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HIPPOPHAGY.

The *New York Medical Journal*, for August contains a long article which takes strong ground in favor of the introduction of hippophagy among the civilized races of Europe and America. The name, which is probably supposed to confer dignity upon the subject, means the practice of eating horseflesh. The first argument adduced in its favor is the humanity of the practice. The poor old skeletons of horses, which are seen dragging themselves and fish, fruit, or oyster wagons through our suburban streets, and the poor women who painfully labor, early and late, seem to have been specially made to supply each others necessities, and to mutually alleviate each others' woes. The latter by eating, and the former by being eaten, will thus fulfill the end which kind Providence foreordained for them, and which nothing but silly prejudice and religious bigotry have hitherto prevented. It is not pretended that anything but old horses can be afforded for food, and it is only such that it would be humane to eat. It is urged, that in refusing to eat horseflesh, the civilized races are an exception to the rest of mankind. We freely acknowledge that the civilized races do not eat many things that are considered excellent diet in many parts of the world. Rats, dogs, insects, and the bodies of men themselves are to be found upon the well-furnished tables of people in various parts of the globe. Neither are such people so nice in their distinctions about the parts of animals which are fit to be eaten, as their more civilized brethren. They avoid the extraordinary waste of food attendant upon the practice of dressing the bodies of animals in vogue among us. It is with feelings of envy that we read of an African native devouring the warm, raw entrails of recently slaughtered beeves, and we are almost inclined to urge upon the soft-hearted hippophagist who so ably sets forth his views in the *New York Medical Journal*, that it would be a good thing to call the attention of poor women to this cheap (and save for vulgar prejudice) good, wholesome, and even palatable diet.

It is stated that the advent of Christianity put an end to the use of horseflesh as food in ancient Germany, and in other parts of the world, where it had been in use among the pagans for "sacred feasts, and for pagan altars;" and that it was the love of Christianity that put a stop to the practice in Iceland. We feel sorry that Christianity, which we have been hitherto disposed to regard as the great regenerating element in this otherwise benighted world, should have so afflicted old horses, depriving them of the blessing of being knocked on the head as soon as their strength began to decline, to reappear upon the tables of the poor in all the different forms of roast, and boiled, and hashed, and warmed over, which it is so delightful and appetizing to think of. It is within the limits of reason to suppose that colts, sometimes deformed from birth, might be killed, at an early period of life, when their flesh would be almost equal to veal, and the suffering poor might then be admitted to the luxury of colts foot jellies, and cutlets. Boiled colts' head seems a good dish for the poor, and the broth would be of service in case of sickness.

The Cossacks eat horse, and even drink the blood of the animal. If they can do this, the custom is, of course to be recommended to the civilized poor, and doubtless a good drink of horse blood would enable many a miserable seamstress to accomplish one shirt per diem more than she could without, and it would certainly be better than the blood of "John Barleycorn," which is now too often indulged in, and is also more expensive.

It is admitted, that its taste is peculiar, and that it is apt to be tough; but then the appetites of the poorer classes are known to be excellent, and their teeth are generally good because they don't eat many sweetmeats. So these objections are of no account.

The horse is subject to glanders, which is communicable to man, and is a most horrible, loathsome, and fatal disease. To this, it is answered, upon the authority of one Rayer, who is said to have experimented upon the meat of horses which had the disease, that it is not communicable after the flesh is boiled. Now what poor woman can be so blinded by prejudice as to refuse horseflesh after that. It reminds us of the old lady who advised her son to always eat his chestnuts "biled," because "biled worms were never known to hurt anybody." Who knows but glanders and poll evil may not yet be discovered by some savant to impart rich and peculiar flavors to the flesh of old horses; or that soup, made from the spavined shinbones of these animals, may not prove a specific for the scrofulous taints engendered by filth and darkness.

Surely the civilized world ought to hail the resumption of hippophagy, and erect monuments to the humane individuals who have been instrumental in reviving the practice. We think it would be well, also, to give some attention to cats and dogs. They are easily raised, and can also be killed at an age when their lives have become a burden, and would no doubt furnish good food for paupers. The Government should immediately provide for the supply of such meat to the prisons and almshouses, and it might not be inexpedient to serve it out in rations to the army and navy; thus lessening the public expenditures and aiding in the payment of the national debt. Let us hope, friends of humanity! A new era is dawning. Let not our prejudices obstruct its advent.

THE PROGRESS OF CHEMICAL SCIENCE.

