Better Storage on a Shoe String
by John Hartmann

Conservators are often faced with the challenge of creating stable storage areas for historical sites, historical societies or museums with a limited budget. When considering the level of funding for the arts today this problem probably affects many more of us now that it did in the past.

This program is often compounded when the artifacts are stored in historic structures which have notoriously bad environmental conditions and when it is important to accomplish the task with minimal damage to the fabric or interpretive integrity of the building.

The Pennsylvania Historical and Museum Commission is the parent organization for more than 50 museums and historic sites in Pennsylvania, housing approximately two million artifacts and six million archival records and documents.

I have targeted collection's storage as one of the Conservation Centers chief priorities. It isn't humanly possible to conserve all of these collections in one life time, so it is pretty clear that something must be done to insure that they survive. I would like to share some of my shortcuts, methods and supply sources I used while doing these storage upgrading projects.

Of chief importance is the development of a comprehensive storage plan that can be implemented in phases, making all plans with the curators or site administrators participation. People sometimes resent outsiders coming into their site and telling them what to do. Let them be active participants in the planning stage of the project and all should proceed smoothly.

In Phase I improve the most hazardous conditions threatening the unorganized collections (e.g. close up rodent holes, fumigate, remove metals from wet basements, discard acidic mats or packing materials). In Phase II prioritize the collections in order of their vulnerability, organize them by type or material and build storage areas. In Phase III go back to the beginning of the prioritized list and upgrade conditions again and again until you are satisfied with the results.

This process may take years to accomplish, but try to establish a time frame for each phase. Easily reached plateaus give the museum's or historic site's staff a sense of accomplishment and the project no longer seems hopeless because it lacks a place to start.

Choose storage areas that are appropriate for specific collections. Improve those areas where needed.

Cover the windows with ultraviolet absorbing plexiglas in those storage areas with collections that are extremely light sensitive. One method that I have found useful is to attach the plexiglas to the window frames with magnets. (Illustration #1). Another method is to use "Velcro" tabs in much the same manner. These applications eliminate the need to make holes in the fabric of a historic house. Make sure to leave some air spaces around or in the plexiglas so that trapped moisture between the plexiglas and the window will not cause the window frames to deteriorate.

The other component of light which is damaging to collections is the intensity of the light. Cover display cases with dark cloth when the public is not in the galleries.

Install blackout shades on storage area windows. Keep them closed when they are not in use. An argument that I have encountered several times is that it would not be historically accurate to look right from the outside to have the shades drawn all day. I have found that if you install dark green or black shades it is virtually impossible to detect them from the ground if they are completely drawn.

Control temperature and humidity conditions by purchasing one hygrothermograph unit. Move it on a cyclical basis from room to room (e.g. one week per month in four rooms) to determine seasonal temperature and humidity patterns. A less expensive hygrometer will do just about as well but someone will have to physically write down the values on a routine basis.

Improve the environmental conditions by adding humidifiers, dehumidifiers or fans. Open windows for ventilation. If heat is needed, be creative--use chimneys, stove pipes or dumb waiters as pathways for duct work. Avoid space heaters or plug in electric heaters; the results could be disastrous if they are left unattended.

Cover artifacts with cloth or plastic to keep dust off of their surfaces. Dry cleaner bags or old washed white cotton sheets can be used. They are usually free and will do the job until you replace them with a better material. Shades can be made of polyester or mylar sheeting rolled on a normal shade roll which can be drawn to keep dust out of metal open storage racks.

Storage areas can be created from some of the most unlikely places. Just because the structure is an old barn or shed doesn't mean that it doesn't have potential.

We operate using the "Swat Team" approach. Set up a concentrated time period of a week or two to do a project. Avoid the expense of contractors if you can. Involve both your staff and that of the site. Get volunteers, aunts, uncles etc. Invite

other people within your institution to participate (e.g. secretaries, fiscal officers and even directors). What better way is there for them to understand your projects or financial needs? In a very short time your storage areas develop and are ready to be used. (Photo 1 and 2).

