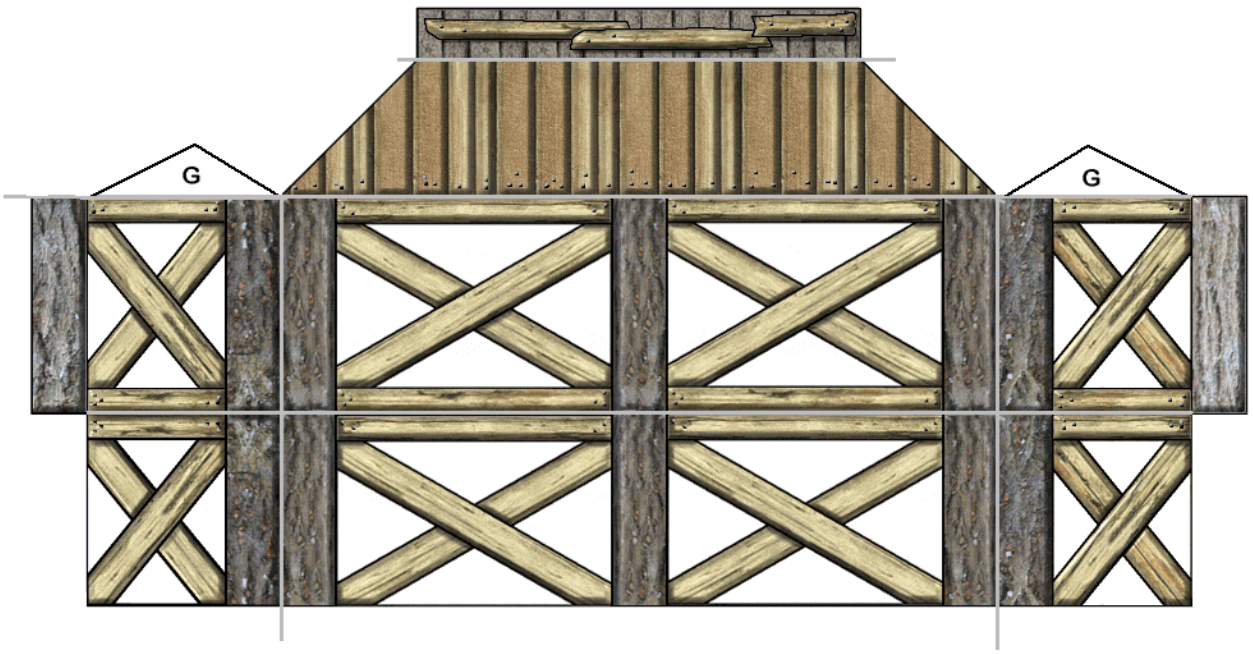

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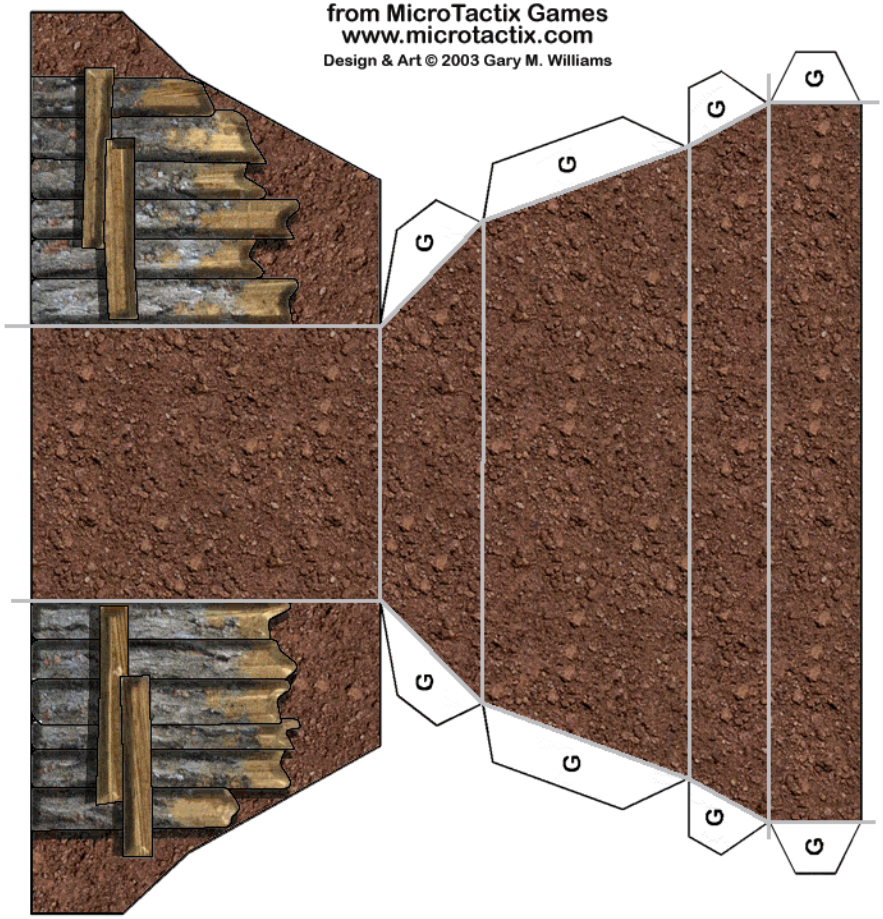

