

BOOK CONSERVATION AND TREATMENT RECORD
Library of Congress – Conservation Division

Master Control Number:	4707	Project Number & Name:	4707 Tanner New American Atlas 1825
Division:	G & M	Date In:	1/9/2020
Division Contact:	Ed Redmond	Date Out:	mm/dd/yy
Conservator(s):	Karissa Muratore (intern), Laura McNulty (intern), and Katherine Kelly (supervisor)	Examination Date:	2/7/2020
I.D./Call number:	G1200. T3 1825 Vault Copy 1 https://lccn.loc.gov/map67000933		
Title:	A new American atlas: containing maps of the several States of the North American Union		
Author:	Tanner, Henry Schenck, 1786-1858		
Imprint:	Philadelphia: H. S. Tanner, 1825.		
Alternative Format:			
Existing Container:	B-flute corrugated clamshell box		

Background Information: (significance, provenance, set of volumes, labels, stamps, inscription):

***Note:** Below is a background on the material and production aspects of this atlas. Please see the associated “Tanner Atlas Extended Historical Context” document for more information on this atlas’ history, social ramifications/influences, and additional references.

Henry S. Tanner became “one of the most productive and successful cartographic publishers” between 1820 and 1840, which has since been referred to as the “Golden Age of American Cartography.” The hand-colored state maps—printed on “first quality vellum paper,” at the size of “25 by 23 inches” and scale of 1:940,000, and “delivered to subscribers on guards” for \$6.00 each—depicted physical features of the land and more abstract administration boundaries. Once completed, the Atlas established Tanner’s reputation as a “publisher of cartographic works” and received many overwhelmingly positive reviews from domestic and foreign newspapers and journals. Tanner stayed in the good graces of the critiques and the public by endeavoring to keep his maps current, producing revised maps that were published and hand-colored in the same manner as the original and sold as separate sheets for \$2.50 each. This allowed many to maintain the accuracy of their atlas for many years, without too much additional expense. The entire atlas was revised as a whole, once, in 1825, but some new editions of individual maps are dated as late as 1839. The second edition of the large “United State of America” map was copyrighted in 1830 and saw subsequent editions published in 1832, 1834, 1836, 1841, 1844. It is unknown how many copies of the plates were printed, but a good quality plate could produce about a thousand legible prints, and it is estimated that Tanner was unlikely to print less than five hundred.

Reference:

Ristow, Walter W. 1985. American Maps and Mapmakers: Commercial Cartography in the Nineteenth Century. Detroit: Wayne State University Press.

DESCRIPTION AND CONDITION:

Cover Dimensions: **Height:** 65 **cm** **Width:** 44.2 **cm** **Thickness:** 3.5 **cm**
Textblock Dimensions: **Height:** 61 **cm** **Width:** 42.8 **cm** **Thickness:** 2.9 **cm**

Collation (signatures, format, leaves, pagination, foliation, and inserts):

18 p., [35] leaves of plates (2 fold.): 18 col. maps; 61 cm.

Title page, Half-title page, and Index page (3 leaves = 1 gathering); Geographical Memoir (18 pages = 3 gatherings of 3 leaves); and 18 maps that are made out of 22 total plates. Map 6, “South America”, is made with 2 plates and Map 7, “North America,” is made with 4 plates cut into 8 pieces, while all the rest are single plates folded into bifolios. The maps are numbered in graphite on the recto of the map, in the bottom right corner, except for map 7, which is numbered on the verso of the “North America, North-west Part” (bottom left corner of the second top panel from the left). The index page identifies and numbers each plate rather than each map.

General Description:

Oversized atlas with 25 plates rebind in 20th century library binding

Binding:

The atlas was rebound by Library of Congress. It has Library of Congress endsheets/pastedowns and a full, brown buckram, case binding. There are red and yellow stuck-on endbands. Two pieces of the stuck-on endbands were applied to both the head and tail, visually imitating a double core endband. The spine linings are made of a blue paper and may have been intended to also function as a hollow, but the spine of the case binding did not actually pop away when the book was in use.

