

Great Stoney

Build your own cardboard castle

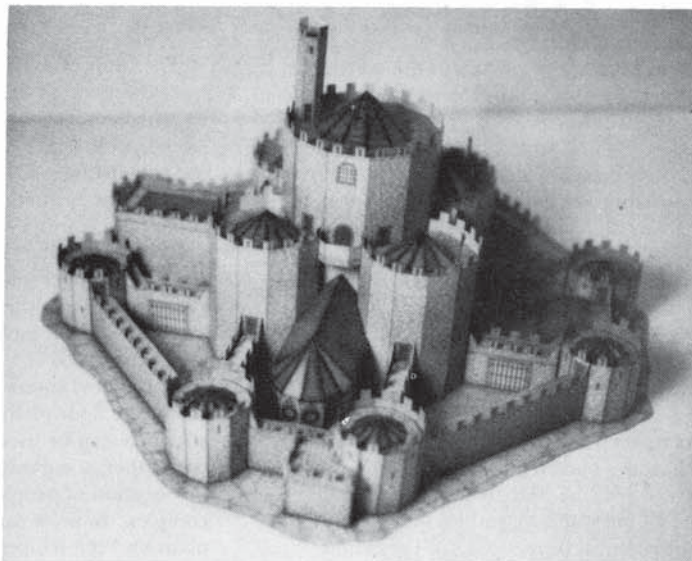
A grand tour

by Arthur Collins

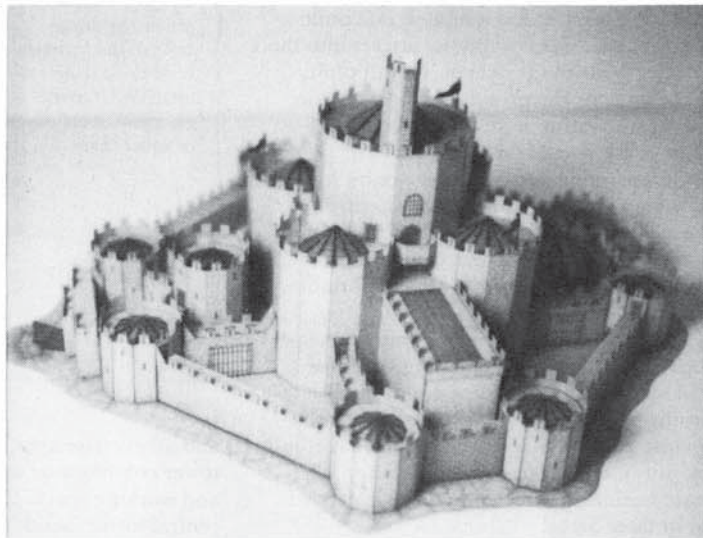
The original name of this awesome structure was The High Keep of the Grand Chapter of the Order of St. Raphael. Since that was a little too elaborate for everyday use, the castle became known as Great Stoney. It is a fortified monastery, such as might be maintained by a band of ecclesiastical knights or an abbot who is also a temporal lord. While not a large castle in terms of area covered, it is quite tall and very well built, easily capable of housing a great number of folk of all degrees. The main chapel has a seating capacity of about 330, taking the balcony into consideration.

Great Stoney was designed to provide maximum security for its inhabitants without having to depend upon any natural defenses of the terrain. It is assumed that Great Stoney sits upon open meadowlands, surrounded by the fields that feed the monastic community. The surrounding area has no hills, cliffs, lakes, or other outstanding features to enhance the defendability of the castle. Therefore, it was built as concentric rings of stone, each part's defense easily supplemented by others, affording easy and rapid communication of forces within its perimeter.

The castle as seen from the rear. The most prominent features in the foreground are the postern gate along the outer wall and the chapel with its sharply angled timber roof and stained-glass windows.



This view of Great Stoney shows the main gate in profile, with the drawbridge lowered to an almost-horizontal position. The tall rectangular structure in the center is the great hall and cloister.



The great central tower rises eight stories (from the basement through the seventh story), with a watchtower going three stories higher. Supporting the central tower are four more towers, each five stories tall, grouped about the center in cloverleaf fashion. Giving further support to this huge volume of outward-pressing stone are eight two-story walls radiating out to the outer wall towers. Various other structures complete the complex.

Outer defenses: The outer walls of Great Stoney are very strong. They average about 10 feet in width, and rise two stories to the

height of the walk-wall, with crenellated battlements. The outer wall towers are three stories high, crowned with conical timber roofs. The main entry to the castle is through a barbican. A barred double door and portcullis form the outer gate, and between them is a small space covered by a murder hole above. If intruders breach the outer gate and get into the barbican, they can be fired upon from the outer gate wall and the three towers surrounding the entry area. Exit from the barbican into the central bailey is by way of two normal-sized doors between the three gate towers. A well-guarded postern gate is at the other end of the complex.

Foundation level: Supporting such a rockpile as Great Stoney requires massive foundations. Here in the bowels of the castle are the places where food and arms are stored, meat smoked, wine and ale made, and (yes, even here) criminals confined. In three of the towers, the foundation walls have been hollowed out to make extra storage hatches a few feet high.

Down here is also the crypt and its chapel, behind a wrought-iron gate. Corridors leading away from the crypt chapel traverse the foundation. Dead brothers are buried here by prying stones out of the floors and walls, then sealing up the bodies behind cenotaphs.

Basement level: Here on the main (first) level are the great public rooms of the complex — the kitchen, great hall, grand gallery, infirmary, sacristy, chapel, and chapter

Complete instructions and floor plans inside

house. There is also a lavabo, or bath area, where water from the cisterns can be run into a large pool for bathing. Garderobes (medieval toilets) and middens (cesspits) are everywhere throughout the complex. The middens have to be cleaned out every so often, and this is the single most obnoxious job of castle life.

The chapter house is a small chamber where senior members of the order gather for business meetings. The main chapel is the great worship area for the whole community. The altar has a hidden safe built into its back. Great windows are set into the exterior walls of the chapel. Font, pulpit, and chairs for the presiding officers are in the front. Seating is augmented by a balcony in the rear of the chamber.

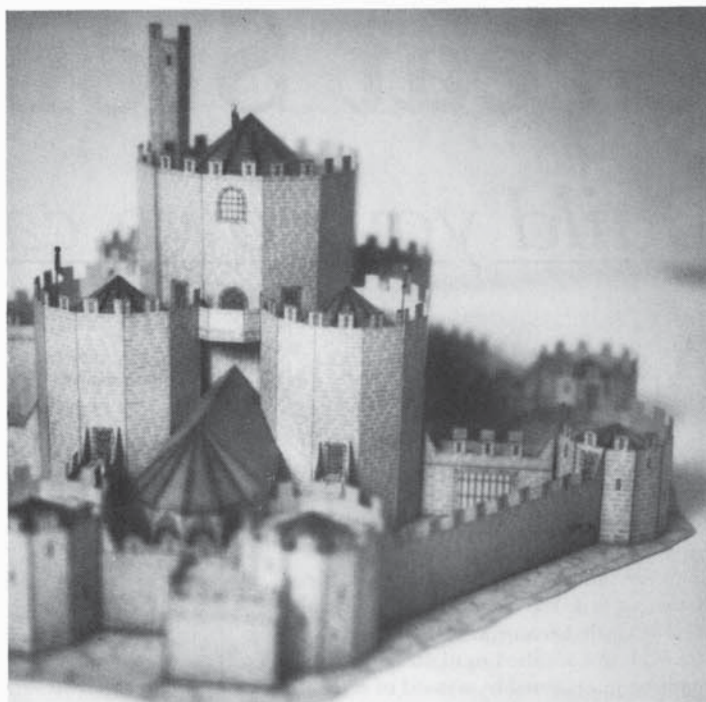
Certain other conveniences are built into the complex, such as a dumbwaiter from the kitchen to the upper levels. Unlike many castles, this one has plenty of fireplaces. Altogether, it is a very comfortable place.