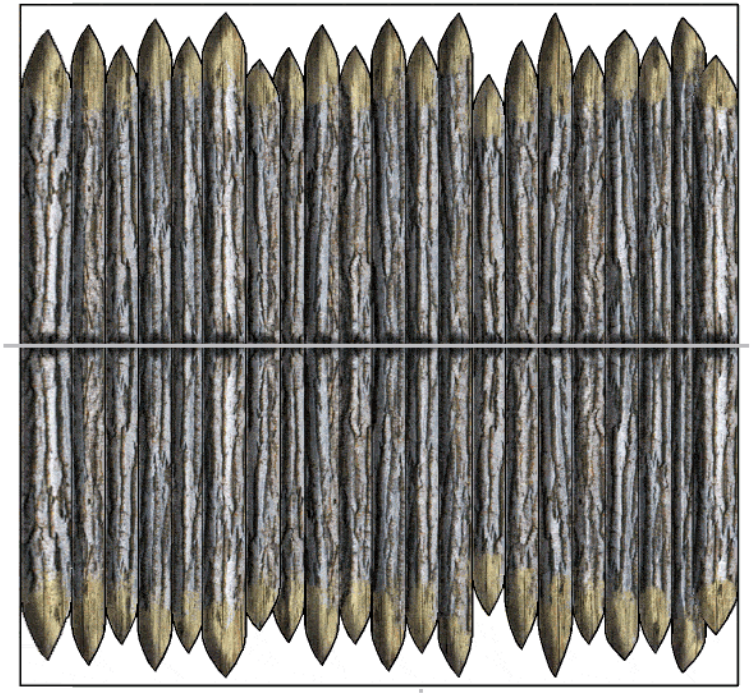

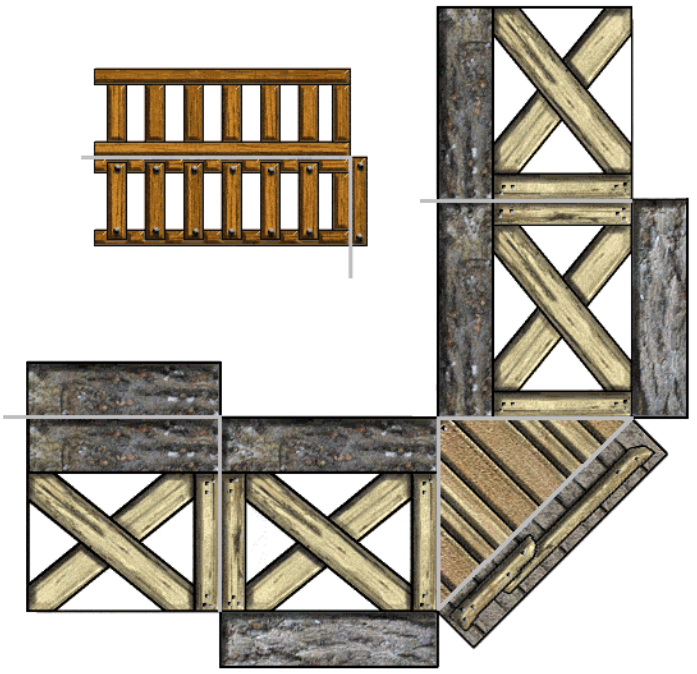

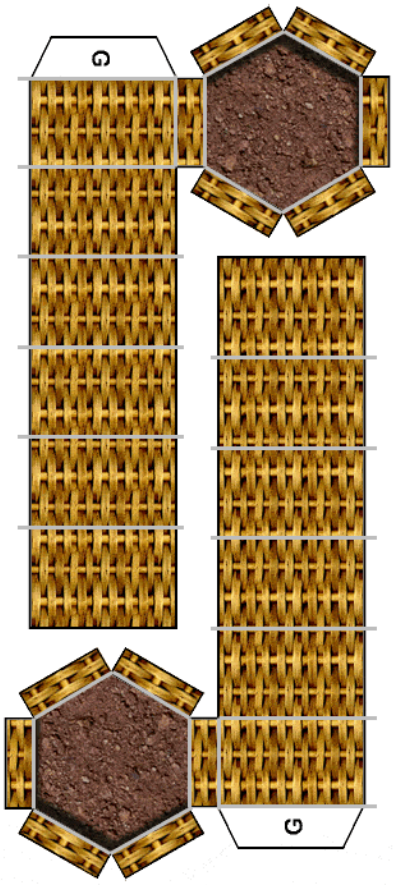

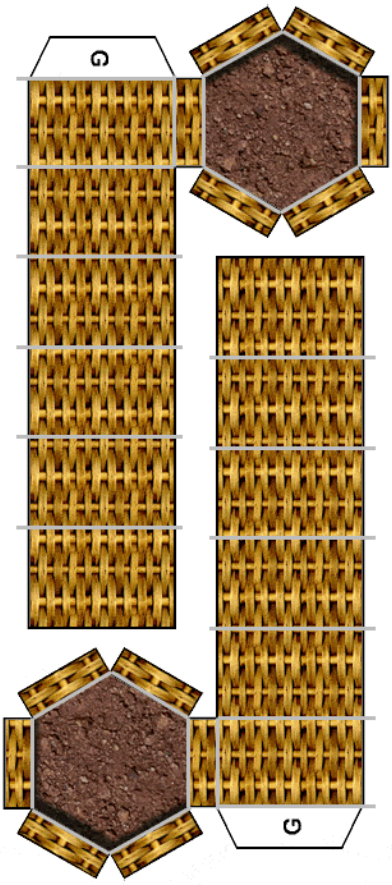

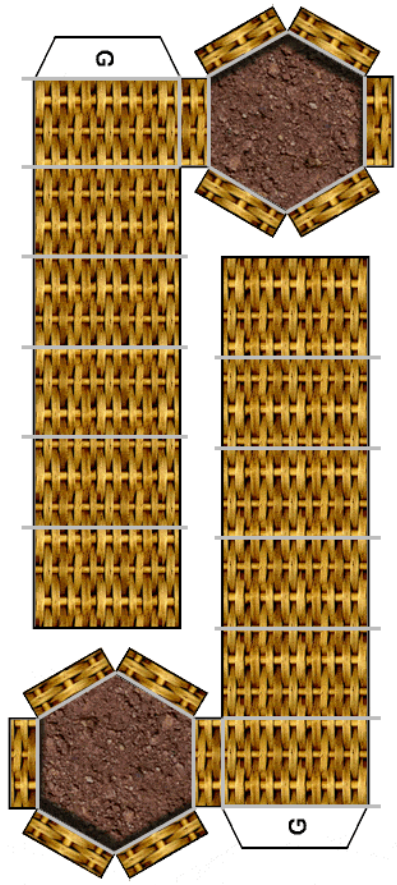

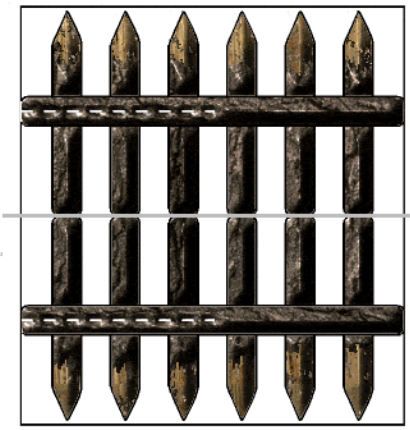

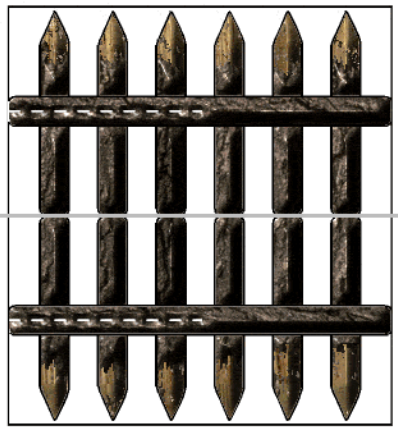

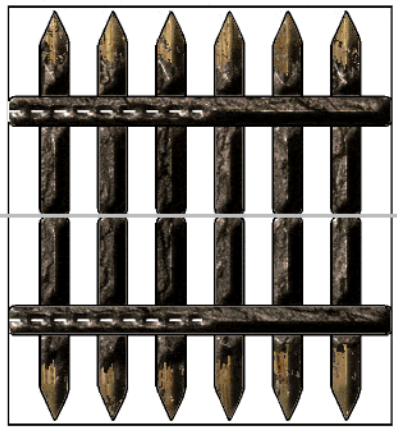

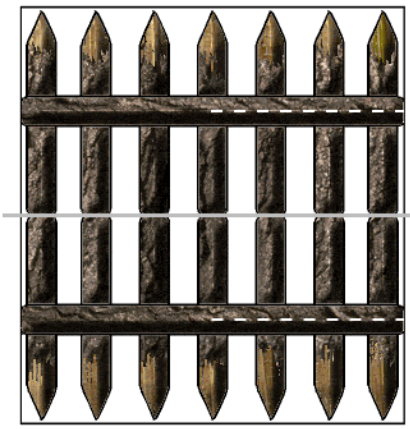

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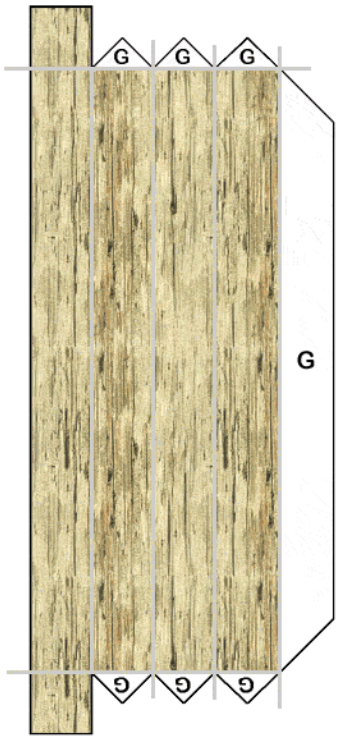

