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NEW YORK, WEDNESDAY, SEPTEMBER 2, 1868.

Contents:

(Illustrated articles are marked with an asterisk.)

REFORM IN THE PATENT OFFICE.

Congress, at its last session, voted to take away the surplus fund of the Patent Office, and passed an act appropriating the sum of $250,000 to pay its current annual expenses, and simply for the good reason that during some years past the financial affairs of the Office have not been conducted with skill and economy. It appears from a report now before us of a Committee appointed to investigate the matter of printing done by authority of Commissioner Theaker, that within the space of two years the large sum of $181,000 was expended upon the items of books, paper, and printing, and among other transactions of a doubtful character, $48 per thousand were paid for manilla envelopes having the Commissioner's frank printed thereon. The expenses of the Office also ran up from $274,199, in 1865, to $639,293 in 1867. We conclude, from these and other items in the Committee's report, that Congress was justified in interfering to prevent an extension of this system of wasteful—we might almost say criminal—misuse of the patent fund.

For some reason the surplus fund of the Patent Office—taxed out of the pockets of inventors—has furnished an easy opportunity for our Commissioners to gratify some very luxurious notions, as any one may see by a visit to the barbaric upper gallery, decorated under the supervision of Commissioner Holloway, whose knowledge of fine art must have been acquired in studying the faces and baskets of the aborigines who migrated west of the Mississippi before railroads had introduced a more refined and civilized art.

However, that job is done, and paid for, and we cherish the hope that it may long remain a curiosity to all beholders. We submit, however, that the sum of $250,000 is not enough to meet the necessary annual expenditures of the Office. The present pay-roll amounts to $340,000, to say nothing of the contingent expenses, which are considerable.

Commissioner Foote assumes the duties of his position hampered by the effects of mal-administration and a procrastinating policy which well nigh destroyed the good name and efficiency of the Patent Office.

We are happy to be assured, however, that the new Commissioner is bending all his energies towards introducing much-needed radical reforms. He has already cut down needless expenditure, and with a careful weeding out of all blockheads and suspicious characters—if there are any—to clog the business, and betray its sacred trusts, the public may expect to see the Patent Office restored to its ancient vigor and recognized usefulness. Commissioner Foote has the ability and energy to put the house in order, and inventors may safely repose confidence in his integrity and firm purpose to administer the affairs of the Office, not only in a generous spirit, but without fear or favor.

THE VALUE OF EXPERIENCE IN THE MECHANICAL ARTS.

While it may be conceded that "success is the measure of ability," it may not be improper to ask, "What are the conditions which produce the ability necessary to success?" Only one of these conditions we propose to speak of; that is experience, and necessary to experience is time. Many a young mechanic wonders why he, when he can do as good a job as an "old hand," cannot receive as much pay. If a machinist, he may do a job at the lathe, or on the planer, as perfectly as he who has grown gray in the business, and he wonders why the "old man" should receive more for his work than himself. To him it appears that the business is easily learned, that there are no secrets of the methods of doing the work withheld from him, and he knows that in some respects he is fully equal to his senior. So he is, ordinarily, and it is not strange that he should chafe under the fact that his work is not so well rewarded as the same work when performed by a veteran in the business. But he forgets that while he may be able to put through a plain job as effectually and rapidly as an old hand, he lacks the experience, the maturity of judgment, the fund of resources valuable in exigencies, which the experienced workman possesses. These old men are invaluable. They "know whereof they affirm." Years of practice have made their manipulations perfect, and no amount of attention and sheer endeavor alone can ever take the place of the experience which can be gained only by time.

