

African-American Inventors/Inventions

5-Day Lesson Plan

By: Shirley Moates

Gulf County

TOPIC:

Our history books are full of American inventors; white inventors that is. We have learned about Ben Franklin discovering electricity with his flying kite and metal key. We were taught that Thomas Edison invented the light bulb and Alexander Gram Bell made communication history with his telephone. But where in our history books are the African Americans mentioned? You might hear about them being slaves, civil rights leaders, and maybe musicians. But very seldom are African Americans credited with the many inventions that have helped shape our modern-day society. It is time that we give credit where credit is due; hats off to American's amazing African-American inventors!

OBJECTIVES:

1. Students will become aware of the inventive legacy of African-Americans.
2. Students will learn why the inventions of African-Americans have been overlooked.
3. Students will apply Internet browsing skills to locate information.
4. Students will identify and write about the impact of researched inventions on the world today.
5. Students will successfully write a research paper to present in front of their classmates.

DAY 1:

1. Have some of the following items on display in the classroom: ironing board, light bulb, peanut oil & peanut butter, leather shoe, electric microphone, bleach, super-soaker, refined sugar, hair brush, folding chair and door knob. Discuss each item with the students and ask if anyone can name the items' inventors. Next, ask the students if they can identify who invented the light bulb, the telephone and who discovered electricity. Compare the differences between the well-known white-American inventors and the unknown African-American inventors of the past.

2. Use an overhead projector to display a list of 96 *Black Inventors...Extraordinary Inventions!* from the website <http://www.littleafrica.com/resources/inventors.htm> (list can be found below). Each student will pick an inventor/invention from the list to research.

3. Supply every student with a handout describing the following outline for their project: brief biography of inventor (include picture if available); purpose of the invention; picture, sketch or drawing of the invention (a patent sketch if possible); impact of the invention on people in the past and present; and a paragraph describing what our lives would be like if the invention was never created. Be sure all questions are answered before students are dismissed. Projects due on Day 5. A list of websites can be found below.

DAY 2:

1. Check on the progress of each child's research paper.
2. Teach a short lesson on plagiarism.
3. Discuss patents and share the sample patents and sketches (below). Next compare the sketches (architecture) of the past with the modern facilities that the children are familiar with today. Guide students to the patent website mentioned above.
4. The students will spend approximately 30 minutes thumbing through and checking out classroom books that will help them with their projects. Book list can be found below.

DAY 3:

1. View the video *Making it happen: Masters of Invention*
--teacher will have notes prepared to engage in a hefty discussion following the video.
2. Take the students to the *Black Inventor's Online Museum* with a laptop and projector.
<http://www.blackinventor.com/>

DAY 4:

Day three will be totally devoted to working on reports in the computer lab.

DAY 5:

Each student will give their report in front of the class. The teacher will assess by the rubric below.

STUDENT HANDOUT #1

Guidelines for African-American Inventors/Inventions Research Paper

1. Write a brief biography of inventor (include picture if available).
2. State the purpose of the invention.
3. Include a picture, sketch or a drawing of the invention; make it a patent sketch if possible.
4. Discuss the impact of the invention on people in the past and the present.
5. Add a paragraph describing what our lives would be like if the invention was never created.

*Patents & sketches may be found at

http://inventors.about.com/od/photogallery/African_American_Patent_Holders_Photo_Gallery.htm

