out perhaps no other art can so well illustrate how, in mechanical contrivances, idea begets idea, and the invention of yesterday gives birth to the invention of to-morrow.

"The apparent insignificance of an invention is no measure of its value. Inventions in the meanest of household arts, such as improvements in washing and wringing machines, have not only contributed most materially to domestic comfort, but have given rise to single manufacturing establishments employing over half a million of dollars of capital. Improvements in articles so trivial as hooks and eyes, and pins for infants' clothing, have been the foundation of patents which have produced tens of thousands of dollars.

"The application of a pencil mark in submarine blasting, and the explosion of military mines by the electric current, enables the operator to dispense with cumbersome and costly batteries and machinery formerly indispensable. A spring for holding the deflector and chimney upon a coal-oil lamp, consisting simply of a bent strip of brass, has gone into universal use, and through a tariff of a few mills upon each lamp to which the invention is applied, has yielded several hundred thousand dollars to the inventor. The more minutely the arts are studied, the more will the conviction be forced upon the mind that, as the distinction between great and small appears to be unrecognized by Providence, the distinction between important and trivial, and useful and worthless, should never be applied to any original work of human ingenuity."

These same observations apply to the whole range of inventions. Indeed without the potent influence of patented inventions civilization would make slow progress.

NEW YORK MARKETS.

[WEEK ENDING MAY 28, 1864.]

Ashes—Pot, $9 75; pearl, $12 75 to $13 per 100 lb.
Beeswax—59c. to 60c. per lb.
Bread—Pilot, navy, crackers, 4¾c. to 8c. per lb.
Candles—Adamantine, stearine and sperm, 22c. to 45c. per lb.
Cement—Rosendale, $1 50 per barrel.
Coffee—Java, 49c. to 50c. per lb.; Rio, 43c.; St. Domingo, 37c. to 38c
Copper—American ingot, 45c. per lb.; bolts, 56c.; Sheathing, 55c.
Cordage—Manilla, 21¾c. per lb.; Russia—tarred, 21c.; American, 17c.
Cotton.—Ordinary, 87c. per lb.; Middling, 97c.; Fair, 101c.
Domestic Goods.—Sheetings, brown standard, 42c. per yard; Sheetings, brown, seconds, 40c. to 41c.; Shirtings, brown, 7-8, standard, 35c; Sheetings and Shirtings, bleached—Wamsutta and New York Mills 41½c. to 42c.; Lonsdale, White Rock, &c., 35½c. to 36½c.; other makers 18½c. to 34½c.; Drills, brown, Amoskeag, 40c. to 41c.; Drills, other, 31½c. to 37½c.; Ticks, York 60c. to 65c.; Ticks, Amoskeag 42½c. to 65c.; Ticks, other 23½c. to 47½c.; Prints, Merrimack 23c.; Prints, Sprague's 23½c. to 24c.; Prints, Dunnell's 22c. to 23c.; Prints, other 20c. to 22c.; Ginghams, Clinton 23c.; Ginghams, other 21c. to 27c.; Cottonades, York 55c. to 70c.; Cottonades, York Mills 45c. to 70c.; Cottonades, other 55c. to 70c.; Cotton Jeans, Laconia, &c., brown and bleached 39c. to 40c.; Cotton Jeans, other 29c. to 37½c.; Cotton checks, 20c. to 37½c.; Cambrics, 21c. to 26c.; Cotton Flannels, brown and bleached 39c. to 46c.; Cloth, all wool $1 85 to $4; Cassimeres, $1 50 to $3 50; Satinets, 80c. to $1 10; Flannels, 47½c. to 70c; Broad Cloth, $4 to $8.
Dyewoods, Duty Free.—Fustic, $47 to $50 per tun; Logwood, $28 to $62½; Lima Wood, $1 40 to $1 45; Sapan, 90c.
Feathers—70c. to 72c. per lb.
Furs.—Otter, $4 to $8 skins; Fox, grey silver, $5 to $10; Bear, $8 to $30; Lynx, $3 to $5; Marten, $2½ to $20; Muskrat, 12c. to 30c.; Flax—18c. to 22c. per lb.
Flour and Meal—$6 60 to $10 75 per barrel; Rye Meal, $5 75 to $6 75.; Corn Meal, $6 60 to $7.
Grain.—Wheat, $1 57 to $1 90 per bushel; Rye, $1 48 $1 50; Barley, $1 35 to $1 48; Oats, 83c. to 86c.; Corn, $1 40 to $1 50; Peas, $1 20 to $1 24; Beans, $2 67 to $2 90.
Hay—$1 50 per 100 lbs.
Hemp.—American (dressed), $280 to $310 per tun; Russian, $425; Jute, $290 to $300.
Hides.—City Slaughter, 13c. to 13½c.; other varieties range from 15c. to 36c.
Honey.—$1 30 to $1 37½ per gallon.
Hops.—20c. to 32c. per lb.
India Rubber.—40c. to 93c. per lb.
Indigo.—Bengal, $2 to $2 60 per lb.; others, $1 20 to $2 30.
Iron.—Scotch pig, $50 to $60 per tun; American, $38 to $60; Bar—Swedes $171; English, $140 to $145; Sheet—Russia, 21c.; English, 25c. to 30c.
Lead.—American, $12 62½ to $12 75 per 100 lbs.; English $10 50; Pipe, 15½c.
Leather.—Oak-tanned, 49c. to 52c. per lb.; Hemlock, 27c. to 61c.
Lime.—$1 35 to $1 80 per barrel.
Lumber.—Spruce, $21 to $23 per 1,000 feet; White Oak, $35 to $40; White Oak Staves, $70 to $170; Mahogany crotches, 80c. to $1 10 per foot; Rosewood, 4c. to 12c. per lb.
Molasses.—67½c. to $1 per gallon.
Nails.—Cut, $7 per 100 lbs.; Wrought, 32c. to 33c. per lb.
Oils.—Linseed, $1 63 to $2 per gallon; Sperm, $1 70 to $1 85; Petroleum, 35c. to 69c.
Provisions.—Beef, $6 to $9 50 per barrel; Pork, $27 25 to $29; Butter, 28c. to 42c. per lb.; Cheese, 12c. to 17½c.
Rice.—$8 50 to $10 per 100 lbs.
Salt.—Turk's Island, 57½c. per bushel; Liverpool fine, $4 50 per sack.
Saltpeter.—19½c. to 20c. per lb.
Spelter.—12¾c. to 13c. per lb.
Steel.—English, 14½c. to 32c. per lb.; German, 14c. to 16c.; American cast, 21c. to 23c.; American spring, 14c. to 16c.
Sugar.—Brown, 11c. to 15½c. per lb.; White, 14c. to 19c.
Tea.—55c. to $1 65 per lb.
Tallow.—American, 13¾c. to 14c. per lb.
Tin.—Banca, 51c. to 60c. per lb.; English, 52c. to 53c.; plates, $14 25 to $18 50 per box.
Tobacco.—Leaf, 12½c. to 30c. per lb.; Cuba fillers, 60c. to 85c.; United States wrappers, 25c. to 65c.; Manufactured, 55c. to 90c.
Wool.—American Saxony fleece, 78c. to 82c. per lb.; Merino, 75c. to 77c.; California, 20c. to 48c.; Foreign, 16c. to 60c.
Zinc.—17½c. to 18c. per lb.