Until a very recent period the science of chemistry was made up almost exclusively of facts. The classified results of elaborate and accurate experiments; the relations which exist between the elements of matter and the properties not only of the elements themselves, but of the complex substances formed by their combination; the effects of the physical forces upon combination generalized and reduced to a system, so far as the knowledge of these subjects would admit, constituted the text of the able and numerous treatises that had been written upon the subject. The science has begun to assume a new aspect. The speculative minds have been engaged in framing hypotheses to account for the manifestations of the laws which govern combination. Not content with this they have extended their speculations to the nature of matter itself, and theories which embrace the ultimate form and condition of matter, as well as the forms recognized or recognizable by the senses, are boldly put forth and stoutly maintained.

The objection to such speculations is that no important purpose is subserved by them, while their tendency is to complicate nomenclature and occupy the minds of men with theories which assume to account for facts rather than with investigation and study of facts themselves. It is not sufficient for the establishment of an hypothesis that it accounts for a fact. Because a man might ride in railroad cars from New York to Philadelphia it is not to be inferred that he did ride by that conveyance. There is the possibility that he rode in his carriage or took passage by water. Speculating as to how he made the passage would amount to nothing toward ascertaining the fact, except to guide research into the channel of possibilities.

Now if speculation in physical science were confined simply to indicating the possibilities in the discovery of new facts, we should not say a word against it. That is its true sphere. But when it passes that limit and usurps the place of fact itself it is to be deprecated.

The aim of the modern speculations in the science of chemistry seems to be the demonstration of matter as it exists in its ultimate condition. If this were possible, and a knowledge of matter in that state could be of any service, there would be no objection to them. The old atomic theory never was fully accepted by physicists, and was only accepted at all as an hypothesis, which accounted for certain facts in chemical combination. It was never of any real value, never aided in any important discovery, and we are confident that as it has had its day so the new and more ambitious hypotheses will have theirs. We even doubt that many of these will satisfy the minds of thinkers as well as that did.

The chemist never deals with matter in its ultimate condition. It is with masses that he as well as all others must be content to experiment. The laws which matter obeys in its combinations he may discover, but the essential nature of matter itself is not physical study; it is metaphysical, and it is an *ignis fatuus* that will ever elude pursuit.

The atomics of Hinrichs, the rational cosmology of Hickok, and the speculations of Sir Benjamin Brodie, are all to be classed in the category of speculative philosophy. They are attempts to get back of matter into a field which the human mind can never explore, and like all such speculations we believe them calculated to obstruct progress rather than to confer any solid benefit upon science.

NITROUS OXIDE AS AN ANESTHETIC.

The great blessings which have resulted from the use of anesthetics can not be over-estimated. Those who have never witnessed a severe surgical operation, unaccompanied by their administration, and also contrasted it with one in which their valuable aid was resorted to, must utterly fail to realize the amount of suffering which has been spared the afflicted by these agents. Previous to their introduction nothing could be more horrible, to one not steeled by long practice, than a capital operation. The most agonizing tears and shrieks were wrung from the stoutest and bravest men, while the vain struggles and cries of children, helpless in the arms of powerful assistants, or strapped to the operating table, rendered

fainting, which often resulted from sheer pain, a blessed relief. Those who are unacquainted with the art of surgery, generally suppose that the amputation of a limb is one of the severest of operations. Having read of the bravery of men who could sit and smoke a cigar during an amputation, they fancy that such manifestations as we have described are to be attributed to weakness of resolution, to an enfeebled and shattered nervous system. But every surgeon knows better. There are operations that are as much more terrible than amputation of the leg, as that operation is more terrible than the extraction of a tooth; many of which are only rendered possible by the use of anesthetics. Operations that were once the dread of the surgeon, as well as the patient, in which the deviation of a hair's breadth, in the direction of the knife, might invade vital parts, requiring perfect steadiness, both in the operator and the subject, are now successfully performed, the patient quietly sleeping during the otherwise long minutes of anguish, the very shock of which formerly often caused death.

Notwithstanding all that we have said, the use of anesthetics is attended with some risks, and it is just that the public at large should know this fact and fully appreciate it. More especially is it important, that the different substances used for this purpose, and their peculiar merits and demerits should be well understood.