**Plagiarism is an automatic "0!" See teacher if in doubt.

Websites for Research on African-American Inventors

<http://www.blackinventor.com/pages/history.html>

<http://teacher.scholastic.com/activities/bhistory/inventors/>

http://inventors.about.com/od/blackinventors/a/black_inventors.htm

<http://www.uwm.edu/StudentOrg/NSBE/bie.html#29>

www.thehistorymakers.com

http://www.princeton.edu/~mcbrown/display/inventor_list.html

Assessment Rubric

AFRICAN AMERICAN INVENTORS/INVENTIONS RESEARCH PROJECT

name: _____ Class: _____ Date: _____

| | 4 Points | 3 Points | 2 Points | 1 Point |
|--------------|---|--|---|--|
| Opening | Strong main idea/topic sentence is clear, concise, and identifies inventor/invention. | Adequate main idea/topic sentence identifies inventor/invention. | Main idea/topic sentence is unclear and doesn't address inventor/inventions | Main idea/topic sentence is not evident. |
| Organization | Well developed essay/biography with a clear and logical format. | Generally well organized with a clear and logical format. | Some evidence of planning and organization. | Lacks little planning and organization. |
| Support | Includes pictures and evidence of the invention(s) in the past and present. | Includes pictures and weak evidence of the invention(s) in the past and present. | Includes no pictures and some of the information may be incorrect. | Provides no pictures or evidence of the invention(s) in the past or present. |
| Conclusion | States a logical conclusion of what our lives would be like without the invention. | States a weak conclusion about the invention and our current lives. | Conclusion is evident but does not tell what our lives would be like without the invention. | No evidence of any conclusion. |
| Mechanics | Contains few spelling or grammatical errors. | Contains several errors in spelling/grammar that do not interfere with meaning. | Contains many errors in spelling/grammar that interferes with meaning. | Contains many errors in spelling/grammar that make the piece illegible. |

Black Inventors...Extraordinary Inventions!

<http://www.littleafrica.com/resources/inventors.htm>

African Americans have made extraordinary contributions throughout history. A key piece of LittleAfrica.com's mission is to highlight some of those contributions and encourage our community to boldly go after those things that represent a symbol of hope for future generations. These inventors took advantage of their God-given talents to create products that simplified the lives of people all over the world.

Many of you possess similar talent...

It is time for us to leverage that talent, energy, and creativity to make a difference...



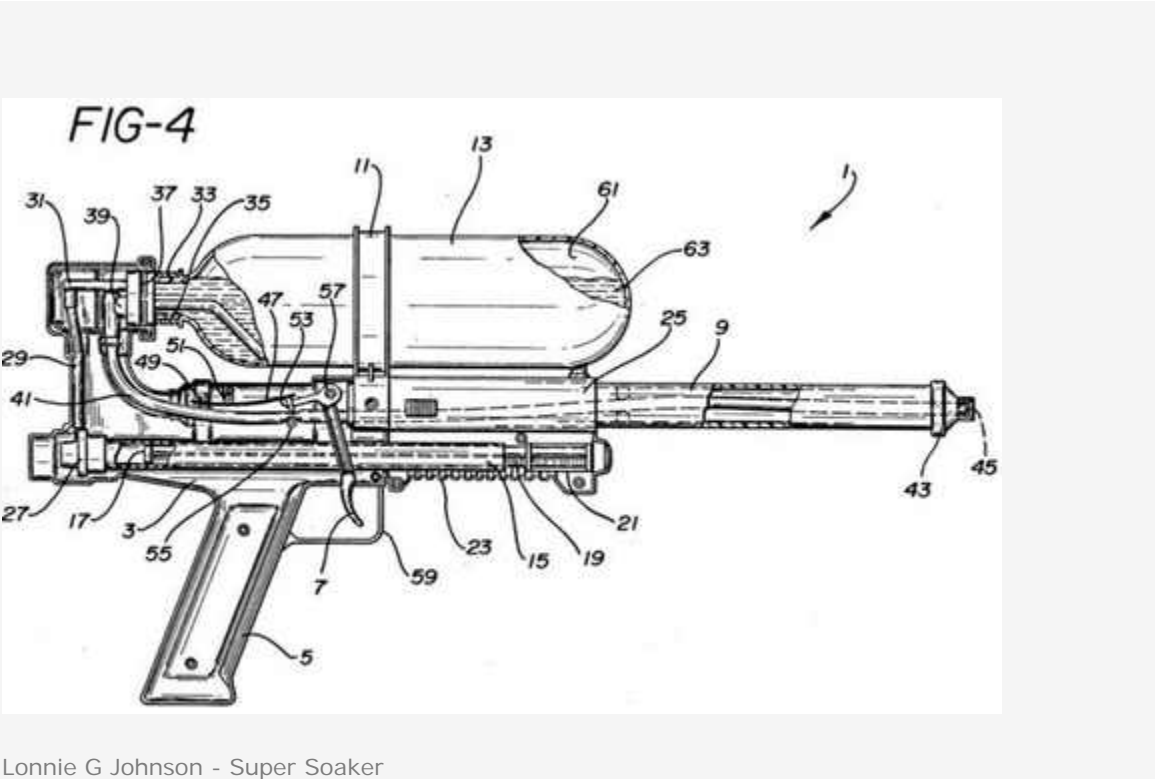
| Invention | Inventor | Invention | Inventor |
|----------------------|-----------------|-----------------------------|------------------|
| Biscuit Cutter | A.P. Ashbourne | Super Soaker | Lonnie Johnson |
| Folding Bed | L.C. Bailey | Bicycle Frame | Issac R. Johnson |
| Coin Changer | James A. Bauer | Space Shuttle Retrieval Arm | Wm. Harwell |
| Rotary Engine | Andrew J. Beard | Printing Press | W.A. Lavallette |
| Car Couple | Andrew J. Beard | Envelope Seal | F.W. Leslie |
| Letter Box | G.E. Becket | Laser Fuels | Lester Lee |
| Stainless Steel Pads | Alfred Benjamin | Pressure Cooker | Maurice W. Lee |
| Torpedo Discharger | H. Bradberry | Window Cleaner | A.L. Lewis |
| Disposable Syringe | Phil Brooks | Pencil Sharpener | John L. Love |
| Home Security System | Marie Brown | Fire Extinguisher | Tom J. Marshal |
| Corn Planter | Henry Blair | Lock | W.A. Martin |
| Cotton Planter | Henry Blair | Shoe Lasting Machine | Jan Matzeliger |