RECENT AMERICAN PATENTS.

The following are some of the most important improvements for which Letters Patent were issued from the United States Patent Office last week; the claims may be found in the official list:—

Mold for Casting Screw-heads, etc.—This invention relates to molds of cast-iron or other metal for casting several articles at a time. It consists, firstly, in the combination with several molds, arranged in a circle, of a single central runner which tapers in an upward direction to the mouth, and branch runners radiating from the said main runner, to supply the several molds at the same time therefrom, whereby the metal is enabled to run in a uniform fluid state to the several molds and the necessary facility for parting the several molds is afforded. It consists secondly in certain novel means whereby the parting of the several molds for the removal of the castings is effected more easily and expeditiously. N. S. Williams of East Hampton, Conn., is the inventor of this improvement.

Journal Box.—This invention consists in a novel arrangement of anti-friction rollers, the same being of two different sizes or diameters, placed alternately, large and small, around the journals of the axle or shaft between the journals and the bearings or boxes, and arranged in such a manner as to work perfectly free or without any positive connection one with another, whereby a vast amount of friction is avoided in the working or rotating of the axle or shaft, and at the same time a very durable anti-friction journal box obtained. Anti-friction rollers have been previously employed and arranged in various ways in frames so as to form a roller cylinder between the journals and the bearings. These, however, have proved frail, the rollers soon becoming detached from the frame or rings in which they were fitted. In this arrangement the small rollers are employed to keep the large ones in proper position and at a proper distance apart, the latter serving as the anti-friction medium. John O. Scott, of 536 Broadway, New York, is the inventor of this improvement.