First and second stories: These tower rooms and the wing containing the great hall serve to house the cloister for junior brothers, the better living quarters, classrooms, guestrooms for hospitality (a medieval duty), a laboratory, and a library. The main business of the community is carried on in these areas.

Third and fourth stories: On these floors are the living and working quarters of the officers of the community, the treasury, the meditation chapel, and so forth. Large window seats set in the tower walls are found throughout. A great solar (sunroom) with balconies is a major feature.

Upper levels: The open areas around the edges of the conical roofs atop the cloverleaf towers are used for various purposes: a carpenter's shop, a greenhouse, a smithy,

The closeup view at right shows the large central tower and two of the four towers that surround it. Atop flagpoles made from straight pins, pennants add a touch of color to the massive stone and wood structure. The detail photo below and to the right shows the drawbridge, made more realistic-looking by attaching it to the gate with short pieces of small chain.



and an exercise area. The great central tower continues on up, giving further living and working space. On the very top of the central tower, beside its conical timber roof and close to the base of the watchtower, is a storage shed where astronomical equipment is kept.

Conclusion: It is perhaps no coincidence that Great Stoney resembles something like a beehive, for it is a tightly organized, packed community of very busy people. Well designed for defense, it nevertheless has many features for recreation and worship that one would not find in a secular lord's castle.



From concept to cardboard

The cardboard version of Great Stoney that you can construct from the parts in this magazine is not identical to the castle that's depicted in the accompanying floor plans. Rather than being a disadvantage or a weakness, that fact is an indication of how the creation process differs depending on how many dimensions you're working in.

When Arthur Collins drew up his original floor plans for Great Stoney, he based the two-dimensional construction on his extensive knowledge of how a castle is laid out and built. When Arthur's floor plans were rendered in pen and ink for publication, we adhered to the design in that form.

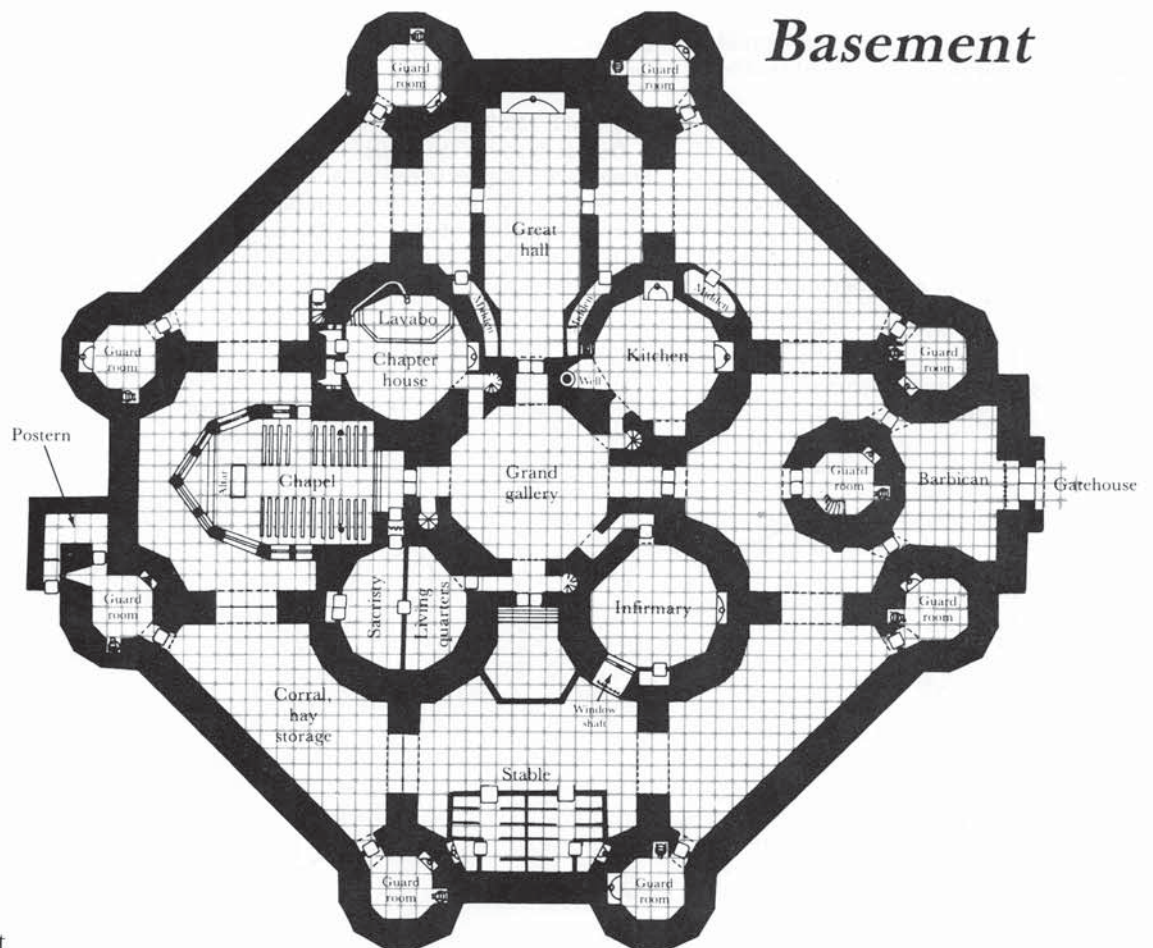
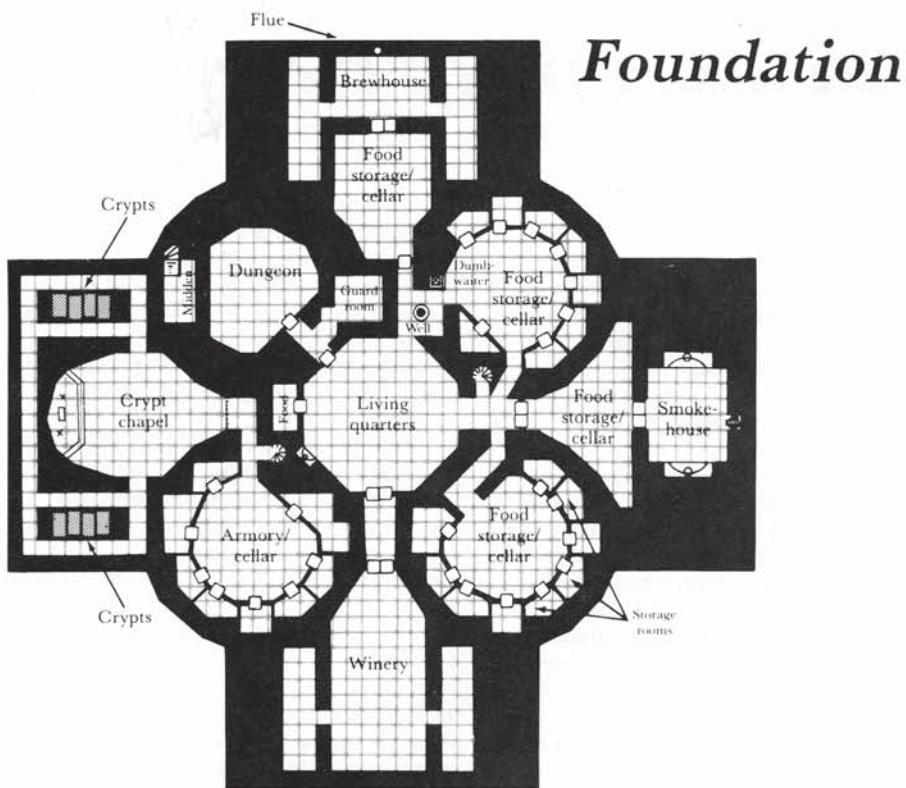
But when Dennis Kauth turned Great Stoney into a cardboard sculpture, he deemed it necessary to change some design elements. Certain things that "work" in a drawing on graph paper weren't feasible or even possible to translate into parts that would fit together properly and could be squeezed onto four sheets of cardboard.