We remember an old bald headed and white bearded man, whose sole business in the shop, at a time when the file held a much higher and more important place than now, was to fit the gibs and keys for the straps of locomotive connections. He worked, as became his age, moderately—little by little, like a "day by day" machine—never hurried, never driven. But when night came his bench showed a goodly result in amount, and a better result in quality of work. None of his jobs ever came back, like curses to roost with him. What he did was well done. Continual practice, careful attention, and, above all, the experience gained by years of practice, made him, as a filer, as nearly perfect as one could hope to be. He was also the recourse of "boss" and hands in any and every emergency, and he never failed to meet the difficulty and to show the way out or over it. "Smartness" will not do as preferable to experience. Youthful confidence, and self-sufficient assurance, are not the conditions or qualities which prove useful when emergencies and accidents arise or occur. To be a good mechanic one must be an *experienced* mechanic. Ability, talent, and earnestness, are necessary to success; but experience—the wisdom gained by years—tells. The young mechanic should not feel harshly toward those whose years make them his masters, but strive to overtake them and antedate their success by his more careful attention to the details of his business. If he does not succeed in this, immediately, he can assure himself of gaining, in time, as good a name and as pleasant a position as that of those whom he now envies.

OPTICAL ILLUSIONS.

We place more dependence upon the evidence of the senses than facts will warrant. The senses are not infallible guides to truth; they frequently mislead on occasions and at times when it would seem the conditions were most favorable to their normal and proper exercise. The state or condition of color blindness—incorrectly designated—is one evidence; as when one mistakes one color for its complement, even a green being mistaken for a red. This extreme case may not be often noticed, but it is quite a common fact that a person cannot distinguish between scarlet and crimson, or orange and yellow. These faults of vision may be laid to an organic defect; for it is well known, for instance, that the best painters—the best colorists—are those who have blue, gray, or light eyes. The black eyes may be excellent for seizing upon the forms and dimensions of objects and the relative proportions of parts; but they cannot well determine the shades of color. Scarlet is no more like crimson than it is like orange. Nor is yellow either like orange or green. Violet is not blue, nor is purple either red or blue. Shades of color formed by the combination of the original prismatic tints must bear some distinctive names, and by these names many recognize them, rather than by the use of the eye. It has become the fashion to affix arbitrary names to shades of color which are calculated to mislead. The bismark and cuir is merely what was known years ago as snuff or light brown. Magenta is merely a cross between crimson and purple. In short, the gamut of colors is capable of as much extension and change as the gamut of the musical scale. And music and colors are very closely allied. The one suggests the other to many persons of very sensitive organizations. We remember a man who always asserted that white suggested to him the note, A, the key of three sharps; red, F; and blue, E flat. This may have been merely a fancy or the product of a too vivid imagination; but how often do our fancies and whims prove, on investigation, to be founded on fact.

The mirage, either on land or sea, is a notable instance of optical illusion. We have stood on the beach at Lynn, Mass., and seen Egg Rock and the point of the promontory of Nahant apparently within a stone's throw of the point of observation, while, in fact, they were more than a mile away. Vessels, also, which, when the atmosphere, changed by the sun's rays, were invisible, were shown clear above the surface of the sea.

A friend related the other day a most singular experience. He was crossing the western plains and saw distinctly a broad stream, fringed with trees, and having dwellings on its banks, so plainly described and fairly presented that he urged his horse on to reach what, to him, was a paradise, but found only bare sand.

These appearances are not to be attributed wholly to the exercise of the imagination, and no explanation, founded on the law of optics, has, as yet, been made, which seems to meet all the conditions and explain all the difficulties necessary to be removed to reach a solution. It is evident that the sense of sight is not always reliable.

Is it not possible that some railway accidents, now attributable to culpable negligence or carelessness in the management of switch signals, are really occasioned by this defect in the eye which prevents the distinguishing of colors?

THE TRANSATLANTIC STEAMSHIP COMPANY.

The report of the Transatlantic Steamship Company, recently made public, contains many items of general interest. This company own three lines of steamships running between Havre, Brest, Saint Nazaire, and America. The first line runs directly from Havre and Brest to New York; the second to Havana, St. Thomas, Vera Cruz, and New Orleans; the third to Guadaloupe, St. Thomas, Guaymas, Venezuela, Aspinwall, and Panama. The second of these lines has suffered somewhat in its business from the suspension of trade consequent upon the evacuation of Mexico by the French, the recent earthquakes in St. Thomas, and the prevalence of yellow fever last year in Louisiana. It is proposed by the company to establish a line to the Pacific States of South America, as it is believed that they will thus secure a trade amounting annually to $26,000,000. A monthly line is also to be established between Panama and Valparaiso, including the intermediate ports. Upon this line are to be placed three new steamers, each of 3,000 tuns burden, and with an engine nominally of 450-horse power.