When acquiring materials, never pay for them if you can help it. Ask for donations of supplies from local merchants; repaint or reuse old materials; always think about how you can change the use of a material or object to fit your needs. Look for auctions, going out of business sales, or my favorite place to shop, State or Federal Surplus Warehouses. These warehouses are geographically located throughout each state. For state agencies, state surplus material is free and likewise for federal institutions. Items are for sale at state surplus to the general public at a fraction of their original cost. The same is true at federal surplus, but you have to represent a nonprofit organization. Some of the items that are available from these warehouses are metal shelving, map cases, file cabinets, card files, tables, lights, paint, scientific equipment, photographic equipment and typewriters.

If you have to go out and buy new materials, shop competitively. Require written bids from several vendors for each product. Their prices will usually be a lot lower if they know they are competing for your business. Shop at industrial supply houses instead of retail chains. The quality of the merchandise is usually better and so will be your price. Also try to buy materials in bulk for several sites or clients at a time.

If you decide you are going to design or build wooden shelving units for your storage area, here are some suggestions. Build plywood shelves on a 2" x 4" frame, and bolt these shelves to 2" x 4" uprights. (Photo #3).

I would like to share with you some of the short cuts I have used in developing storage units.

1. Cover the bindings of fragile books with acid free paper. Not only does this provide a place to put the accession or catalog number but keeps the binding clean as well.

2. If books are stored or displayed on wooden shelving, separate them from the acidic surface with mylar or silicon coated mylar.

3. Some pieces of furniture have been rubbed with linseed oil over the years. If artifacts have stuck to these surfaces in summer, wait until winter and they will sometimes come free without damage. If they must stay there, put an isolating layer of mylar between the artifact and the surface it is sitting on.

4. Use acid free boxes to store papers or a number of small books. Don't necessarily turn down a wooden map case because of it's acidity. Think about lining the drawers with mylar and use it as an interim storage unit.

5. Always provide a clear work space in each storage area for research or examination of the collection. File drawers can be obtained to store catalog cards for the collection. Use a floor or table lamp if lighting fixtures don't exist in the room of the period structure. I suggest that you put a 3" x 5" card on each artifact with it's accession number so that it is easily visible without handling the artifact. Don't move the collections around without notifying the registrars office because artifacts could become lost or hopelessly confused.

With not a great deal of effort the storage areas can develop or are greatly improved. When you have other areas secured come back and upgrade this area again. (Photos #4 and #5).

6. Store costumes on padded hangers and put acid-free tissue between items stored flat. State of the art cabinets could be purchased but they are fairly expensive. If you are not this fortunate a cheaper solution could be to use the same wooden shelf framework as mentioned before, but use plastic-coated wire as your shelf surface. This makes the shelf unit light weight but strong and eliminates the acid content of the plywood. Store textiles or paper documented on these shelves in acid-free, lignin-free boxes.

7. Textile rolled storage racks can be made from inexpensive, but acidic materials. (Photo #6). Through the use of isolating barriers they are as good as any others. Don't skimp on materials that come in contact with the artifact. You must have an adequate supply of isolating barriers and they must be of good quality.

8. Baskets can be vacuumed through nylon screening and can be placed on narrow metal shelving. This type of collection is a good candidate for mylar dust shades.

9. In a trunk or chest storage area where the artifacts are hide or skin covered, they can be isolated from a plywood surface with mylar or silicon release mylar.

10. You can assemble metal shelves with the bottom side of the shelf up, so that artifacts won't roll or vibrate off of the shelves. You can use newspaper as a temporary shelf liner to minimize abrasion of artifacts on shelves until a better material can be substituted. A number of narrow shelving units can be bolted together forming larger surfaces on which to store larger or wider artifacts. (Photo #7).