Textblock:

The paper is a thick (~0.30 mm), handmade, wove paper. No watermarks are visible. The sewing pattern was not visible upon the initial investigation. However, once the book was disbound, it was clear that the first page was tipped to a paper guard, that the leaves of remaining front matter and geographical memoir were self-guarded with one inch guards folded over the spine edge, and that the maps were tipped to paper guards. The 4 sheets/plates included in the 8-piece foldout map of North America have been cut in half, then hinged to its adjacent pieces with a textile hinges. The foldout map of South America is made of two sheets/plates that have been adhered together with a slight overlap and reinforced on the back with a strip of paper. The right sheet/plate (southern half of South America) was then cut in half and hinged back together with a textile hinge so it could fold in. The sewing was not clear, but appears to be oversewing around recessed cords

In addition to the black printer’s ink of the copperplate engraving on the title page, there are annotations in iron gal ink and a Library of Congress stamp in black ink. The maps were made via copperplate engravings and black printer’s ink, and their hand-coloring is done in red/pink, yellow, green, blue, orange, and a purple-grey.

General Condition:

Binding:

The binding is in good condition. The only damage is some abrasion of the cloth, specifically scratches on the boards and wear along the foreedge joint and corners.

Textblock:

The textblock is in fair condition. Offset of the printing oil, discoloration or degraded edge coloring along the edges, brittle corners, and losses at corners/edges are exhibited on every page. The title page has completely split along the guard, separating it from the textblock. While the paper is still flexible and the impression, ink, and colors of the maps are in good condition, there are a number of condition issues. The current binding is too tight to allow the maps to open flat and the guards are too brittle to allow the maps to be manipulated safely. The maps are splitting along the center fold, in particular at the head and tail. Additional tears have formed near the spine along the top and bottom edges of the maps. There is a minor levels of surface grime on the majority of the leaves. There is significant surface grime in the exposed spaces created by the uneven volume of the foldout maps, specifically on the verso's of Map 5 and 8, and the recto of Map 6. In addition, the large 8-piece fold out map of North America is too unstable to be handled safely. The aged linen hinges are cracking, lifting, and breaking pieces of the map away from the edges due to the formation of a breaking edge, and the way in which the map folds in on itself has caused many creases, folds, and general distortions along many of the free edges.

BOARD

Board:	Covering Materials:		Binding Style:	
<input type="checkbox"/> missing	<input checked="" type="checkbox"/> full	<input type="checkbox"/> vellum	<input type="checkbox"/> tight back	<input type="checkbox"/> hollow back
<input type="checkbox"/> wood	<input type="checkbox"/> half	<input type="checkbox"/> leather	<input checked="" type="checkbox"/> case	<input type="checkbox"/> baggy back
<input type="checkbox"/> paste-board	<input type="checkbox"/> quarter	<input type="checkbox"/> tawed skin	<input type="checkbox"/> laced-on	<input type="checkbox"/> false bands
<input type="checkbox"/> waterleaf / pulp	<input checked="" type="checkbox"/> bookcloth	<input type="checkbox"/> calf	<input type="checkbox"/> laced case	<input type="checkbox"/> raised bands
<input checked="" type="checkbox"/> binders board	<input type="checkbox"/> textile	<input type="checkbox"/> goat	<input type="checkbox"/> tight joint	<input type="checkbox"/> cords
<input type="checkbox"/> other	<input type="checkbox"/> paper	<input type="checkbox"/> sheep	<input type="checkbox"/> French joint	<input type="checkbox"/> tapes
<input type="checkbox"/> back cornered	<input type="checkbox"/> cloth sides	<input type="checkbox"/> pig	<input type="checkbox"/> laced-in	<input type="checkbox"/> thongs
<input type="checkbox"/> shaped	<input type="checkbox"/> vellum sides			
<input type="checkbox"/> tying-up marks	<input type="checkbox"/> paper sides/dec			

