

# Curator's Choice

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## Unraveling Dis - Card - ed Fragments: 18th-Century Wool Card

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Conservator

X-radiography is a fantastic tool to peer through corrosion concretions, document artifacts, and unravel mysteries in archaeological collections. After the generous donation of the artifacts excavated by William Doepkens encompassing Middle Plantation (18AN46), Tucker (18AN227) and Indian Range (18AN230), MAC Lab staff have worked to x-ray every metal artifact. This allows us to identify and check the condition of thousands of artifacts resulting in over 100 x-ray plates!



Figure 1: 18AN227 fragments before treatment

One of our most interesting finds were these fragments from 18AN227, the Tucker site, an 18th-century farmhouse or plantation site three miles south of Middle Plantation (Doepkens 1991, 92). From one side, the fragments consist of even rows of iron wire aligned in an off-set pattern with corrosion and compacted soil covering the rest of the surface. The fragments mend together along several edges, indicating pieces of a larger object.



Figure 2: One wool card fragment and its x-ray showing iron wires in an offset pattern

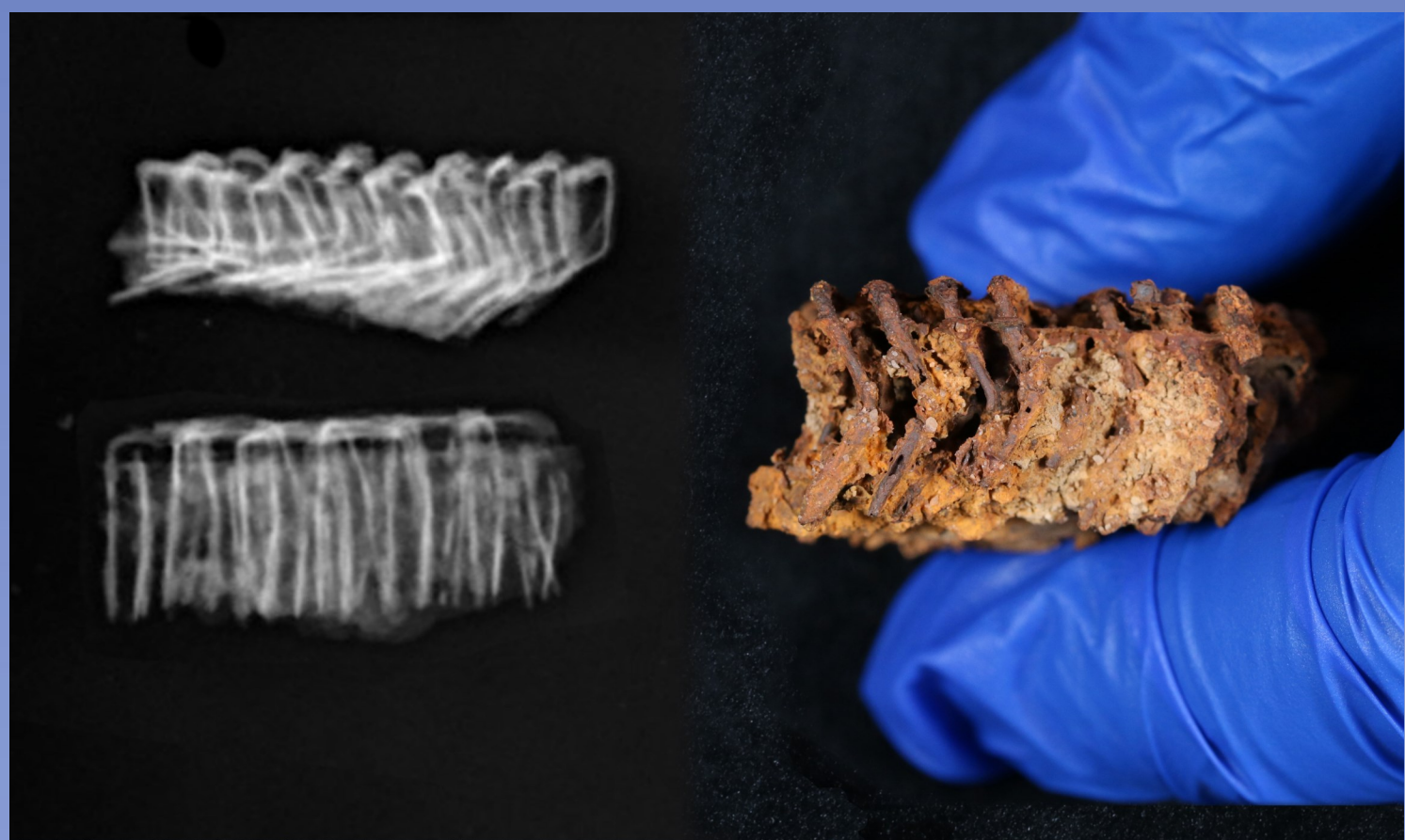


Figure 3: Wool card fragment side profile showing bent staple shape and x-rays showing the wire shape.

