



Reported expressly for the Scientific American, from the Patent Office Records.

#### LIST OF PATENT CLAIMS

Issued from the United States Patent Office.

FOR THE WEEK ENDING OCTOBER 29, 1850.

To Bartholomew Bemowski, of London, England, for improvement in Printing. Patented in England Nov. 19, 1846.

First, I claim marking on the shank and foot of types, by any convenient means, such as writing, engraving, casting or electrotyping, the same letter or character which is formed on its upper surface, and also the method herein shown and described, of casting the intaglio letters on the shank and foot of the types at the same time that the type itself is cast.

Second, Making typehaving in combination with the usual letters in relief on the face of the type, intaglio letters on the foot thereof, for the purpose of serving as matrices from which to obtain a polytype plate, while the types themselves will serve for printing.

Third, I claim casting spaces on the sides of ordinary type for the purposes above mentioned as above described.

Fourth, I claim the peculiar mode herein shown and described, of poly-composing either from the ordinary cases, or from what I call the authoriton.

Fifth, I claim the process and apparatus herein shown and described, for facilitating the sorting and distributing of types and spaces, and making part of them of wood and iron, so that the wooden portion may be separated by means of water, the iron ones by a permanent or temporary magnet and the others into three several receptacles by hand, the workmen being considerably assisted in this operation by the type being marked on their sides.

Sixth, I claim the apparatus which I denominate the "Authoriton," and also of the use of copying-sticks, for the purpose of facilitating composition, by which the above described types are brought into a convenient space for composing from as hereinbefore described.

To C. S. Bulkley, of Macon, Ga., for improvement in Electro Magnetic Enumerators for Signals in Hotels, &c.

I claim the manner in which the signal bell and any one of the signal plates can be simultaneously acted upon at a distance from the enunciator, through the medium of the galvanic battery, the series of electro-magnets, and the four wires connected with each other, with the insulated point and the shank of the knob located within the walls of the different rooms, and with the bell and signal plates of the insulator, substantially in the manner herein set forth.

L. G. Goshon, of Shireleysburgh, Pa., for improvement in Winnowing Machines.

I claim the combination of the additional bottom board with the elevated fan and fan case, for the purpose of diminishing the space between the discharging board and screens, for concentrating the blast beneath and in contact with the screens, for the purpose described.

To Nathan Haskins, of Hillsborough Co., N. H., for improvement in Car Couplings.

I claim the improvement whereby the cars are connected or disengaged under the above named circumstances, or, in other words, I claim the combination of the suspended extension pin, with its weighted pin or arm, or any mechanical equivalent thereof, the hinge and buffer socket to which they are applied, the same being constructed and made to operate substantially as set forth.

To Richard Montgomery, of New York, N. Y., for improvement in Corrugated Boilers.

I claim the employment of corrugated plates of metal for forming the curved arches of fire chambers and shells for steam boilers, the corrugations running in the direction of the curves, substantially as described.

To John Morrison, of McArthurstown, Ohio, for improvement in Bedstead fastenings.

I claim the construction and application of a triangular or forked plate of iron made in such a manner as that it can be secured to its place and draw the rail and post firmly together by means of an eccentric or cam, substantially as above described.

To Dan Pease, of Troy, N. Y., for improvement in Rotary Grain Screens.

I claim the construction of a roller screen consisting of a large and fine, and small and coarse part in combination with conductors to carry the grain from the large to the small part for the above mentioned purpose, and substantially as above described.

To Bennett Potter, Jr., of Templeton, Mass., for improvement in machinery for pressing hats.

I do not claim merely so arranging the smoothing irons that they can all, by a single movement be simultaneously brought over the block, I only claim this when the irons are also at the same time and by the same movement, brought into the requisite contact with the top and sides of the crown and with the brim of the hat, to smooth and compress the same, substantially as herein specified.

I likewise claim the devices herein described or their equivalent for rendering the crown iron self-adjusting with respect to the brim-irons, so that the pressure of the crown iron will be co-etaneous with that of the brim-irons without affecting the relative degree of pressure with which they respectively bear upon the surfaces to be smoothed by them, substantially as herein set forth.

To Nathan Starks, of Albany, N. Y., for improvements in machines for making Wrought Iron Car Wheels.

