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Squat-able Objects:
An Instructional Zine with New Tools for Squatting

by

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An undergraduate honors thesis submitted in partial fulfillment of the

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This thesis is the cumulative product of a year of research on squatting in the United States and around the world. For the last year I have asked myself, what does an architect do when she wants to contribute to squatters movements? To begin answering that question, though, I had to try and understand some of the nuances of squatting; all of its varied motivations, methods of expression, its histories, and consequences. Drawing from the social anarchist squatters in Europe building power and infrastructure, to the rural Japanese squatters reclaiming their land rights, to the indigenous Latinx squatters seizing entire territories to be managed thru autonomous stewardship, to the American families taking back their lives after the housing crash, I saw how squatters around the world are actively testing new social relations and organizations of property. Though I have stayed in squats, I am not a squatter, and I couldn't call myself one; there are challenging aspects of squatting that keep it beyond my capacities. While there are many things that I don't understand about squatting, I do believe I understand now how a relationship between squatters and some advantageous specialists (ie, architects, trades people, etc) could work.

Architecture, as a socially oriented endeavor, has been able to effect great positive change in many people's lives. This usually happens by working through organizations with power and through accepted channels of distributing resources. The mildly technocratic path that social architecture often takes causes it to be bound by the market; to be bound entirely by flows of capital and to be subjected to the political discourse of the day. Operating in this way, could architecture really challenge the fundamental notions of property and capital that got us into this mess while operating at a professional level? I believe it cannot. This is not to undercut the powerful and unique knowledge of the architect, and the ways that architecture has contributed to cultural and societal changes throughout history. It is time, though, for the socially dedicated contemporary architect to relinquish their power over world-building; to use her skills

and knowledge and privileges to empower people; to help develop tools and methods for communities that desire to help themselves.

With this in mind, I have produced a zine which details the design and construction of 6 objects to aid in the rapid renovation and defense of a squatted building. Each of these six objects is designed to offer some new ideas for ways to improve the living conditions inside of certain properties and can be built easily and with readily available materials. My hope is that this zine could be the beginning of a new dialogue between specialists and squatters in which knowledge and ideas are shared, and to increase the richness and complexity of the canon of squatting best-practices

**SQUAT-ABLE
OBJECTS**
AN INSTRUCTIONAL
ZINE WITH NEW
TOOLS
FOR
SQUATING

No.1

Portland needs a squatter’s movement

As housing stocks across the country becomes increasingly unstable in the face of imminent ecological collapse, economic austerity measures, and speculative investment, squatting becomes an increasingly appropriate response to the precarity of living in Contemporary America. Some squat because they’ve been burned by the economy and find relief in squatting, while some take up squatting to challenge the economy and hegemony of property rights. No matter the motivation, squatting isn’t just a solution to the housing crisis, it’s a suggestion for a new way to organize our lives.

In contrast to the ongoing models of addressing the housing crisis (particularly the neoliberal innovations taking place in Portland), squatting is able to work outside the logic of the market. It is able to effect change and set new directions on its own terms, and by its own will. The excessive demands of the parasitic land owning class cannot be compared to the needs for basic survival and dignity of the rest. Many are tired of the Sisyphean task of negotiating with ineffectual bureaucrats and systems which default to oppression, all the while homes and buildings lie empty all over the city. An answer, for some, lies directly in the streets; where direct action gets the goods.

Squatting isn’t for everyone, and does come with its own array of challenges: difficult living conditions, instability, reliance on communal relations, and the ever looming threat of violence and repression from public and private security forces always overhead. This zine makes an offer in response to those difficult conditions.

What this guide is, and what it isn’t

This zine is an offering of 6 ideas for the rapid renovation and defense of a squatted property. These 6 objects attempt to address issues of privacy, defense, public engagement, and sanitation. These 6 objects are presented with specific, regimented instruction for their design and construction, but they don’t have to be taken too literally. They are offered as fully fleshed improvements for a specific context, but they won’t work as described in all situations. They can be looked at as inspiration and suggestions for your own brilliantly designed solution. There is a spirit and a fun to building good tools, and there is no reason why we should settle for anything less than spectacular in our occupied spaces.