SPINE

Spine Shape:	Upper Joint:	Lower Joint:	Endcaps:	Diagram(s):
<input type="checkbox"/> flat	<input checked="" type="checkbox"/> intact	<input checked="" type="checkbox"/> intact	<input checked="" type="checkbox"/> folded	
<input checked="" type="checkbox"/> rounded	<input type="checkbox"/> broken	<input type="checkbox"/> broken	<input type="checkbox"/> shaped	
<input type="checkbox"/> uneven	<input type="checkbox"/> board loose	<input type="checkbox"/> board loose	<input type="checkbox"/> sewn	
<input checked="" type="checkbox"/> backed	<input type="checkbox"/> board detached	<input type="checkbox"/> board detached	<input type="checkbox"/> repaired	
<input type="checkbox"/> concave			<input type="checkbox"/> missing	

TITLE

Titling Style:	Medium:	Location:	Tooling Style:	Tooling Location:
<input type="checkbox"/> none	<input type="checkbox"/> ink	<input type="checkbox"/> upper board	<input type="checkbox"/> none	<input type="checkbox"/> upper board
<input type="checkbox"/> manuscript	<input type="checkbox"/> blind	<input type="checkbox"/> lower board	<input type="checkbox"/> blind	<input type="checkbox"/> lower board
<input checked="" type="checkbox"/> tooled	<input checked="" type="checkbox"/> gilt	<input checked="" type="checkbox"/> spine	<input type="checkbox"/> gilt	<input type="checkbox"/> board edges
<input type="checkbox"/> label		<input type="checkbox"/> edge of textblock	<input type="checkbox"/> pigment	<input type="checkbox"/> endcaps
			<input type="checkbox"/> other	<input type="checkbox"/> turn-ins
				<input type="checkbox"/> spine

Title on spine: Tanner --- A New American Atlas ---- 1825

FASTENINGS AND FURNITURE

Fastening Type:	Fastening Location:	Type of hinge:	Furniture:	Diagram(s):
<input checked="" type="checkbox"/> none	<input type="checkbox"/> hinges from	<input type="checkbox"/> metal	<input checked="" type="checkbox"/> none	
<input type="checkbox"/> clasps	<input type="checkbox"/> lower board	<input type="checkbox"/> leather strap	<input type="checkbox"/> corner/center pcs.	
<input type="checkbox"/> side pin	<input type="checkbox"/> hinges from		<input type="checkbox"/> bosses	
<input type="checkbox"/> textile tie	<input type="checkbox"/> upper board			
<input type="checkbox"/> thongs				

SPINE LININGS AND ENDBANDS

Spine Lining:	Endbands:	Core:	Decorative elements:	Diagram(s):
<input type="checkbox"/> none	<input type="checkbox"/> none	<input type="checkbox"/> single core	<input type="checkbox"/> linen thread	
<input type="checkbox"/> parchment patches	<input checked="" type="checkbox"/> both present	<input checked="" type="checkbox"/> double core	<input type="checkbox"/> silk thread	
<input checked="" type="checkbox"/> paper	<input type="checkbox"/> one present	<input type="checkbox"/> sewn	<input type="checkbox"/> tawed	
<input checked="" type="checkbox"/> textile	<input type="checkbox"/> head	<input type="checkbox"/> tie downs:#	<input type="checkbox"/> leather	
<input type="checkbox"/> leather	<input type="checkbox"/> tail	<input checked="" type="checkbox"/> stuck-on	<input type="checkbox"/> textile	
<input type="checkbox"/> cannot see	<input type="checkbox"/> evidence present	<input type="checkbox"/> flat/round		
	<input type="checkbox"/> cut off	<input type="checkbox"/> tawed		
		<input type="checkbox"/> tanned		
		<input type="checkbox"/> cord		
		<input type="checkbox"/> parchment	colors:	<u>Yellow and red</u>
		<input type="checkbox"/> paper	endband style:	<u>Two layers of stuck-on</u>