The business of the company has been constantly on the increase since its first establishment. It owns in all twenty-one steamships, with an aggregate of 80,000 tuns capacity. They are gradually substituting screws for the side wheels formerly used upon their steamers. Each steamer to New York is to have a new condenser and to be provided with a double screw, which, from their experiments with it on the *Washington*, the company feel confident, will give excellent results. The *Washington*, on her last trip to Vera Cruz, ran at an average speed of over 12 knots per hour, thus making a reduction of three days and nights over the average trips of other steamers on the same line.

The company has introduced another improvement invented by M. Foucaut, the Doctor of the *Europe*. It is called an electrical speaking telegraph. By its use orders can be transmitted instantaneously to all parts of the vessel, and the ship is worked without a word being spoken. Several seconds are said to be gained by this apparatus in the transmission of orders, an important consideration in some emergencies, as the abrupt meeting of two vessels in a fog. This apparatus is in use upon the *Europe*, and it is soon to be adopted by the French Government to be applied to the service of artillery in place of the speaking tube now in use. That it will wholly supersede the old system of giving orders in the working of vessels is however improbable.

THE CATTLE PLAGUE.

The accounts of the plague which has caused such devastation among the cattle in different parts of the United States, particularly in the West, have probably been somewhat exaggerated to subserve the purposes of speculators. Making due allowances for this fact, the disease has been, without doubt, a terrible reality, all the more to be dreaded, from the universal ignorance in regard to its cause, method of propagation, and cure. The only thing which can be said to be known in regard to it is, that it can sometimes be prevented by the use of disinfectants. Many take strong grounds in favor of the contagious character of the disease, while others, among whom may be mentioned Prof. Gamgee, of the Veterinary College in London, now in this country, maintain the opinion that it is not contagious. Some strange and inconsistent statements are made about the complaint as it prevails in the West; one of which is that the Texas cattle do not manifest the symptoms of the disease themselves, while they impart it to others when brought in contact with them. A tour of inspection having been fixed upon by the Pork Packers Association of Chicago, Prof. Gamgee, accompanied by Mr. M. E. Ricardson, have visited Tolono, Farina, Cairo, and other infected points, and give the following conclusions as the result of their observations:

First:—We have not to deal with a contagion or an infectious plague, but with a form of poisoning, due to the native cattle eating off lands polluted by droves of Texan steers.

Second:—We fail to find a single case of disease beyond the limits over which the Southern stock has been distributed, and every animal, without exception, dies on the Texan trails.

Third:—No system of medical treatment can be relied on or conveniently applied. Plagues call for preventives, and are not among the curable maladies.

Fourth:—Prevention consists in herding native stock on inclosed pastures wherever Texan cattle exist, and then not moving the Texan herds to and fro, as panic-stricken communities insist on, but keeping them well by themselves and in proner inclosures.

Fifth:—In relation to the trade in Texan cattle, which is as important for the meat consumer of the North as for the cattle producer of the South, it is obvious, from all we have learned, that during the entire winter the trade can go on unchecked, without the least danger of disease arising among our native cattle. In all probability, however, the theory is sound which was suggested at our last meeting, that even in summer, under judicious treatment, Texan steers can be cleared of the poison which infects them.

The chief disinfectant relied upon is carbolic acid, the nature of which is fully described in No. 4, current volume of the SCIENTIFIC AMERICAN, and it is recommended to use the crude and cheap fluids known as heavy oil of coal-tar, or the coal-tar itself, upon yards, paths, and all the droppings and manure. The cheapest kind of carbolic acid will be best upon the floors and sides of cattle cars. There should be a complete coating or wash of these sprinkled over the entire surface that is to be disinfected. Grounds and paths should first receive a thin coating of quick-lime, and upon this sprinkle the heavy oil of the tar from a common watering-pot. The floor and sides of foul cars should be thoroughly moistened with carbolic acid. It may be applied with sprinkler or brush.

