Miscellaneous Inventions

There were at least 150 inventions of a miscellaneous nature. Some were unusual, some were practical, while others probably had little application in Iowa or elsewhere.

Amusements

Inventions in the amusement field ranged from billiard cue tips to carrousels. Jonathan Green of Christiansburgh made his cue tips from a mixture of ¼ gutta-percha or India rubber and ¾ pulverized chalk. He attached it with glue to a ferrule to be screwed to the end of the cue or to the cue itself. Green claimed the resulting tip was more durable than leather and did not require chalking.

Frederick C. Schaefer of Dubuque patented a folding chessboard, made to be carried in the pocket. The carrousel of Wilhelm Schneider of Davenport consisted of two levels providing ample accommodations for the occupants.

The Dubuque *Daily Times* in 1869 reported that A. Roorbach, a young mechanic of that city, had invented a "velo-cycle." By an arrangement of pulleys each circle of the pedals would give a complete revolution of the large wheel. This was equivalent to an 18-foot stride but required no

more muscle than ordinary locomotion. Roorbach claimed he could ascend grades equal to those of Lorimer Avenue in Dubuque with ease. The Des Moines *Register* said it "bids fair to run all the velocipedes off the course." It was not ridden, said the paper, but transported its rider in the position of a "walkist." No patent was received for the contraption although two other Iowans, C.B. Guy of Postville and P. Delescaille of Montezuma, were granted patents for velocipedes in 1869 and 1872.

Virgil C. Taylor of Des Moines patented a music staff which would "be of immense advantage to the ordinary singer and player." It consisted of a new method of indicating to the eye the key in which music was written. He made the line upon which the key note fell lighter than the others; if it fell in a space, he made the space either narrower or wider than the others in the music.

Billiard cue tip: Green, Christiansburgh.

Camera focusing attachment: St. Clair, Cedar Rapids.

Carrousel: Schneider, Davenport.

Chessboard: Schaefer, Dubuque.

Fish net: Cartwright, Davenport.

Game table: Uebel, Cedar Rapids.

Music rack: Schaffer, Dubuque.

Music staff: Taylor, Des Moines.

Piano, bell: Buttkereit, Toledo.

Skate: Brownlee, Princeton.

Velocipede (2): Delescaille, Montezuma; Guy, Postville.

Excavating and Ditching

One of the earliest Iowa patents was No. 11,948, issued to Charles A. Robbins of Iowa City on November 14, 1854. He had invented an excavator and ditching plow for the purpose of cutting earth into sods or pieces so they could be easily moved.

Twenty others also invented various types of digging machines and excavators.

Digging machine: Mitchell, Osceola.

Ditching machine (6): Ballard, Mt. Pleasant; Hale, Irvington; Kidder, Moscow; Martin, Muscatine; Nichols, West Liberty; Stacy, Iowa Falls.

Drains (4): Moore (3), Lyons; Miller, Mt. Pleasant.

Excavators (9): Bradley, Cedar Falls; Curless, Cedar Rapids; Mayne, Keosauqua; Myers, Lyons; Robbins, Iowa City; Schultz, Mt. Pleasant; Williams (2), Clermont; Williams, Grand Meadow.

Spading machine: Cole, Chariton.

Firearms

The Civil War gave an impetus to the invention of cannon, revolvers, and projectiles. On January 4, 1862, the Burlington *Hawk-Eye* told of a gun invented by a Rev. Moore of Iowa. The gun had a calibre of ninety-five balls to the pound. The powder and balls were put into two tubes extending from the chamber about one foot. Both could be filled with ammunition in seconds to the capacity of forty charges.

In the hands of a regiment it was claimed that this gun would be equal to at least five regiments

armed with common muskets or rifles. Although the *Hawk-Eye* said arrangements were being made for its manufacture in St. Louis, there is no indication of its being patented or proving to be practical.