SEWING

Sewing supports:	Sewing:	Textblock edges:	Textblock:	Diagram(s):
<input type="checkbox"/> unsupported	<input type="checkbox"/> original	<input type="checkbox"/> trimmed	<input type="checkbox"/> folio	
<input checked="" type="checkbox"/> supported	<input type="checkbox"/> repaired	<input checked="" type="checkbox"/> untrimmed	<input type="checkbox"/> quarto	
<input checked="" type="checkbox"/> single	<input type="checkbox"/> resewn	<input type="checkbox"/> deckles h/t/fe	<input type="checkbox"/> octavo	
<input type="checkbox"/> double	<input type="checkbox"/> multiple sewings	<input type="checkbox"/> colored:	<input checked="" type="checkbox"/> other:	
<input type="checkbox"/> tawed	<input type="checkbox"/> all-along	<input type="checkbox"/> gilt	<input type="checkbox"/> intact	
<input type="checkbox"/> tanned	<input type="checkbox"/> abbreviated	<input type="checkbox"/> speckled	<input type="checkbox"/> dis-bound	
<input checked="" type="checkbox"/> cord	<input checked="" type="checkbox"/> sawn-in	<input type="checkbox"/> tooled		
<input type="checkbox"/> parchment	<input type="checkbox"/> notched	<input type="checkbox"/> gauffered		
<input type="checkbox"/> textile	<input checked="" type="checkbox"/> oversewn			
<input type="checkbox"/> hemp	<input type="checkbox"/> silk thread			
	<input type="checkbox"/> linen thread			
	<input type="checkbox"/> cotton thread			
	<input type="checkbox"/> other			

Note: The only sewing visible was the sewing of the Geographical Memoir, which was oversewn on recessed chords.

TEXTBLOCK

Textblock materials:	Method of marking:	Media:	Paper condition:	Diagram(s):
<input type="checkbox"/> parchment	<input type="checkbox"/> manuscript	<input checked="" type="checkbox"/> iron-gall ink	<input checked="" type="checkbox"/> Brittle (edges)	
<input checked="" type="checkbox"/> paper	<input type="checkbox"/> woodblock	<input type="checkbox"/> other ink, color:	<input checked="" type="checkbox"/> stained	
<input type="checkbox"/> combination	<input checked="" type="checkbox"/> printed	<input checked="" type="checkbox"/> graphite	<input checked="" type="checkbox"/> tears	
<input type="checkbox"/> watermark	<input checked="" type="checkbox"/> engraving	<input checked="" type="checkbox"/> printer's ink	<input checked="" type="checkbox"/> losses	
<input checked="" type="checkbox"/> handmade	<input type="checkbox"/> etching	<input type="checkbox"/> printer's crayons	<input type="checkbox"/> accretions	
<input type="checkbox"/> machine made	<input type="checkbox"/> lithography	<input checked="" type="checkbox"/> colored ink	<input type="checkbox"/> tape	
<input type="checkbox"/> laid	<input checked="" type="checkbox"/> plate mark	<input type="checkbox"/> watercolor	<input type="checkbox"/> attachments	
<input checked="" type="checkbox"/> wove	<input checked="" type="checkbox"/> hand colored	<input type="checkbox"/> gouache	<input type="checkbox"/> lined/silked	
<input type="checkbox"/> other	<input type="checkbox"/> other	<input checked="" type="checkbox"/> Other (perhaps watercolors)	<input type="checkbox"/> other	

ENDSHEETS

Endleaves:	Construction:	Board sheet:	Joint material:	Diagram(s):
<input type="checkbox"/> none	<input type="checkbox"/> hooked	<input checked="" type="checkbox"/> adhered	<input type="checkbox"/> paper	
<input type="checkbox"/> same as textblock	<input type="checkbox"/> whipstiched	<input type="checkbox"/> not adhered	<input type="checkbox"/> leather	
<input checked="" type="checkbox"/> paper	<input checked="" type="checkbox"/> sewn gathering	<input type="checkbox"/> integral endleaf	<input checked="" type="checkbox"/> cloth	
	<input type="checkbox"/> tipped on	<input type="checkbox"/> single folio	<input type="checkbox"/> other	
		<input type="checkbox"/> other		

TREATMENT GOAL:

The goal of this treatment is to allow this atlas, which is currently unusable due to its condition, to be safely used in the reading room of the Geography and Maps Division.