For instance, the walls of the cylindrical towers are thick in the drawings, but in cardboard they're only as thick as the cardboard itself. It would have been possible to construct thick-walled towers in cardboard by nesting one cylinder inside another, but that would have taken more space on the sheets than we had available — and it would have meant twice as many crenellations for you to cut out.

Arthur's design included flying buttresses that extended from the cloverleaf section down to the outer towers. In an actual stone construction, the buttresses would be essential to keep the massive center section from collapsing outward under its own weight. In cardboard, the parts would have been difficult to form and assemble; they would serve no structural purpose, since the center towers stand up quite well all by themselves; and again, there was the problem of space on the sheets. So . . . no flying buttresses (unless you make your own).

The roofs of the four cloverleaf towers were designed as flat surfaces, but Dennis supplied conical timber roofs for them similar to the ones on the outer towers and the center tower. One of the main reasons for this was aesthetic — "to give it a little color," in Dennis's words. If you want those towers to have flat timber roofs, leave off the timber cones and use markers or brown paper to color in the center of each roof section so that it looks like a flat timber surface instead.

Despite the minor differences between them, the floor plans and the cardboard structure can be used in conjunction with each other as a gaming aid, to help monitor the location of people and objects within the complex. In most cases where the floor plans and the sculpture are in conflict over a specific point, the floor plans should be considered the final authority — unless, of course, you have a reason for deciding in favor of the opposite viewpoint.



Scale: 1 square = 5 feet

How it all goes together

I. THE BASICS

In addition to this copy of DRAGON® Magazine, you'll need:

- A 12-inch ruler or straightedge, preferably metal.
- A pair of sharp, pointed scissors, not too big (so you can wield them easily).
- A modeling knife with a sharp blade.
- A tube or bottle of high-quality glue for paper.
- A ball-point pen (one without ink is okay) or some other object to be used as a stylus for scoring along fold lines.
- Paper clips, spring-type clothespins, or similar items that can be used to hold parts together while the glue dries.
- A few straight pins.

1. Separate the two large sheets of cardboard from the center of the magazine. The best way to do this without damaging the paper is to pry up the ends of the staples, lift out the sheets, and then push the staples back down to hold the rest of the pages together.

2. Cut the pages apart into smaller sections for easier handling. Cut out the base first; this is the part that will hold all of the others, except for the small outbuildings (which have their own small bases).

3. Cut out the individual parts of the castle, one at a time as needed; notice that parts and groups of parts are numbered in the order of assembly. If you have a steady hand, you can use scissors for most of the long and straight edges. To cut out small detailed areas, such as the crenellations on the tops of the walls, a modeling knife and a straightedge to guide it are the best tools for true and accurate cuts.

4. Using the stylus and straightedge,

score each part along the black lines to make folding easier. (The black lines are only printed on the colored surface, but if you score the parts on that surface the colors might "break up." It's safest to do the scoring on the non-printed side, as long as you line up the straightedge carefully before scoring each line.)

5. Fold each part so that it forms the three-dimensional shape it's supposed to, then apply glue to the surfaces that will touch (only one surface, or both, depending on the kind of glue you use) so the part will stay in that shape. Refer to the schematic drawings to see how certain types of parts are constructed. If you're using a fast-setting glue, be sure the parts are aligned properly the first time you touch the connecting surfaces. If you're using a slow-setting glue, you may find it handy to clamp surfaces together with paper clips or clothespins until the glue dries.

6. Attach each part in its proper place, either on the base or on another part. Put down the center tower first, then the "cloverleaf" towers around it, then the great hall (location #3), then the chapel (#4) and so on, working your way toward the perimeter of the castle. Attach small parts as you go along to avoid being hemmed in later by other parts; for instance, put the doors on the great hall before gluing down the two walls that run parallel to the hall.

SPECIAL INSTRUCTIONS

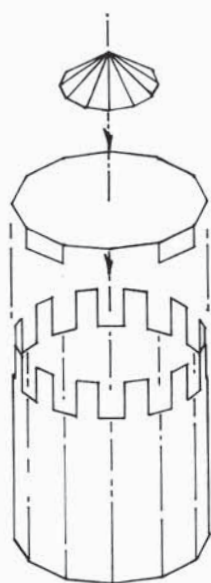
Doors: Many of the doors of Great Stoney are designed to be shown in the opened position. Each of the open-door pieces is actually half of a door. As you cut each one out, fold it in half and glue it to make a piece that's colored on both sides

(see the diagram). Then, using a very small amount of glue, attach each half to the side of an open doorway. The door halves labeled 3 go at the base of the central tower and on the great hall. The door labeled 1 is for the doorway leading from the central tower to the roof of part #5. The doors labeled 9 go at the base of each of the outer wall towers.

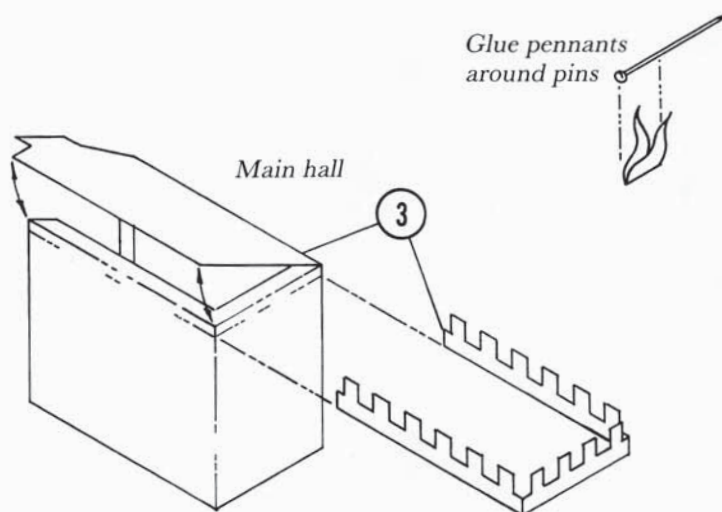
Outbuildings: Because a castle often had such things in its vicinity (and because we had a little extra room on the cardboard sheets), we've provided three outbuildings, each in one piece, that can be folded and attached to their own small bases and then displayed outside the castle walls in any location you choose.

Balconies: The parts labeled B (on the sheet containing the base) are used to form the balconies that jut off the central tower along the tops of the cloverleaf towers. For added support and to be sure they're aligned properly, it's best to attach them after the cloverleaf towers are in place.

Tower roofs: Most of the flat roof sections that fit inside the cylindrical tower pieces should be fixed to the insides of the cylinders so that each roof is about $\frac{1}{16}$ inch below the battlement. Exceptions are the roofs on the cloverleaf towers, which fit somewhat lower inside the cylinders so they'll be at the right height when the cloverleaf towers are fitted against and under the central tower. Whenever you're not sure how two pieces are supposed to fit together, try them on for size before applying any glue. The conical timber roof on each tower is designed to fit over the uncolored area in the center of the flat roof piece — there is no need to cut out the uncolored sections, and the structure will be weakened if you do