Manure heaps and droppings from Western cattle should be carefully disinfected with a sufficient quantity of quick-lime and heavy oil or crude acid. A barrel or two to the acre of "heavy oil" or of good coal-tar would be a sufficient quantity; and a pint of carbolic acid diluted in 50 parts water would suffice for a 16-head car.

TRIAL OF HALL'S AUTOMATIC ELECTRIC RAILWAY SIGNAL.

On Thursday, August 20th, a number of practical railroad men and prominent mechanics, were invited to witness the operation of the above mentioned device, which was illustrated and briefly described on page 277, Vol. XVI., SCIENTIFIC AMERICAN, and patented through this agency. In this case, the apparatus was located on the west side of the Chest-

nut street station, of the New Jersey railroad, in Newark, N. J., and is operated by any one of five switches with which it is connected, the one furthest from the signal being at a distance of 3,000 feet. The signal box is a structure of a a pyramidal form, having at the top a disk, glassed and surrounded with a broad black border. A vault, or cellar, under the structure contains a battery which is defended from changes of temperature by being thus sunk in the earth, and from which lead the insulated wires, buried in the ground, beyond the reach of frost, alongside the track, and having terminations at each switch connected with the signal.

The signal itself is simply a disk of red stuff (merino) balanced on one end of a vibrating lever, held in place by the armature of a magneto-electric battery. It is so delicate in operation that the slightest movement of either of the switches, whatever the distance from the signal, produces a movement of the signal; and a connection between the metallic plates representing the poles of the electric current, was made by means of the head and point of a common toilet pin, which easily and instantaneously moved it.

At this place, on the New Jersey Road, which here crosses seven or eight streets, the trains run at full speed in coming into the city, and it is necessary that every means should be used to guard against accidents. This device, having been in use on a portion of the New York and New Haven railroad for more than eighteen months and never having failed in a single instance, was adopted by the New Jersey Railroad and Transportation Company on the most exposed portion of their line, and has proved, by the testimony of Mr. Smith, the section master at that end of the line, and a railroad engineer of some twenty or more years experience, to be absolutely reliable under all circumstances.

The results of the trials made on the occasion referred to were so convincing, as to the advantages of this device, that the unanimously expressed opinion of the gentlemen present was entirely and wholly favorable. Its applicability to bridge draws as well as railway switches, its non-liability of getting out of repair, certainty of action, and simplicity of construction seem to prove its value for general adoption on our railways, as a preventive of the loss of life and destruction of property occasioned by misplaced switches and open drawbridges. It is in use on the New York & New Haven, New Jersey, Morris & Essex, and is being introduced on other roads.

OBITUARY.

JEREMIAH CARHART.

We have often been called upon lately to record the deaths of distinguished men who, by their inventive genius, have greatly added to the general wealth and prosperity of the country. We have again to perform this sad duty for Mr. Jeremiah Carhart, of this city, an esteemed client, a worthy citizen, and successful inventor, who died at his residence, No. 216 East 19th street, on the 16th inst. Previous to 1846, at which time the firm of Carhart & Needham was formed, Mr. Carhart devoted years of experiment to the improvement of the melodeon, which was at that time an inferior instrument, both in quality of tone and power. In that year he took out a patent for an improvement upon this instrument, the nature of which consisted in drawing the air through the reeds into a bellows, instead of forcing the wind through, out of the bellows, as had been previously the case. Trifling as this change may appear to be to those not familiar with the mechanism of these instruments, it revolutionized the whole business of melodeon manufacture, and so changed the character of the instrument, that the plan has been universally adopted. Having been eminently successful in this improvement he next turned his attention to the perfection of the reeds, or thin strips of metal, the vibration of which produces the tones of the instrument. In this he was also very successful. He invented a machine that would make, rivet, and plane these reeds to the proper size and thickness, and followed up this improvement by the invention of a "tube board" to hold them when finished. Soon after he invented a new reed, the peculiarity of which is, that it is held by its thickness and not by the edge, as had been previously the case. He also invented a machine for riveting the reed to the block which does the work of twenty men with far greater accuracy than it could be possibly done by hand. Another of his inventions was an automatic machine for cutting the cells in the reed board, which is such a marvel of ingenuity that it has been ranked with the celebrated Blanchard lathe. This machine is not only capable of cutting in straight lines, but it carves scrolls with a nicety and rapidity entirely unequaled by hand labor.