This zine is written, formally, from the perspective of an architect who is interested in what a professional class that has traditionally been oppositional to squatting can do to contribute to squatters movements. I believe that architects and other specialists can assist squatter’s movements in their practices by three ways that I have identified. First, by publishing manuals and documents in non-academic and non-professional contexts (zines, social media) with easily understandable construction documents for innovative designs. Second, by publishing their unique understanding of building systems, construction, and aesthetics/design to contribute to squatting best-practices. Third, by using their proximity to the land-owning class of leaches, developers databases, city permitting, and information gathering tools in order to identify suitable properties and to help win battles between squatters and bureaucrats.

Material Acquisition

Squatting challenges existent notions of property and offers methods of direct redistribution. Why stop at buildings? Redistribute the goods you need to get your building in order! The following are a few tips for acquiring some of the materials used in this guide.

Fabric

Goodwill is a good place for tablecloths and sheets. It has been said that you can find tablecloths in the laundry bins of disagreeable restaurants and sheets in bins all around industrial laundry facilities (thought these places run late at night). Allegedly, some billboard companies will give away their thick vinyl billboard tarps if you are nicely.

Milk Crates

Milk crates are pretty easy to find on the street and steal. A certain headquarters of a often hated local ice-cream chain often leaves out a few dozen at a time. Careful, though; even thought they seem like junk, being seen with a cart-load of milk crates by police might not be a good time, and some businesses might pursue legal action if you're seen on camera.

Tools

Tools can be checked out from tool libraries (in SE, NE, N, and Lents) to anyone registered with the library and that can prove they live in the neighborhood.

Lumber and Plywood

Scraps of lumber can certainly be picked up from some construction dumpsters and very likely from dumpsters around wood-shops (The U-Store East complex has dozens of wood working studios). Lumber and plywood is relatively cheap, though.

Chicken Wire and Chainlink

Chicken wire is affordable and can be bought in small rolls, but chainlink can't easily be purchased in usefully small quantities. But there are fences everywhere you look. Cut some chainlink off an abandoned lot or the fence around a condo construction site. Careful, though; cutting a hole in a fence at a construction site looks a lot more like the beginning of a B&E than "just stealing some fence"

Caulk

Loctite is the best for strength, curing speed, and isn't that expensive. But, if you can rack paint, you can rack caulk.

55 Gallon Drum

These can be purchased used from the Portland Bottling Company for \$5 a piece, but that price is at their discretion. They are food safe, usually smell like Pepsi, but can be cleaned out pretty good. You can store water in these after being sanitized with a bleach solution. Keep them cool, in the dark, and wash/sanitize them every few weeks.

Home Depot Donations

Each manager of a Home Depot store has a monthly allotment of credits that they can give out to non-profits, charitable projects, or other requests for donations. Call HD and ask if they would be willing to donate to your project, they will give you the email address of the manager where you can ask. Write a sincere letter asking for specific materials for your totally above ground charitable construction project. Perhaps you're building a new deck for the poor widow and daughter of a fallen police officer... They'll likely give you a store credit or an opportunity to pick up the materials, free of charge. This budget renews each month, so try again if they're out.

Sawdust

You can get sawdust easily and freely from anywhere that cuts wood at a large scale; furniture makers, wood shops, construction sites, lumber yards, etc. Just call and ask.

Barrel Bulkhead Union

PVC Slip-Male Adapter

Worm Drive Clamp

PVC Slip-Slip Ball Valve

3/8" Fuel Primer Bulb

Publicly squatted buildings invite violence from police and fascists alike. Countless times fascist gangs have launched such attacks against squats as breaking windows and even throwing lit flares inside.

Riot Window

Similarly, private security hired by landowners have been known to break out windows to encourage burglary and to let the elements in. Police, too, during forced evictions can be expected to break windows and even shoot chemical weapons into the building.