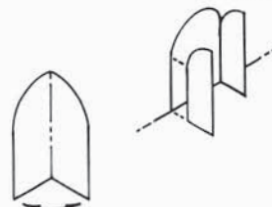


Typical three-piece tower

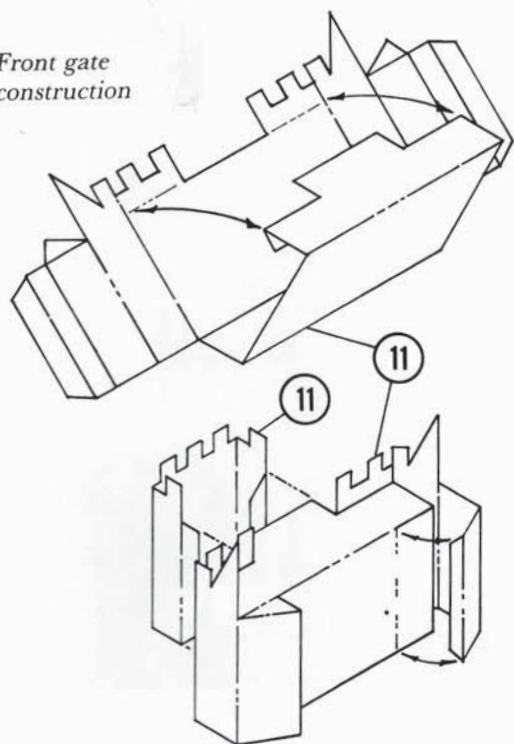


Glue pennants around pins

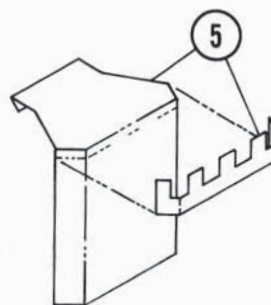
Fold doors in half, then attach to doorways



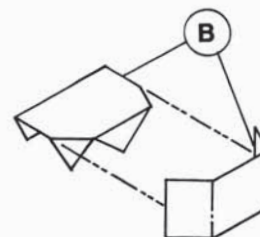
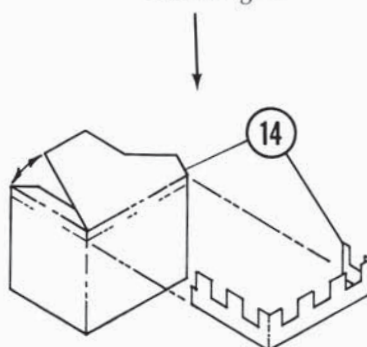
Front gate construction



Balconies
(attach sides
before final
assembly)



Postern gate



so. Each of the timber roofs on the clover-leaf towers is marked with a small notch that must be cut out to make the roof fit snugly against the central tower.

ADVANCED TIPS

Anyone who's experienced at scratch-building and detail work will think of several ways to make Great Stoney even more realistic-looking. Here are a few of the ideas we've thought of, including some things that were incorporated into the prototype model shown in the photographs.

With a couple of pieces of small chain and four straight pins, you can build the drawbridge (door part #11) in a partly

opened position, as in the prototype. Cut the chain to fit, then "bolt" it to the door and the wall with straight pins, clipping off the shaft of the pin with pliers or scissors. Wherever straight pins are used in the construction, try to get the type with colored heads that will match the color of the part the pin is used with.

The pennants fluttering from the higher towers are made by folding and gluing each paper pennant around a straight pin, then poking the pin through the black dot in each roof piece. To keep the pins at the proper heights, stick each one in the roof and fix it in place with a spot of glue before attaching the roof to the tower. For added realism and

a custom touch, design your own pennants, and try cutting them out of cloth — but first, seal the cloth with liquid glue to keep the edges from fraying.

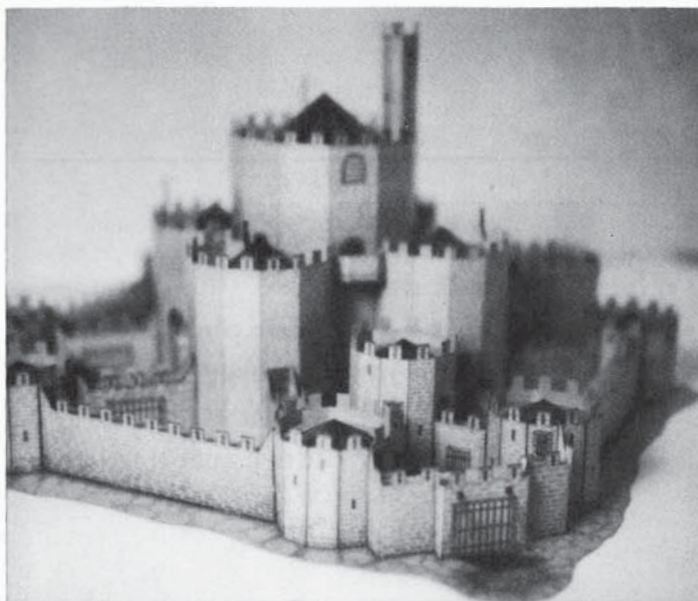
By working very carefully, you can cut out any doors or windows you think should be opened; likewise for the portcullis gates along many of the walls. Simulate bars and latticework with thin wire attached to the inner surfaces of the wall or tower in question. As with many detailing projects, you should finish this work before proceeding with the construction of the part being detailed — for instance, it would be very tough to cut out the windows on the central tower after the central tower is attached to the base.

The stable area offers several opportunities for detailing. You can build hitching posts from toothpicks, and feed troughs from cardboard or balsa. Use flocking material or fibers of twine, or check out the spice and herb rack in the kitchen, for something that looks like straw.

Because the printed sheets are not colored on both sides, several uncolored areas will be visible on the finished product — particularly on the inside surfaces of walls and battlements. You can fix this by coloring those surfaces with a felt-tip marker in a shade of gray that will match the exterior. Markers will also be handy for covering up places on the exterior that get slightly damaged during construction.

As suggested in the section on the stable area above, you can build new parts and accessories for anything you consider appropriate. For instance, the roof of the central tower could use a three-dimensional storage

This photograph offers a good view of the main gate area. Three towers ring the main entrance, making it very difficult for hostile visitors to penetrate further into the castle grounds.

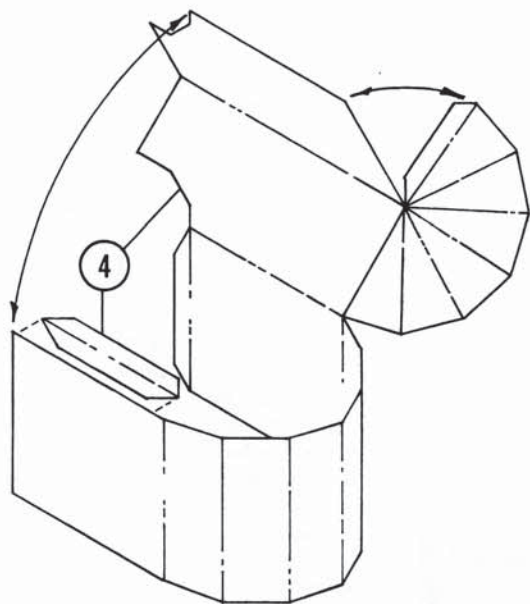


shed instead of the two-dimensional image shown on that surface. You could build sloping staircases from the walls to the tops of each of the outer towers. You may find good uses for small parts and bits of scenery from model railroad accessories.

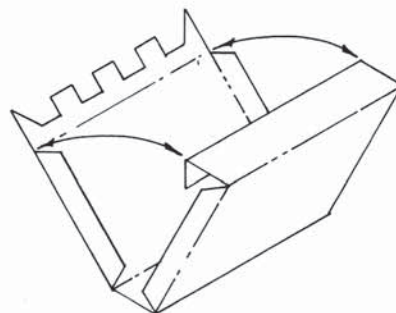
It is possible, but not recommended, to go so far as to cut out the arrow slits on the crenellations along the walls. Even if you can do this with precision, the hole that's left behind will make a flimsy part even flimsier. With any extra cutting or detail work you attempt, be sure you aren't losing more than you're gaining because you've created a structural weakness in the process.

When you've got Great Stoney looking the way you want it, spray the entire construction with a dull coat finish to give the castle an appropriate flat luster, add some strength, and cover up any glue spots that may have found their way onto the exterior surfaces. When you're done, Great Stoney will be useful as a gaming accessory (if anyone in your campaign is lucky enough to encounter — or own — such a grand place) or a display piece, either as the focal point of a diorama or sitting on a shelf all by itself.

