849.—Edward Roberts (assignor to Code, Hopper & Gratz) of Philadelphia. Pa., for an Improved Time Tell Table: I claim, first, the detachable graduated disk, F, applied to the works of the clock, substantially as set forth, in combination with the lid, B, its openings, b and a, and the pointer, x, or its equivalent, when the said openings and pointer are arranged in respect to each other and to the disk rs and for the purpose described.

Second, I claim the spring lever, I, with its adjustable pin, K, in combination with the adjustable graduated disk and the lid, B, and its openings, b and a.

spenning, o and a.

850.—D. H. Thayer (assignor to himself and S. A. Baker), of Lamsing, N. Y., for an Improvement in the Cutting Apparatus of Harvesters:

Iclaim the arrangement of the cutters, e, and cutter bar, C, with the supporting projections, i, knife-edged backward-opening recesses, b, space between projections and fingers and finger bar, A, in the manner and for the purpose shown and described.

if the object of this invention is to prevent the choking or clogging of the sickle, a contingency of frequent occurrence in all grain and grass harvesters.l

851.—Godfried Weiland (assignor to himself and Francis Fisher), of Buffalo, N. Y., for an Improved Straw Carrier for Threshing Machines:

I claim the arrangement of the lever, F, and spring, J, within the carrying apron, in connection with the cam, M, for operating the same for the purposes and substantially as described.

—J. B. Wilson (assignor to J. F. Bodine), of Williamston, N. J., for an Improvement in Stoppers for Sealing Cans and Jars:

Cans and Jars:
I claim the combination of the two clamping disks, A B, expanding segments, D, and elastic ring, E, constructed, arranged and operating together in the manner and for the purpose set forth.

(This improved stopper consists of two metallic disks clamping an ndia-rubberring between their peripheries, and a set of metallic seg ents between the said disks, which segments are expanded radiall ments between the said disks, which segments are expanded radially within the ring by means of a conical screw plug, simultaneously with the clamping action. The advantages are that the lower d sk, being imperforate, constitutes an airtight center for the stopper, avoiding the performs, constitutes an arright center for the stopper, avoiding the necessity of a web of gum or other ductile substance; the ring is con-fined in position by the clamping disks, and the metallic segmentsemexpand the ring cannot be forced into actual contact with the neck of the jar, so as to endanger fracture.]

853.—James Higgins and T. S. Whitworth, of Salford, England, for an improvement in Spinning Machines. Patented in England October 13, 1860:

We claim, first, Giving support to a stationary tube or "bolster" through which the spindle passes, by a sliding bearing attached to the copping rail.

Second, So arranging the spindles and their tubes or bolsters that they may oscillate separately upon joints or other apparatus for the purpose of adjusting themselves to a slidingbearing.

Third, Connecting the spindle to the pinion by which it is driven so that it may be withdrawn therefrom without disturbing top bearings or other parts requiring re-adjustment.

854.—Luther Atwood, of New York City, for an Improve-ment in the Manufacture of Hydro-carbon Oils:

I claim the direct application of ice or ice and salt to the condensation of hydro-carbon oil vapors, substantially as described and substantially for the purpose set forth.

of hivdro-ca bon oil vapors, substantially as described and substantially for the purpose set forth.

I also claim bringing the vapors by a descending current in contact with the surface of the ice or ice and sait, substantially as described.

.—G. W. Blake (assignor to himself and L. W. Blake) of East Pepperell, Mass., for an Improved Belt Fast

ening:
I claim the employment of the double-headed studs, a a, in combition with the belt ends, in the manner and for the purposes shown described.

This invention consists in the employment of a suitable number of ort double headed flat studs which are introduced through slits cut lengthwise through the ends of the two sections of belting, said studs being so formed that their heads will readily enter the slits in the ends of the belt, after which they will connect the ends securely by giving the stude a slight turn.

**E-ISSUES.

51.—The Merrill Patent Fire-arm Manufacturing Company (assignees of J. H. Merrill), of Baltimore, Md., for an improvement in Fire-arms. Patented July 20, 1858:

We calcute the combination of a barrel that opens out at its top, and an open chamber behind it for receiving a cartridge, with a breech pin or plug and two levers for actualing and holding it locked, substantial ly as described.

ly as described.

52.—The Merrill Patent Fire-arm Manufacturing Company
(assignees of J. H. Merrill), of Baltimore, Md., for an
improvement in Fire-arms. Patented July 20, 1858:
We caim, in combination with a barrel that opens out at its top, a
long, open, theoping chamber in rear of it, for the purpose of easily
dropping in the cartridge and the ready cleansing of the bore of the
gun from the rear, substantially as represented.