In the use of chloroform, most of the deaths which have occurred have been in brief and minor operations. As a result of this fact, there seems to be an increased tendency to substitute the protoxide of nitrogen (laughing gas) in such operations. It has the advantage of being more rapid in its action, its effects cease sooner, and no nausea or depression result from it, unless the gas should be improperly prepared. Experiments have satisfactorily shown, however, that this agent cannot be used successfully for long and tedious operations—that its action is very irregular—that neither in its chemical constitution or its physiological action does it much, if at all, resemble the true anesthetics; for, while with them, though every other element may be excluded, carbon must always be present, and the condition of the blood, heart, lungs, and other viscera, after death from it, is dissimilar from the condition after death from them. These objections are quite sufficient, without taking into account the many inconveniences of its preparation, preservation, and transportation, to prevent its ever being employed in the actual practice of surgery. Caution is needed, both in its manufacture and administration, as by carelessness the noxious deutoxide of nitrogen may easily be generated, and if the gas is not properly tested, and its impurities carefully removed, serious results may follow.

Mr. Colton, who is now in London, produces an autograph scroll of twenty-seven thousand persons who have inhaled the gas in America for extraction of teeth and for minor surgical operations, with the most satisfactory results; pain having been annihilated, and the unconsciousness having passed away within one or two minutes, leaving only agreeable recollections. Some of the entries on the scroll are amusingly characteristic. Many of the patients "have had a high old time;" some "would have teeth pulled that way all day long." Here and there comes a bit of poetry, effusive and grateful, but not destined to immortality. Carter entries of "delightful dreams" are abundant. One gentleman, who came six thousand miles, thinks the journey not too long for the result.

It has, notwithstanding, its rivals. The chloride of carbon, the chloride of olefiant gas, and the bromide of ethyl have been proved to be safe, pleasant, and efficient anesthetics. Even the common coal gas has been stated to be a useful anesthetic, and one which, in an emergency, might be used to advantage. Though chloroform and ether still remain as much in favor as ever for capital operations, for dentists' use and minor operations the above mentioned anesthetics are becoming quite popular, as substitutes for laughing gas.

"SMALL POTATOES."

There has been a tendency in all ages, and among a races of men, to attach to certain expressions a pregnant meaning, differing entirely from the literal signification of the phrase, but which, in its figurative or "slang" sense, is exceedingly forcible. The expression, "It will do to tie to," grew out of the practice of fastening horses to small trees in unsettled portions of the country, and it has come to be applied to individuals as expressing all those qualities of honor, truth, and stability, which render men worthy of confidence. In the same way has the expression "small potatoes" come to mean defective morals, want of talent, and general instability of character.

The world is full of grumblers, who declaim against the fickleness of fortune, the favoritism shown in the advancement of men to places of honor and profit, the neglect of merit, and the injustice of Providence. Envious of the so-called good luck of others, instead of setting themselves steadily and persistently to bettering their condition, they cultivate a morbid feeling of disgust at their lot and their work, and become mere time-serverers. In other words, they are, and will always remain, small potatoes, of the meanest sort. Grumbling of this kind is one of the principal characteristics of the human small potato. A man may possess mind, education, and other qualifications for high station, but if he does not possess his soul in patience, and do what his hands find to do with his might, biding quietly the time and opportunity for improving his condition, he is small potatoes notwithstanding. When the basket is shaken—as it is sure to be—no matter how many smaller potatoes may have obscured his merit, it will finally be discovered, and if really great, it will be all the more prized, because it has lain so long unnoticed.

The qualifications for high and responsible positions are various as the positions themselves; and a man may often possess brilliant talents, and yet lack some apparently minor but all essential endowment or acquirement without which a particular place must be forever inaccessible to him. It may be accuracy, it may be a reputation for probity, tried and tested by service in other subordinate but responsible positions, or judgment matured by experience; whatever it is it must be acquired before he can reasonably expect corresponding promotion. If a young man feels that he possesses the necessary ability for success in learned professions, yet lacks the courage to endure the self-denial which is usually to be expected at the outset of a career in any of them, he is small potatoes, and will probably go through life with the feeling that he might have made some noise in the world had not cruel destiny been so unfavorable to his youthful aspirations. So if a young man lacks courage to live within his income, and allows himself to become a slave to debt, he is small potatoes, and the chances are much against his ever being anything else. As a straw at the source of a river may change its current, so a single act at the outset of business life may direct its entire course. Only the greatest minds can reclaim a misdirected life, and secure success in spite of the lost opportunities, and accumulated difficulties resulting from it.