| | | | |
|---------------------------------|----------------------|---------------------------------|-----------------|
| Ironing Board | Sarah Boone | Lubricators | Elijah McCoy |
| Horse Bridle Bit | L.F.Brown | Rocket Catapult | Hugh MacDonald |
| Horse shoe | Oscar E. Brown | Elevator | Alexander Miles |
| Pacemaker | Otis Boykin | Gas Mask | Garrett Morgan |
| Guide Missile | Otis Boykin | Traffic Signal | Garrett Morgan |
| Lawn Mower | John A. Burr | Hair Brush | Lyda Newman |
| Typewriter | Burridge & Marshman | Heating Furnace | Alice H. Paker |
| Train Alarm | R.A. Butler | Airship | J.F.Pickering |
| Radiation Detector | Geo. Carruthers | Folding Chair | Purdgy/Sadgwar |
| Peanut Butter | George W. Carver | Hand Stamp | W.B. Purvis |
| Paints & Satins | George W. Carver | Fountain Pen | W.B. Purvis |
| Lotion & Soaps | George W. Carver | Dust Pan | L.P.Ray |
| Automatic Fishing Reel | George Cook | Insect Destroyer Gun | A.C. Richardson |
| Ice cream Mold | A.L. Cralle | Baby Buggy | W.H. Richardson |
| Blood Plasma | Dr. Charles Drew | Sugar Refinement | N. Rillieux |
| Horse Riding Saddle | Wm. D. Davis | Clothes Dryer | G.T. Sampson |
| Shoe | W.A. Detiz | Celluar Phone | Henry Sampson |
| Player Piano | Joseph Dickinson | Pressing Comb | Walter Sammons |
| Arm for Recording Player | Joseph Dickinson | Curtain Rod | S.R. Scottron |
| Doorstop | O. Dorsey | Lawn Sprinkler | J.W. Smith |
| Doorknob | O. Dorsey | Automatic Gearshift | R.B. Spikes |
| Photo Print Wash | Clatonia J. Dorticus | Urinalysis Machine | Dewey Sanderson |
| Photo Embossing Machine | Clatonia J. Dorticus | Hydraulic Shock Absorber | Ralph Sanderson |

