MAKING OUR MONEY.

PROCESSES THROUGH WHICH METALS MUST PASS.

Uncle Sam Boasts a Perfect Mint at Philadelphia—Accuracy in Weight and Fineness an Important Requisite —Some Facts Not Generally Known.

Facts About Coinage.

America is proud of its Philadelphia mint, which is without doubt the best equipped establishment of its kind in the world. An official of the royal mint of London, in visiting the Philadelphia mint some years ago, announced that we were fully one hundred years ahead of anything in this line. Here you will find stores of bullion, immense accumulations of wealth in the crude. You see it stacked up here and there in the shape of bricks. If you had permission you could not carry away more than $1,000 worth of the silver. The Quaker City mint at present holds $107,000,000 of these ingots, coining value, which occupy the space of 120 cubic feet. In the treasury at Washington and the subtreasury in various cities there are 388,000,000 coined silver dollars.

Money making—that is, coining metal—began in this country 284 years ago. In 1612 the Virginia company ordered an issue of coins, and these were struck at Somer's islands, now called the Bermudas. The earliest regular colonial

MAKING THE ALLOY.

coinage was in Massachusetts, in pursuance of an order passed May 27, 1652. The denominations of the coins were 12 pence, 6 pence and 3 pence pieces, which were put in immediate circulation. There was also a Massachusetts 2-penny piece. One variety of this coinage had what is known as a pine tree, another a willow, and a third an oak. The first coin of that colony was the now famous "pine tree shilling" of 1650. The 2 and 1 penny pieces were struck in 1652. In 1785 the congress of the confederation adopted the plan presented by Thomas Jefferson for the national coinage, and in 1786 decided upon the names and characters of the coins. In 1787 a contract was made with James Jarvis for 300 tons of copper coins. These were coined at New Haven and bore the date of 1787. In 1792 a code of laws was enacted for the establishment and regulation of the mint.

The first issue from the mint in Philadelphia of "the dollar of our daddies" was in 1784. Before that a "Martha Washington" half-dime was struck off as a proof-piece. Two years later came the issue of dimes, with the first golden coinage of eagles and half eagles occurring intermediate. The record since then is an interesting one, and it is refreshing to read of how much money is lying around to be gathered in the total output of the mints since 1792, being as follows:

GOLD COINS.

Double eagles ($20 pieces)	$1,210,703,700
Eagles ($10 pieces)	259,127,230
Half eagles ($5 pieces)	212,921,675
Three-dollar pieces	1,619,376
Quarter eagles ($250 pieces)	28,681,005
Dollars	19,499,337
Total	$1,732,552,323

SILVER COIN.

Dollars	$430,457,987.00
Trade dollars	35,965,924.00
Half dollars	132,259,041.00
Quarter dollars	48,183,179.25
Twenty-cent pieces	271,000.00
Dimes	28,610,171.30
Half dimes	4,880,219.40
Three-cent pieces	1,282,087.20
Total	$681,909,619.15

NICKEL, COPPER AND BRONZE.

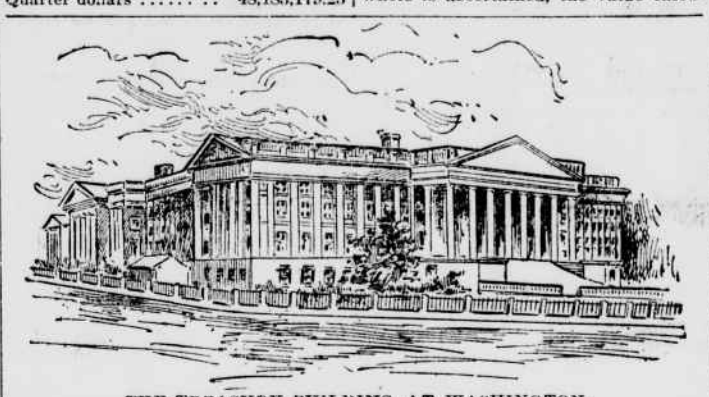
Five-cent pieces (nickel)	$13,533,730.50
Three-cent pieces (nickel)	941,349.48
Two-cent pieces (bronze	912,020.00
One-cent pieces (copper)	1,562,887.44
One-cent pieces (nickel)	2,007,720.00
One-cent pieces (bronze)	7,463,898.26
One-half cent pieces (copper)	39,926.11
Total	$26,481,531.79