I claim the forging of solid wrought iron wheels, when made by drop and die, the use of a lower die or anvil, made to revolve, during the process of forging horizontally on a central vertical axis, either by hand or by machinery which operates to drop the ram, or hammer, substantially as set forth.

To J. P. Sleeper, of Worcester, Mass., for improvement in Reed Musical Instruments.

I claim the vibration string or strings, wire or wires (four) in their combination with the wind chest, the same being made to be vibrated by the air in its passage in or through the wind chest, substantially as specified.

I also claim the above described extension or elongation of the passage, in combination with the improved arrangement of the reed and valve opening, the said arrangement consisting in placing the reed not directly over the valve opening, but at a distance therefrom, and in said passage, substantially as specified.

To T. J. Sloan, of New York, N. Y., for improvements in machines for nicking the heads of Wood Screws.

I claim interposing a spring between the gripping jaw and the lever or cam by which it is operated, in manner substantially as herein described and for the purpose specified.

I also claim making the spring which is interposed between the gripping jaw and the mechanism which operates it so that its tension can be varied and regulated in the manner and for the purpose specified.

And I also claim causing the gripping jaw to open slightly after it has seized the blank to permit the blank to assume its proper position between the jaws before it is finally gripped, in manner substantially as herein specified.

To H. N. Swift, of Boonton, N. J., for improvements in Spike Machines.

I claim, first, the adjustable cutter when in such position with regard to the dies for holding the spike, that the rod forming the spike is both cut off and the proper bend given to it from the head at one and the same operation, during which the spike is held stationary substantially in the manner described.

Second, I claim the jaw of the swage kept open by a spring, in combination with the moving swage and the stationary swage, the moving swage having an inclined face, which, acting on a similar face on the back of the jaw, closes it for forming the point for the spike, whether placed in front of the revolver, to point the rod, or behind it to point the spike, constructed substantially as described.

#### DESIGNS.

To Laban Eddy, of Taunton, Mass., for design for Stoves.

To Wm. Ballard, of New York, N. Y., for design for Iron Railings.

What I claim is the posts, panel, and marginal grape vine base in form and design substantially and herein set forth.

For the Scientific American.

#### Our Manufactures.

It is a settled fact, that the surplus population of the Middle and Northern States must have employment. The mechanic arts in some form must be cultivated, or beggary will ensue. A great part of American capital, industry, and genius can be employed in reference to no other object. In this we follow in the train of other nations: Great Britain no longer manufactures for the world; she finds her competitors across the channel and the Atlantic. Manufactures may be said to be essential to our national independence and security, and contribute to the wealth, comfort, and embellishment of the land. This conviction is made by a consideration of its natural resources, and the enterprise and ingenuity of its inhabitants. An English manufacturer, who came to America to inspect our rising arts, upon examining specimens of mechanic inventions introduced by "the clever Yankees," into a department where his own exertions had been particularly bestowed, declared that the American market was lost to him forever.

It has been supposed that masses of people thus brought together would become nurseries of ignorance and crime. This apprehension has arisen from the acknowledged character of like establishments in England. But happily for our country, even the evils incident to the system have not been felt; the moral debasement found in the workshops of Britain is owing to circumstances which have no connection with the employment: the manufacturing districts there are decidedly more moral than the agricultural. The surplus population is large, and afflicted with oppressive taxes and neglect of morals and education. The structure of our government and our social institutions forbid such a result. No doubt it is a principle that masses are operated upon more easily for good or evil than a scattered population; but English workmen receive their character, not from the manufactures, but from British aristocracy. The leading characteristics of the English system, and chief source of all its evils, is the employment of families, and constitutes a radical distinction between our system and that: the proprietors of Lowell act on the principle, that private interest is best promoted in the long run by general intelligence and public virtue. Many operatives exhibit an extraordinary extent of acquired knowledge, soundness of judgment and refinement of feeling. In regard to the influence of our manufacturing establishments on the social character of the people, the standard of conduct and attainments is higher than in England; the health of our manufacturing villages is equal to that of the country at large; and there is in every class a disposition to rise above their station. "Wealth and a fair character constitute a title in America:" a Yankee never serves but with a view to obtain the means of becoming a master in his turn. Their influence is also favorable to the intellectual character of the people; it is by their improvements in the mechanic arts and their application to manufactures, that Europeans so far surpass other nations. In an eminent degree, then, will our nation be benefitted, since the means of instruction are accessible to all. The many vehicles of intelligence, entering every hamlet, develop talent and impart a taste for knowledge. The walls of a manufactory cannot shut out this light. Their influence on the religious character of our nation is a vital point. Great is the power of example and sympathy in compact bodies of people having a common interest. The Gospel, in its ministrations, has been signally prospered in these crowded resorts, and this principle has been seized upon by good men for the advancement of the best of causes. Many of the heads of our factories are men distinguished as promoters of religion and temperance; and most are convinced that the operation of evangelical piety is favorable to order, diligence and honesty. Large numbers leaving every year car-