| | | | |
|--------------------------------|---------------------|-------------------------------------|--------------------|
| Postal Letter Box | P.B. Dowing | Refrigerator | J. Standard |
| Toilet | T. Elkins | Mop | T.W. Stewart |
| Furniture Caster | David A. Fisher | Stairclimbing Wheelchair | Rufus J. Weaver |
| Guitar | Robert Flemming ,Jr | Helicopter | Paul E. Williams |
| Golf Tee | George F. Grant | Fire Escape Ladder | J.B. Winters |
| Motor | J. Gregory | Telephone Transmitter | Granville T. Woods |
| Lantern | Micheal Harney | Electric Cutoff Switch | Granville T. Woods |
| Thermo Hair Curlers | Soloman Harper | Relay Instrument | Granville T. Woods |
| Gas Burner | B.F. Jackson | Telephone System | Granville T. Woods |
| Kitchen Table | H.A. Jackson | Galvanic Battery | Granville T. Woods |
| Video Commander | Joseph N. Jackson | Electric Raillway System | Granville T. Woods |
| Remote Controllers | Joseph N. Jackson | Roller Coaster | Granville T. Woods |
| Sani-Phone | Jerry Johnson | Auto Air Brake | Granville T. Woods |

Patents of African-American Inventions

http://inventors.about.com/od/photogallery/African_American_Patent_Holders_Photo_Gallery.htm



Lonnie G Johnson - Super Soaker

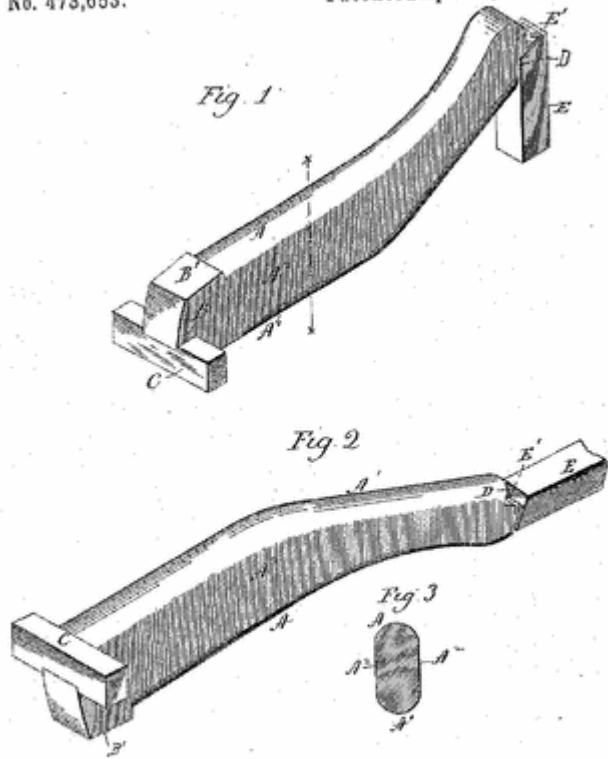
USPTO

(Model.)

S. BOONE.
IRONING BOARD.

No. 473,653.

Patented Apr. 26, 1892.



Witnesses
J. H. Shumway
William D. Kelby

Sarah Boone
Inventor
G. C. Kyle
Attorney

Drawing for Patent #473,653

UNITED STATES PATENT OFFICE.

SARAH BOONE, OF NEW HAVEN, CONNECTICUT.

IRONING-BOARD.

SPECIFICATION forming part of Letters Patent No. 473,653, dated April 26, 1892.

Application filed July 23, 1891. Serial No. 400,474. (Model.)

To all whom it may concern:

Be it known that I, SARAH BOONE, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Ironing-Boards; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view in perspective of an ironing-board constructed in accordance with my invention, and shown as arranged for ironing the inside seam of a sleeve; Fig. 2, a similar view showing the board in position for ironing the outside seam of the sleeve, and Fig. 3 a view of the device in transverse section on line x of Fig. 1.

My invention relates to an improvement in ironing-boards, the object being to produce a cheap, simple, convenient, and highly effective device, particularly adapted to be used in ironing the sleeves and bodies of ladies' garments.

With these ends in view my invention consists in a narrow board having its edges respectively curved to correspond to the outside and inside seams of a sleeve, and provided at one end with a fixed transverse support and at its opposite end with a movable support hinged to the said end and extending in line with the board, the outer and inner edges of the same respectively having, in effect, outward and inward longitudinal curvature.