(assignees of J. H. Merrill), of Baltimore, Md., for an Improvement in Fire-arms. Patented July 20, 1858: We claim, in combination with the levers by which the breech pin or plug is actuated, a guiding mechanism, substantially as described, by which said levers and rug are controlled in their movements, to prevent binding, chafing, or bruising, as set forth.

vent binding, chadng, or bruising, as set forth.

54.—The Merrill Patent Fire-arm Manufacturing Company
(assignees of J. H. Merrill), of Baltimore, Md., for an
Improvement in Fire-arms. Patented July 20,1858:
We claim converting what is known as the "Jenk's gun" from a
loose powder and ball loader to a cartridge loader, by closing up the
opening through which that gun was loaded, cutting away and opening
out in rear of the barrals oa sto load at the rear end of the bore, and
allowing the lever, toggle, and piston to come far enough back to admit
a cartridge to be dropped in behind the bore, and thence run up into
the chamber, as set forth.

the chamber, as set forth.

55.—E. E. Everitt, of Philadelphia, Pa., for an Improved Bedstead Pastening. Patented March 29, 1859:
I claim the combination of the tapering wedge-formed head or tenon l, with the tapering mortise, i, one being attached to the post and the other to the rail of a bedstead, when the said tenon is less than the mortise, and when both are constructed and arranged in respect to each other; substantially asset forth, for the double purpose of readily dightening the rail to the post, when the joint has become loose through strinkage, and of forming a coupling capable of self-adjustment laterally, as specified.

I further claim one or more three or the couples.

, as specimen. irther claim one or more ins or ribs, e, in combination with the . A and A', when these are constructed substantially as described.

-W. O. Hickok, of Harrisburg, Pa., for an Improvement in Mills for Grinding Apples. Patented November 20, 1855:

ber 20, 1855: I claim the application of breakers, d.d., along between the parallel rows of the teeth, b.b., in each of the cylinders, A.A.'; and this I claim whether the said breakers be formed as the plain or serrated, continuous, longitudinal ridges, d.d., shown in the drawings, or as a series of isolated or distinct small teeth between the said rows of the larger teeth b.b. as described; and whether the helical ribs, c.c., be used or not; the said teeth or breakers operating together substantially in the manner described and for the purpose specified.

-W. F. Ketchum, of Buffalo, N. Y., for an Improve-ment in Track Clearers for Harvesters. Patented

ment in Track Clearers for Harvesters. Patented May 17, 1863:
I claim, first. A track clearer or scraper placed near the cuter and of the finger bar, and behind the divider, at an acute angle with the finger bar, arranged in relation to the same so as to is weep the grass inward as it falls over the finger bar, and with cutters supported and guided near their outer ends wholly by stationary supports or guides, so that

the mechanism for the operation of the cutting apparatus will not clog or obstruct the action of said track clearer or scraper, substantially as described.

or obstruct the action of said track clearer or scraper, substantially as described.

Second, Placing the lower surfaces of the rear of the divider and front end of the track clearer close together and substantially on a level with the under surface of the cutter bar, substantially as described.

Third, And in combination therewith I claim connecting the track clearer at its front end by a vertically-yielding joint placed near its lower surface, substantially as set forth.

Fourth, The combination of the divider with a track clearer connected at the rear thereof, and standing at an acute angle with the cutter bar, while the lower edge of the track clearer is on or near the ground and its upper edge risegradually backward from the upper surface of the divider, substantially as set forth.

Fifth, The short divider in combination with a track clearer attached close to its rear and at an acute angle with the singer bar, as set forth.

Sixth, I claim placing the front end of the inclined track clearer close to the rear of the divider, at or near its outer side and beyond its extreme cutting point, so that the grass shall fall over the cutters and finger bar inside of the track clearer, in condition to be swept inward, substantially as described,

EXTENSION.

EXTENSION.

H. R. Dunham, of New York City, for an Improvement in Connecting Side Pipes with the Steam Chests. Patented March 20, 1847. Extended March 19, 1861:

I claim the application of a plate of flexible metal in a steam pipe between two flanges of different diameters, the yielding of which plate shall give sufficient room for the expansion of the pipe, thereby avoiding the necessity of using stuffing boxes or the ordinary copper hemispherical ring joints for side pipes of steam engines.

DESIGN.