Anyone with a fear of heights was probably not required to work a shift in the lookout tower, which extends three stories higher than the roof of the central tower and a dizzying 165 feet (at 15 feet per story) above ground level.



*Chapel construction;
note piece that
attaches to wall and roof*

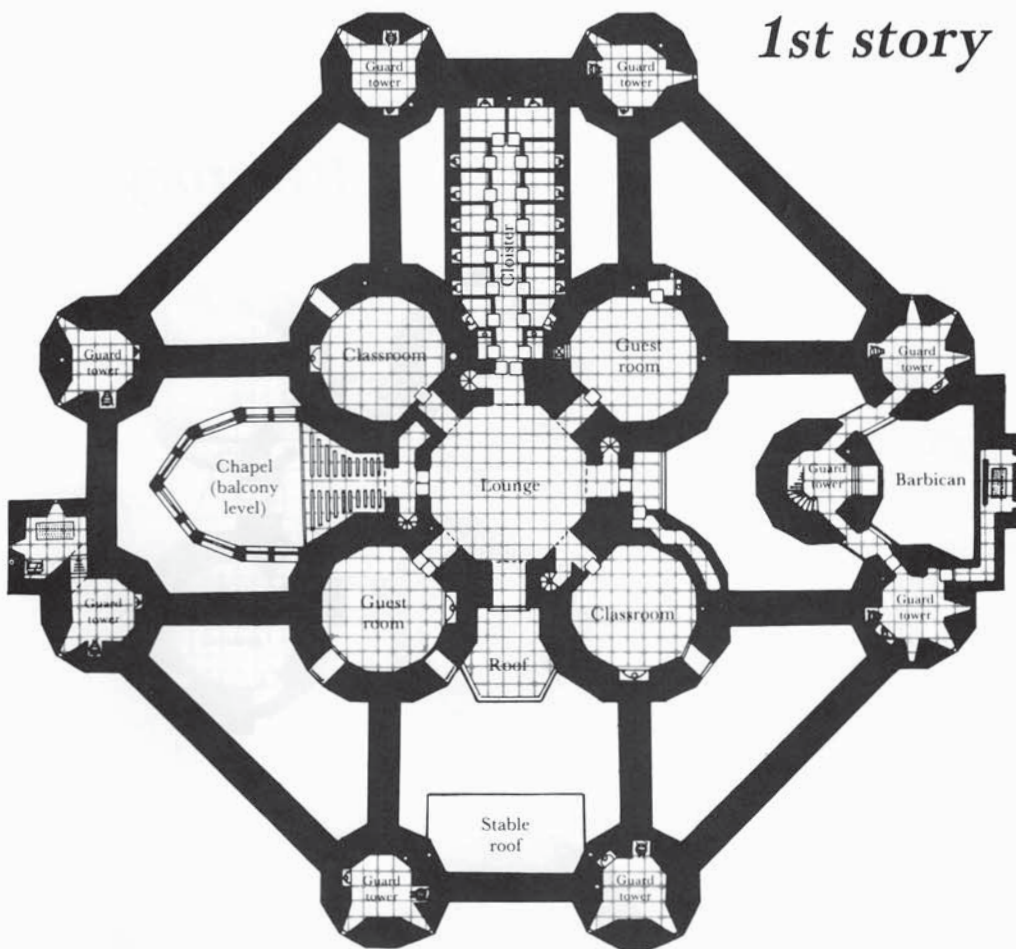


*Typical wall piece;
glue sides first,
then top*

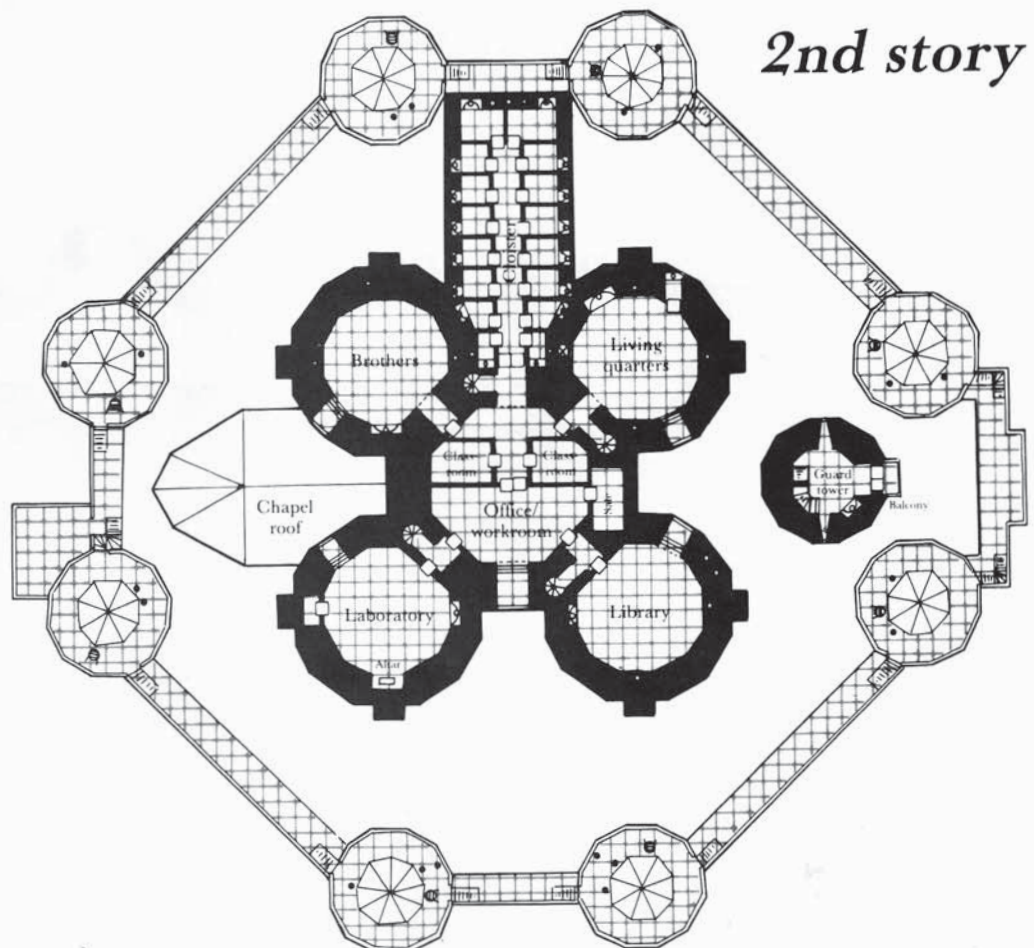
Where credit is due

Original design and floor plans: Arthur Collins
3-D design and instructional drawings: Dennis Kauth
Graphic rendering: Roger Raupp
Everything Arthur didn't write: Kim Mohan