11. A painting storage rack can easily be built with plywood and 2" x 4"s. Many more pieces can be stored safely in the same amount of space if you plan for several levels. The shelves of these racks can be lined with carpet remnants to minimize damage to the frames. Cardboard can be used to separate frames if several pieces are leaned up against one another.

And in conclusion, when trying to upgrade a storage area remember the following steps: set up a comprehensive storage plan with a tentative time frame; get the site personnel or curator involved with the project from the start; upgrade storage in phases; use skilled volunteers, shop competitively; and be resourceful and you too can build better storage on a shoe string budget.

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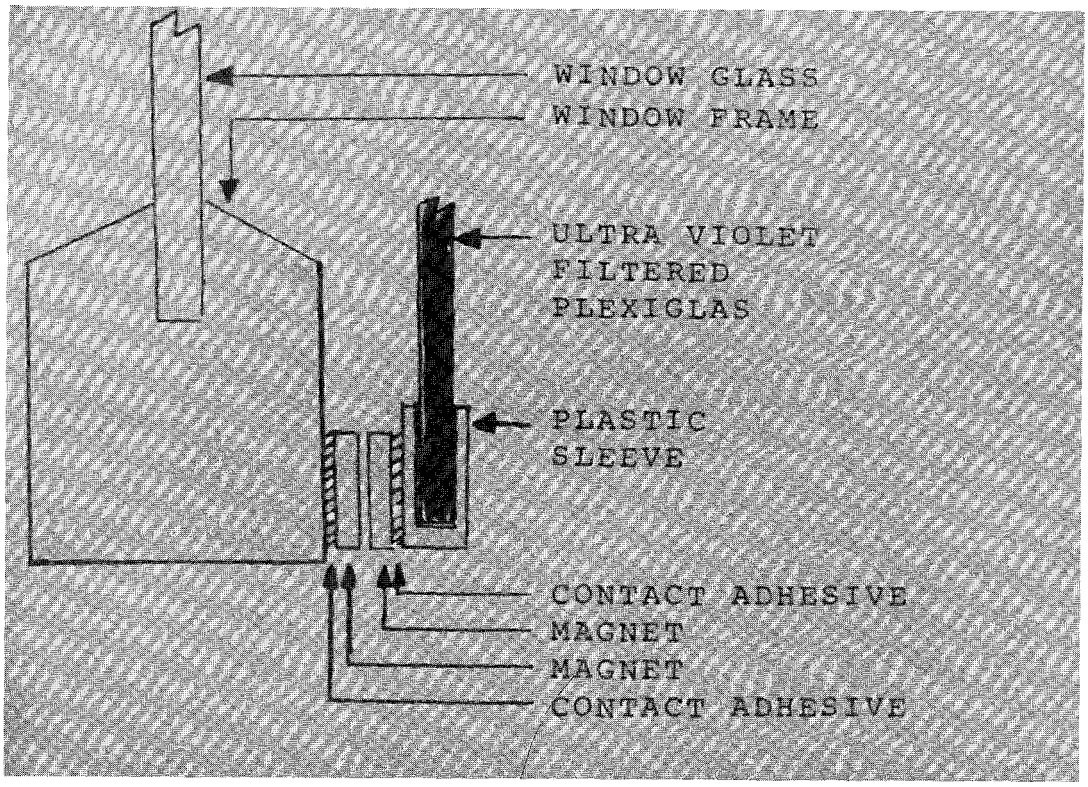