Barstow, of Providence, R. I., for a Design for

NOTE.—In the above list of patents, THIRTY of the number were pro ared through the Scientific American Patent Agency.



A. M. H., of N. H.—As there is some doubt on our mind respecting the novelty of your stump puller, we would advise you to send us on a fee of \$5, and have a preliminary examination n the Patent Office.

J. C., of S. C.-We have never seen the secret to which you refer for extracting gold from iron pyrites and oily plumbago. If ome across it, we will publish it for your benefit

J. P. R., of _____. Silliman's Journal is a very learned work, and dry, except to those who are purely scientific. It is pub lished at New Haven, Conn.

G. F., of Pa .-- Your design for fountains is a pretty idea. would be patentable. We are not acquainted with any person who has engaged practically in the propagation of fish; but we think Mr. Luther Tucker, of Albany, N. Y., can give the information

C. W. J., of N. Y.—The most adventurous balloonist in our country has assured us that there is always danger, and never certainty, in balloon voyages. We advise you to avoid the subject, alof the new balloon is quite novel in

F. M., of Ohio.—If you communicate with Col. H. Ruttan, Coburg, C. W., you will obtain all the information desired respecting his method of ventilating railroad cars. Monsiere's gas burner is not on sale in this city.

J. B., of N. Y .- Address J. Tagliabue, No. 3 North William-street, this city, respecting the manufacture of barometers such as you desire.

A. F., of N. Y.-We cannot inform you where you can learn the light rifle drill, but you can acquire the information from any of the officers at the West Point Academy.

J. E. S., of N. Y.—By giving canvas a primary coating of size, the paint will not run upon it. If required for a transparency, give it a primary coating of white varnish, then put on the paint.
which should contain considerable turpentine to make it dryquickly, or use commond liers, which can be purchased in all paint stores

E. C. B., of N. Y.-Bourne's "Catechism of the Steam Englne" will be of great advantage to you. You can obtain it of Mr. J. Wiley, bookseller, this city.

O. H. B., of Mich.—The lever, inclined plane, wedge, screwand nulley have been called the five mechanical pawers

Wm. A. C., of N. Y.—The power to be got from a raceway with a fall of one foot in forty, without obstructing the flow of the water, to throwit back upon the wheels at the upper end of the race, would be too small to be of any practical value

J. D., of Mass.—We suppose West Point school is the best oneforteachingengineeringin this country. Perhaps, though, the new practical departments at Cambridge and New Haven are just as

W. H. W., of Mass.-You will find the subject of water wheels running faster by night than by day fully discussed in Vol. I. new series, Scientific American. It is all a delusion.

E. A. B., of Conn.-If you have two feet fall and plenty of water, an undershot wheel will drive your two turning lathes and a circular saw. You would be obliged to stop in high water.

J. T., of Wis .- Your questions are very pertinent, butthey would open the whole subject of expansion, and we have decided to let this matterrest until Isherwood makes his report of the experimentsat Er e

G. B., of N. Y .- We might have continued the argument on vegetable physiology, but your poetry is too much for us. We close our mouths, and have nothing more to say.

G. W. T., of Del.—Chester's form of Smee's battery is one of the best for producing magnetism. You can make magnets with Grove's battery. The greater the number of batter es, and the more whorls of the helix, the better.

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H. N. B., of N. Y .-- We find the sticks of wood which von dus very good electrics; probably because they are so dry and full of resin,

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n the fees are also made as follows:

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Note of the first of t

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Specifications, drawings and models belonging to parties with the following initials have been forwarded to the Patent Office during the week ending March 30, 1861 :—

[The patents on these cases, when issued, will be granted for seven-

teen years under the new Patent Law.]
S. & B., of Va.; H. T. C., of Conn.; J. S. G., of Maine; N. C. S., of Conn.; R. W. & D. D., of N. Y.; B. & D., of N. J.; W. & S., of Ohio; R. T., of N. Y.; G. P. W., of N. Y.; W. A., of N. Y.; W. M., of N. Y.; C. W., of Iowa; B. S., of N. Y; J. H. J., of Ill.; S. & E., of N. J.; B. & H., of N. Y.; M. & B., of Conn.; S. E. C., of Mass.; J. P., Jr., of N. H.; H. S., Jr., of N. Y. (two cases); J. K. H., of Ind. (two cases); E. W. B., of N. Y.; R. R., of N. Y.; N. R. M., of N. Y.; V. D., Jr., of Va.: J. R. R., of Mass. (two cases): J. A. M., of Mo.; B. I., of Mass.; N. Y.; E. S. H., of Mass.; D. R., of N. Y.; E. S. H., of Mass.; J. S. S., of N. Y.; G. S., of N. Y.; W. C. C., of Wis.; J. D., of Ohio; S. G. S., of Mass.; O. G. B., of N. Y.