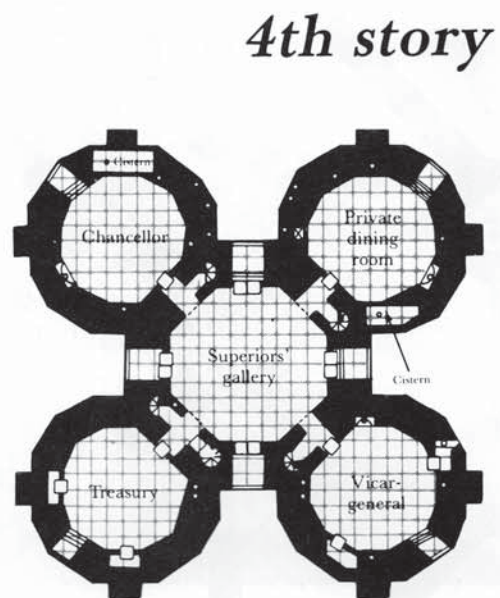
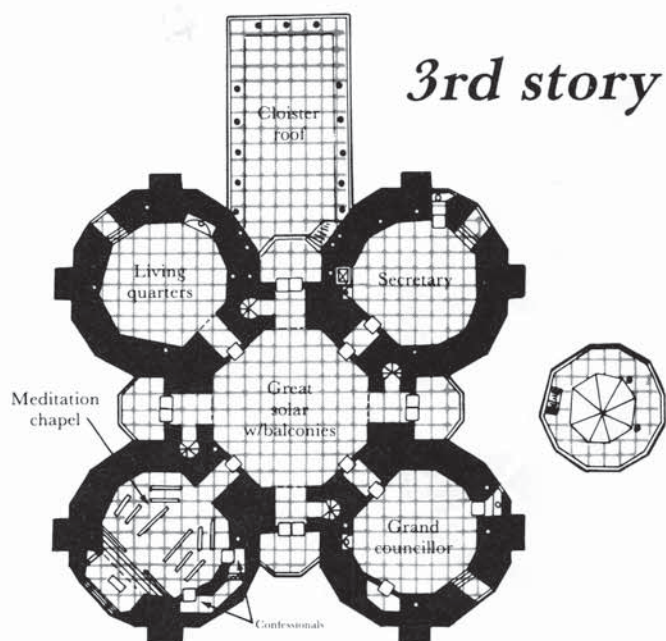
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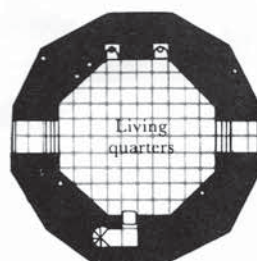
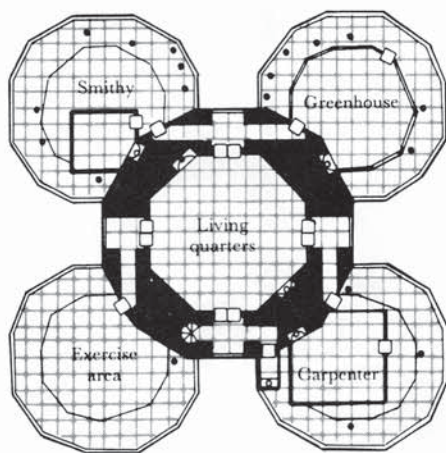
2nd story



Scale: 1 square = 5 feet



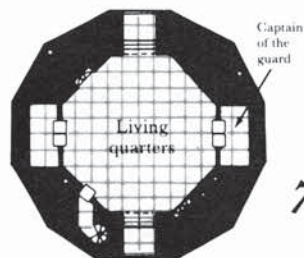
5th story



6th story



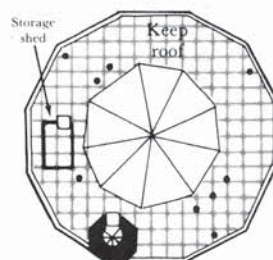
9th story



7th story

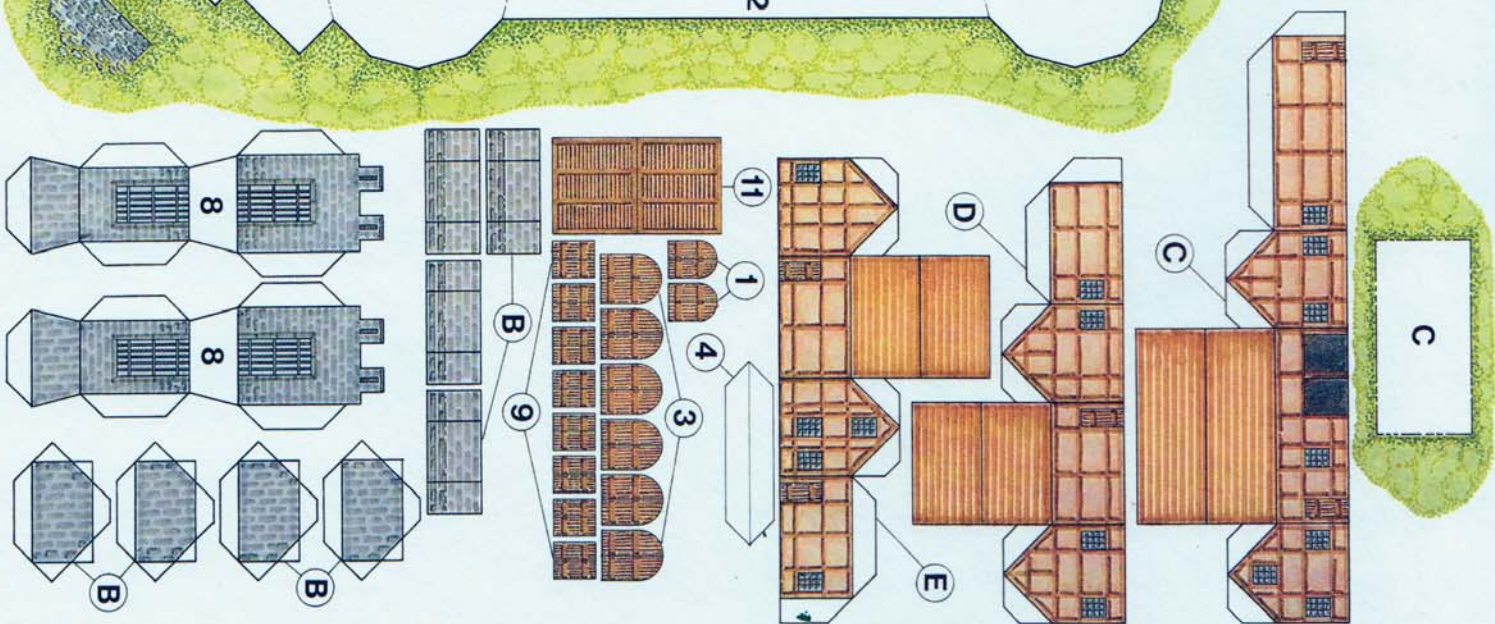
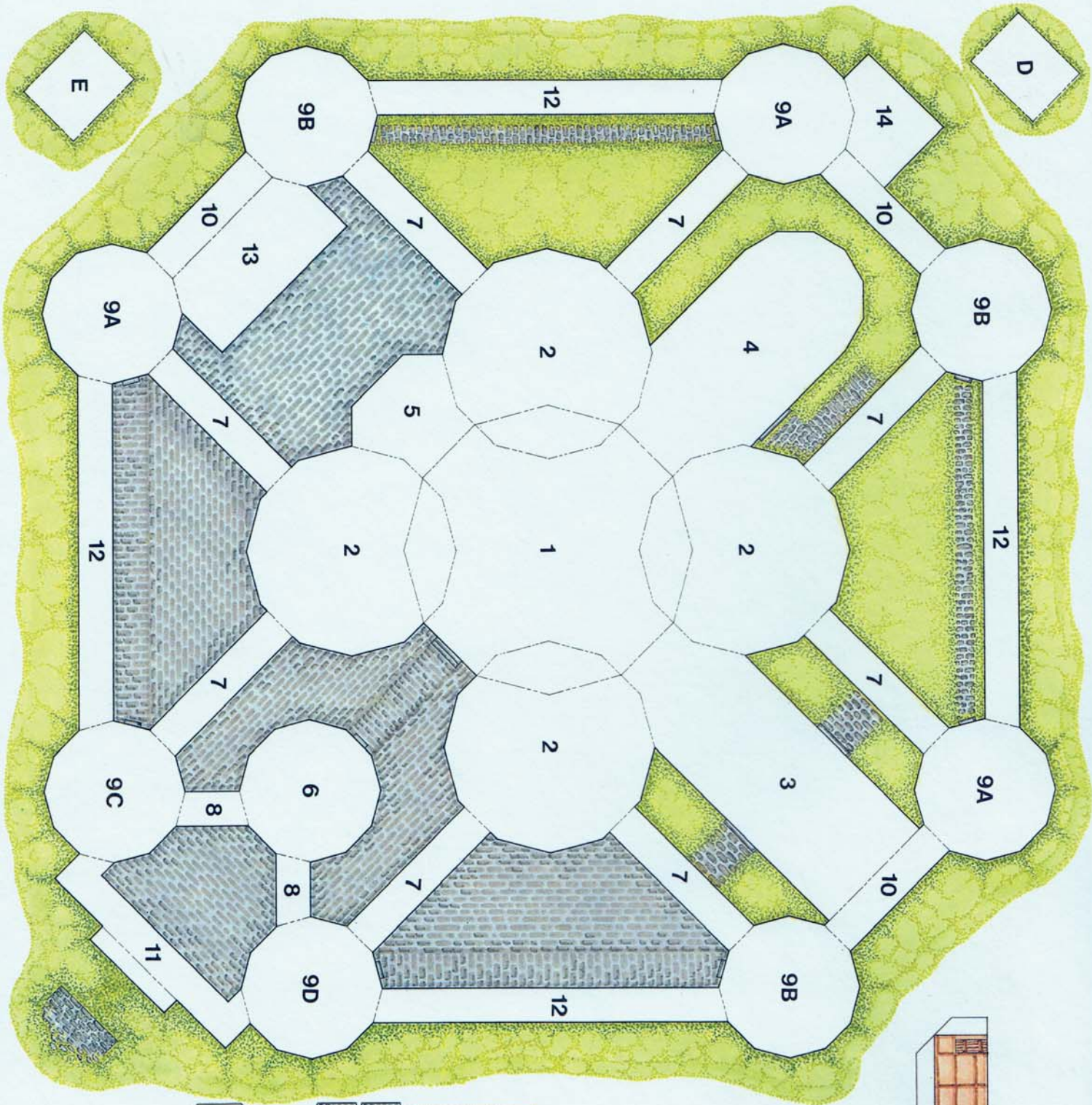


