STATE-SPONSORED ENTERPRISE:
THE DEVELOPMENT OF INTERCHANGEABLE MANUFACTURING
IN THE FIREARMS INDUSTRY, 1815-1851

A. Introduction: the four leading sectors of American industrialization, c. 1790-1850: textiles, steamboats, firearms, and high speed printing/communications

B. Challenging the “textile paradigm”

C. The London Crystal Palace Exhibition (1851)

D. The British Parliamentary “Committee on the Machinery of the United States of America” (1854-55)
   1. Where the committee visited
   2. What it had to say about the textile and steam engine industries
   3. What it had to say about the Springfield Armory, Robbins & Lawrence, and the American firearms/machine tool industry
   4. Origins of the term “American system of manufactures” (1854)

E. How did the “American system” come into being?
   1. Thomas Jefferson and the “French connection”
   2. Maj. Louis Tousard and other French engineers in America, 1790s-1800s
   3. The legend of Eli Whitney and interchangeable parts, 1798-1809
   4. The true origins of interchangeable manufacturing in America
      a. Simeon North, Middletown, CT: horseman’s pistols (1816)
      b. John H. Hall, Harpers Ferry Armory, VA: Hall rifles
      c. Hall and North produce interchangeable Hall rifles, 1832
      d. Springfield Armory and the U.S. Model 1842 musket, 1844-54
      e. Harpers Ferry Armory and the U.S. Model 1841 rifle, 1841-54
      f. the Model 1851 Colt revolver
      g. the Sharps rifle, c. 1851-1856

      All the above firearms were made with functionally interchangeable parts – something which greatly appealed to the British committee in 1854

F. What were the larger implications of the ‘American system’?
   1. Arms industry morphs into commercial machine tool industry
      Example: Robbins & Lawrence to Jones & Lamson, Springfield, VT
      Robbins & Lawrence to Brown & Sharpe, Providence, R.I.
      Colt to Pratt & Whitney, Hartford, CT
2. Arms making technology (“armory practice”) applied to other technically-related products:
   Examples: sewing machines
   --Wheeler & Wilson (Bridgeport, CT)//Colt & Springfield
   Armory connections, 1857+
   --Willcox & Gibbs (Providence, RI)//Brown & Sharpe,
   Robbins & Lawrence, Springfield Armory, Colt
   connections, 1858+

   Example: The Sharps Rifle/Weed Sewing Machine/Columbia Bicycle,
   Motorcycle, and auto connections (Hartford, CT. 1855-
   1890s)

CONCLUSIONS:

1. “Armory practice” and technological convergence

2. “Armory practice” and the origins of the machine tool industry

3. The army’s patent policy: Springfield’s ‘open door’ policy and technological convergence

4. Connection between the “American system” and Fordist mass production

5. Military enterprise and the role of the state in developing the “American system”