Illustration 1

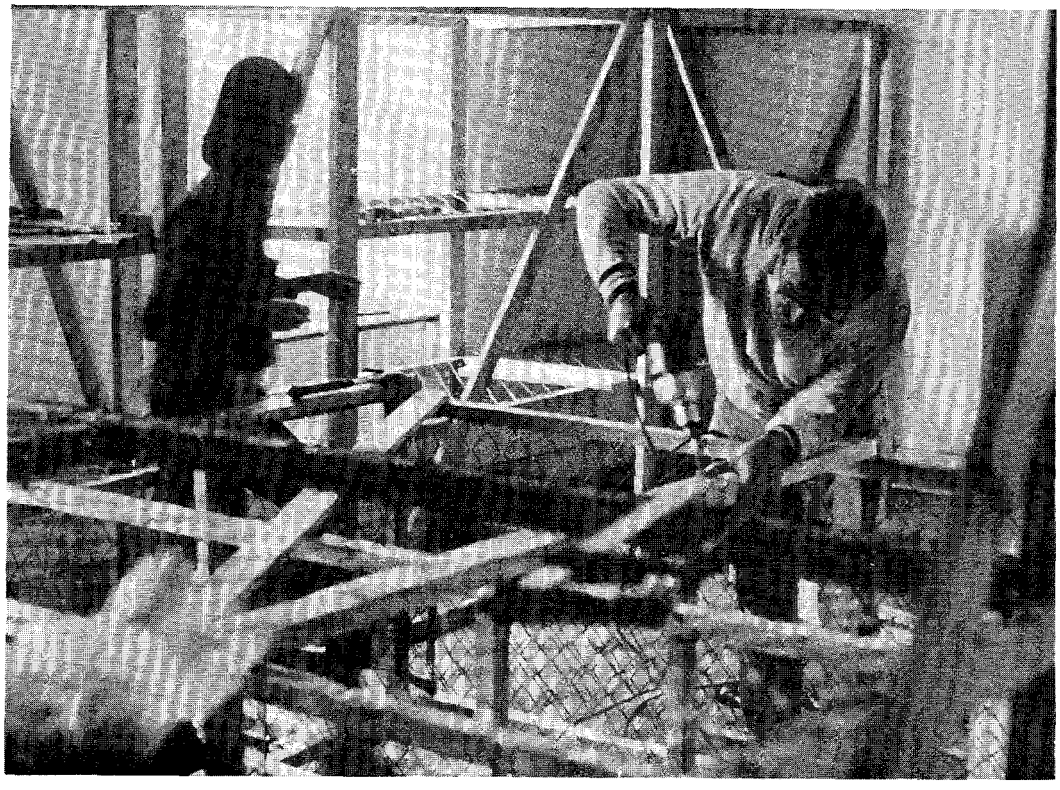
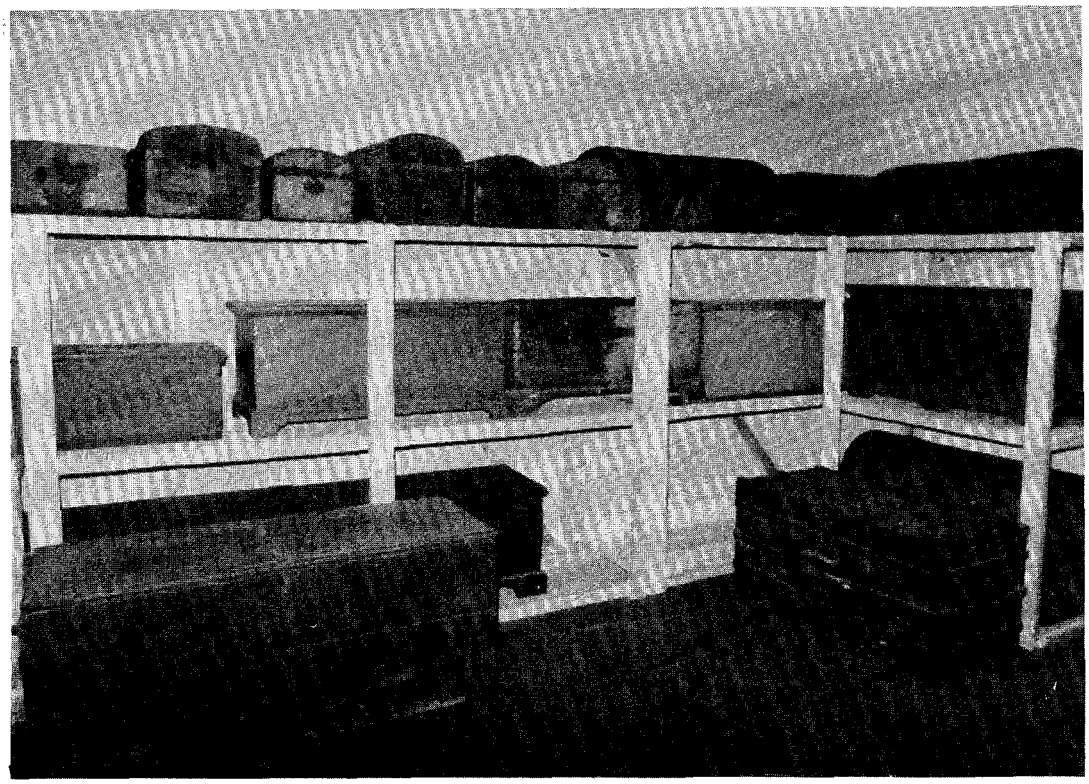


