Predatory Chickens.

One Max Adeler describes a novel method he adopted for ridding his garden of a neighbor's chickens. We copy the article from the London *Garden*, but we suspect it emanated from this side of the water, and we would not wonder if the *Danbury News* man was its author. It certainly reads like him; but no matter where it originated, the invention is made, and in Adeler's case it proved useful.

He says: "We had a good deal of trouble last summer with Pitman's chickens; as fast as we planted anything in our little garden, those chickens of Pitman's would creep through the fence, scratch out the seed, fill up, and go home. When the radish bed had been ravished in this manner for the fifth time, we complained to Pitman. He was not disposed to interfere. 'Adeler,' he said, 'I tell you it does 'em good; and it does them beds good to be raked over by chickens. If I had radishes, give me chickens to scratch around them and eat up the worms. Radishes that haven't been scratched ain't worth a cent.' Then we climbed over the fence with the determination to take the law in our own hands. We procured half a peck of corn and two dozen small fish hooks. Fastening the hooks each to a grain of corn, we tied wire to each hook. Then we scattered the whole of the corn on the radish bed, and fixed the ends of the wires to the biggest sky rocket we could get. The rocket stood in a frame about 10 yards away from the hooks. That very morning Pitman's chickens came over, and instantly began to devour the corn. We were ready; and as soon as it was evident that the hooks were all swallowed, we applied a match to the rocket. It is regarded as probable that no barnyard fowls that have existed since the days of Noah ever proceeded toward the azure vault of heaven with such rapidity as those did. A fizz, a few ejaculatory cackles, a puff of smoke, and Pitman's roosters and chickens were swishing around the celestial constellations without their feathers, and in some doubt respecting the stability of earthly things. Pitman never knew what became of his fowls; but when we read in the paper next day that twenty-four underdone chickens, with fish hooks in their craws, had been rained down by a hurricane in New Jersey, we felt certain that that sky rocket had done its duty."

Gas Light.—Average Prices.

The following information, showing the average net price of gas throughout the United States, has been procured by the Washington, D. C., Gas Light Company:

1. Maine	$3.87	20. Mississippi	$5.25
2. New Hampshire	3.96	21. Michigan	3.43
3. Vermont	4.80	22. Wisconsin	3.87
4. Massachusetts	3.86	23. Ohio	3.32
5. Rhode Island	3.35	24. Indiana	3.54
6. Connecticut	4.03	25. Illinois	3.87
7. New York	3.88	26. Kentucky	3.92
8. New Jersey	3.80	27. Tennessee	4.06
9. Pennsylvania	3.46	28. Minnesota	4.31
10. Delaware	3.95	29. Iowa	4.52
11. Maryland	3.59	30. Missouri	3.95
12. Dist. of Columbia	3.16	31. Arkansas	5.00
13. Virginia	3.89	32. Louisiana	4.50
14. West Virginia	3.11	33. Texas	5.75
15. North Carolina	6.67	34. Kansas	4.55
16. South Carolina	3.80	35. Colorado	5.00
17. Georgia	5.07	36. Utah	4.00
18. Florida	8.00	37. California	6.11
19. Alabama	4 83		

Total average net price of gas in the United States..$4.32½.

Proposed Statue to Daniel Webster.

Gordon W. Burnham, a wealthy resident of this city, proposes to erect in the Central Park, at his own expense, a bronze statue of Massachusetts' late statesman, Daniel Webster. Mr. Burnham has a special taste for bronzes, and his residence on Fifth Avenue contains probably the choicest collection in the country. The Central Park has already a handsome group (Eagles and Chamois) presented to it a number of years ago by Mr. Burnham.

The Park Commissioners have, we understand, requested that a model of the statue be submitted to them before they will consent to set apart for it the conspicuous and appropriate site on the Mall, suggested by the donor. The form of a renowned and representative American statesman, whose fame belongs to this country, deserves, we think, at least as prominent a position as that of Sir Walter Scott. It is to be hoped that Mr. Burnham's generous offer will not be withdrawn through any difference of opinion as to where in our everywhere beautiful Park his gift is to be displayed. The people will appreciate it, and heartily thank him for it, no matter whether it be located (as it should be) on the Mall, or half hidden in the shrubbery in some by-path of the Ramble.