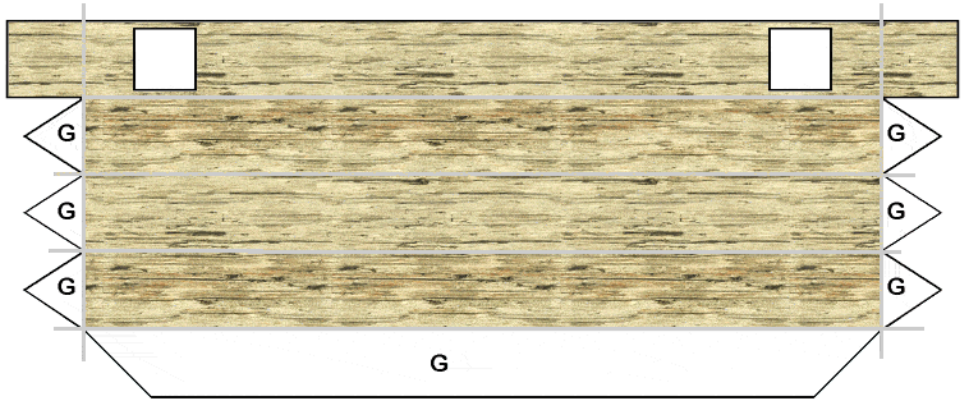

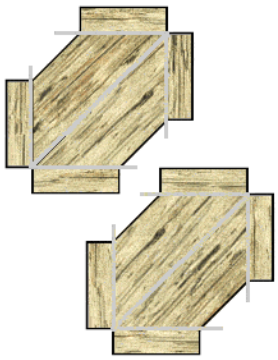

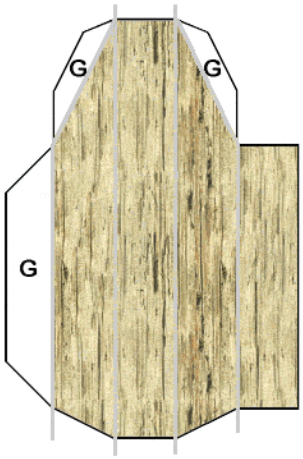

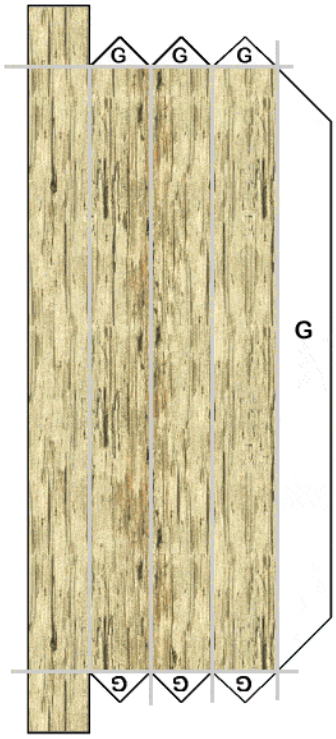

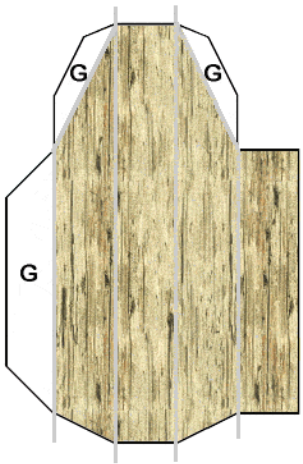

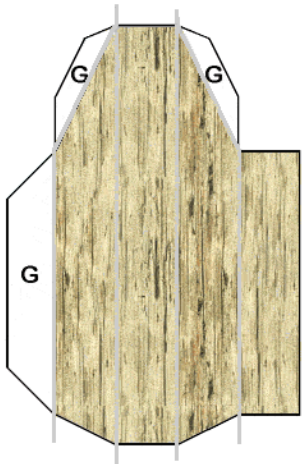

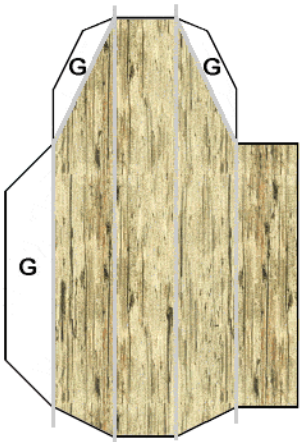

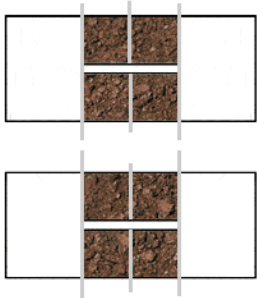