Photo 1



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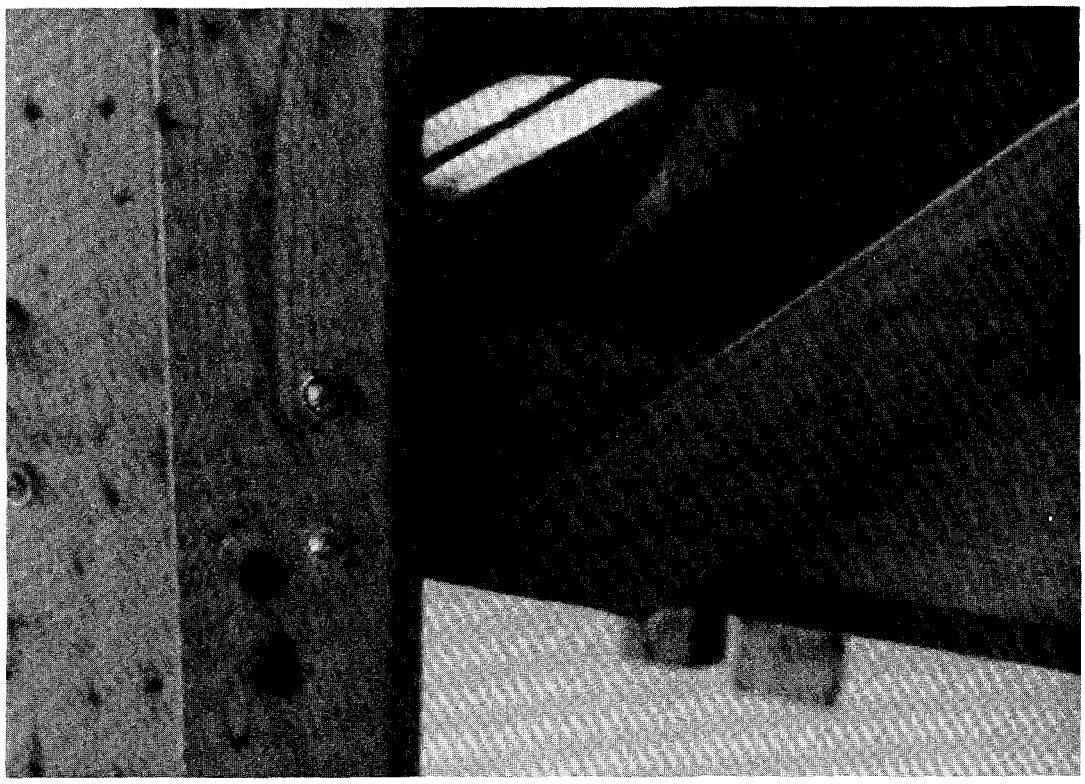
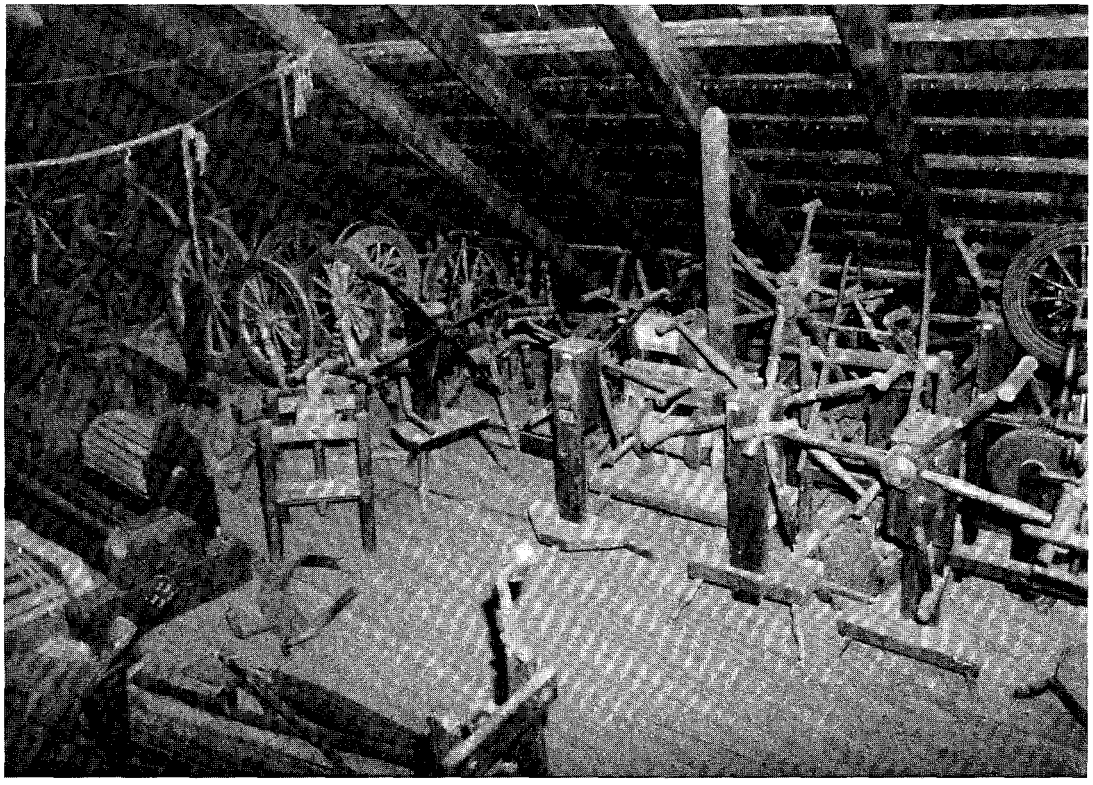