The above amount includes $2,501,052.50 Columbian souvenir half dollars and $10,005.75 Columbian silver quarter dollars. The coinage of the United States mints during the fiscal year ending June 30, 1895, comprised 4,035,205 pieces of gold of the value of $43,933,475, and $53,715,550 worth of silver dollars, subsidiary silver and minor coins.

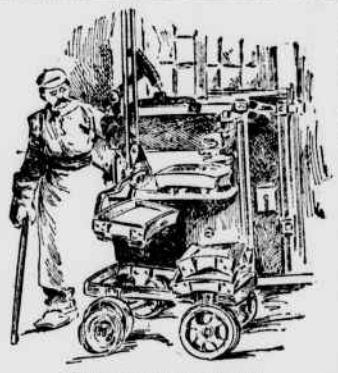
There are few places that are more interesting to visit than the Philadelphia mint, which is the paternal institution of America, and the most complete of its kind in the world. It is open to the public daily, excepting Sundays and holidays, from 9 to 12 in the morning. Visitors are met by ushers, who attend them through the various departments. Over 50,000 people have visited the institution in the course of a year. Owing to the immense amount of the precious metals always in course of transition, and the watchful care necessary the public is excluded from some of the departments. The system adopted in the mint is so precise and the weighing so accurate that the abstraction of the smallest particle of metal would lead to almost immediate detection.

All gold and silver intended for coinage purposes is received in the deposit or weighing room. The largest weight used in this room is 500 ounces; the smallest is the thousandth part of an ounce. The scales are wonderfully delicate and are examined and adjusted on alternate days. Near here is one of the many faults in the building. Of solid masonry, several of them are iron lined, with double doors of the same metal and most complicated and burglar-proof locks. It is estimated that from $2,000,000,000 to $2,500,000,000 worth of gold has been received and weighed in this room.

The metal received is carefully weighed in the presence of the depositor and the proper officials and then locked in iron boxes and taken to the melting-room. There are many furnaces in this room. The gold and silver, being mixed with borax and other fluxing material, is placed in pots, melted and poured in iron molds, and when cooled is again taken to the depositroom in bars, where it is reweighed and a small piece cut from each lot by the assayer. From this the fineness of the whole is ascertained, the value calculated and the depositor paid. The metal in its rough state is then transferred to the melter and refiner. To judge of the wonderful accuracy with which the assayer must do his work it can be stated that in his office is used



THE TREASURY BUILDING AT WASHINGTON.



WEIGHING GOLD BARS.

what is probably the smallest weight in the world. It is the thirteenth-hundredth part of a grain and can scarcely be seen with the naked eye, unless on white ground.

In the melting room all the metal used in coining is alloyed, melted and poured into narrow molds. The carings or ingots vary from one to two and a half inches in breadth, according to the coin they are intended for. They are about twelve inches long and half an inch thick. Those of gold are worth from $600 to $1,400 apiece and have one end wedge-shaped. After passing the melting room these bars reach the rolling room. Here the gold is subjected to a terrific rolling or drawing, and the original ingot is reduced ten times its size. Great care is taken to anneal the metal at short intervals, as it becomes quite brittle after passing through the intense pressure. When the rolling is completed the strip is about six feet long, or six times as long as the original ingot. These strips are then given the final dressing down to exact size and placed in copper canisters for the final annealing. The strip is, however, not quite ready yet. It is put through its turn on the drawing bench, where the slightest irregularities are corrected. This done, it is carefully cleaned and sent to the cutting presses. There are a number of these very solidly built machines. Each has a vertical steel punch which works in a round hole or matrix cut in a solid steel plate. The operator places one end of a strip of metal in the immense jaws of the press and cuts out a couple of blanks, or, as they are called, planchets. As the strip is of equal thickness these samples must weigh alike. If exact, or a shade too heavy, they are allowed to pass, and the whole strip used. If too light the entire strip is rejected, and must be remelted. From a strip worth $1,100 there is cut $800 worth of planchets.