My invention further consists in certain details of construction and combination of parts, as will be hereinafter described, and pointed out in the claims.

As herein shown, the device consists of a board having its two edges A and A' rounded and respectively curved to correspond to the outside and inside seams of a sleeve which the board resembles in its general outline, the outer and inner edges of the board respectively having, in effect, outward and inward longitudinal curvature. As herein shown, the said edges are curved in accordance with the outside and inside seams of the sleeve of a lady's garment, and having their most pronounced curvature at the "elbow-point," so to

speak, of the sleeve; but these curves may be modified to suit the cut of the sleeves of men's coats, if desired. As herein shown, also, the sides A^2 A^3 of the board are made flat; but this is not the essential, although the preferred, construction, as when made flat they may be sometimes conveniently used for pressing.

The board is provided at one end with a notch B , receiving a fixed transverse support C , which projects very slightly beyond the edge A' of the board. The same end of the board is also provided with a flat bearing-face B' , which extends slightly beyond the edge A of the board. The opposite end of the board is made somewhat smaller than the end just referred to, and constructed with a notch D , which receives one corner of a movable support E , the same being attached by a hinge E' to the extreme end of the board and arranged in line therewith.

When the board is to be used for pressing inside seams, the movable support is turned down, as shown by Fig. 1 of the drawings, and then co-operates with the transverse support in maintaining the board in this position. For ironing or pressing outside seams the board is reversed edge for edge and its movable support extended, as shown by Fig. 2 of the drawings, and thus got out of the way, the board being steadied in this position upon its bearing-face B' .

My improved device is not only adapted for pressing the inside and outside seams of the sleeves of ladies' waists and men's coats, but will be found particularly convenient, also, in pressing curved waist-seams wherever they occur.

I would have it understood that I do not limit myself to the exact form herein shown and described, but hold myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An ironing-board having its edges respectively curved to correspond to the outside and inside seams of a sleeve, and provided at one end with a fixed transverse support and at its opposite end with a movable

Text for Patent #473,653

Text for patent #473,653 issued on 4/26/1892.

2

473,653

support attached to it by a hinge and arranged in line with the board, the outer and inner edges whereof respectively have, in effect, outward and inward longitudinal curvature, substantially as described.

2. An ironing-board having its edges respectively curved to correspond to the outside and inside seams of a sleeve, and constructed at one end with a notch to receive a transverse support, which is fixed in it, and with a bearing-face, and at its opposite end with a notch, which receives a movable sup-

port which is hinged to the said end and extends in line with the board, the outer and inner edges whereof respectively have, in effect, outward and inward longitudinal curvature, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

SARAH BOONE.

Witnesses:

FRED. C. EARLE,
LILLIAN D. KELSEY.

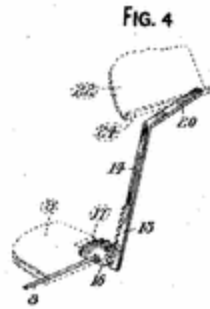
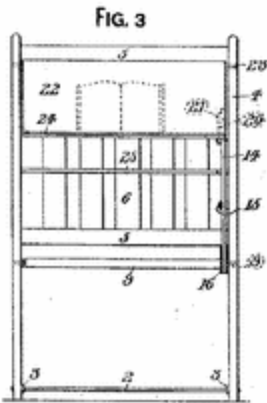
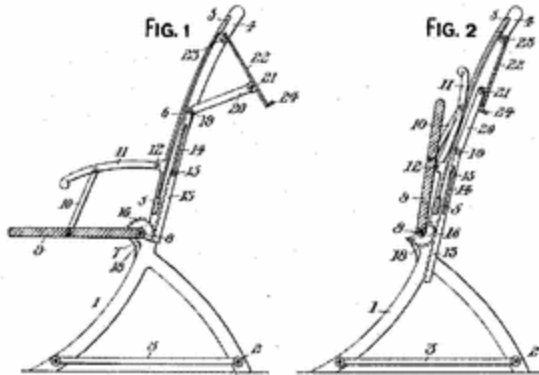
Text for Patent #473,653

Text for patent #473,653 issued on 4/26/1892.