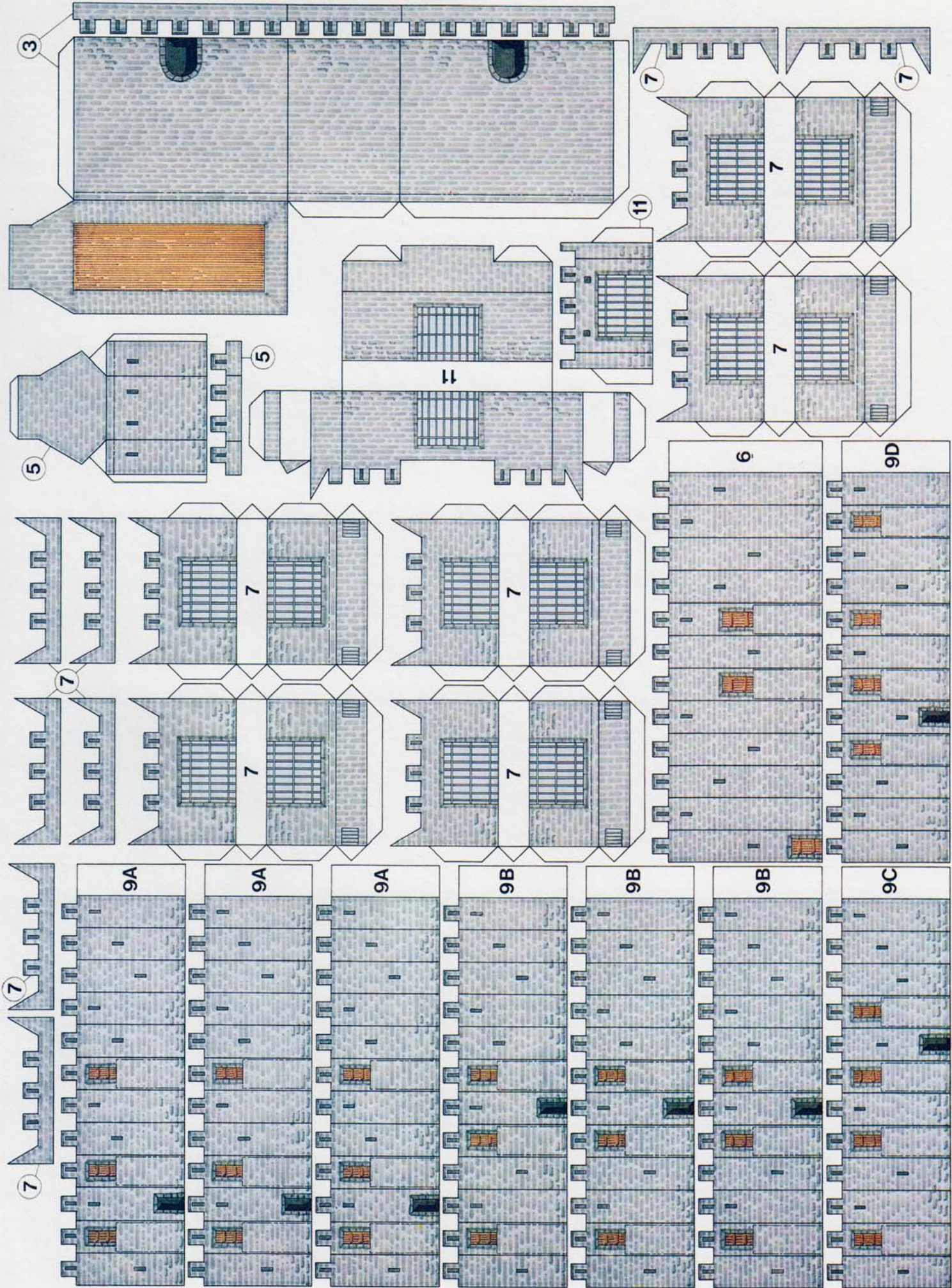
10th story

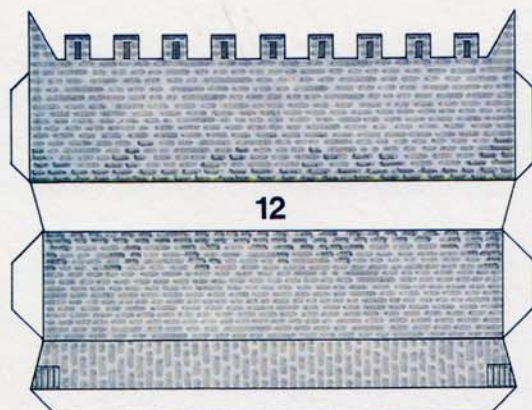


8th story

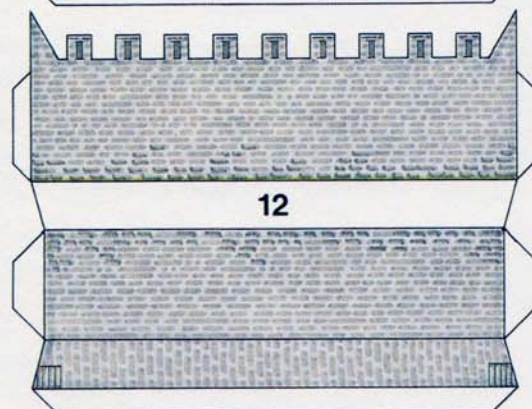
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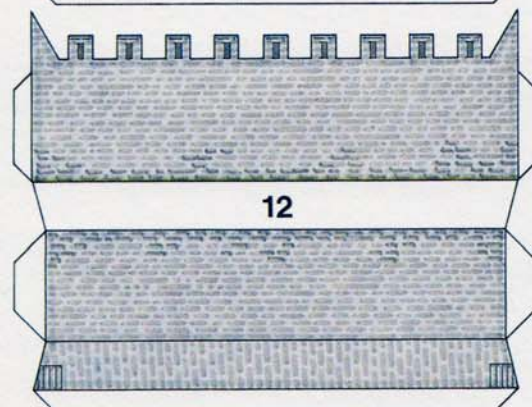