The *Hawk-Eye* also reported on a novel cannon invented by Charles W. Stafford of Burlington. Cast in two pieces, the breech had two chambers. One could be loaded while the other was being discharged. Working backward and forward, one of the chambers was brought in line with the barrel alternately, the cartridge shoved by means of a lever, which in one motion sent the ball to its place.

There seemed to be many advantages. First, a ship with one hundred guns would have the equal of two hundred regular cannon. Second, a double broadside could be fired in three seconds, giving the enemy the contents of both chambers. Third, when run out of a porthole, it did not have to be run back to be loaded. It weighed 145 pounds, had a one-inch bore and was 23 inches long. There is no record of a patent being issued. However, Stafford did receive three patents for projectiles between 1863 and 1866.

Edward R. McCabe of Rochester patented breech-loading ordnance in 1862. His principal object was to develop a gun in which guncotton could be used, especially in casements and between decks of ships. Guncotton, because of the

small amount of smoke produced, did not cause men working in a confined place to have the choking thirst, smothered sensation or blindness caused by gunpowder.

Muzzle loading with guncotton was dangerous. Therefore, McCabe's improvements were directed to strengthening the breech and its parts.

Albert Hall of Danville, about the same time, turned his attention to improving the revolver. He made it more compact by bringing the hammer, except for the thumbpiece, within the gun's frame. He also made the action of the trigger easier, more like that of a hair trigger.

Bullet casting machine (2): Driver, Marengo; Remington, Dubuque.

Cartridge (3): Hall, Danville; White, Davenport; Williams, Davenport.

Firearms (5): Berg, Davenport; Budd, Oskaloosa; Garretson, Mt. Pleasant; Hall, Danville; Schulz, Ft. Madison.

Gun lock: Bennett, Illyria.

Gun sight: Harrington, Homestead.

Ordnance, breech-loading: McCabe, Rochester.

Projectile (5): Currie, Washington; Hill, Jefferson; Richards, Muscatine; Stafford (2), Burlington.

Projectile, sabot for: Stafford, Burlington.

Shell for rifled ordnance: Rollins, Cedar Rapids.

Liniments, Panaceas, Medical Aids

During the nineteenth century "patent medicines" were common in most households. Iowans developed a number of these panaceas, using a variety of ingredients and making fantastic claims.

The earliest was Dr. Granderson Mershon of Brookville who patented a cure for eye diseases in 1866. To one pint of soft water he added 60 gr. sulphate of zinc, 40 gr. sugar of lead, 25 gr. silver nitrate, 50 gr. goldenseal, 15 gr. sulphate morphine and 10 gr. salicine. The mixture was allowed to stand a day or two and agitated once a day by shaking the bottle. The patient was directed to place 3 to 5 drops on the eye, close the lid and apply a linen cloth wrung from warm water for 10 to 15 minutes.

A few months later James M.F. Hall of Davenport patented "Hall's Health Panacea" for "the cure of diseases which human flesh is heir to." His formula was two pounds of red-root *Ceanothus* and one gallon of vinegar boiled in a porcelain kettle until it was reduced to 1/3 gallon.

Irving W. Scranton of West Liberty received a patent on September 8, 1868, for a medical compound for treating cholera. It consisted of one ounce each of chloroform, essence of Jamaica ginger, peppermint, cinnamon, spirits of lavender, and spirits of camphor; ½ oz. tincture of opium; 1½ oz. arnica; and 15 oz. of simple sirup.

A liniment patented by William P. Hamlin of Exira was to be used for wounds and bruises and "most of the pains with which mankind are afflicted." Hamlin also claimed it was good for spavins and sores of horses. He first mixed one gallon of alcohol, ¼ pound of gum camphor and

¼ pound of sugar of lead. After about five hours when these were well mixed, he added one pound of concentrated water of ammonia, one quart of the best spirits of turpentine and one pint of soft water. After standing ten hours it was ready for use.

Another liniment by A.J. Creel of Hopkinton was used for healing wounds on man and beast and curing inflammatory diseases and "various other aches and ails to which mankind, as well as the brute creation, are subject." His ingredients were turpentine, fish oil and oil of vitriol.