These blank disks are now almost ready for the coin press, but must pass a very rigid examination first, to ascertain if they contain the exact amount of gold. Having successfully stood the test, the planchet goes to the milling and coining room, where an incessant stream of bright gold pieces flows from the many coin presses. Both the milling machine and the coin press belong to those exasperatingly simple yet wonderfully complex affairs which it is much easier to look at than to describe. The former, which does the milling, handles the planchets automatically. All that is necessary is to supply its feed tube with the blank disks, and these, after a few revolutions, drop perfect into a small box at its side.

The coin presses, of which there are many of various sizes, are very imposing-looking affairs. Each press has an arch of cast iron weighing several tons, and combines a great deal of grace with its ponderous strength. All the steel work about it gleams with a high polish. In the interior of the arch is a nearly round piece of brass called a triangle. This is fastened to a level by two steel bands, called stirrups. There is a tremendously strong arm connected with the end of the lever above by a joint somewhat like that of a knee. Under the triangle is a steel cap called a "die stake." In this is fastened the reverse die. The die stake is arranged to rise one-eighth of an inch, and when down rests firmly on the solid foundation of the arch. Above in another triangle is fastened the obverse die. When the knee is straightened the die fits into the collar and presses down upon the reverse die. What an instant before was but a blank, meaningless piece of metal comes out a resplendent double eagle of shimmering gold.

THE MINT AT PHILADELPHIA.

POURING THE GOLD INTO THE MOLDS.

ANIMALS' ILLUSIONS.

Birds Are More Commonly the Victims.

Birds are perhaps more commonly the victims of illusions than other animals, their stupidity about their eggs being quite remarkable. Last year, for instance, a hen got into a pavilion of a ladies' golf club and began to sit on a golf ball in a corner, for which it made a nest with a couple of pocket handkerchiefs. But many quadrupeds are not only deceived for the moment by reflections, shadows and such unrealities, but often seem victims to illusions largely developed by the imagination.

The horse, for instance, is one of the bravest of animals when face to face with dangers which it can understand, such as the charge of an elephant or a wild boar at bay. Yet the courageous and devoted horse, so steadfast against the dangers he knows, is a prey to a hundred terrors of the imagination due to illusions, mainly those of sight, for shying, the minor effect of these illusions, and "bolting," in which panic gains complete possession of his soul, are caused, as a rule, by mistakes as to what the horse sees, and not by misinterpretation of what he hears. It is noticed, for instance, that many horses which shy usually start away from the objects on one side more frequently than from objects on the other. This is probably due to defects in the vision of one or other eye.

In nearly all cases of shying the horse takes fright at some unfamiliar object, though this is commonly quite harmless, such as a wheelbarrow upside down, a freshly felled log or a piece of paper rolling before the wind. This instantly becomes an "illusion," is interpreted as something else, and it is a curious question in equine neuropathy to know what it is that the horse figures these harmless objects to be. When Russian ponies first began to be shipped to Harwich they usually objected to pass near a donkey. This reluctance was explained on the hypothesis that the ponies seldom saw donkeys in Russia and mistook them for bears. —Spectator.

Pure Gold.