Boring and Drilling Machine.—This invention relates to a new and useful attachment for boring and drilling machines, such as are provided with a sliding frame for holding the auger or drill arbor. The invention consists in the employment or use of an adjustable rack bar, arranged in connection with the gearing by which motion is imparted to the drill arbor, in such a manner that the sliding frame may, when it has reached its lowest point of descent, or at any time when it is desired to raise the auger or drill, be readily raised by throwing the rack bar in contact with one of the wheels of the auger or drill-driving gear, and while said gear is being turned in the proper direction for operating the auger or drill; the rack bar being thrown out of gear when it is desired to lower the sliding frame by simply turning the driving shaft a short distance in a backward or reverse direction. The above invention is to Samuel U. King, of Windsor, Vt., and it has been assigned in full to the Lamson & Goodenow Manufacturing Company, of Shelburne Falls, Mass.

Improvement in Military Knapsacks.—Those who have particularly observed the personal condition of a soldier, when on the march, with all his equipments and necessaries attached to his person, must have noticed the peculiar discomfort which the loaded knapsack always occasions. At every halt the man is obliged to stoop forward, and, by a jerk of the body, hitch up the uncomfortable load; when time permits he unfastens the galling arm straps, or wholly casts off the burden. Any improvement which really tends to reduce the fatigue of weary marches, and lighten the labors of our brave defenders, will be hailed with especial favor. To this class belongs the present invention. One feature of the improvement consists in so arranging the knapsack and the musket that the two weights counterbalance each other, and are saddled fairly upon the shoulders. The soldier no longer needs to march with the musket carried wholly in his hands and arms; he is no longer troubled with the swaying of the barrel; the knapsack no longer slips; and there are no arm-pit straps to inflame those tender parts. By this advantageous method of distributing the burdens the soldier feels as if half his load had been removed; and he experiences a remarkable freedom of limb, and relief from fatigue. This invention is very highly spoken of by military officers. Oliver Evans Woods, of 1,003 Race street, Philadelphia, Pa., is the inventor. Mr. Woods, by the way, is a grandson of the immortal Oliver Evans, famed as the inventor of the steam locomotive.

Railroad Chair.—This invention is an improvement on that class of railroad chairs on which a patent was allowed to Mr. St. John, May 19th, 1863, and which consists in the employment or use of a sustaining bar that extends across two sleepers or cross-ties, and fits into the necks of adjoining rails, and is held in place by a bed piece supported by said two cross-ties in such a manner that said sustaining bar receives the weight and thrust of passing trains conjointly with the top of the rails, and being supported by the underlying cross-ties at the weak points, serves not only as a sustaining but as a reacting support to keep the rails in line and in surface. The nature of this present improvement consists in the combination with the bed piece and sustaining bar of an independent clamp, which holds the bed piece and sustaining bar together with the ends of the adjoining rails, in such a manner that each of the three parts, viz: the sustaining bar, the bed piece, and the clamp, can be readily produced by rolling, and that a chair is produced which is cheap, durable, and readily applied, and which keeps the track level and in line, and is not liable to get out of order. E. St. John, of Elmira, N. Y., is the inventor of this improvement.

The claims of the following inventions appeared in the list of last week (May 17):—

Machine for Splitting Wood.—In this device the wood is split by the fall of a weighted block, something like that used in a pile-machine. The splitting knives are stationary. The improvement relates to the construction and arrangement of the parts pertaining to the lifting and discharge of the weight. The machine is driven by steam or horse-power, is simple in construction, rapid in operation, and apparently very effective for the purpose intended. John A. Knight, of St. Louis, Mo., is the inventor.

Stump-pulling Machine.—This machine somewhat resembles, in external appearance, the wheels, axle and tongue of a heavy wagon, when detached therefrom. But in the present instance the tongue projects back beyond the axle and forms a short lifting lever, of which the axle is the fulcrum and the tongue the long lever. Pulleys are placed in the ends of the tongue and also upon a separate pulley bar, which extends from wheel to wheel, and is placed under them. By means of a rope a compound pulley is formed between the pulley bar and the tongue, by which the latter is forced down with immense power, and the short lever, with its attached stump, is raised. We regard this as a very simple and excellent improvement. B. F. Tuttle, of Chelsea, Washtenaw county, Mich., is the inventor of this machine.

THE naval editor of the Boston *Advertiser* says:—"The machinery of the iron-clad *Dunderberg* necessary to be put on board the vessel before she is launched, is nearly completed, and will be put in next week."

[There must be some mistake about this, for the last time we saw the engines the greater part of them were lying in the street untouched. EDS.

ONE cubic foot of hydrogen will heat 2.22 lbs. of water from 32° F. to 212° F.; one cubic foot of carbonic oxide will heat 2.16 lbs. of water from 32° F. to 212° F.; one cubic foot of marsh gas will heat 6.17 lbs. of water from 32° F. to 212° F.; one cubic foot of oleflant gas will heat 10.74 lbs. of water from 32° F. to 212° F.

PURE wrought iron melts at about 2,850° Fahrenheit.