Joseph Benda of Yalton patented a liniment good for rheumatism, colic, diarrhea and headache. It was to be used by rubbing the affected parts lightly with it or mixing it with water which the patient would drink. Benda wrote, "It has a very invigorating effect, stimulating the action of the nerves and deadening pain." George F. Munro of Leon claimed his medicine was an "equalizer for circulation of the blood," a perfect tonic, producing perspiration and eliminating all diseased and vitiated matter through the pores.

The bitters developed by Edouard Edmond Crady of Sioux City purified the blood and acted as an invigorator for the general system, according to the patent application. It consisted of 12½ oz. of orange peel, 5 oz. of gentian, 2 oz. and 2 scruples [1/12th of an oz.] of cinnamon bark, 2 oz. and 2 scruples of anise seed, 5 drachmas of

cloves, 5 oz. of lemon peel and 5 pints of simple sirup.

Some medicines were for animals only. An ointment patented by George P. Barnum, Marion, was especially useful for ringbone, spavin, curb and splints in horses. Hog cholera was also a problem. Three patents were issued to Iowans at Oskaloosa in their attempts to find a remedy for this disease. One—that of Runyon, Haller and Morris—was made of madder, flowers of sulphur, rosin, saltpeter, black antimony, copperas, asafetida, black pepper and arsenic.

John Sprink of Council Bluffs turned his attention elsewhere. On October 9, 1866, he received a patent for a mixture to prevent hair from coming out and also to cure diseases of the hair and scalp. It was described as "a mild, sure and safe remedy." He boiled 2½ pounds of onions, 1¾ pounds of turnips, 2 oz. of salt and 2 pounds of burdock roots in a pint of cologne spirits and a pint of rain water for four hours. After scenting it with ¼ oz. of oil of bergamot, it was ready for use.

Artificial legs, beds for invalids and dental tools were also among the 24 items invented by Iowans during this period.

Chair and lounge, invalid: Boardman, Albia.

Dental drill: Poor, Dubuque.

Dental mallet: Poor, Dubuque.

Hair restorative: Sprink, Council Bluffs.

Leg, artificial: Emery, Cedar Falls.

Liniment (3): Benda, Yalton; Creel, Hopkinton; Hamlin, Exira.

Medicine (6): Crady, Sioux City; Gamble, Millersburgh; Hall, Davenport; Mershon, Brookville; Munro, Leon; Scranton, West Liberty.

Medicine, hog cholera (3): Baugh, Oskaloosa; Holton & Holton, Oskaloosa; Runyon, Haller & Morris, Oskaloosa.

Ointment for horses: Barnum, Marion.

Pessary: Atkinson, Davenport.

Syringe: Buffon, Vinton.

Teeth, mode of fastening: Mason, Keokuk.

Truss (2): Howe (2), Council Bluffs.

Uterine supporter: Byam, Hopkinton.

Schoolroom Equipment

On September 15, 1868, the Des Moines *Register* reported that D.G. Perkins, superintendent of the West Side Schools, had developed a "very complete and ingenious" school desk. The seat and desk parts were adjustable. The newspaper, in describing the desk, noted that the seat or bench portion was "thrown into slats with a single motion—in short, the bench swallows itself up so as to take but little room, leaving the scholar much or little room at pleasure."

The reporter wrote that Perkins "has surely joined the knowledge of a school teacher to the genius of an inventor, and produced a model benefit." For some reason, Perkins did not receive a patent; perhaps he did not even apply for one.

The *Register* also noted that a school bench developed by Col. G. A. Stewart of Des Moines

was "very ingenious" too. The shelf or top of the desk was stationary. The bench was hinged, "putting the 'sit-down' part of the seat entirely out of the way by lapping it up against the back of the seat." From the description one would conclude it was the forerunner of the desk many Iowans occupied in country schools.