Photo 3



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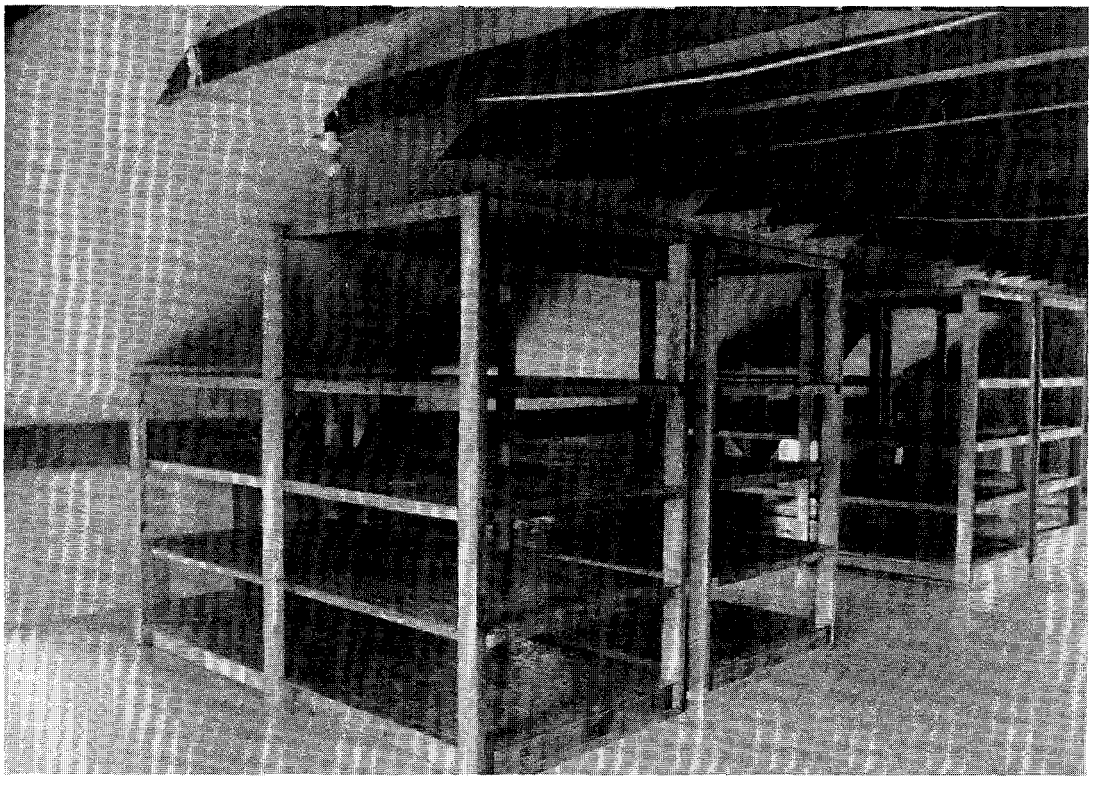