TREATMENT PROPOSAL:

1. Perform before treatment photographic and written documentation.
2. Separate large 8 piece map from textblock so it can be handled safely.
3. Disbind book, partially or fully, to be determined during consultation with Ed Redmond
 - a. Salvage potentially original guards.
 - b. Remove all old guards after careful documentation and save a sample.
4. Dry clean maps with most appropriate tools and materials.
5. Mend tears and losses that put the maps at risk during handling.
6. Mend or fill losses on the title page depending on the strength of the paper, desired aesthetic result, and consultation with Ed Redmond.
7. Determine if and how the complex map should be reintegrated into the atlas binding during consultation with Ed Redmond.
 - a. Keep plates as separate folios and stored in the same housing as the atlas.
 - b. Reintegrate into binding, in same location, and using a similar technique as the original.
 - i. Partial tipping on to repaired or new guards.
 - c. Reintegrate into binding, in same or different location, and using a different technique as the original. (technique names refer to atlas binding model names)
 - i. Adaption of the “Reverse V-Guard/Meeting Guard.” This requires putting holes in the maps, but it does not use adhesive and will make it safe to view one folio at a time.
 - ii. Adaption of the “Complex fold-Cloth Lined Map” and its reverse Z folding. Map may be lined or simple joined with a strong and flexible material that will allow it to fold up and safely tuck back into the textblock. Attaching on one side of the map vs the center will put less tension on the opening action and will allow the map to sit relatively flat on the table without additional support.
 - iii. Adaption of the “Large Map with Multiple Openings” is similar to the original attachment method in that it is partially tipped to a guard, but not all the seams of the map will be joined, allowing it to be unfolded in sections
8. Rebind the atlas, potentially in its previous boards, using a methodology that is determined most appropriate and safe for the viewing of the maps, after consultation with Ed Redmond.
9. Perform after treatment photographic and written documentation.

***Note:** In a February 2020 discussion with curator Ed Redmond it was decided that the current guard structure and binding could be removed, and that the large map should be rebound into the volume in its current location. He left the choice of binding style and decoration to the conservators.

Photography:	Testing:	Testing Results:
<input checked="" type="checkbox"/> BT <input checked="" type="checkbox"/> AT <input type="checkbox"/> slides	<input type="checkbox"/> pH <input checked="" type="checkbox"/> media	<p>The media was tested with deionized water, ethanol, and 50:50 deionized water:ethanol. Both the printer's ink and the hand-coloring were stable, except for some of the handcoloring colors, which was slightly soluble.</p>
<input checked="" type="checkbox"/> digital <input type="checkbox"/> transmitted <input type="checkbox"/> raking	<input type="checkbox"/> phloroglucinol <input type="checkbox"/> ninhydrin <input type="checkbox"/> potassium iodide	

Note: The paper was also tested with the water droplet test and it is well sized.

Textblock: (identify all materials, manufacturers, and solution strengths)		
<input type="checkbox"/> fixing/consolidation <input checked="" type="checkbox"/> drycleaning		<p>All leaves, recto and verso, were brushed with a soft brush. In addition, the entire verso and areas without media on the recto were dry cleaned with soft cosmetic sponges. The most tenacious dirt and grime, which was the result of the uneven textblock, was further dry cleaned with a soot sponge.</p>
<input checked="" type="checkbox"/> removal of attachments		<p>The residual adhesive of the distorted geographical memoir spine folds was removed with a poultice of CP Kelco KELCOGEL® LT100 Gellan Gum cooked in DI water with 0.4 g/L calcium acetate for a final 1% w/v of high acyl gellan gum because of its conforming and easy to apply/remove qualities. The maps were removed from the textblock by cutting the guards, but the paper guards were then removed from the maps by initially wetting with 25:75 ethanol:DI water, followed by a poultice of A4M Bookmakers Methyl Cellulose at 4% (MC). The textile hinges of the large 8-piece foldout map were removed mechanically by carefully pulling back at an acute angle. Residual adhesive on all the maps was removed with additional poultices of A4M MC 4%.</p>
<input type="checkbox"/> washing <input type="checkbox"/> bleaching/stain removal <input type="checkbox"/> alkalize <input type="checkbox"/> size <input checked="" type="checkbox"/> mend		<p>Tears and small fills were mostly mended from the verso with untoned 1202 hand-made Korean 100% Kozo paper and Aytex-P Wheat Starch Paste from Talas (WSP) and cooked in DI water. Tears at the head and tail of the bifolio maps center fold were also mended on the recto with RK0, 100% machine-made Japanese Kozo from Paper Nao 3.5-3.6 g/m,² remoistenable tissue (50:50 WSP:MC) that was reactivated with DI water. Fills on the Title page were prepared with 1202, hand-made Korean 100% Kozo, paper toned with Schmincke watercolors.</p>
<input checked="" type="checkbox"/> guard		<p>The Title page was guarded by sandwiching the spine edge between two layers of RK19, machine-made 100% Japanese Kozo from Paper Nao 30 g/m,² adhered with WSP. The center folds of self-compensation guards of the remaining front matter and Geographical Memoir were reinforced on both sided with relatively short strips of 1202 and WSP. The large 8-piece map was hinged back together from the verso with</p>