The person writing about the two school desks concluded: "We are not going to say which is the better desk of these two; we don't know as we would if we could . . . . Like that of Prof. Roberts, they are both bound to come into very general public favor."

In March 1868 Rankin and Roberts organized the Iowa School Furniture Company in Des Moines. It had the exclusive rights to manufacture the "Climax" desk covered by A.E. Roberts' patents.

Altogether 14 patents were issued to Iowans for school desks or improvements. With an expanding school system throughout the country it was undoubtedly a profitable venture if one could develop a new and practical desk. In addition O.A. Wagner of Davenport took a step toward eliminating the old school slate by patenting an artificial slate surface in 1868.

Desk, school (14): Arnold, Des Moines; Chandler (3), Davenport; Cochran, Davenport; Osborne & Hammon, Des Moines; Roberts (4), Des Moines; Stewart (2), Des Moines; Vorse (2), Des Moines.

Hinge for desk: Roberts, Des Moines.

Slate surface, artificial: Wagner, Davenport.

Stationery

Iowa has become well-known over the years as the home of the Sheaffer fountain pen. There were a number of pens and other stationery items invented in Iowa at an earlier time.

For instance, Levi M. Sandford of Clinton patented his fountain pen in 1865. It would carry enough ink to last about half a day when used continuously. There was also a regulator by which ink could be made to flow from the holder into the pen and the pen adjusted to make a mark of any desired size. George Bartlett of Keokuk used an overflow chamber in connection with his fountain pen-inkstand.

Edwin J. Toof of Ft. Madison turned his attention to pencils in 1868. On a pencil holder he located an eraser near the writing point of the pencil. In this way it was convenient for erasing marks made by the pencil while writing.

John D. Mets of Dubuque received three patents for photographic albums and binders. One was an improved hinged binding for the albums. It was made by securing each page of which the album was composed to metallic or other plates. These were placed together so that a succession of hinges or joints was formed. The eyes of the hinges left spaces between the plates equal to the thickness of the album pages. When photos had been mounted, this would allow the book to be closed without bulging.

Mets was born in Holland in 1822 and came to Dubuque in 1862 where he became a blank book manufacturer, bookbinder, and printer. In 1876 he received for his work the grand medal of honor and the diploma of highest merit awarded at the Centennial Exhibition in Philadelphia.

D. Clinton Laurence of Cedar Falls wrote that "a convenient, accurate, portable letter weighing apparatus has long been needed, but never heretofore made, or put into general use." He combined a penholder and letter scales and produced "an apparatus that is reliable, very cheap, portable, and that has never . . . been a commercial article, or on sale, or in use." For his ingenuity he was granted Patent No. 33,091 on April 29, 1862.

Addressing machine: Davidson, Montana.

Album, photographic (3): Mets (3), Dubuque.

Billholder: Collins, Keokuk.

Book, blank: Bonnell, Burlington.

Calendar, portable: Dudley, Mitchell.

Cardholder: Stewart, Ft. Madison.

Envelope (3): Giebrich (2), Ottumwa; Kuh, Jefferson.

File, prescription: Foster, Council Bluffs.

Filing case: Bettesworth, Cedar Rapids.

Inkstand (2): Bartlett, Keokuk; Bennett, Mt. Pleasant.

Letters for signs, composition: Todd & Todd, Des Moines.

Paper clamp and inkstand: Toof, Ft. Madison.

Paper clip: Harvey and Mills, Dubuque.

Paper holder: Toof, Ft. Madison.

Paper, leather, etc., appliance for cutting ornaments in: Mets, Dubuque.

Pasteboard cutting machine: Burhans, Burlington.

Pen, fountain (2): Klein & Wynne, Keokuk; Sandford & Beebe, Clinton.

Penholder and letter-balance combined: Laurence, Cedar Falls.

Penholder, pincase and money case combined: Rose, Waukon.

Pencil holder: Toof, Ft. Madison.

Portfolio: Pratt, Davenport.

Stencil plate: Sykes, Muscatine.