We do not believe that men often fail to reach their proper level; and it is fair to infer, that, when a person is found at mature years occupying a very inferior position, that there was something about him that made him small potatoes. The exceptions to this, if there are any, only prove the rule; and it may be said to be as certain as any principle in business can be, that, in any profession, good ability, close application, and patient courageous effort, during the day of small things, will ultimately be rewarded by success.

**IMPROVEMENT IN WATER WHEELS.**

It is rare that it falls to our lot to notice a patent so simple and so obviously useful that it can be fully described without engravings. In this case, however, we are enabled to do this, as the improvement does not relate to the general structure of water wheels, but only to the prevention of the oxidization of iron wheels, without reference to their form, and also to the reduction of the friction of the water upon the working parts of such wheels. The improvement is the invention of Mr. James P. Collins, of Troy, N. Y., and consists in enameling all portions of any water wheel exposed to the action or force of the water with some suitable material, or combination of materials, thereby giving a smooth and glazed surface, over which the water flows with greatly diminished friction, of course adding proportionally to the efficiency of the wheel. It is obvious, also, that all chemical action of the water must be entirely prevented by such a coating. The patent upon this improvement does not limit the inventor to any particular silicious substance or combination of substances, and he is at liberty to use any materials for the purpose above described that he may find upon experiment to be useful. The inventor does not intend to confine the application of this improvement to the wheels of his own manufacture, but will dispose of rights to manufacturers of water wheels throughout the United States. All applications should be made to J. P. Collins, Troy, N. Y.

**The New English Ironclad.**

The shipwrights at Chatham dockyard, England, commenced laying the blocks and ways for the new armor-clad turret ship *Glatton*. An exchange says, "The drawings and plans received at Chatham dockyard from the Admiralty, show the *Glatton* to be a vessel of 2700 tons burden, with a length of 245 feet, and a breadth of beam of 49 feet. It is, however, in her armor plating that she will surpass in defensive powers every ship yet constructed; it being intended to plate her with armor 12 inches in thickness along her most exposed parts, while on her turrets the *Glatton* will carry armor 14 inches in thickness, laid on a 10-inch backing of teak, with the usual inner "skin" plating. Unlike the *Monarch*—the deck of which is encumbered with a topgallant fore-castle—the single turret of the *Glatton* can be directed towards every point of the compass. Her offensive will, at the same time, be on a par with her defensive powers, it being intended to arm her with a couple of 25-ton guns—the most formidable armament yet given to a vessel of war.

**What Breaks Down Young Men.**

It is a commonly received notion that hard study is the unhealthy element of college life. But from tables of the mortality of Harvard University, collected by Professor Pierce from the last triennial catalogue, it is clearly demonstrated that the excess of deaths for the first ten years after graduation is found in that portion of each class inferior in scholarship. Every one who has seen the curriculum knows that where Eschylus and political economy injures one, late hours and rum punches use up a dozen; and that the two little fingers are heavier than the loins of Euclid. Dissipation is a swift and sure destroyer, and every young man who follows it is, as the early flower, exposed to untimely frost. Those who have been inveigled in the path of vice are named "Le-gion," for they are many—enough to convince every novice that he has no security that he shall escape a similar fate. A few hours of sleep each night, high living, and plenty of "smashes," make war upon every function of the human body. The brains, the heart, the lungs, the liver, the spine, the limbs, the bones, the flesh, every part and faculty, are over-taxed, worn, and weakened, by the terrific energy of passion loosed from restraint, until, like a dilapidated mansion, the "earthly house of this tabernacle" falls into ruinous decay. Fast young man, right about!

**Singular Optical Effect of Certain Sounds.**

A correspondent from Michigan writes, that whenever he hears sounds of a certain bell in his neighborhood, he experiences a sensation of flashes of light, or, rather, shadows, which, upon the ceasing of the sounds, give the effect of flashes of light upon the eye. The phenomena are doubtless to be referred to reflex nervous action. The sense of sight is more liable to such reflex effects than any other, often being affected by disturbances in remote organs, as, for instance, the stomach. Instances are on record where sight was so depraved by disordered digestion, that apparitions of people, distant places, etc., were seen by the patient, these symptoms entirely disappearing upon the removal of the disturbing cause.

**JAPANESE PAPER.**—The Japanese manufacture and use paper to as great an extent as perhaps any other nation. There are very few of their industrial operations that do not involve the use of this material. Both for ornamental and useful purposes it seems to be the *sine qua non*. Fans, lanterns, umbrellas, pocket handkerchiefs, cloaks, and windows are made of it. The paper strings and hats lately introduced into this country have been in use for centuries in Japan.