N. ALEXANDER.
CHAIR.
APPLICATION FILED MAR. 16, 1911.

997,108.

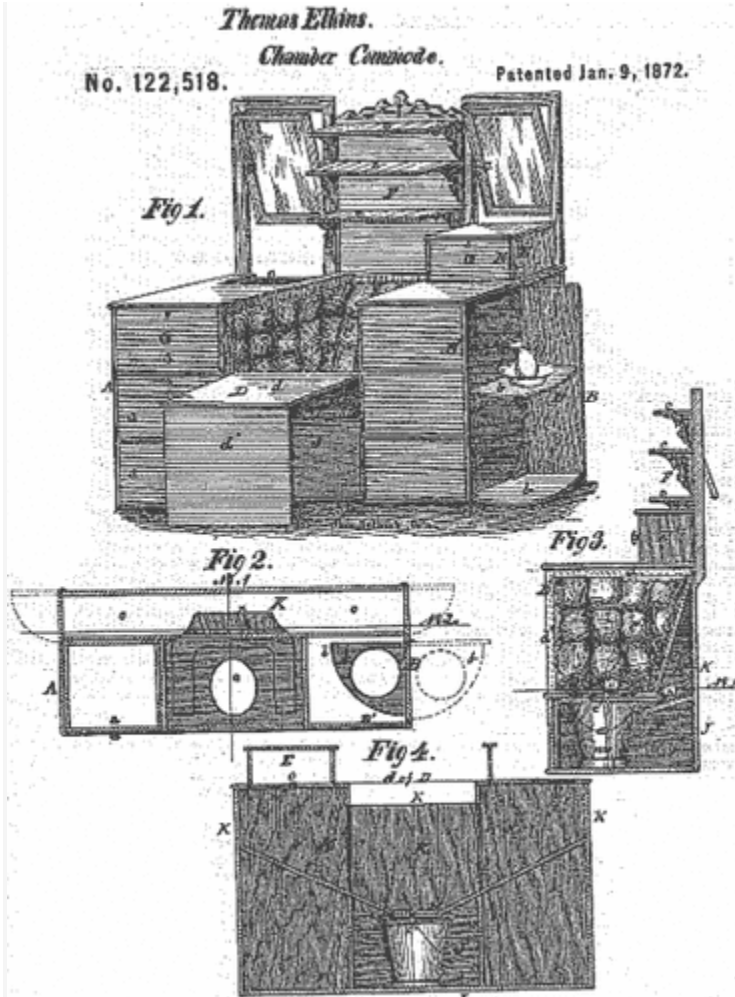
Patented July 4, 1911.



WITNESSES:
J.R. Appelman
A.C. Butler

INVENTOR.
N. ALEXANDER
BY *H. E. ...*
ATTORNEYS

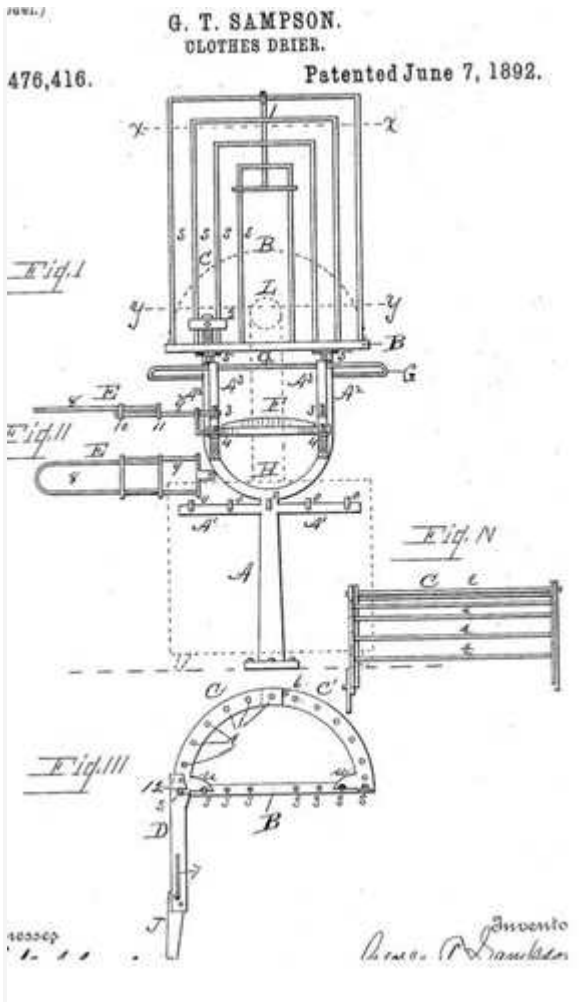
Nathaniel Alexander patented a folding chair.