X-radiography of these fragments shows an orderly but complex array of bent wires. Rotating the fragments shows the profile of these wires: a rectangular staple with its legs bent at a consistent angle – like a staple. Curator (and small metal finds extraordinaire) Sara Rivers Cofield identified these closely set, bent wires as parts of a card for processing wool or cotton fibers.

Hand cards are used to untangle and align fibers for spinning. Fibers are arranged onto the tines, and the two

cards were gently pulled away from each other to draw fibers in one direction. Cards were labeled in different grades depending on the quality of fiber or textile, and grades were regulated in Europe in the 18th century to prevent poorer quality fabric from being sold as higher quality (Diderot and Alembert 1751).

Cards were constructed from wood, wire, and leather. A sheet of leather was pulled taut on a frame. Wire lengths were shaped into staples, slotted into pre-punched holes then bent in place, forming an array of tines. A “strong glue” was applied to the reverse to keep points in place. Once dry, wires were sharpened, aligned, and replaced if needed, and the leather was mounted to



Figure 4: La Cardeuse by Jean-Francois Millet ca. 1865. Etching, Cooper Hewitt.

a wood backing board with tacks (Diderot and Alembert 1751).

In 18th-century Maryland most fabrics were imported from abroad, but these cards demonstrate that small-scale fiber and textile production did take place in central Maryland before 1800. The threads spun from carded fibers would have contributed to the family's ability to make and mend textiles such as clothing, bedding, and other linens (Sara Rivers-Cofield in discussion with the author, May 2026).



Figure 5: 19th-century wool hand card, National Museum of American History.

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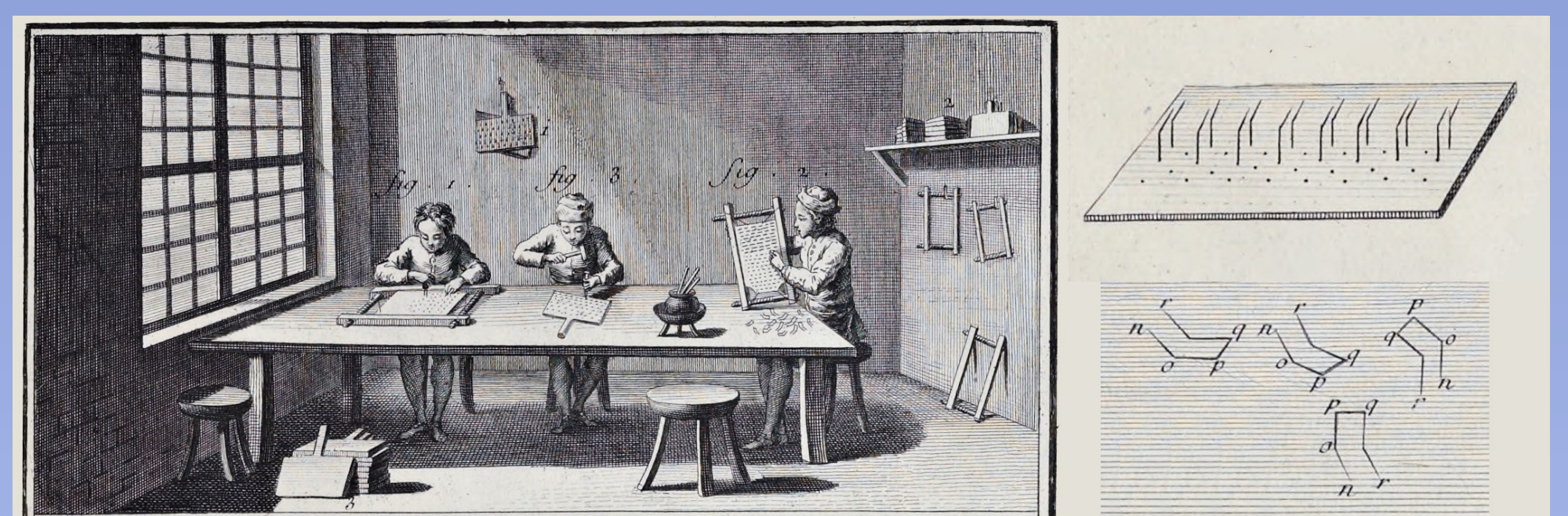


Figure 6: Diagrams of the production of wool cards depicting the punching of leather, hand carving of the wood backer, and placing the staples through the leather. (Diderot et al 1762, 396).



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