As a response, many squatters are forced to board up windows for their safety and protection, but lose the benefits of having windows: natural light, ventilation, and a friendly facade. This object attempts to create a more secure window so that squatters can enjoy the windows of their building.

Three of the most common “less-lethal” weapons used by Portland riot police were kept in mind for this window screen. A single layer of 2” chainlink fencing will keep out hand-thrown grenades; a single layer of 1” chicken wire will keep out both hand-thrown and 40mm fired grenades; but a double later of staggered chicken wire (0.5”) will keep out both grenades and would be too small to jab a nightstick through.

Tips and materials

- Drill
- Circular saw, jigsaw, or sawzall
- Staple gun
- Tape Measure
- Sheet of plywood
- Chicken wire or chainlink fencing
- Staples
- (Optional) 2x4 stud
- Strip the screws for extra hard-to-removeness
- Paint your new window frame; plywood is ugly

EZ Hang Wall

- Measure the height and width of the area of the window frame that can be screwed into

- Cut your sheet of plywood to this size

- On the plywood measure 4" in from each edge and mark the inner cut lines

- Using a circular saw, cut out the inner box. A circular saw is ideal as the blade can be lowered into the plywood. If you only have handsaws, jigsaws, or a sawzall, you can drill holes in the corners until you have enough room to get the blade in.

- Trim your chicken wire or chainlink to the size of the plywood. For cutting chainlink, twist together the top and bottom of the weave so that it stays together.

- With the staple gun, staple the chicken wire or chainlink to the back of the plywood.

- To double layer the chicken wire, simply stagger the second sheet and staple again.

- Put the plywood against the window or 2x4 frame with the chickenwire or chainlink against the frame

- Screw the plywood into the frame with long wood screws every 6"

- (Optional) For additional protection, screw a frame of 2x4s oriented on their short end to the window frame before attaching the window guard. This puts 4" additional inches between the mesh and the window

Some buildings, especially commercial and industrial buildings, offer little to the squatter resident in the form of spacial organization. Fortunately, this gives you the opportunity to craft any internal arrangement that you could imagine to create privacy and organization by using multiple units to form complex systems.

Ultimately, in a squat with long-term stability, building solid walls is achievable; but in a tenuous situation, something easier to build is preferable. This fabric wall can be removed intact, stuffed in to a bag, and brought to a new location. More, this wall works in troublesome concrete buildings. In a situation with a concrete floor or ceiling, installing hardware can be difficult. This wall gets around that by using adhesives. Of course, if you're dealing with a wooden floor or ceiling, you can skip all the gluing and drill straight in.

Drawbacks: This doesn't do much of anything for sound, and little for smell; and someone falling into the wall could take it down.

Materials and Tips

- Caulk gun
- Staple gun
- Tape measure
- Large pieces of fabric
- Rope

- Scraps of 2x4 studs
- Construction Adhesive
- Lexel elastic sealant

- For an easy up easy down arrangement, try using hooks in the blocks and grommated sheets.
- To remove: hit the block with a hammer or pry it with a screwdriver.
- For wood floors and ceilings: screw blocks rather than gluing

Sheets of the fabric of your choosing can be quickly and easily turned into larger panels by gluing them together.

Sewing is of course a durable option, but requires a sewing machine, power, and time.

- Measure the height of your ceiling and the length of divider wall you need. For the fabric wall panel, subtract 6" from the height and add 12" to the width.

- On the floor, build your super-panel so that each panel has at least 2 inches of overlap with it's neighbor. Keep it straight. Lay one row of panels before you move to the next row so that you can keep track of the order of things.

- With a caulking gun, spread a 1/8in thin bead of LEXEL adhesive along one edge of a

piece of fabric. lay the other edge on top and press firmly together.

- Work quickly and proceed until all your edges are finished.

- Go back and rub glued edges firmly. The more you can work the adhesive into the fibers of the fabric, the stronger the bond will be.