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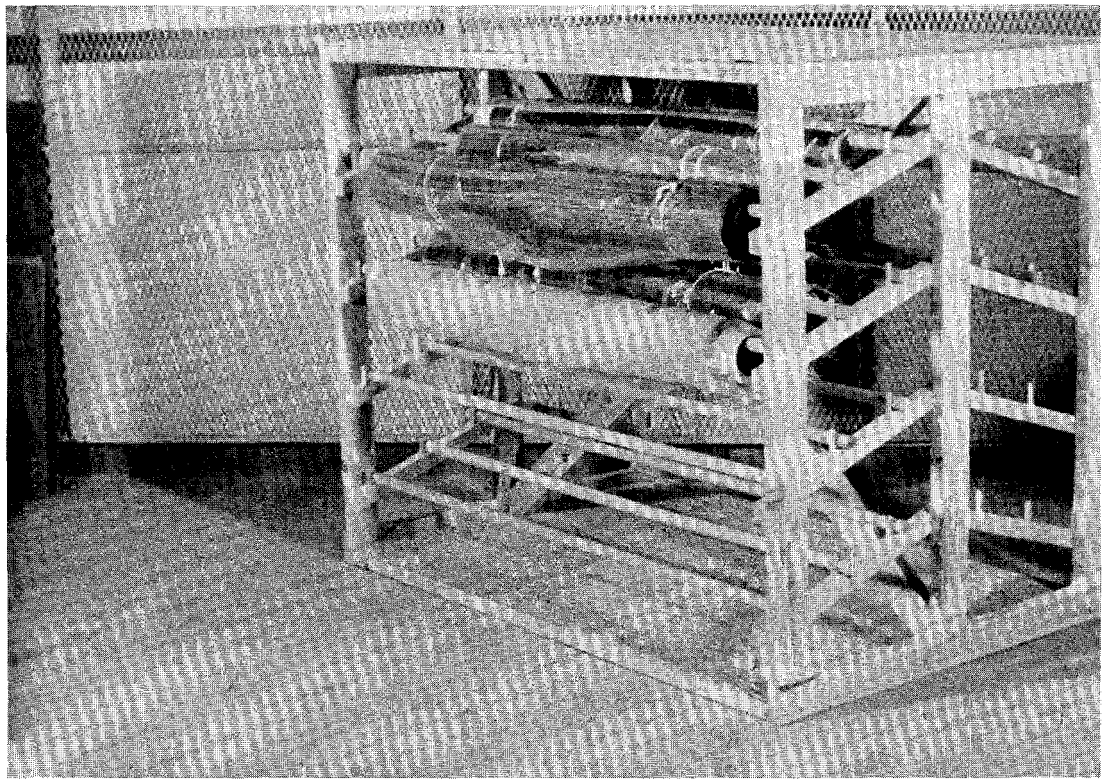