approximately one inch wide strips of 1203 handmade Korean 100% Kozo paper that had been water-torn to create hairs and 50:50 WSP:A4M MC 1% to balance flexibility with strength. The resulting 3/16 hinging gap was then reinforced on the recto with the same 50:50 WSP:MC 1% mix and 1202 paper that had been lightly toned with Golden Acrylics via an airbrush. The maps were guarded with a lamination of RK19 paper and Ingres D'Arches MBM 84g/m2 with WSP. The single RK19 side of the guards were applied to the recto of the bifolio maps with WSP, 1/8" from the spine fold. The large map received the same laminated guard as the other, just with an additional layer of RK19 sandwiching the western paper and spine edge. This maps also required a slightly wider hinging gap in order to prevent the large map, which is uneven when folded, from interfering with the hinging gaps of the new guard system. My measurements were imperfect, resulting in the need to refold the guard so it would be longer, pushing the folded map further away from the hinging gap area of the new guard system. This also required I score a folding line into the western paper guard since it now encroached into the hinging gap area. (See figure #1 below). No additional compensation material was needed. All guards were later folded and sewn through to unite the textblock.

- line
- leaf cast
- flattening

Locally humidified with DI water and flattened the curled and folded edges of the large 8-piece map under weights and a blotter pack. Additional dry cleaning was done in the areas that had been previously blocked by distortions. I also took this opportunity to align and add adhesive to shelf-tears with WSP.

Binding:

- endpaper construction

The sewn-on endsheets are gatherings of three single sheets, with stubs, made from the same Ingres D'Arches MBM 84g/m2 paper used in the laminated guards. The stubs are folded towards the board so they can be hidden under the pastedown.

- sewing
- textblock consolidation/spine shaping
- endbands
- spine linings and adhesives

Two-hole link stitch using 16/3 linen thread on five 3/4" wide linen tapes.

French double endbands were sewn off the book and adhered to the spine with PVA. A barrier layer of kozo paper applied with wheat starch paste was adhered to the spine. An overhanging cloth lining was adhered with a mix of PVA and methylcellulose. The final lining was done with handmade medium-weight hemp paper from the University of Iowa Book Center and applied with a mix of PVA and methylcellulose.

- board attachment and shaping

A new case binding was made for the textblock. First, the endpaper stubs and the overhanging cloth spine lining were attached to the endpapers with PVA-MC mix. Then the book was cased-in with the same PVA-MC mix.

- covering
- finishing
- Housing

The new case was covered in maroon bookcloth and adhered with a mix of PVA and methylcellulose.

Titling information:

Enclosure:

Object: Two labels were created for the book – a spine label and a label for the front board. Both were gold stamped on parchment and included the same information, "Tanner/A New American Atlas/1825."

Figure #1: New Guard Diagram

Key:

- Original Material
- 1202 Korean Kozo Paper
- RK19 Paper
- Western Paper
- Sewing Thread