**OFFICIAL REPORT OF PATENTS AND CLAIMS**  
Issued by the United States Patent Office.

FOR THE WEEK ENDING SEPTEMBER 1, 1868.  
Reported Officially for the Scientific American.

PATENTS ARE GRANTED FOR SEVENTEEN YEARS, the following being a schedule of fees:—

On filing each caveat.....	\$10
On filing each application for a Patent, except for a design.....	\$15
On issuing each original Patent.....	\$20
On appeal to Commissioner of Patents.....	\$20
On application for Reissue.....	\$30
On application for Extension of Patent.....	\$30
On granting the Extension.....	\$50
On filing a Disclaimer.....	\$10
On filing application for Design (three and a half years).....	\$10
On filing application for Design (seven years).....	\$15
On filing application for Design (fourteen years).....	\$30

In addition to which there are some small revenue-stamp taxes. Residents of Canada and Nova Scotia pay \$500 on application.

Pamphlets containing the Patent Laws and full particulars of the mode of applying for Letters Patent, specifying size of model required, and much other information useful to Inventors, may be had gratis by addressing MUNN & CO., Publishers of the Scientific American, New York.

**81,572.—FLEXIBLE PIPE-JOINT COUPLING.**—Squire Ainsworth, Pittsburg, Pa.

I claim, 1st, A pipe connection, consisting of a conical recess in the end of one pipe, and a trussum of a cone at the termination of the end of the other, said pipes being so held together, by a clamp or other means of support, as to permit the rotary movement of one or both of the said pipes without variation from the plane of said movement, all as and for the purpose heretofore described.

2d, In combination with the foregoing, the spring-hinged coupling nut constructed substantially in the manner described, for the purpose specified.

3d, The chain, G, in combination with the spring coupling, C', substantially as and for the purpose set forth.

**81,573.—RAILWAY CHAIR.**—Samuel T. Alexander, Pittsburg, Pa.

I claim a railroad chair, composed of a bed plate, A, and movable clamping pieces, substantially as and for the purpose set forth.

**81,574.—HAND MILL.**—Eow n Aisop, New York city.

I claim the arrangement, herein described, of the vertical shaft, F, removable grinding cone, H, tapering cylinder, I, corrugated vertically on its inner surface, J, scraper, L, cylinder, K, with discharge orifice, E, wrought-iron frame, A, screw pin, G, shaft, C, by wheel, B, and bevel gearing, D, E, for the purpose set forth.

**81,575.—MACHINE FOR MAKING BARRELS.**—Saxton J. Arnold and Amos F. Clark (assignors to Saxon J. Arnold), Raymondville, N. Y.

We claim the adjustable flanged cone-shaped hubs, C, when provided with twisting pins, F, and springs, F, in the flange, E, in combination with the cone-shaped nuts, G, and screw shaft, A, as herein shown and described.

**81,576.—NON-CORROSIVE VALVE SEAT.**—E. H. Ashcroft, Boston, Mass.

I claim, 1st, An alloy of nickel and copper, in any proportions, as set forth, for the construction of valves or valve seats for steam, &c.

2d, The alloy of nickel and copper, in any desired proportions, for the construction of valves or valve seats for steam, for the purpose set forth.

3d, An alloy of aluminum, or aluminum alone, for the construction of valves or valve seats for steam, for the purpose set forth.

**81,577.—MACHINE FOR COVERING CORD.**—John Bachelder, Norwich Conn.

I claim, 1st, The miter gears, a' a', central shaft, C, supports, A1 A2, bobbin gears, d1, covering-cord carriers, F, guide, J, and gears, I, L, in combination, a d operating so that each thread of a strand is covered with finishing material, and the several strands thus covered, twisted, the finishing material being laid on a converse direction to the twist imparted to the respective strands, all substantially as set forth.

2d, The shaft, e, gears, a' a', shaft, C, sleeve, c', and pinions, c, d, stationary support, A1, geared spool-carrying plates, d1, support, A2, gear, D, covering-cord carriers, F, and guide, J, combined and operating substantially as and for the purpose set forth.

3d, The combination of the above, the winding-and-twisting flyer, constructed and operating as described.

**81,578.—SHUTTLE FOR LOOM.**—Edward Baggett, Fall River, Mass.

I claim the combination, with the spring, A, and shoulder, C, of the spindle of the secondary spring, B, noched, slotted, and sliding substantially as and for the purpose described.