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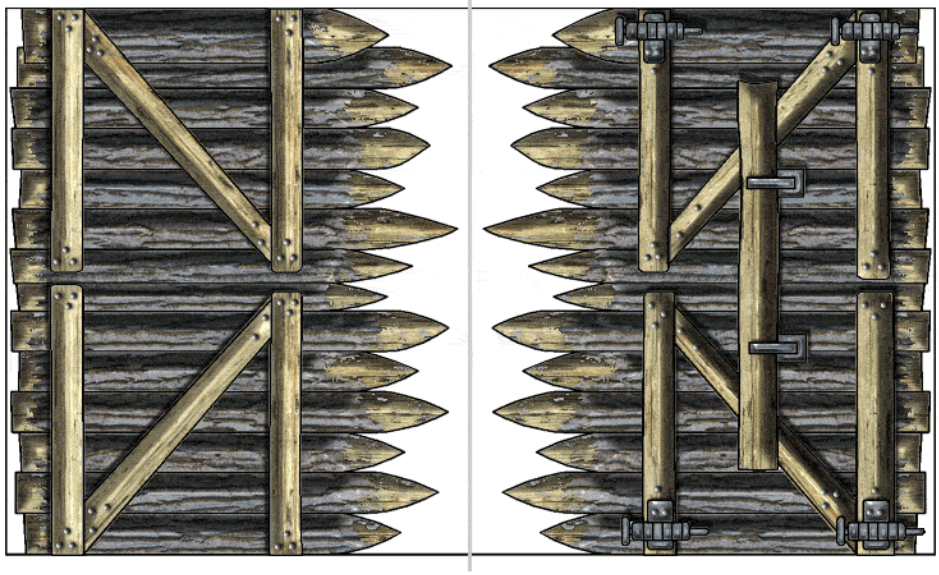

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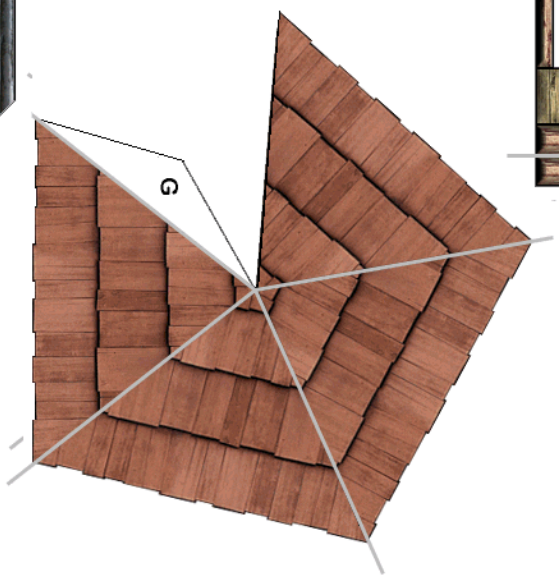

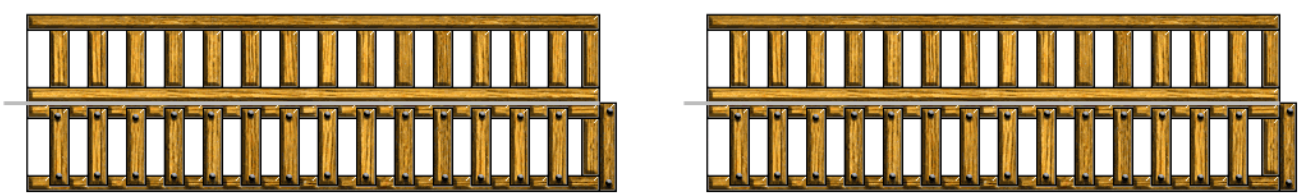

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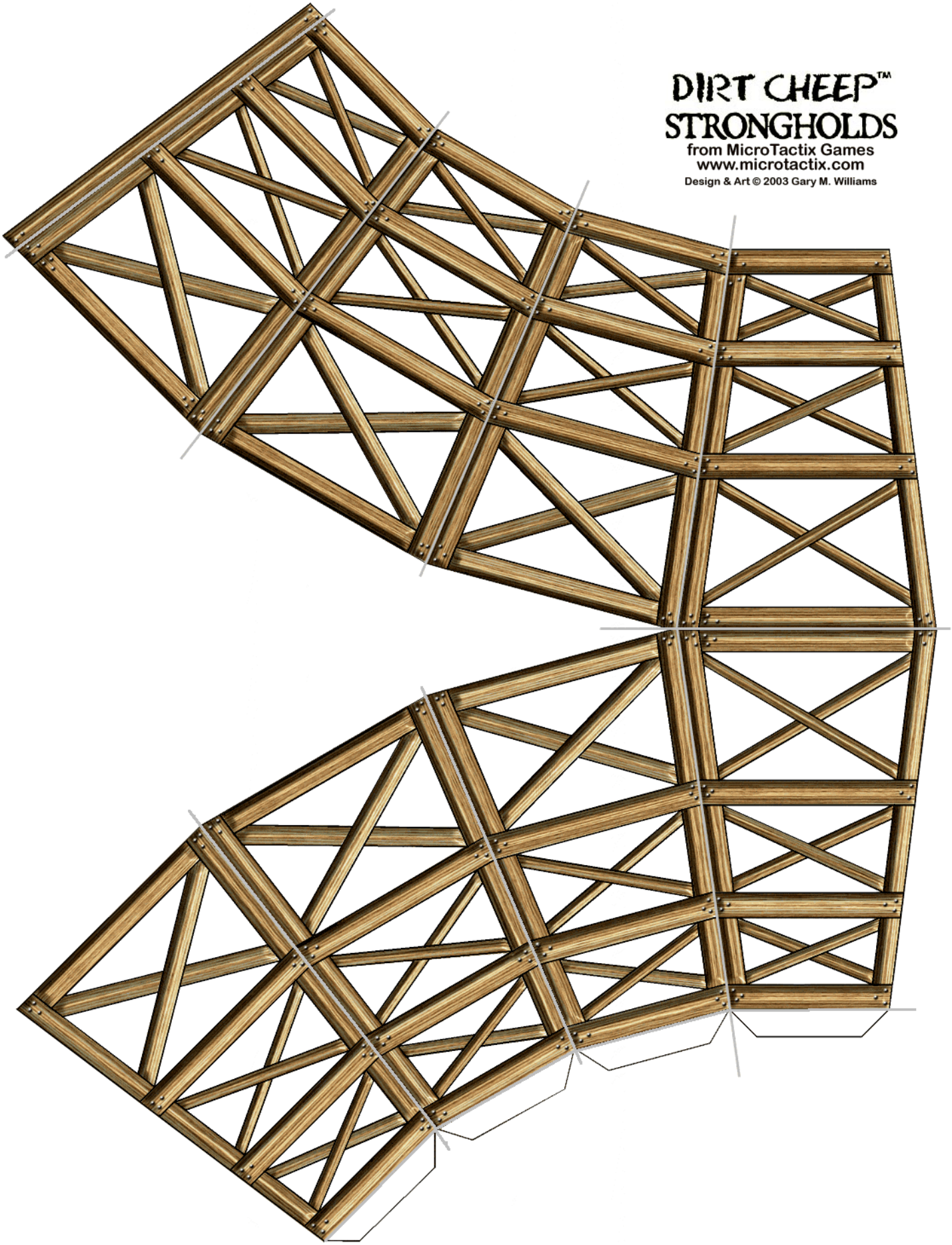