- Let this dry in place for a few hours. Within 24 hours it should be fully dry and ready to put up.

Building the Wall Anchor

- (2x) Cut ~4" of a 2x4 and a length of thin rope or line at least 1' longer than the ceiling height.
- (2x) Staple the rope to the block as shown, making sure it's strong.
- Wipe down the bottom of the block and the spot on the ceiling where you'd like the wall to begin
- Spread a 1/4" bead of construction adhesive in a spiral on the bottom of the block. Loctite PL 200 and Loctite PowerGrab are both recommended. Many other good options exist, but ymmv
- Press the gluey bottom of the block on the ceiling where you want the wall to begin. If you're using PL 200, press the block to the ceiling and spread

the glue around, pull the block off of the ceiling, wait 60 seconds, and then press it back on. This helps some glues cure faster so that you can move forward working, but others, such as PowerGrab, will stick best when applied directly. Do a test run or two and see what works.

- Measure out your desired length of wall from rope to rope, wipe it down, and repeat the gluing process for the second ceiling block. If for some reason things aren't sticking, you might need to hold the block in place with some duct tape and let it cure for a while.

- For many products, you can wait just about an hour before continuing to the next step. For others, it could be a day. Take a break and come back to it in a bit.

Hanging the Wall

- With both ceiling blocks in place, use the hanging ropes as guides to place your two floor blocks.
- Pull the rope to the floor block until just before its taught and staple in place. Really, don't pull it too tight.
- Wipe and glue, just as before, and let it cure
- After your rope-frame is all finished and dry, tie the bottom corners of your fabric wall panel to the rope near one floor block. Tie it as low down as possible.
- Tie the other corner to the second floor block so that the bottom is pulled taught, but not too taught.
- Finally, tie the top corners so that the sheet is fairly smooth. If you're having problems with the top knot sliding, or want it to be more permanent, put some LEXEL on the rope before you tie it so that it glues the knot.

- Finally, you can cut out squares, slits, and holes to accommodate however you might want to use your wall. For door slits, it's a good idea to tape or otherwise patch the top of the slit to prevent future tearing.

It usually is quite possible to get the water turned on in a squatted property, but there are some situations where access to running water or bathroom utilities might be impossible. For example, an industrial space with no bathrooms, or a property where the owner has broken all of the sinks and toilets to discourage squatting. These three unplumbed bathroom appliances (a sink, toilet, and shower) allow squatters to comfortably diversify the possible properties they could inhabit.

Pedal Powered Sink

Materials

- 3x milk crates
- 2x 5 gal. buckets
- 2sqf 3/4in or greater plywood
- 1/2in wood screws
- Door hinge
- 2x 3/8 to 1/2in worm drive clamp
- 10' 1/2" clear plastic hose
- 1' of wooden dowel
- 3/8" fuel primer bulb
- A tennis ball
- Construction Adhesive
- Drill & drill bits
- Wire cutters or hacksaw

- Put the fresh water bucket in the 1st crate
- Cut the bottom out of the second crate using heavy wire-cutters or a hacksaw, and stack the 2nd crate on top of the 1st.
- Stack the 3rd and final crate and top and put the sink bucket inside.
- Drill a ~7/16" hole near the top of the sink bucket to feed the hose through. Make sure the 1/2" hose will fit through but stay snugly in place

Foot Pump

- Cut a 8"x12" piece of plywood for the base of the pump and a 5"x12" piece for the foot pedal. Paint the plywood for extra durability
- Cut 4 ~2.5" lengths of wooden dowel. Drill holes for the dowels to be held tightly on either side of the squeeze pump, as seen in the drawing. Use glue if necessary
- Cut a tennis ball in half and glue (with construction adhesive) to the underside of the pedal.
- Once dry, position the pedal so the ball rests on top of the pump. Note its position and attach the pedal to the base with a door hinge and 1/2" wood screws

Plumbing

- Cut two ~5' lengths of 1/2" plastic hose and attach to either side of the pump. Water flows in the direction shown on the pump. Use worm drive clamps to tighten the hose if needed
- Push the left hose thru the hole in the sink bucket and trim to length. Put the right house in the water bucket and weigh it down with something heavy if needed.