**81,579.—MARKING WEATHER-BOARDING.**—Joseph W. Bailey, New Orleans, La.

I claim the marking of weather boards in the manner herein described, during the operation of manufacturing them in the saw mill, or afterwards, during the process of dressing them in the planing machine, as and for the purpose set forth.

**81,580.—WELL TUBE.**—David Baker, Boston, Mass.

I claim, 1st, The double strainer, D, with intervening filtering material, arranged and operating in combination with or in continuation of a well-tube, substantially as and for the purpose set forth.

2d, The point, B, coupling, C, tube, A, and strainer, D, all constructed, arranged, and operating substantially as and for the purposes above set forth.

**81,581.—WELL TUBE.**—David Baker, Boston, Mass.

I claim, 1st, A conical point, F, formed with perpendicular sides, and with shoulders between the apex being formed with one or more drill edges, the sides, a, being elongated more or less, whereby the earth may be forced at right angles from said point in penetrating the ground, all substantially as shown and described.

2d, The combination of the interior perforated tube, A, and the exterior screen, H, when a chamber is forced between said tube and strainer, substantially as and for the purposes set forth.

3d, The arrangement of the point, F, in combination with the tube, E, and holes therein, strainer or screen, H, and the chamber or space formed between the strainer and tube, arranged and operating substantially as and for the purposes herein set forth.

**81,582.—WELL TUBE.**—David Baker, Boston, Mass.

I claim, 1st, The slide, J, whether placed on the inside or outside of a strainer, in a well tube, so arranged and secured to the point and operating as to leave the woven wire as the only tube near the lower part of the well, substantially as and for the purposes herein set forth.

2d, The combination of slide, J, with strainer, K, well tube, I, and coupling, L, with screw point, M, made and arranged substantially as and for the purposes herein set forth.

**81,583.—MOP WRINGER.**—Myron J. Barcalo, Mount Morris, N. Y.

I claim, 1st, The skeleton frame, B, made up of the hoops, b, b, and standards, c, c1, and having combined therewith the rollers, C, D, D1, and ball or treadle, E, the whole being so arranged as to be applied to the inside of an ordinary pail, as herein set forth.

2d, The combination, with the stationary roller, C, of the pressing rollers, D, D1, mounted upon the rollers, F, arranged as described, and operating in the manner and for the purpose specified.

**81,584.—LANTERN.**—Lewis F. Betts, Chicago, Ill. Antedated August 20, 1868.

I claim, 1st, The spring band, E, for securing the upper end of the globe, substantially as specified.

2d, Constructing a lantern base of two or more sections, D, provided with flanges, F, substantially as and for the purposes set forth.

3d, Securing the flanges and forming the carrying-holes for the guard by means of eyelets at d, substantially as described.

4th, The brackets or ledges, F, for supporting and carrying the guard at a distance from the main portions of the base, substantially as specified.

5th, The rod or ring, J, for strengthening the base and supporting the bracket or ledge without materially obstructing the light, substantially as specified.

6th, The extended guard rods, N, when such extended portion, e, is used for a hook or catch, substantially as described.

7th, The combination and arrangement of the guard, provided with hooks, e, with the brackets, F, substantially as and for the purposes specified.

8th, The spring top, E, in combination with the hooks, e, and bracket, F, for preventing the detachment of the guard, substantially as specified.

9th, The inclines or cans, b, for securing and tightening the lamp, in combination with the pins, c, substantially as specified.

**81,585.—CAN TOP.**—Lewis F. Betts, Chicago, Ill.

I claim, 1st, The inclines or cans, a, when hurred or turned down so as to form the cam on the edge of the metal of which the breast or permanent portion of the top is constructed, and operating substantially as specified.

2d, The handle, f, when projecting through the removable top or cover, B, so that its ends will form the lugs or pins, d, substantially as described.

3d, The permanent portion of the top or breast, A, provided with the cans or inclines, a, in combination with the removable portion or cover, B, and lugs or pins, d, substantially as and for the purposes specified.

**81,586.—CHURN DASHER.**—A. T. Bleyley, Conception, Mo.

I claim, as a new article of manufacture, the churn dasher, consisting of the inverted funnel shaped tube, A, B, dish-shaped perforated flange, C, and radial wings, D, all constructed and arranged to operate as herein shown and described, for the purpose specified.