ROPE CORDAGE.—Recently a very interesting experiment was made at Kirkaldy's Testing Works, Southwark street, London, as to the relative strength of handspun yarn rope, machine yarn rope, and Russian yarn rope. Mr. Plimsoll, M. P., Captain Bedford Pim, M. P., and others attended the test, which lasted over three hours. There were nine pieces of rope, each 10 feet long, being three of each of the above classes. The ultimate stress or breaking strain of the Russian rope was 11,099 lbs. or 1,934 lbs. strength per fathom; machine rope, 11,527 lbs. or 2,155 lbs. per fathom; handspun rope, 18,279 lbs. or 3,026 lbs. per fathom. The ropes were all of 5 inches circumference, and every piece broke clear of the fastenings. The prices paid per cwt. were: Russian rope, $11·75; machine yarn rope, $11·75; handspun yarn rope, $11·00 all described as best cordage and London manufacture. It will thus be seen that the handmade was cheaper by 75 cents per cwt., and broke at the testing strength of 7,180 lbs. over Russian, and 6,752 lbs. over machine made rope.

DECISIONS OF THE COURTS.

United States Circuit Court---District of New Jersey.

PATENT SHAWL STRAP.—GEORGE CROUCH *vs.* HENRY SPEER, REINHOLD SPEER, AND EGBERT MATTNER.

[In equity.—Before Nixon, Judge.—Decided April 27, 1874.]

NIXON, *Judge:*

This suit is brought for an alleged infringement of a patent for "improvement in shawl straps," originally granted to the complainant, and surrendered and reissued March 7, 1871.

The patentee states in his schedule that before his invention straps had been used to confine a shawl or other similar article in a bundle, and a leather cross piece, with loops at the ends, had extended from one strap to the other: and above, and attached to this cross piece, was a handle: that the cross piece or connecting strap was liable to bend, and allow the straps to be drawn toward each other by the handle in sustaining the weight; that hence the bundle was not kept in the proper shape, and the handle was inconvenient to grasp; and that his invention consisted in a rigid cross bar beneath the handle, combined with suspending straps that are to be passed around the shawl or bundle, such straps passing through loops at the ends of the handle.

The defendants' first allegation is that there is nothing new or useful in the complainant's patent. If they mean by this that it is not the subject matter of a patent, the objection must be examined and answered in the light of the provisions of the 24th section of the patent act of 1870 (16 Stat., 201). That section authorizes a patent to be granted for "any new and useful art, machine, manufacture, or composition of matter, or any new or useful improvement thereof." It will be seen that utility and novelty are the requisite conditions. The invention or the improvement claimed must have both, or the letters patent secure nothing for the patentee. Whether it is useful in the sense of the law is not whether it is not mischievous or hurtful or frivolous or insignificant, but whether it is capable of use for a purpose from which some advantage can be derived. If it be useful in this sense, the degree or extent of its usefulness is altogether unimportant. It is not necessary, in other words, that it should be the best means of producing a desirable result, but a means, although inferior to others, of producing it. (Curt. Pat., sec. 449.)

Testing the complainant's patent by this principle, it is undoubtedly useful. The rigid cross bar and the loops holding the straps, securing them in their place, and made of the leather of the handle, if new, add neatness and finish and value to the manufacture; and this is shown by the fact that these defendants, active business men and alive to the public demands, gave these methods of manufacturing a preference over others in finishing and furnishing shawl straps for the markets.

The defendants' second allegation is the want of novelty in the complainant's patent.

In considering the case, it should be remembered that the patent is *prima facie* evidence that the patentee was the original and first inventor. Any one who controverts this assumes the burden of proof and undertakes to show affirmatively that there was a prior knowledge and use of the alleged invention under such circumstances as to give to the public the right of its continued use against the patentee.

This the defendants have failed to do. The evidence introduced by them is frequently contradicted, and is inconsistent with itself and many well established facts.

There is ground for reasonable doubt in regard to its correctness. Where such doubt exists the complainant's *prima facie* case, even if uncorroborated, must prevail.