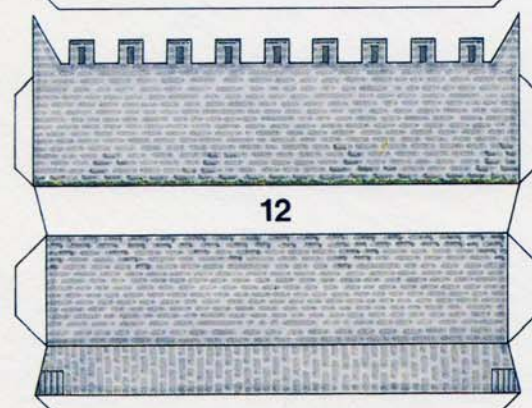
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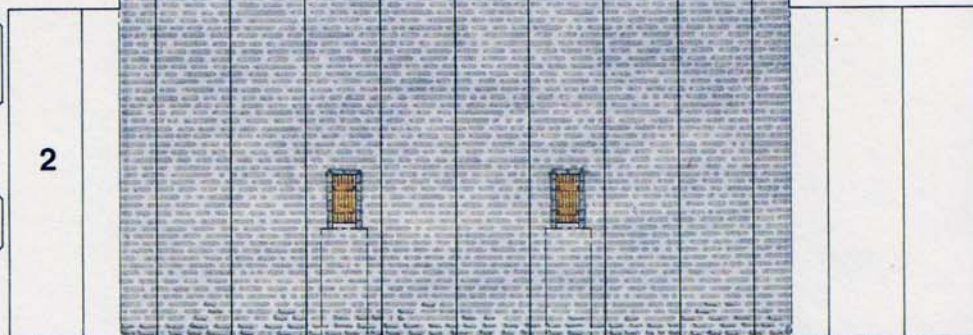
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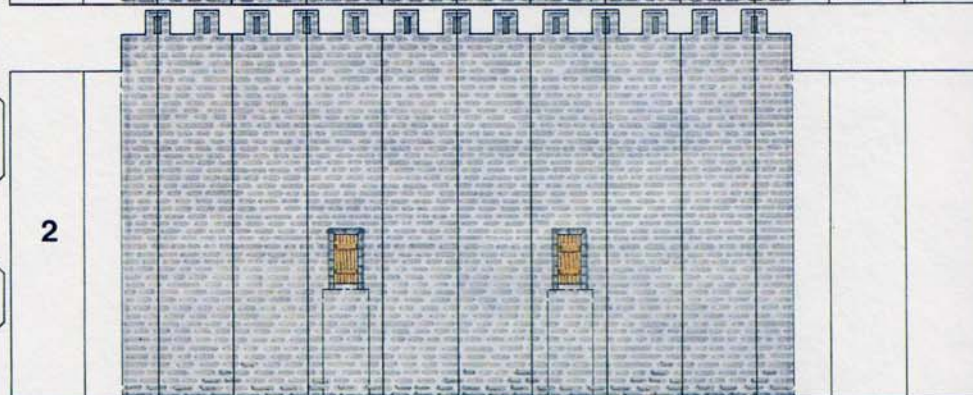
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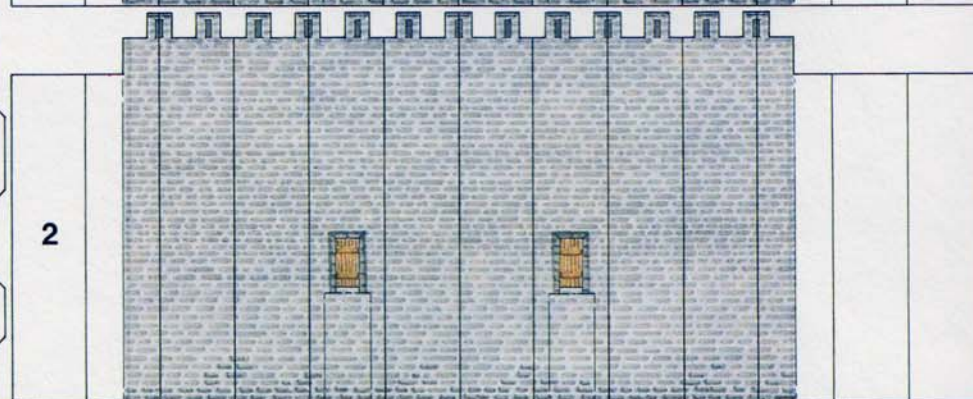
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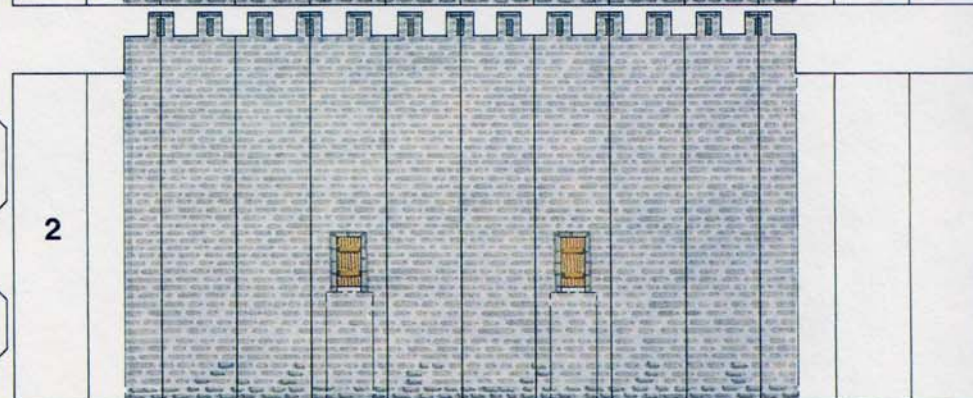
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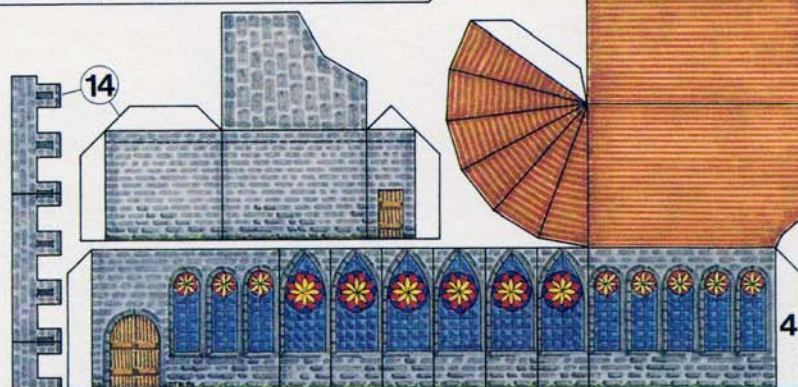
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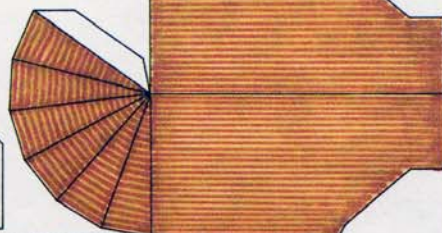
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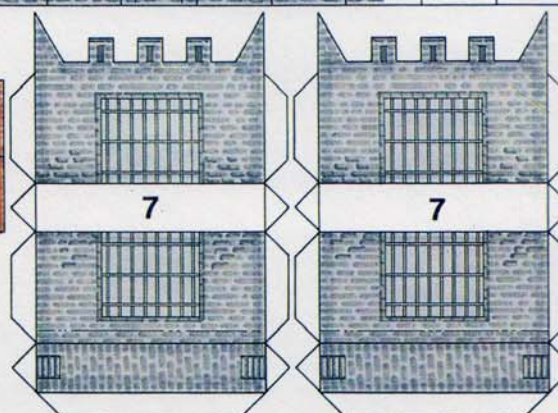
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4



7

7