Using the Sink

- Fill the lower bucket with clean water
- Pump the foot pump to get water flowing
- Wash
- Empty the upper bucket as needed

Gravity Power Shower

Materials

- 6x milk crates
- 1x 5 gal. bucket
- 3x shower curtains
- 18" 1/2" PVC pipe
- 1/2" PVC cap
- 1/2" barrel bulkhead union
- 1/2" PVC slip-slip ball valve
- 1/2" PVC slip-male adapter
- PVC glue
- Scrap 2x4 pieces
- Large plastic storage bin
- 3-4x 10' 2" PVC pipes
- 4x 2" PVC tees
- 8x 2" PVC elbows
- 4x 2" PVC caps

••• Stack 6 crates with a sandbag or cinderblock in the 1st crate. Zip-tie the crates together for extra stability.

••• Using 2x4's, make a simple box frame that fits inside the crate (under 12"x12") with the 2x4's oriented so

they're resting on the short edge. The 2x4s are intended to go below the bucket and raise it by 3.5"

••• Put this frame in the top crate and stack the shower reservoir bucket on top.

- Mark the side of the bucket, as close to the bottom as possible, where the 1/2" shower head pipe could fit through the side of the crate
- At the mark, drill a 1-1/4" hole in the bucket and smooth the edges with a knife or file
- Install the 1/2" barrel bulkhead union. Simply unscrew it, push the bolt-like piece through from the outside and screw the nut-like piece on from the inside.

Shower Head

- Cut one 6" and one 12" length of 1/2" PVC pipe
- Drill ~10 1/8" holes ~1" apart along the 12" length of pipe
- Assemble the shower head as shown in the drawing
- Glue the connections with PVC glue
- Screw it into the bulkhead, and use teflon plumbers tape if necessary.

Shower Curtain Frame

- Using 1-1/2" or 2" PVC pipe to build the frame, you'll likely need at least 3 to 4 10' lengths of PVC pipe
- Assemble the frame as shown in the diagram so that it fits around the bin you're using. The dimensions shown are for a typical rubbermaid
- Hang 2 or 3 shower curtains from the frame and tuck it into the bin
- Fill the bucket with 1 part boiling water and 2 parts cold water for perfect bathing temperature.
- Shower, then dump when you're finished

Composting Bucket Toilet

Materials

- Milk crate
- 2x 5gal. buckets
- Toilet seat
- Saw
- Drill
- Wood Screws
- 2x wide head wood screws
- Sawdust

Seat Assembly

- Remove the handles from your bucket and put it inside the milk crate
- Measure the interior dimension of the milk crate, this will be length (A).
- Generally, length (A) will be 12.25", but if (A) is too large the frame won't sit on the crate and if it's too small it won't fit over the bucket, so be precise.
- Cut 4 pieces of 2x4 lumber of length (A)
- Cut 3 pieces of 2x4 lumber of length (A) + 6". Screw it all together as shown
- The toilet seat frame should sit on the lip of the crate but fit around the bucket
- Using 2 long screws with wide heads, screw the toilet seat into the 2x4 frame as shown in the diagram
- Place the frame and toilet seat assembly over the bucket and on to the crate

Maintaining your toilet is simple

- Fill a second bucket with sawdust next to the toilet
- Put down a finger depth of sawdust in a fresh toilet bucket
- Use the toilet like usual; toilet paper and cotton tampons and pads are fine
- Sprinkle a generous covering layer of sawdust after every use.
- Once the bucket is 3/4 full, empty it, wash it, dry it, and start again

Disposing of your waste

- You can bag the waste and put it straight in a dumpster (try putting a bag in the toilet from the beginning)
- Add it to an existing compost pile, but make sure you understand how to compost human waste
- Store it in a 55 gallon composting drum (there are lots of guides online for this)