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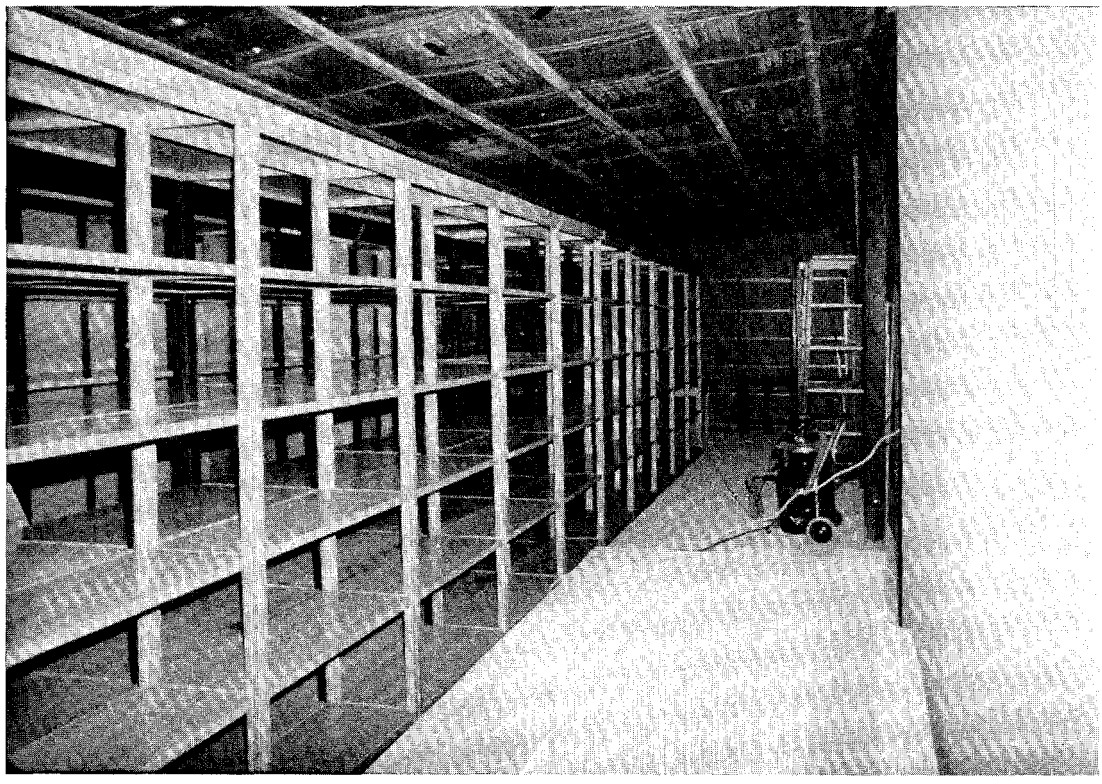

Photo 7