Gold, when refined from all impurities and alloys of inferior metals, is denominated pure. This means gold of twenty-four carats, and this is the recognized standard by the mint master and dealers in gold. As a matter of fact, however, there is no gold so pure. Gold of twenty-two carats is about as pure as it can be got. It has two parts of silver or one part of silver and one part of copper. The copper darkens the color of gold, while silver lightens it in color. Twenty-three-carat gold is occasionally seen, which means a half carat of silver and of copper. Ordinarily eighteen-carat gold is the best gold that can be had. Certainly it is the best for jewelry, for pure gold, as it is called, is too soft and will wear away much faster than the owners of it desire.

A Sea Hog Captured in Jersey.

A strange animal was captured in Raritan Bay, off Keyport shore, by Capt. A. Walling in a seine net Thursday. The animal is 6 feet long and 3 feet in diameter at the center, tapering to a tail, on the end of which is a bunch of heavy fins. The head is large and resembles that of a huge pug dog. The animal has a coat of fine silky hair and growls like a dog.

It was reported about the country that the sea serpent had been captured and people flocked to see the freak. Capt. Seeley of Way Lake calls the animal a sea hog. It is on exhibition at Keyport.—New Brunswick Home News.

About Eyes.

The eyes of fish and birds are round, with no angles at the corners. The eyes of birds that fly by night are generally about double the size of day birds.

A Billion.

In this country a billion is considered to be one thousand million—1,000,000,000; in England it is considered to be one million million—1,000,000,000,000.

You will find of every man who ever lived in Oklahoma, that somebody robbed him.

It is easier to be a reformer than it is to reform.

THIS SIMPLE STORY

Reflects Credit on American Courage and Conscience.

There is a good story told of John Hays Hammond, the American, who was implicated in the famous Transvaal conspiracy, writes Richard Harding Davis. Hammond was very ill during his imprisonment, and in consequence was permitted to go to the Cape for his health under a heavy bail. He was at that time under sentence of fifteen years' imprisonment, and the bail was not so heavy as the fine he had still to pay, which amounts to $175,000. He did not give his parole to return to jail, and his failing to have done so would have meant nothing more than the forfeiture of his bail, the amount of which he could very well have afforded to have paid. And when he had once crossed the border of the Transvaal every man he met was his friend. He could on reaching the Cape have stepped upon the first outbound steamer and shaken the dust of the Transvaal from him forever.

"That is the last you will see of Jack Hammond," some one said to Kruger. "I think not," the President answered, "and even if Mr. Hammond would wish to escape, I know Mrs. Hammond, and she is too fine a woman to let him think of it." Two days before his leave had expired Hammond came back to Pretoria and knocked at midnight at the door of the jail for admittance to what, for all he then knew, meant fifteen years of his life in prison, and the jailers were so amazed to see his face through the wicket that when he threw his valise, which he had carefully packed with whisky and

JOHN HAYS HAMMOND.

cigars for his three fellow prisoners, at one of them, the Boer picked it up without examining it and carried it into the cell which Hammond, Rhodes, Phillips and Farrar shared in common. Hammond had gained his temporary liberty because he was ill, and he did not take advantage of that act of kindness on the part of the Boers to fly the country, and so leave his fellow conspirators to suffer a punishment which, if deserved by one, was deserved by all. It was a case of conscience and of moral as well as physical courage.

HERE'S A SPRING SHOE.

It Actually Lifts the Feet and Saves the Wearer from Fatigue.

A spring heel attachment for shoes to aid in walking is one of the latest devices for the comfort of pedestrians. With this attachment the effort of lifting one's foot is practically reduced to a minimum. The spring actually lifts the foot, and the pedestrian does the rest.

This curious device is nothing but a stiff strip of steel about an inch in width and some three inches long. It is first bent double and one end turned upward over the other end, so as to fit it closely to the edge of the heel of the shoe.

The spring is screwed to the heel of any ordinary shoe, and once in place it gives a "spring" to the step, which is of great assistance in walking or running. The idea is taken from the natural action of the muscles of the foot, which are familiar to everybody who has ever tried to run without touching the heel to the ground.