But it does not stand without corroboration. The complainant called William H. Cleveland, William Roemer, Peter Martens, Jacob Lagowitz, Joseph R. Davis, and Philip P. Lynch to testify as to the state of the art. They seem to be intelligent and disinterested witnesses; have been for years, more or less, connected with the manufacture and sale of shawl straps, and they all trace the origin of the rigid cross bar to the invention of the complainant, or deny its existence or use prior to 1868.

Upon the whole case, I am of the opinion that there should be a decree sustaining the validity of the complainant's patent, and giving him profits and damages for its infringement since March 7, 1871, the date of the reissue, and also an injunction, restraining the defendants from further infringement.

[*Jonathan Marshall*, solicitor and counsel for complainant.
James M. Scovel, solicitor and counsel for defendants.]

United States Circuit Court---Southern District of New York.

COMBINED RUBBER AND METAL SPRING.—THE NATIONAL SPRING COMPANY *vs.* THE UNION CAR SPRING MANUFACTURING COMPANY.

Blatchford, Judge.

This suit is brought on reissued letters patent granted to the plaintiffs Dec. 18, 1870, as assignees of Erastus T. Bussell, for an "improvement in combined india rubber and steel springs," the original patent having been granted to Russell, as inventor, November 29, 1853, and extended for seven years from November 29, 1867.

A patent for a spring for cars and other vehicles composed of a column of india rubber and a spiral metal spring, which encloses it and cooperates with it, and also prevents it from spreading, is valid, notwithstanding a previous patent for a spring composed of a hollow column of india rubber enclosing a spiral metal spring, and prevented from spreading by metal rings around it.

A reissued patent held valid which claimed a spring constructed of an india rubber column enclosed in a spiral metal spring, although it was conceded in the original application that such a spring was described in a previous patent, it appearing that it was not so described.

Although the original patent everywhere represented the india rubber column as deeply fluted, yet a reissued patent was sustained which claimed an india rubber column in unqualified terms, without alluding to the fluting.

The reissued patent was held valid, although it claimed the rubber column whether solid or hollow, and the original patent made no mention of a hollow column.

It was held to be no objection to the reissued patent because it suggested that any material which was the equivalent of india rubber might be used instead of it, such as animal or vegetable fiber, gutta percha, etc., although those materials were not mentioned in the original.

The validity of a patent is not impaired because the invention is embraced in a prior English patent, if, previous to the date of the latter, the American patentee had reduced the invention to practice.

Where the assignees of the inventor filed and completed their application for a reissue before July 20, 1870, it was held that their oath to it was sufficient without that of the inventor.

Under the act of March 3, 1871, the oath of the assignees is sufficient upon an application for the reissue of a patent originally issued before July 20, 1870; the oath of the inventor is required only when the original patent issued after that date.

[*J. F. Fitch* and *George Gifford*, for plaintiffs.
H. C. Woodruff, for defendants.]

Recent American and Foreign Patents.

Improved Waste Valve and Overflow.

James Foley, Brooklyn, N. Y.—The end of the pipe leading to the basin is coupled with a casting or T, in the lower part of which is formed a conical valve seat, and with its lower arm is coupled a pipe leading to the sewer. The upper part of the T coupling is connected with the end of a larger pipe, which is secured to a stand. Within the large pipe is placed a smaller pipe, around the lower end of which is formed a ring flange, upon which is placed a rubberring to form the valve. By this construction, when the valve is closed and water admitted into the basin, it will rise in the large pipe until it reaches the level of the upper end of the small pipe, when it will flow off through the same. When the pipe is raised, opening the valve, the water will flow off through the sewer pipes, having a wholly unobstructed passage, in which there is nothing for hairs or other rubbish to lodge against and thus obstruct the outflow.

Improved Mechanism for Operating Punches, Shears, etc.

Charles H. Reynolds, Williamsburg, N. Y., assignor to himself and Henry C. Richardson, of same place.—In this machine, when the free end of a lever is moved to the rearward, the arm of the lower jaw will be moved downward and the arm of the upper jaw will be moved upward, bringing the jaws together with immense power. An illustrated description of the apparatus will be found on page 102 of our current volume.

Improved Signal Light.