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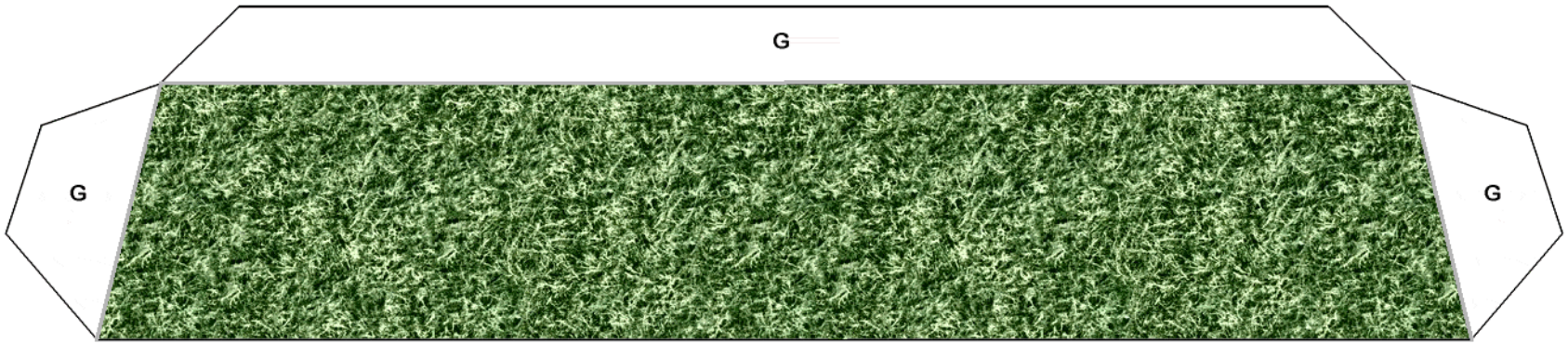