The weight of the body forces the spring close to the heel, and as the step is taken and the foot partially raised from the ground, the spring gives an

SHOES THAT LIFT THE FEET.

impetus to the step, and practically forces the body forward. It is claimed by the inventor that the use of this apparently simply device reduces the fatigue of walking one-third. It is practically adapted for use by those who take walking tours during their vacations, and persons whose business necessitates much walking.

WOMAN ON POLICE FORCE.

Regularly Appointed Special Officer by Mayor of St. Paul.

The first woman to be made a member of a police force, and the only one in the world authorized to wear a police star, lives in St. Paul, Minn. Her name is Mrs. Edwin T. Root, and she has just been created a full-fledged officer of the law by the mayor of St. Paul. Mrs. Root may not walk a beat, but no representatives of the law in the city has any more authority to arrest people than she. Hers is not a "special" appointment, but the same as that of the man who wears blue and brass and swings a club. The cause of Mrs. Root's ambition is not a desire for notoriety, but to enable her to better aid young girls who have fallen into evil ways. She has long been engaged in this work, but found herself seriously handicapped by lack of authority to investigate. So she applied to the mayor for the appointment she has received.

Mrs. Root is president of the Hamline Woman's Christian Temperance Union, which under her management has doubled its membership since 1894 and become the largest organization of its kind in the country. She made persistent war on a saloon where young girls were in the habit of assembling, and after a great deal of trouble secured the proprietor's conviction. It was in connection with her rescue work that she needed the police star. She is a slight, delicate-looking woman, of medium height and graceful demeanor. Dark brown eyes look out from beneath delicately penciled eyebrows. She wears glasses, but they add to rather than detract from her appearance. Her hair is a golden brown and her age is 46.

MRS. ROOT.

QUEEN VICTORIA'S COACHMAN.

He Is a Man of Importance About the Royal Household.

Queen Victoria's personal coachman, who drives her at Windsor, Balmoral and Osborne, and who likewise accompanies her during her annual visits to the continent, is an elderly man of the name of Thomas Sands, and is a great favorite of her majesty, in whose service he has been very long indeed. The queen is exceedingly kind and considerate to him and greets him always with a friendly "Good day." Frequently when the drives are long the queen causes the carriage to be stopped and the tea equipage, which she generally carries about with her, to be extracted from the rumble. Tea is thereupon brewed by means of a spirit lamp, and in partaking of this gentle stimulant with her ladies in attendance, the queen does not forget her coachman, but invariably makes a point of pouring out a cup for him, too.

THOMAS SANDS.

On one occasion, when her daughter, the widowed empress of Germany, was with her and attempted to pour out the tea for the coachman, the queen took the cup away from her under the pretext that she did not know "how Thomas liked to have his tea sugared and creamed," and fixed it for him herself. Thomas is very fond of relating this story as an illustration of his mistress' kindness and consideration for her old servants. Both he and the state coachman are decorated with the silver medal conferred upon them by the queen on the occasion of her jubilee, and they wear it on the left breast on the coat of livery.

Early Hours.

As we grow older we learn wisdom in this matter. The gray-haired parent, whose dancing days are over, and whose limbs are not elastic, is glad to hasten bed-time, and to leave his daughters to their foolish joy in the late hours. He would lengthen his nights in spite of his difficulty in sleeping. Very few persons over 60 years old care to sit up after 11 o'clock in the evening, and would rather be invisible at an earlier hour. Old age may not need more sleep than youth, but it is more covetous of sleep, and sooner disgusted with the day's excitement. "Go to bed early" is the advice which the elders give to the younger race, all the more emphatic as they remember their own sins in this kind in the former years, and wonder that they could have taken such needless risks in those night frolics. That is the advice, too, of the medical journals and men. Was there ever a wise physician who would counsel his patients to sit up until midnight as a rule, or even as a frequent exception? The wisdom in this matter, nevertheless, is of the kind that comes by experience, and the sage warning of the elders is oftenest unheeded.

If we could only see ourselves as others see us, life would seem like one perpetual comic valentine.