James C. McMullin, Chicago, Ill.—The object of this invention is to furnish a signal lamp for railroad trains and other purposes, which indicates by the successive appearance of the light thrown through lenses of different colors or sizes from one burner, the distance of the light to be determined by the gradual appearance and relative position of the lights. The invention consists of a signal lamp which is provided with one or more tubular arms, with reflectors and lenses of different colors at their ends, spread at suitable distance, and lighted by one common burner. A signal lamp is provided with one or more tubular arms. At the distance of one, two, or more feet, are a reflector and lens. The reflector is preferably placed under an angle of forty-five degrees to the axis of the arms, so that the whole body of light is thrown forward through the lens as the rays are reflected under the angle of incidence of the light. Lenses of different colors or sizes may be employed, and thereby the distance of the train determined by the successive appearance and position of the lenses. It has been found by practical tests that in a signal lamp having red and white eight inch lenses placed at a distance of thirty-four inches from each other, nothing but the red light is shown at a distance of one and one fourth miles. At a distance of one mile, red is shown with a rim or fringe of white at that side where the white lens is situated. At three quarters of a mile, red and white are both shown distinctly and separately; and at a distance of half a mile a considerable space appears between them. Any number of lenses can be illuminated at the same burner if placed at the ends of the connecting arms.

Improved Children's Carriage.

Julius Sues, Louisville, Ky.—A child's carriage is supported on front wheels by curved sills or bars and strong lateral springs, firmly bolted to the body and also to the rear end of the bars, the front end carrying the axle of the front wheels. By placing the front part of the body on springs, not only an up and down motion, but also a rocking motion, of the carriage is obtained, and the elasticity of the same increased. The hind part of the body is supported by two additional curved springs, of swan-necked shape, which are interposed between the usual elliptic supporting springs and the body. The front end of the spring is firmly attached directly to the body of the carriage, or to an intermediate bracket-shaped casting. The rear part of the spring is attached to the back of the body, near the upper part thereof. The support of the body by the springs is thereby strengthened, and the constant upward jarring of the springs arrested.

Improved Sleigh.

John A. Seigfrid and Chester B. Borden, Seneca Falls, N. Y.—The knees and the hub are cast in a single piece, and the hub fits on the beam as an ordinary wagon wheel fits on an axle. Traces are attached permanently to the knees and to the under side of the beam, so that they may be readily detached from the beams. The hubs are made about the length of ordinary wagon hubs, so that the wheels will fit on the beams in place of the runners. The beams then become axles. The change from runners to wheels and from wheels to runners is very readily made.

Improved Stop Valve.

Richard S. Gillespie, New York city.—This invention is an improvement upon double seated valves, some of which are provided with a headed pin or spreader and two disks by the introduction of rollers that may act on the principle of a toggle joint. When a valve is forced down, a pin strikes the bottom of the case and forces another pin up against the lower end of the valve stem. As the valve stem moves further down, both pins are forced inward against the outer rollers, which force the middle rollers outward, forcing the faces of the valve against the valve seats. The rollers thus operate as a double toggle joint, pressing outward in lines at right angles with the valve stem. In raising or opening the valve, the first movement of the valve stem removes the pressure of the pins from the rollers, the pressure of the rollers from the parts of the valve, and the pressure of the valve faces from the valve seats, so that the valve can be raised without any friction between its faces and seats.

Improved Reading and Copying Stand.

Charles E. Wells, West Pawlet, Vt.—The book to be exposed on the rack is securely fastened thereto, after being placed on the projecting lugs at the lower end by carrying a top slide piece with top lugs down. The slide piece moves in a central slot of the rack, and is also provided with pivoted arms having a lateral piece at their end with sliding book fasteners. Similar arms with upward extending fasteners are applied along the lower part of the rack. These rods are swung forward as required by the thickness of the book, and the fasteners then applied to hold the leaves till they are turned over. As the fasteners rest only lightly thereon, the turning and placing in position of the leaves will occasion no difficulty.

Improved Carriage Wrench.

Henry Cutler, Ashland, Mass.—The adjusting handle consists of two parts, one chambered out to receive an eccentric, which is thus turned. The eccentric is governed in position, as it is revolved, by a pivot, where it enters a hole in the stock head. The jaws are levers, and the eccentric operates on their upper ends, the fulcrums being the pins. A spring between the jaws keeps them spread apart; but when the eccentric is turned, the outer ends of the jaws are forced toward each other to gripe and hold the nut. With this wrench a nut may be removed and replaced without touching it with the fingers.