His improvements gave the firm the monopoly of the reed manufacture, it being divided with two other firms, which paid a royalty for the privilege. The instruments manufactured by this firm, early took, and have always maintained, a leading rank in the trade.

Mr. Carhart was an industrious, honorable man, and a genial warm-hearted companion. His business success was well merited, and his death will be lamented by a large circle of friends and acquaintances.

CAPT. COMSTOCK.

We regret to announce the death of Capt. Joseph Jesse Comstock, who was widely and favorably known as the commander of the steamer *Baltic* and other vessels of the Collins line. Capt. Comstock died at his residence in New York city on the 16th inst., from an attack of pleurisy. He commenced his nautical career, as a boy, on a Long Island schooner. After having served four years on a ship in the China trade, he took the position of first officer on a Liverpool packet. Subsequently, he commanded a steamer on the Long Island Sound, and remained upon that route until 1850, when he entered the service of the Collins line, remaining in it until its suspension, after which he commanded at different times the *Baltic* and the *Adriatic*, used as transports by the Government. He delivered to the Russian government the *General Admiral* in 1859, the *Re d'Italia* to the Italian Government in 1863, and the famous *Dunderberg* to the French Government in 1867. He was also for two years agent for the New York and Havre line. Upon the sale of the vessels of that company he retired to private life, to enjoy only for a brief season the fruits of an active and useful career. He was an able seaman, and his death will cause pain to many who are indebted to his superior skill for safe and pleasant voyages across the stormy Atlantic, as well to a nearer circle of friends.

CHANGES IN THE PATENT OFFICE.

COMMISSIONER FOOTE, of the Patent Office, has promoted Samuel Duncan, First Assistant Examiner, to special duty in the Commissioner's room as his assistant, and V. D. Stockbridge from a clerkship to be Second Assistant Examiner. James L. Norris and Charles Page have also received promotion to the Examining Corps. J. H. Adams of Boston, has been appointed to take charge of the annual "Patent Office Report," in place of Edward H. Knight removed, rumor says on account of his connection with a Patent Agency. Mr. Adams is a very competent man, and, previous to his removal to Boston, was connected with the Examining Corps of the office for many years.

Editorial Summary.

THE act of Congress amending the Postal Laws declares that it shall not be lawful to deposit in a post-office, to be sent by mail, any letters or circulars concerning lotteries, so-called gift concerts, or other similar enterprises, offering prizes of any kind, on any pretext whatever. In conformity with this law, Postmaster-General Randall has directed that all such matter be sent to the Dead Letter Office, without being returned to the owners. We hope the result may be to rid the mails of a mess of trash, by means of which ignorant people permit themselves to be swindled, in the delusive hope that somehow they may suddenly get rich, by a matter of chance. But will the system work? We doubt it.

IT is a prevalent but mistaken idea in the Eastern States, that there are but few factories in the west. The fact is, that the cities and villages of the west are teeming with busy workshops. For instance, of the cities, St. Louis has over 300 factories and produces nearly $50,000,000 worth of goods annually, and of the villages, Moline, Ill., among other things, makes 50,000 plows of various kinds a year, and has $120,000 invested in shops where a log enters one end of the building and emerges from the other in the shape of tubs, pails and churns.

ONE of the divers employed in ascertaining the condition of the harbor bottom at the mouth of the sewer at the Dry dock of the U. S. Navy-yard, was suffocated to death in the diving bell used for that purpose on the 20th inst. A companion who was with him at the time was also rendered insensible so that his life was saved with considerable difficulty. The bell was not built on the same plan of the one used on the wreck of the *Hussar*, recently described in our columns.

ANOTHER NEW PLANET.—Prof. Watson, of the Detroit Observatory, announces the discovery of another new minor planet, which was made by him on the night of August 16th. It appears like a star of the 10th magnitude, and at twilight on the morning of the 17th its right ascension was 35° 24′, and its declination 0° 48′ south. Its apparent motion is west and north, 34″ in right ascension, and 4′ of arc in declination.