Thomas Elkins - Chamber commode

USPTO

Thomas Elkins invented a chamber commode and received patent 122,518 on 1/9/1872.



George Sampson - Clothes Dryer U.S. Patent #476,416

An early patent for a clothes dryer (U.S. patent #476,416) was received by George T. Sampson on June 7, 1892. George Sampson also patented a sled propeller (U.S. patent #312,388) on February 17th, 1885.

George Sampson wrote in his patent: "My invention relates to improvements in clothes-driers. The object of my invention is to suspend clothing in close relation to a stove by means of frames so constructed that they can be readily placed in proper position and put aside when not required for use."

Possible Children's Classroom

Books Concerning African-American Inventors & Inventions

Adams, Russell L.

Great Negroes, Past and Present

This presentation of 175 biographies arranged by historical period and area of achievement highlights the variety of contributions from the African-American population. (Afro-American Pub. Co., 1984)

J920.A216 G

Altmann, Susan R.

A Extraordinary Black Americans from Colonial to Contemporary Times

The struggles and achievements of black Americans who overcame slavery and racism to contribute in many fields are examined in this survey. (Children's Press, 1989)

J920.07

Blake, Clarence N.

Quiz Book on Black America

Here are questions and answers on a wide range of topics in an entertaining and educational format. (Houghton Mifflin, 1976)

973.0496 B

Cosner, Sharon

The Light Bulb

A brief history of the invention of the light bulb and the tremendous impact it has had on all aspects of life is provided. (Walker, 1984)

J621.32 C

Haber, Louis

Black Pioneers of Science and Invention

Louis Latimer is included in this collection which looks at the accomplishments of 14 gifted scientists and inventors whose work had previously received little attention. (Harcourt, Brace 1 Jovanovich, 1987)

J925 H

Hayden, Robert C.

9 African-American Inventors

The inventions and manufacturing processes developed by nine well known African-American inventors, including Lewis Latimer, are chronicled. (Twenty-First Century Books, 1992)

J926 H

Jackson, Florence

The Black Man in America, 1861-77 (J326J12BO)

The Black Man in America, 1877-1905 (J326J12BP)

These volumes provide a history of African-American accomplishments from Reconstruction through 1905. Latimer's work is discussed briefly and a list of inventions by other African Americans is included. Index. (F. Watts, 1972, 1973)

Mitchell, Barbara

A Pocketful of Goobers: A Story about George Washington Carver

A simple retelling of Carver's life, concentrating on Carver's studies, particularly those of the peanut. (Carolrhoda Books, 1986)

J B Carver M

Myers, Walter Dean

Now Is Your Time!: The African American Struggle for Freedom

The struggle for freedom and equality for African Americans is chronicled from the first captives brought to Virginia to contemporary times. A chapter on Lewis Latimer sheds light on the man who was a poet, painter and musician as well as an inventor. Index, bibliography. (Harper Collins, 1991)

J973.04 M

Patterson, Lillie

Benjamin Banneker: Genius of Early America

A portrait is painted of the early American intellectual leader who was an astronomer, mathematician, biologist, surveyor, author and musician. Bibliography. (Abingdon, 1978)

RJ B Banneker

Towle, Wendy

The Real McCoy

This biographical sketch tells the life of Elijah McCoy, an African-American inventor who patented more than 50 inventions. (Scholastic, 1993)

J B McCoy T

[Just Imagine Children's Books](#)

Stories about notable African Americans, scientists and inventors

[Just Imagine Books - The Series](#)