Improved Method of Retouching Photographic Negatives.

Claude L. Lambert, Paris, France.—A large negative, after having been properly exposed, developed, fixed, and finished, is covered on both sides with a sheet of thin paper or other semi-transparent material capable of retaining the coloring matter to be afterward employed. Wherever necessary, either on the collodion side or on the reverse side, an impalpable galvanoplastic powder, or other finely pulverized substance answering the same purpose, is applied with a stump. The effects of light and shade may thus be modified, toned, or hightened, and such a high degree of finish imparted as will render any subsequent retouching of the positive paper print unnecessary, the sharpness of the lines being restored by the aid of a lead pencil. The negative, after thus being treated, is placed in the pressure frame with a sheet of ordinary sensitized paper, prepared either with salts of silver or of chromium, to obtain a perfect positive. Should the lines of the negative be too sharp or well defined, they maybe softened in the positive proof by first partially printing it in contact with the large negative, and then completing the impression after having interposed a sheet of very thin glass between the negative and the paper.

Improved Seed Dropper.

Hermann Koeller, Camp Point, Ill.—To two cross bars are attached runners and seed hoppers, to the middle parts of which is secured a tongue. A slide receives a reciprocating movement to drop the seed from the revolutions of gear wheels, and may be adjusted to a longer or shorter stroke. To one small gear wheel is attached a wheel consisting of arms, the outer ends of which are notched to receive a chain, and to the lower side of which is attached a ring to support the same. In using the machine, in coming to the end of the field, the driver slips a spring ring upon the link that dropped last to the ground, after dropping the last hill before turning, for a mark. He then counts the links that lie crosswise, and puts another spring ring in the link he wishes to begin to drop from, for a mark in starting. After turning around, the flanged chain wheel should be set so that the machine will begin to drop at the marked link. This will bring the hills in accurate check row.

Improved Combined Throttle and Governor Valve.

Allan Talbott, Richmond, Va.—This invention relates to novel means to be used in connection with a governor for starting, stopping, or instantly changing the speed of a steam engine without the employment of shifting belts or other mechanism.

Improved Bath Tub.

Aso C. Brownell, Brooklyn, N. Y.—This tub frame is so constructed that the sheet metal lining cannot buckle by influence of shrinkage or swelling of the body of the tub.

Improved Combined Check and Martingale.

Louis Barron, Woodstock, Vt.—The object of this invention is to provide a combined check and martingale, or in other words a check rein which, by an easy adjustment, is adapted to serve the purpose of a martingale. It consists of a strap split into two other smaller straps, the single strap fastening by means of a ring to the checkor water hook, and the two smaller straps passing through keepers on the crown piece of the bridle, connected by a sliding loop on the face of the horse, and fastened to opposite sides of the bridle bit by means of detachable fastenings.

Improved Wheel.

Lewis H. Rogers, South Avon, N. Y.—The object of this invention is to provide a wheel for vehicles of such an elastic construction as shall facilitate the easy movement of vehicles, and which shall at once be strong, light, and durable. It consists of a metallic hub having two sets of screw-threaded stems projecting radially from the same, to which are fastened small plates held to said stems by a nut and washer, there being between the said washer and plate an elastic pad. Said plates are attached on each side of the stems to metallic spring spokes, and said spokes securely fastened to clips that are riveted to a metallic felly. Said felly is preferably made with a concave periphery, and between the felly and the tyre is placed a rim of rubber or other elastic substance.

Improved Portable Fence.

William C. Kay, Como, Miss.—This invention relates to that class of wooden fences which are portable. It consists of but two essentially different parts, the rails and the improved connection for the same, which latter consists of two symmetrically formed sections, made of inclined stakes, to which are attached strips of stuff varying in length from about three feet at the bottom to one foot at the top. Said stakes cross each other at about eighteen inches from the top, and are braced by a rail resting in the fork formed thereby. Said strips are securely fastened at one end to the stake; and as they incline toward the earth the strips of one stake cross those of the other, forming locks thereby into which the rails are placed.