**81,587.—DECOLORIZING TANNIN LIQUID.**—George Bossiere, Paris, France.

I claim, 1st, The use of the herein named substance, for decolorizing tannins, substantially in the manner described.

2d, The method of decolorizing tannins, by mixing with it the ingredients herein named, or either of them, in the proportions substantially as specified.

**81,588.—REFRIGERATOR.**—Edwin D. Brainard, Albany, N. Y.

I claim the employment of independent metallic chambers, closely sealed and secured together by clamps, in the construction of refrigerators, substantially in the manner and for the purposes above described.

**81,589.—CHURN.**—Victor M. R. Branch, Richmond Va.

I claim, 1st, The combination of the external dasher, B, with the internal dasher, B', when constructed as shown and described, and revolving in opposite directions as specified, and for the purpose set forth.

2d, The combination of the dasher, B, hollow spindle, D, and pinion, F, with the dasher, B', spindle, C, and pinion, G, all as and for the purpose specified.

**81,590.—APPARATUS FOR CARBURETING AIR AND APPLYING THE SAME.**—Arthur Brin, Paris, France.

I claim, 1st, In apparatus, such as described, the combination, with the fluid reservoir and carbureting chamber, of an interposed feeding vessel, connected with both the reservoir and the carbureting chamber, in the manner described, and communicating with the latter by means of wicking, which supplies the quantity of fluid required to charge the air in said chamber, as set forth.

2d, The combination, with the feeding vessel, and trough formed therein for receiving the liquid from the reservoir, of a series of siphons, of graduated length, and racks, and pinions, and shaft for elevating or lowering said siphons, and thus regulating the flow of the liquid to the carbureter, in the manner shown, and specified.

3d, The employment, in connection with an apparatus such as described, of a blow pipe, to draw air from the carbureting chamber, and from the gas-generating chamber, are supplied, substantially in the manner described and illustrated in fig. 5.

4th, The combination, with a tubular boiler, of two series of nozzles, arranged with relation to each other, and the boiler flues, as represented in fig. 6, the one series communicating with a blower or air supply apparatus, and the other with the gas-generating chamber of the carbureting apparatus, substantially as and for the purposes set forth.

**81,591.—ORGAN PIPE.**—George H. Brock, Huntington, N. Y.

I claim, 1st, Constructing an organ pipe of a curved plate, A, held between the cheeks, B, as set forth.

2d, The plate, D, for guiding the wind from the wind chest against the mouth of a curved organ pipe, as specified.

3d, The pendant arrest-r, d, arranged in the curved organ pipe, substantially as and for the purpose herein shown and described.

**81,592.—ADVERTISING SHOW-FRAME.**—William P. Brown, Watertown, N. Y.

I claim the bulletin frame, as constructed of the outer frame, A, and inner frame, d, the latter divided by sash strips, a, and provided with panes of glass and removable backs, B, the frame, A, having moings and fastening devices, adapted to secure the sash strips, all arranged substantially as herein shown and described, for the purposes specified.

**81,593.—SAFETY ATTACHMENT FOR EGG-CARRIER.**—Abner H. Bryant, Wilmington, Del.

I claim the frame, with its cloth bottom arranged and constructed, as shown, as a safety attachment for the suspension egg carrier hereinbefore mentioned.

**81,594.—HAND SPINNING MACHINE.**—J. W. Burkhart, Cameron, Mo.

I claim the combination of the pulley, B, tightening pulley, f, provided with its adjustable support, e, pulley, o, and multiplying wheel, C, and spindle, D, and adjustable support, E, of the same system constructed and arranged substantially as and for the purpose described.

**81,595.—SPOKE-TENONING MACHINE.**—A. Harvey Calhoun, and George W. Collins, West Lebanon, Pa.

We claim the cutters, i, n, attached to the adjustable straight bars, m, and the curved braces, O, all suspended from the upper cross bar, a, of the sash frame, and constructed, arranged, and operating as herein shown and described.

**81,596.—ANIMAL TRAP.**—Alexander Campbell, Oxford, Ind.

I claim the latch, E, and hinged plates, F, having tongues, a, a' (apt to swing with the centrally pivoted platform, A, and arranged with relation to the notches, plate fixed to frame, D, as herein shown and described).

**81,597.—CORN-PLATE.**—S. O. Campbell, Leavenworth, Kansas.

I claim, 1st, The seed boxes, F F, arranged in combination with the shoes, I, I1, I2, K, K, frames, L, and springs, M, with the projections, m, on the wheels, substantially in the manner and as for the purpose set forth.