Other Patents

A number of patents were also issued for inventions that were unusual or not easily placed in any of the other categories. S.G. Hill of Muscatine developed a "barrel roller." By attaching movable handles to each end of barrels, they could be rolled onto ships, in warehouses, or into wagons.

A.W. Hager and John H.S. Grove of Waverly patented a "dog power." They used a dog on a treadmill to drive light "machinery as churns, washing machines, grindstones, and the like."

An improved method of constructing suspension bridges was patented by Peter Hendricks of Floris. It was a combination of wood and metal sustained by chains connected to strong towers. The Des Moines *Register* reported on the King's Patent Bridge in 1868. It may possibly have been one of the four patented by Iowans, but advertised under a different name. A suggestion was made that all interested in bridges should see the one over Four Mile Creek where it was crossed by two railroads entering Des Moines.

The appearance of the frame was light, but good material was used and every pound of iron made to do its work. Therefore, the bridge was "abundantly strong and durable." The writer continued, "We believe this bridge will recommend itself for county purposes before any other now in use in this part of the State."

Jonathan H. Green of Christiansburgh patented a formula for waterproofing textiles and papers while permitting them to remain clear and transparent. He used one part of linseed oil, one part India rubber cement and six parts of benzine. It was applied with a brush to the cloth or paper surface while subjecting it to heat not exceeding 250° F. Normally 200° F. would be satisfactory, he said. This was continued until the mixture had penetrated the goods.

Green said it could also be used in place of oiled papers in letter books for copying by pressure, and it would take the place of oiled silk in dressing wounds. He claimed too that using it on banknotes would effectively prevent their being photographed when colors were used in printing, give durability to the bills, and provide ease of manipulating them while counting.

Henry Hannen of Dubuque patented an improved process for making white lead in 1857. It was a three-step procedure. He first subjected the lead to the action of steam and atmospheric air for the purpose of oxidation. Then he exposed it to

vapor of acetic acid in order to form a sub-acetate and afterwards to the action of carbonic acid, alternately and successively until the operation was completed.

The lead became carbonated faster than when it was exposed to the action of air, the vapor of hydrated acetic acid and carbonic acid all at the same time, he claimed.

An apparatus for displaying Masonic or Odd Fellows emblems was patented by Royal M. Lyon and George B. Rand of Dubuque on November 19, 1872. The emblems were placed on a movable belt in an open-faced case or cabinet. As a lecture was given in the course of conferring degrees, the appropriate emblem could be moved easily into view.

Barrel roller: Hill, Muscatine.

Bell, ceremonial: Smith, Keokuk.

Belt joining clasp: Randleman, Port Louisa.

Bridges (4): Hendricks, Floris; Reiling, Bellevue; Tomlinson, Putnam; Turley, Council Bluffs.

Bridges, method of turning (2): Berkeley (2), Cedar Rapids.

Buildings, method of removing: Prather, Iowa City.

Coffer dam and boat: Applegate, LeClaire.

Dog power: Hager & Grove, Waverly.

Feather renovator: Morris, Council Bluffs.

Ladder, extension: Pullman, New Oregon.

Lead, manufacturing white (2): Hannen (2), Dubuque.

Lead, packing bar: Kinsey, Dubuque.

Life boat: Robeson, Oskaloosa.

Life preserver: Crandal, Marshalltown.

Lubricating compound: Smith, Prairie City.

Masonic emblems, appliance for display of: Lyon & Rand, Dubuque.

Perambulator: Richards, Indianola.

Snow plow (2): Harris, Dubuque; Plantz, Iowa Falls.

Stump extractor (2): Bogert, Fayette; Colyar, Clayton.

Stuffing boxes, appliance for packing: Smith, Montana.

Tobacco knife: Goldman, Winterset.

Varnish for paper, cloth, etc. waterproof: Green, Christiansburgh.

Vault, fire proof: Pittman, Keokuk.

HOMER CALKIN—CORRINE CALKIN