CHICAGO sent forward to the east last year, 48,000,000 bushels of grain, of which ninety-one per cent. went by water, and nine per cent. by rail. Of the millions of bushels of corn which were forwarded east from the same point, ninety-nine per cent went by water. And all this in face of the four and one-half months of suspension of navigation during the season.

DITCHING is something of a feature in farming operations in the west, especially in Ohio. The work is often performed under supervision of the county authorities. The Commissioners of Paulding county, Ohio, have established a ditch eleven miles long, and one has been completed in Wood county, 12 miles long, at a cost of $75,000.

AT the recent hurricane in Mauritius all the railway stations were unroofed, the iron doors of an engine shed were torn from their fastenings, and one of them weighing a tun and a quarter is said to have been blown entirely across the line of the railway. Two spans of an iron viaduct one hundred and twenty feet in length were hurled into a ravine below.

WE would call attention to the advertisement headed "To Coal Oil Manufacturers." From the analysis of Professors Ellet and Everett it is shown that Breckinridge coal yields a very large per cent of paraffine and lubricating oil, placing it measurably out of competition with petroleum and putting it, as regards a market, with sperm oils.

QUEEN VICTORIA has just signed an act of Parliament authorizing a company to lay down and work a street railway in the city of Liverpool. Street railways are a very convenient nuisance in this city.

SOME velocipede amateurs of Marseilles, France, are arranging a long journey with this novel means of locomotion. The velocipedes are to start from Marseilles for Genoa by the Corniche road, and thence to Turin and Susa over Mont Cenis, and back to Marseilles by the valley of the Rhone.

IT was some time since predicted by some geologists, that naphtha would be found in the Caucasus Mountains. It is now announced that this belief has been realized. A boring 276 feet deep has reached a deposit near Knasco, which is said to be yielding a large daily average.

AN IMPERIAL INVENTOR.—We learn through private advices that the Emperor Napoleon has invented a single-rail railway, which is now working satisfactorily between the villages of Raincy and Montfermeil, near Paris. No description of the improvement has yet been published.

IN some of the large railway stations in France, the walls are decorated by large carefully painted maps of the main line, showing also its connections with branch roads.

A "Labor Parliament" is to be held in London, England, to devise measures for securing seats in Parliament for at least a dozen *bona fide* workingmen.

OFFICIAL REPORT OF PATENTS AND CLAIMS

Issued by the United States Patent Office,

FOR THE WEEK ENDING AUGUST 18, 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	$50
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.*

81,060.—DEVICE FOR VENTILATING AND DESICCATING.—E. H. Ashcroft, Lynn, Mass.

I claim the combination of the T-shaped pipe, A, and the inner horizontal one, d, constructed and operated in the manner substantially as shown and described, and for the purpose set forth.

81,061.—SOLES FOR BOOTS AND SHOES.—Alexander Joseph Bassett, Philadelphia, Pa.

I claim a sole for boots and shoes, arranged substantially in the manner and for the purpose specified.

81,062.—SUGAR PACKER.—E. J. Biederman, Brooklyn, N. Y.

I claim, in devices for packing barrels with sugar and other substances, the combination of the forked bar, F, with clamps, G G, and screws, H H, the crank shaft, D, and platform, A, arranged and operating substantially as and for the purpose herein set forth.

81,063.—GAS BURNER.—W. J. Brassington, Brooklyn, N. Y.

I claim, 1st, The valve, A, placed inside of the ordinary gas burner, and operated so as to cut off the force of the gas to the desired quantity necessary to supply a miniature flame, substantially as described.

2d, The valve seat, I H i, formed by the under side of the tip in the ordinary gas burner, against which the valve, A, seats itself, for the purposes specified.

3d, The application of the spiral spring, B, in combination with the valve, A, for the purposes herein specified.

4th, The movable jacket, M, or casing, with the slot, N, in combination with the band, W, for the purposes of receiving the movable glass protector or hood, R, substantially as described.