2d, The clutch, composed of the two notched plates, D, D', on the axles, C, C', and the sliding or adjustable plate, E, provided with the arms, c, c, and placed on the axle, C', all arranged substantially as and for the purpose specified.

**81,598.—BASE BALL TALLY-BOARD.**—Thomas L. Canary, Brownsburg, Ind.

I claim, 1st, The use of the wire pins and variously colored balls, as represented at D and C, for keeping game in base ball playing, substantially as described.

2d, The use of movable or adjustable pins for keeping a game, and the method of clearing the ball from the pins, substantially as described.

3d, The arrangement of the pins on the board, substantially as and for the purpose set forth.

4th, The slate, or other marking surface, in combination with the pins and ball, substantially as and for the purposes set forth and described.

**81,599.—CHURN.**—N. P. Chaney, Potsdam, N. Y.

I claim the combination, with the tubular beaters D, of the arm, B, provided with the scrapers, o, b, substantially as and for the purpose described.

**81,600.—ROLLING-MILL.**—Joseph L. Chapman, Philadelphia, Pa.

I claim, 1st, The arrangement of three smooth conical rollers, rotating in different places, and operating in the manner described, to form and feed the roa simultaneously, as above specified.

2d, The adjustment of the rollers, C' C', to form rods of different sizes, by means of ball and socket joints at one end, and the set screws and journal boxes at the other end, substantially in the manner shown and set forth.

**81,601.—INTERFERING STRAP FOR HORSES.**—Edwin Chesterman, Boston, Mass.

I claim leather interfering straps, in combination with rubber guards or projections, as herein shown, for the purpose specified.

**81,602.—LOCOMOTIVE SPARK ARRESTER.**—Ira Choate, Exeter, N. H., assignor to himself and Daniel I. Lee, Boston, Mass.

I claim, 1st, The construction and arrangement of the tube, A, smoke stack, E, cover, D, and air apertures, a a a a, substantially as shown and described.

2d, The coupling, C, B, cord or band, d, and guides, c c, substantially as shown and described.

3d, The coupling, C, B, constructed as described.

4th, The arrangement of the cord, d, and guides, c c, substantially as described.

**81,603.—VELOCIPEDE.**—Andrew Christian, New York city.

I claim the operating device of a velocipede, consisting of the bell crank levers, G, H, one having a vertical and the other a horizontal lever end, and of the rods, m, i, and crank, b, all made and operating substantially as herein shown and described.

**81,604.—CLOTH GUIDING ATTACHMENT FOR SEWING MACHINES.**

—Jas. Chme (assignor to John Walls, Eaton, Ohio).

I claim the revolving holder, D, constructed as described, in combination with pin, B, standard, A, and spring, C, as and for the purpose described.

**81,605.—DISTILLING APPARATUS FOR SPIRITS.**—J. C. Cooksen, Lancaster, Pa.

I claim, 1st, An extra vessel III, with its chamber, A, in combination with the chamber, B, and its perforated bottom, and an upper chamber, C, with its conic head and central pipe, 9, pipes, 7 and 6, issuing from their respective departments, in the manner shown and specified for the purpose set forth.

2d, In combination with said extra vessel, III, with its chambers, A, B and C, the snail, D, with its pipe, 10, sleeve, 8, faucet funnel, d, mounted and arranged substantially as described.

3d, The chamber, F, when combined with the worm of the condensing vessel and the extra vessel, III, by means of the several pipes, 6, 7, 8 and 9, substantially arranged in the manner and for the purpose specified.

**81,606.—DRYER.**—Cordial Crane, Boston, Mass.

I claim, as a new article of manufacture, a clothes-drying closet, constructed with doors and pivoted racks, and provided with inlet passages to receive heated air from register pipe, and with outlets for the escape of heated air saturated with moisture, all substantially as and for the purpose described.

**81,607.—SLOTING AUGER.**—Peter Cunningham, Eckley Pa.

I claim a mortising or slotting auger, having rows of gouge or chisel flutes formed on the edge of the twist, substantially as described for the purpose set forth.

**81,608.—MACHINE FOR GRINDING METAL ARTICLES.**—J. P. Curtis, New Britain, Conn.

I claim, 1st, The arrangement of a series of clamping jaws, a, in the holder, A, substantially as and for the purpose set forth.

2d, The holder, A, made in two parts, one part being fitted into the carriage