If you divert urine

- pour it into a storm drain (this defeats the purpose of recycling waste, though)
- pour into a 'soakaway': a 2'x2'x2' hole filled with stones or gravel
- dilute and use as fertilizer; don't let it pool around plants

If it gets smelly:

- try using more cover material, or different cover (mulch is good)
- Separate urine; pee somewhere else or make a second toilet (with a sealing lid!) exclusively for urine

Banner Dropper

The face of a squatted building is important. Whether you're establishing the squat's presence as a fun, beneficial addition to the neighborhood, or trying to rally support during an eviction attempt, projecting a message to the world can play a big role in this. This banner delivery system is mostly for the latter; a pre-made banner can be prepared and hung discreetly, ready to be instantly deployed at the pull of a cord. This banner deployment can be useful for gathering neighborhood and activist support during an imminent eviction and attracting attention. Evictions can be stopped; with sufficient defense and enough people on the street, sometimes an eviction attempt will be called off, giving squatters enough time to pack and leave, to build a legal defense, or to negotiate.

Materials

- Banner
- Nylon cord
- Furring Strip (1x12 or 1x2x12)
- Eye hooks
- Construction Adhesive
- Staple gun and staples
- Saw

- Paint your banner. Make sure it's really, really dry before you start because you'll be rolling it up for a long time.
- Cut your furring strip to at least 1' longer than the banner
- Lay the banner face-up on the ground with the furring strip underneath the top of the banner, leaving 6" of wood exposed on either side.
- Staple the top 1" of the banner to one edge of the furring strip, stapling every ~6"
- Roll the furring strip 360 degrees, rolling the banner onto it, so that the same face you stapled is, again, face up and under the banner
- Staple again through both layers of banner every ~6". Add a few extra near the edges
- Take your eye hook and screw it into the top side of the wood near the edge. Add an additional 1-3 hooks along the middle if the banner is long (you'll be screwing through the banner)
- Repeat for the bottom of the banner. Make sure the furring strip is under the banner and rolled the same way. Only place an eye hook on either end.

- With the banner face down on the ground, roll it up from the bottom. Turn it back around and orient it with the front facing towards you, as shown in the image.
 - If you are expecting direct rain the device, take a piece of saran wrap or light plastic a bit longer than the banner's width, drape it over the entire unit, and tuck it under so that it won't interrupt the banner's unrolling.
 - With some nylon cord or smooth rope, cut and strongly tie loops of cord long enough to reach around the unit with a little bit of slack. Cut one for each end and every few feet of banner.
 - Cut another generous length of cord, at least twice as long as the banner. This will be your pull cord.
 - Starting on one end, wrap the banner with a loop and thread the pull cord through both ends of the loop, as shown in the diagram. Make sure you position the loops so the knot isn't in the area of the pull cord. The pull cord should hold the loops together, and keep the banner rolled up. Continue until you feel you've got enough loops to keep it secure.
 - Leave about a foot of pull cord at one end, and enough on the other end to stay in the window with you after it is hung.
- Use the top eye hooks to hang the banner on the building in whatever fashion works. Use the bottom eye hooks to attach weights, but it's best to keep these inside until they're ready.
- When the time comes, drop the weights out the window, yank the release cord, and watch the banner unfurl in spectacular fashion.

Further Reading: Squatting Guides

- [Short Book] The Squatters Handbook, 14th Edition
- [Zine] 'Using Space' Zine Series
- [Zine] 'It's Vacant, Take It!' -Homes Not Jails
- [Zine] 'Kansas City Squatters' Handbook' - Feral Kat Collective
- [Zine] 'Opening Doors, A Primer'
- [Book] Nine Tenths of the Law: Property and Resistance in the United States- Hannah Dobbz

Contact For More:

- to exchange leads on promising properties,
- to request design support in Portland, OR,
- or any other design-activism intersections,

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