5th, The combination of the internal movable valve, A, with the elastic packing, F, and plate, G, and screw, D, or their equivalents, substantially as shown and described, for the purposes set forth.

6th, The application and use of the spring point, P, attached to the movable jacket, M, or casing, and the notch, K, to receive the same, for the purpose of securing the aforesaid movable jacket, M, or casing in its proper position, when it is raised to protect the small flame, U, or drawn down to permit a full flame at T, as herein specified.

7th, A pull or handle, O, or other suitable device, attached to the movable jacket, M, or casing, for the purpose of operating the same, either up or down, substantially as described and herein set forth.

81,064.—BEARING FOR FLYERS IN SPINNING MACHINES.—Jas. Brown, Pawtucket, R. I.

I claim the within described arrangement of the confining screws, a b, the tube, c, the rail, A, and the oil trough, d, placed underneath the rail, the screws by such arrangement being within the rail, and the oil trough being below, and covered by it, in manner as specified.

Also, the arrangement of the confining screws, a b, the tube, c, the rail, A, provided with oil and air ducts, e f, the oil trough, d, and the oil duct, h, substantially as described.

81,065.—SOFA BED.—Wm. Brown, Worcester, Mass.

I claim, 1st, The combination, with the sofa bed, of the pieces, d d, and the loops, a a', or either, and the spring arms, g g, substantially as and for the purposes set forth.

2d, The combination, with the hinged legs, G G, and loops, a a', of the pieces or legs, H and arms, g, substantially as and for the purposes set forth.

3d, The combined head boards and detachable legs, H, substantially as described.

81,066.—CORN PLANTER.—Jarvis Case, Lafayette, Ind.

I claim, 1st, Connecting the front and rear frames of the machine by means of the flexible plate, t, when said parts are combined substantially as described.

2d, The catch, n, pivoted to the rear frame, and arranged to engage with the bar, U, for locking the front and rear frames rigidly together, substantially as and for the purpose set forth.

3d, The scattering device, arranged in the lower end of the seed tubes, when constructed substantially as described.

4th, The seat, T, when arranged to be adjusted in rear of the axle, or over the front part of the platform, substantially as described.

5th, The combination of the valve, f, pivoted cam g, and sliding arm, i, attached to the seed slides, constructed and arranged to operate substantially as shown and described.

6th, The removable hopper bottom, C, having the cut-off e, attached thereto, when constructed and arranged substantially as shown and described.

81,067.—CAR COUPLING.—Ed. W. Chadwick (assignor to himself and Wm. P. Chadwick), Edgartown, Mass.

I claim the arrangement and combination of the chambered cap, C, with the chambered draw bar, A, the spring, h, and the lever catch, B, made as described.

81,068.—ARTIFICIAL TEETH.—J. W. Clark, Philadelphia, Pa.

I claim, 1st, The arrangement of the double notched pin, P, and the manner of securing the same in proper position by means of notches in dies, 1, 2, 3, 4, 5, and 6, and slide, D.

2d, The manner of arranging the dies, 1, 3, 3, 4, 5, and 6, and drawing them out from the sides of the molds: also, the arrangement of the bolts, B, and thumb screw, S, for securing said dies firmly in place.

81,069.—BIT FOR BORING WOOD.—Ransom Cook, Saratoga Springs, N. Y.

I claim the improved spoon bit, constructed substantially as hereinbefore set forth.

81,070.—LOOM.—George Crompton, Worcester, Mass.

I claim, in combination with angular evener levers and horizontal harness levers, operated upon by such eveners (to bring the jack hooks into line), the rocker links, t, which connect such eveners with the slide rods, substantially as set forth.

Also, in combination with jacks operating upon horizontal harness levers, and with angular lifter and depresser levers operating such jacks, the angular lifter and depresser levers, connected to the slide rods by which they are operated, by the rocker links, n, substantially as described.

81,071.—MANUFACTURE OF COMPOUND OILS.—Francois Louis De Gerbeth, Dalston, England, assignor to Thomas S. G. Kirkpatrick. Dated August 18, 1868; patented in England, November 11, 1867.

I claim the production of an oil resembling linseed oil, and applicable to