ry with them the spirit they have imbibed, and thus scatter the seed of grace far and near. Let, then, these centres of business, as fast as they rise, become each the seat of churches, and a nucleus of a widely extended evangelical influence. The day will come, and we hail the increasing tokens of its approach, when every labor of science shall be an oblation upon the altar of religion. J. W. O.

#### Shot on Iron Ships---A new Protective.

Some time ago we described some experiments made with shot upon iron ships, in England, when it was found more destructive than on wooden vessels. Since that time a new protective has been tried, and found to succeed admirably. The protective consists of a composition of india rubber and saw dust, invented by a Lieut. Walter, of the navy, and named "Kamptulicon." The experiments were made at Woolwich, on the 4th of last September:

"A target of iron, six feet square, to which the Kamptulicon lining was attached by means of a solution prepared for the purpose, was erected at a distance of forty yards from a 32-pounder. Four shots were fired with the iron surface presented, the third, which fired with a reduced charge, to represent a long range, lodged in the material; and the fourth, which, with still further reduced charge, fell without doing injury at the foot of the target. It was then turned round, with the Kamptulicon lining towards the gun, at which four shots were also fired. The first two passed through with nearly the same effect, opening the iron to a considerable extent, but the lining closed up immediately, so as scarcely to admit the insertion of a small cane at either end, the centre being quite close. The fourth shot, fired with a very reduced charge, rebounded about fifteen yards in a direct line; thus proving that a shot at a long range would not even enter a vessel so lined. It may also be presumed, from the wonderful resistance of the material, and its repellent power, that nothing under a full charge would fire a shot through the two sides. As to its adhesive nature, it occupied a dozen strong men, armed with handspikes and crowbars, a considerable time to detach it from the iron after all this battering. In small portions cut from the different targets were seen large pieces of iron imbedded, which might cause frightful wounds and even death, if scattered amongst the crew."

The inventor claims that, from its elasticity, it will "immediately collapse after the passage of a shot, so as to prevent the entrance of water, thus obviating the necessity for plugs;" and that it will "deaden the concussion caused by the striking of shot, or in firing a vessel's own guns, thus protecting the rivet-heads; that from its buoyancy it will keep the vessel afloat, if riddled with shot, or after striking upon rocks, and will enable her to carry a large supply of coals with a smaller draught of water; and that it will prevent the loss of life caused by splinters, by their retention in the Kamptulicon."

#### Tobacco Culture.

Professor Johnson, in the course of lectures delivered by him, before the New York State Agricultural society, and published by C. M. Saxton, among many valuable facts worth the attention of agriculturists, stated that Tobacco was a crop which contained much mineral matter. Suppose, says Prof. J., an acre to yield 800 lbs.; these 800 lbs. will contain about 160 lbs. of mineral matter, which is carried off by the crop, and in this way the land will soon be exhausted. In four years, 600 lbs. of mineral matter would be carried off from an acre of tobacco land. It is the duty of the farmer to supply the mineral matter, thus specially exhausted, if he wishes to sustain the soil.

#### Extent and Population of London.

The population of London is 1,924,000, the number of houses 260,000. The average number of inhabitants for each house is 7½—far less than in New York. Opposite Pall Mall 800 carriages pass every hour, and on London Bridge 1,300 every hour; 8,000,000 of horses pass over Westminster Bridge in one year.