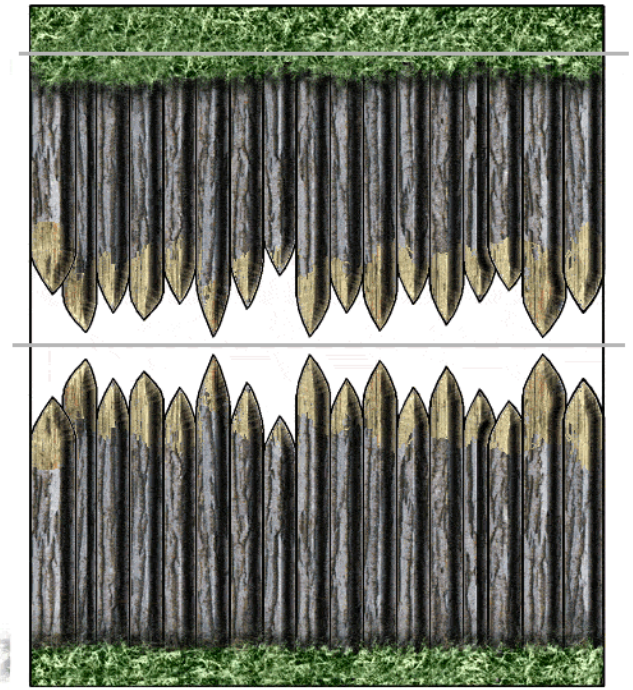

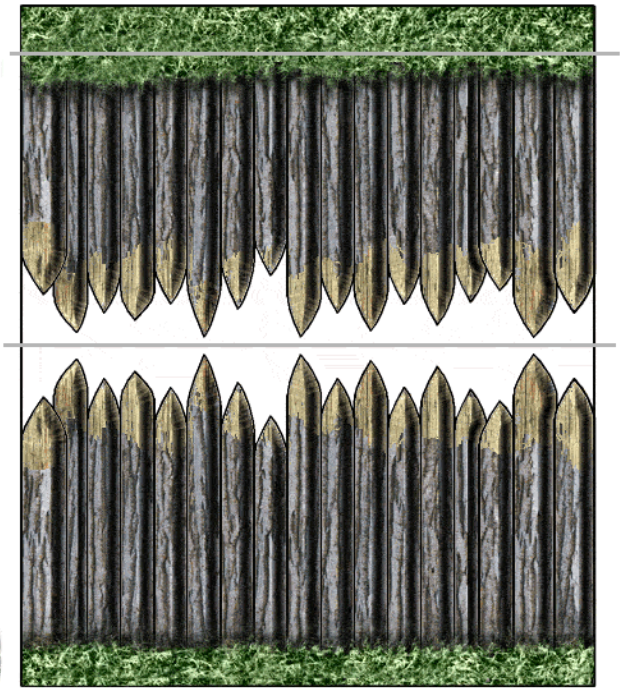

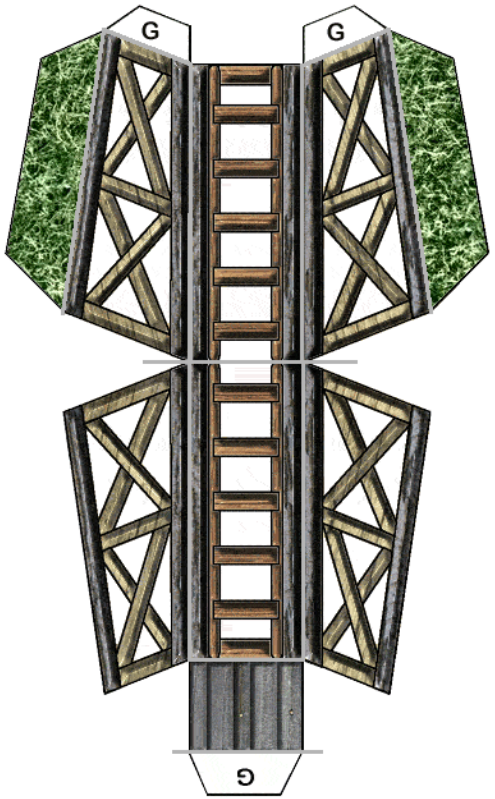

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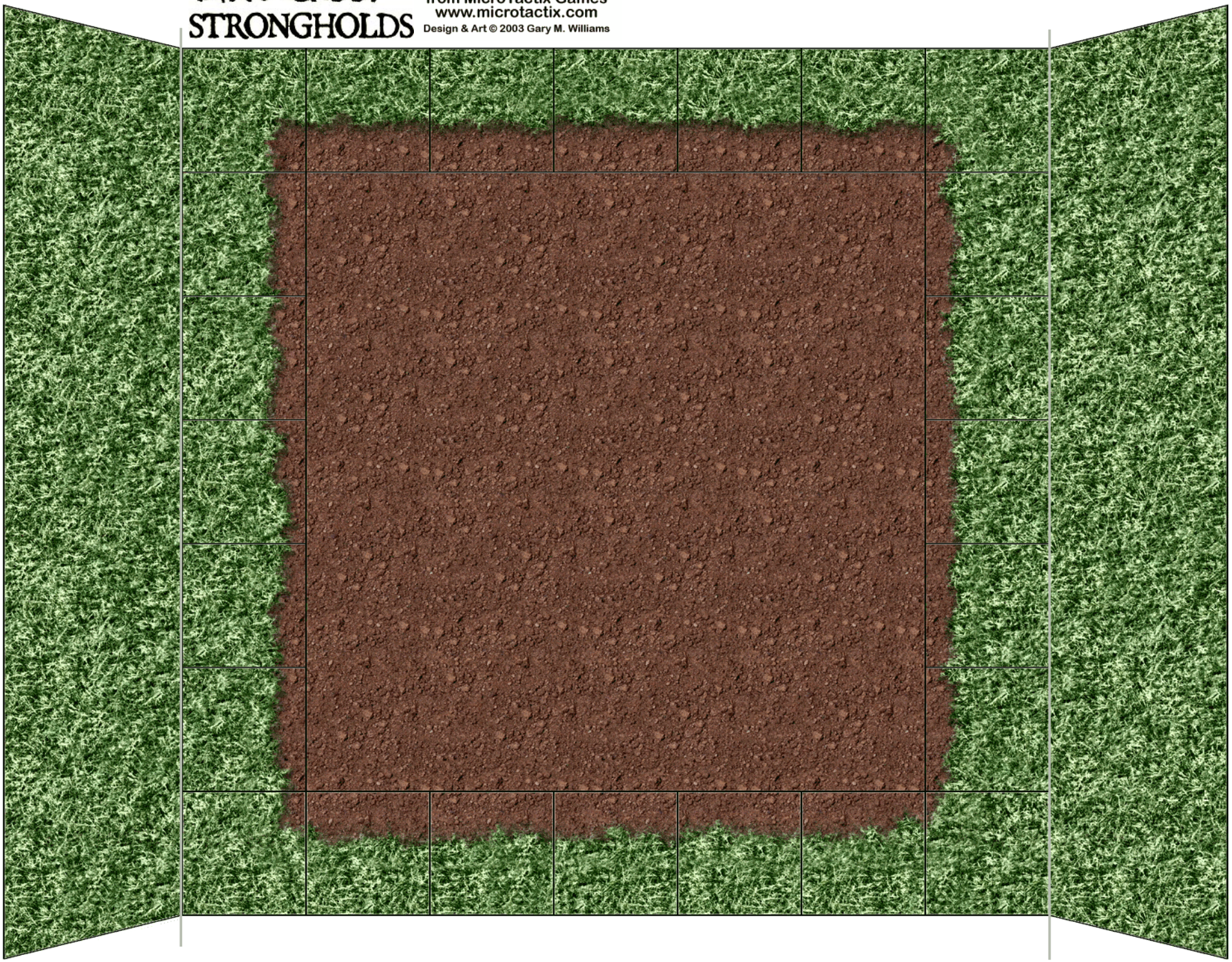