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LANDS OF ILLINOIS.

No state in the Valley of the Mississippi offers so great an inducement to the settler as the State of Illinois. There is no portion of the world where all of the conditions of climate and soil so admirably combine ce those two great staples—corn and wheat—as the prairies

THE SOUTHERN PART

of the State lies within the zone of the cotton regions, while the soil is admirably adapted to the growth of tobacco and hemp; and the wheat is worth from fifteen to twenty cents more per bushel than that raised

further North.
RICH ROLLING PRAIRIE LANDS.

The deep rich loam of the prairies is cultivated with such wonderful facility that the farmers of the Eastern and Middle States are moving to Illinois in great numbers. The area of Illinois is about equal to that of England and the soil is so rich that it will support twenty millions

of people,

EASTERN-AND SOUTHERN MARKETS.

These lands are contiguous to a railread 700 miles in length, which connects with other roads, and navigable lakes—and rivers, thus affording an unbroken communication with the Easters and Southern mar-

APPLICATION OF CAPITAL.

Thus far, capital and labor have been applied to developing the soil: the great resources of the State in coal and iron are almost untouched.

The invariable rule that the mechanical arts flourish best where food and fuel are cheapest, will follow at an early day in Illinois, and in the sourse of the next ten years the natural laws and necessities of the ase warrant the belief that at least five hundred thousand people will beengaged in the State of Illinois in various manufacturing pursuits.

RAILROAD SYSTEM OF ILLINOIS.

Over \$100,000,000 of private capital have been expended on the rail roads of Illinois. Inasmuch as part of the income from several of these works, with a valuable public fund in lands, go to diminish the State expenses, the taxes are light, and must, consequently, every day

THE STATE DEBT.

The State debt is only \$10,106,598. 14, and, within the last three yea has been reduced \$2,959,746.80; and we may reasonably expect that ten years it will become extinct.

PRESENT POPULATION.

The State is rapidly filling up with population; \$69,026 personshaving been added since 1850, making the present population 1,722,663—a ratio of 102 per cent in ten years.

of 102 per cent in ten years.

AGRICULTURAL PRODUCTS.

The agricultural products of Illinois are greater than those of any other State. The products sent out during the past year exceeded 1,500,000 tuns. The wheat crop of 1860 approaches 35,000,000 of bushels, while the corn crop yields not less than 140,000,000,bushels.

FERTILITY OF THE SOIL.

Nowhere can the industrious farmer secure such immediate results for his labor as upon these prairie soils, they being composed of a deep, rich loam, the fertility of which is unsurpassed by any on the globe.

TO ACTUAL CULTIVATORS.

Since 1854, the company have sold 1,300,000 acres. They sell only to satual cultivators, and every contract contains an agreement to cultivate. The road has been constructed through these lands at an expense of \$30,000,000. In 1850, the pountation of the forty-nine counties through which it passes was only 335,593, since which 479,923 have been added, making the whole population 814,891—a gain of 143 per cent.

EVIDENCES OF PROSPERITY.

As an evidence of the thrift of the people, it may be stated that 600,000 tuns of freight, including 8,600,000 bushels of grain and 250,000 barrels of flour, were forwarded over the line last year.

EDUCATION

Mechanics and working men will find the free school system en-couraged by the State, and endowed with a large revenue for the sup-port of schools. Their children can live in sight of the church and schoolhouse and grow with the prosperity of the leading State in the

n Empire. PRICES AND TERMS OF PAYMENT.

The prices of these lands va from \$6 to \$25 per acre, according to location, quality, &c. First-class farming lands sell for about \$10 or \$12 per acre; and the relative expense of subduing prairie land as compared with wood land is in the ratio of 1 to 10 in favor of the former. The terms of sale for the bulk of these lands will be

ONE YEAR'S INTEREST IN ADVANCE, at six per cent per annum, and six interest notes at six percent, payable respectively in one, two, three, four, five and six years from date of sale; and four notes for principal, payable in four, five, six and seven years from date of sale; the contract stipulating that one-tenth of the tract purchased shall be fenced and cultivated, each and every year, for five years from the date of sale, so that, at the end of five years, one-half shall be fenced and under cultivation.

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