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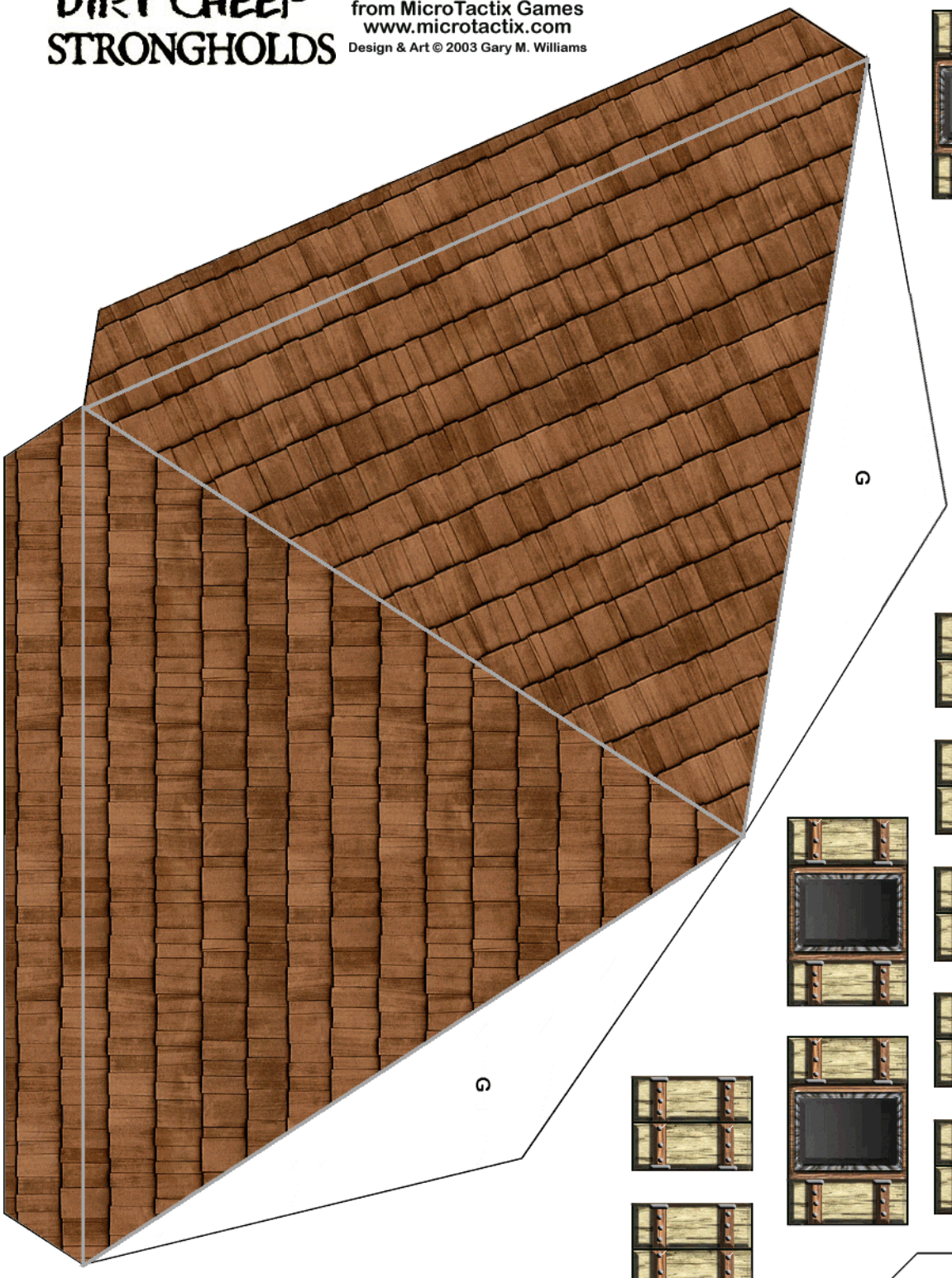
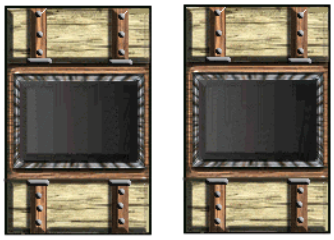
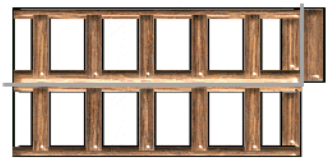
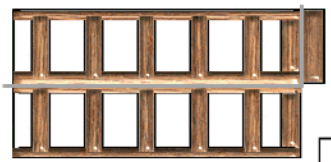
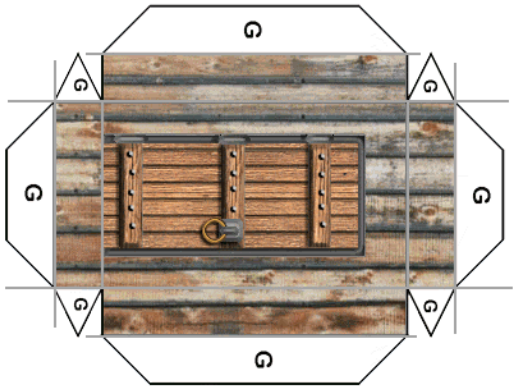








Door Template



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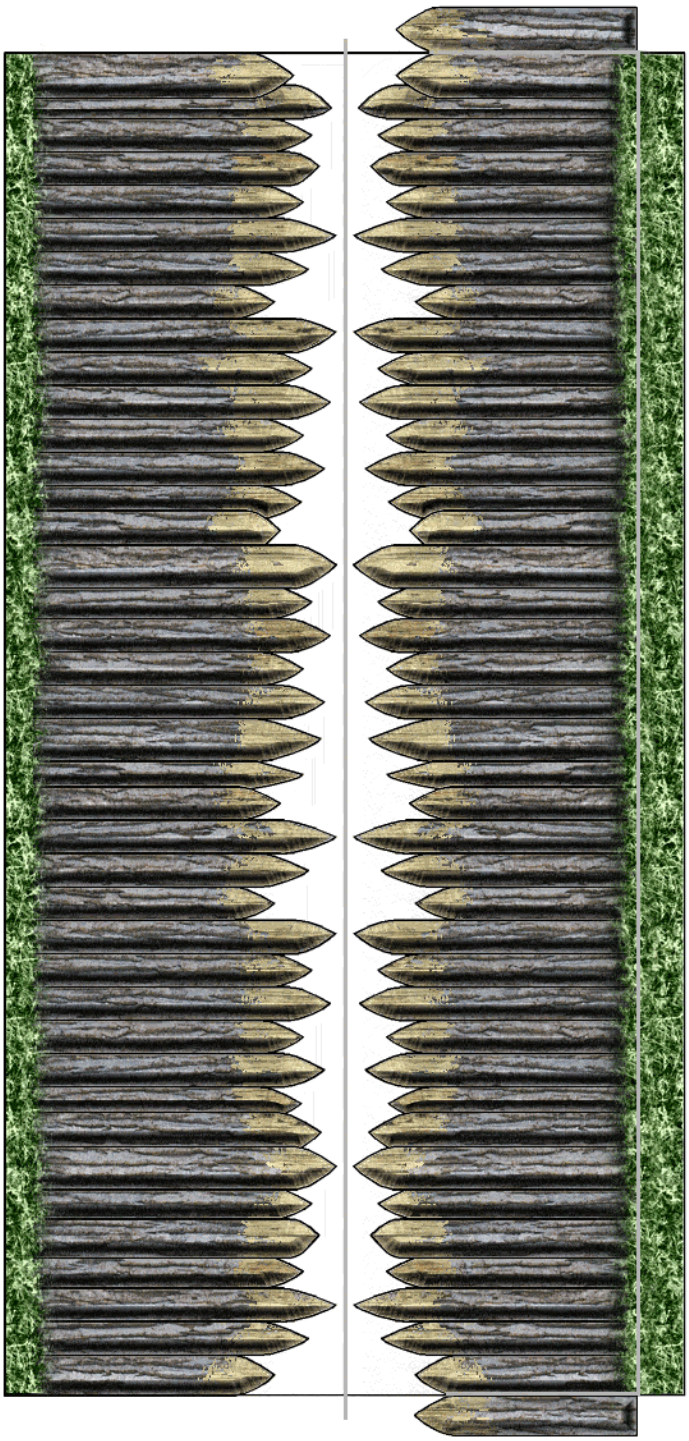

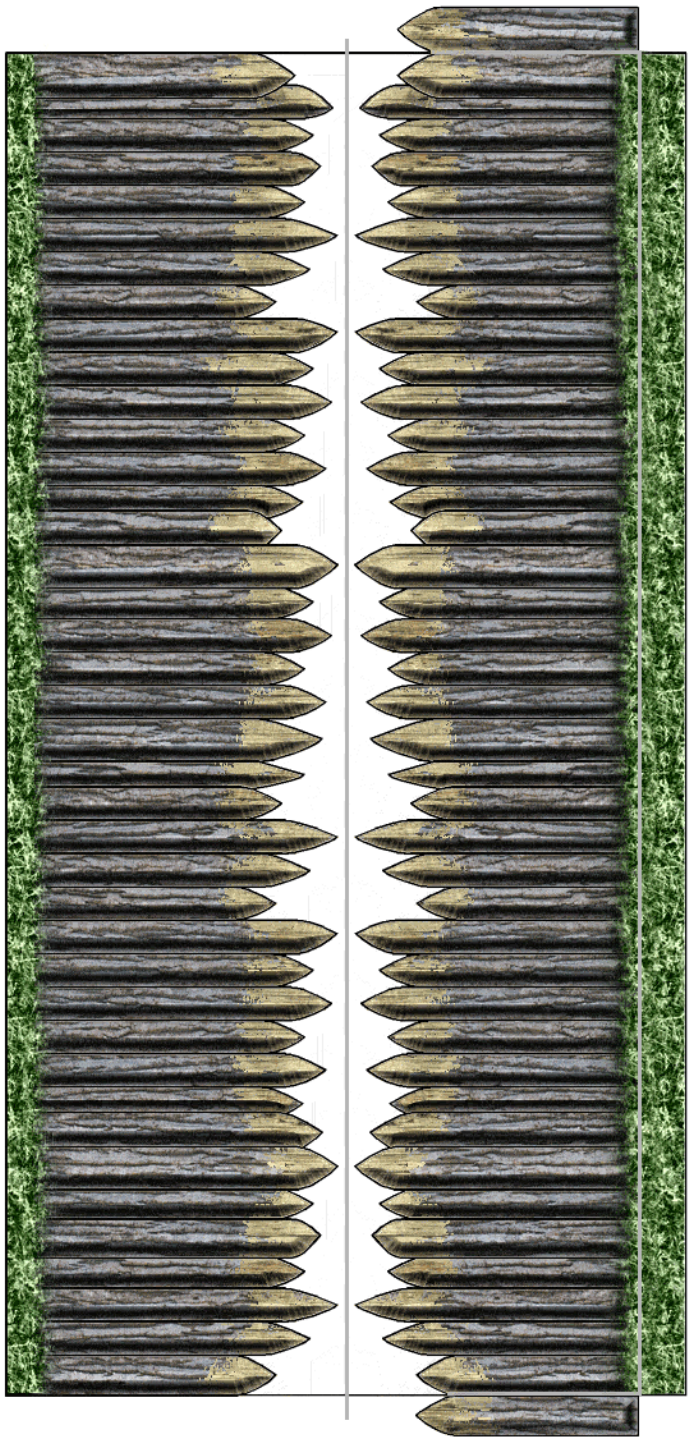
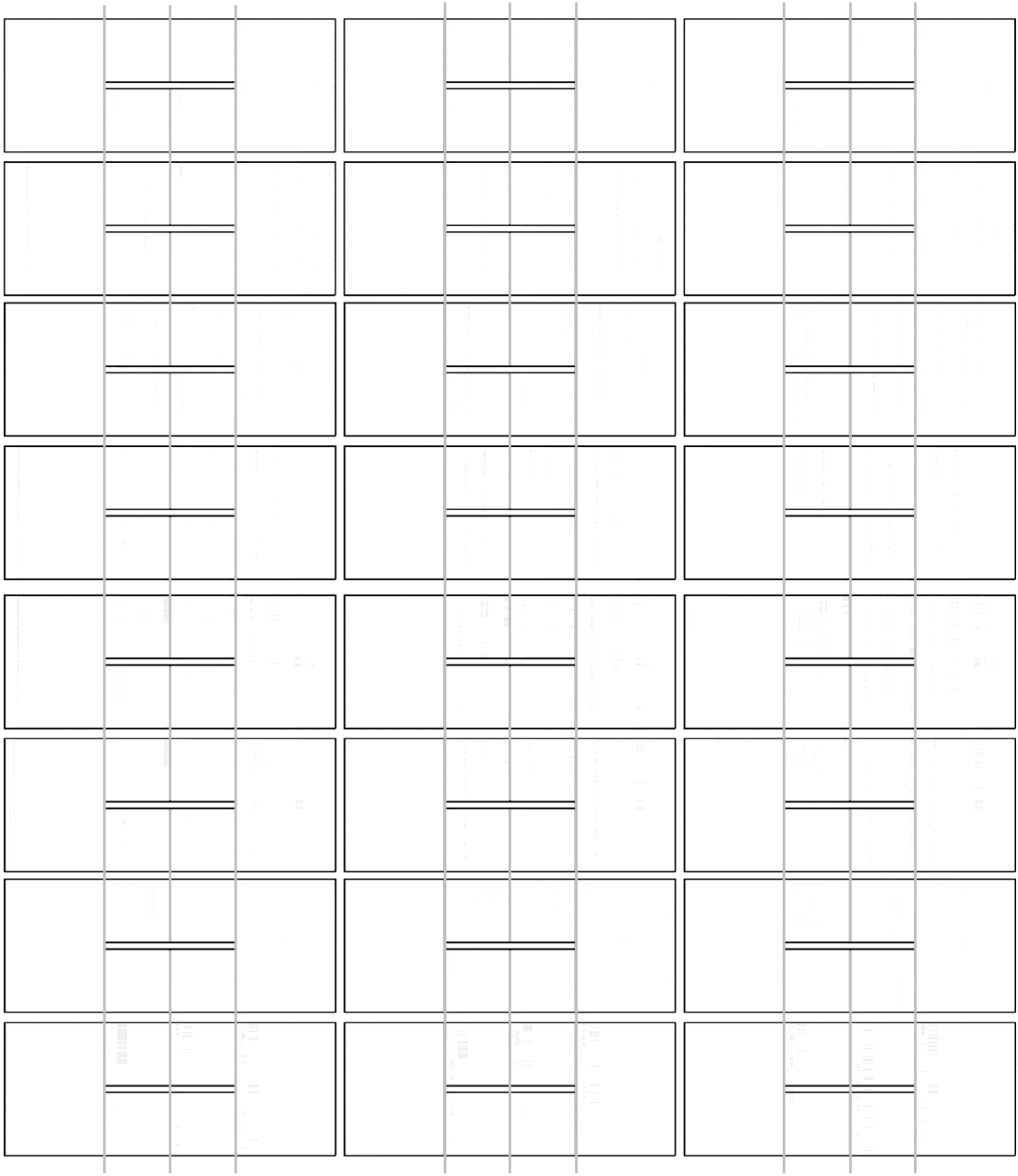
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