Scientific American.

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NEW YORK, SATURDAY, FEBRUARY 16, 1884.

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THE POSITION OF INVENTORS.

be found in the decisions of the judges of the courts in which short term of years. patent rights have been decided. Some of these judges have acquired great eminence in this field. In preparing their decisions they had to study the patents, their scope, utility, of the subject from the studies alluded to.

appellation, "the Metaphysics of the Law." His opinion of northwest. the dignity of inventors and the value of their services to the within the scope of national protection. It seems a pity ble in this latitude till the latter part of February. that our Representatives, before considering the bills for the The reason the comet could not be found in the northwest limitation of the rights of inventors, did not study and apply was because it was then a faint object almost impossible to these principles to their actions.

matter of public policy. How impolitic, then, does the re- greatest brightness and nearest point to the earth. This it cent action of the House of Representatives appear. But he reached about the 14th. On the 26th, it passed its perihelion, is not alone in his ideas of the rights of inventors. Other or nearest point to the sun, and, since that time, has been judges at more recent periods reaffirm these views. One, our departing guest. The comet's real course is southeast. 101 speaking in 1847, says that the true rule of construction in as any observer who notes its position from night to night respect to patents is to apply to them plain and ordinary will readily perceive. It is carried westward by the motion principles, and not to yield to subtleties and technicalities of the earth, in the same way that Venus is, who, though . . . likely to prove ruinous to a class of the community moving eastward, seems to be moving westward like the so inconsiderate and unskilled in business as men of genius stars. and inventors usually are. A little earlier Judge McLean had stated that the patent law gives a monopoly, but "takes ered in 1812 by M. Pons. It was predicted that it moved in nothing from the community at large, but secures to them an ellipse with a period of 71 years. Therefore, it might be the greatest benefit." The same judge, later on, speaks of expected to return in 1883. Mr. Brooks discovered it in the patent' right as a compensation awarded the inventor. September of that year, and its identity was soon proved. It Following these judicial utterances to a later period, we find patents declared not to be odious monopolies or restrictions The great interest it has excited all over the world is due on the rights of the public. To still further define the not to its size or brilliancy, but to the fact that after its monopoly side of the question, we may quote from Judge long absence it has returned to the clime of the sun at the McLean again. In 1855 he said : "A monopoly takes from time predicted by astronomers. the public what belongs to it, and gives it to the grantee, whereas the right of a patentee rests entirely on his own patent declared proper compensation, and a politic one on the part of society. There should be no reason for disturb- guides. ing it.

If patent lawyers be consulted, they will be found generally of the opinion that a patent is a contract between the inventor and the Government. The case of Ransom vs. New wood, yet the only cutting or boring portion is the chisel correct doctrine, the Government would play a poor part in its work and guided in its course, the gimlet screw at its changing the status of patents already granted.

But there is another point of view that may be found in-pensed with, as the screw merely pulls the cutter into the dicated in the judicial opinions we have cited. The real work and the spiral guides the auger and elevates the chips. policy of the Patent Law is a selfish one on the part of the So the auger, deprived of these portions, becomes a rotary Government. Vastly greater benefits have been reaped from cutter by which straight or curved recesses of a definite width it by society at large than by the inventors themselves. It may be cut. Mortises for tenous are made with such an has evolved the enormous amount of ingenuity represented implement, and it is used also for many other similar purby a quarter of a million of inventions. All this work is poses. devoted to the manufacturing industries of the country. ¹ An adaptation of the circular saw is more peculiar than By the law only human inventions can be protected, so that this. It is the cutting of a wide kerf with a thin saw; thus no natural principle can be monopolized. It would be hard a saw of one-fourth of an inch thickness, or "set," cuts a to imagine where we would stand in the industrial world score, or slot, of three-quarters of an inch or more. In apunbacked by these inventions. If an inventor seems in some pearance the saw is anything but mechanical, and at first nces to receive an undue reward, this is only the excep- thought the method is "sloppy" and foolish. But the re-It is because of their unselfishness and devotion to the sult of the work is good. The effect is produced by plachat inventors are apt to lose the reward due to their in. ing a circular saw on an arbor somewhat smaller than the y and talents. The public often reaps the benefit of hole through the saw, and canting the saw to an angle by means of convex faced glands or flanges. When tions long before the patent has expired. ery American prides himself on his country's progress rotated the saw's periphery has a "wabbling" motion, so is path. With the abrogation of the patent laws inven-that twice in its revolution the saw cuts out of its true kerf would cease almost entirely, and we should have to look on either side. It will be seen that if the quarter inch saw her countries for new devices in machinery and pro- is set one-quarter of an inch out of truth on its side, it will The national position would be a humiliating one cut one-quarter of an inch on each side, making, with the ce of a proud one. Every such measure as those re- primary thickness of the saw itself, a cutting width of threey passed in the House of Representatives aims a blow quarters of an inch. This apparently crude method proese laws. We can only hope that it will prove as in- duces very satisfactory results. It might be supposed that ual as it is ill-judged and impolitic. such eccentricity of movement from side to side would will be noticed that the views given on the position of leave very coarse score marks on each side of the cut, but ntors favor them and their rights. They are given by the velocity of the saw's rotation compared with the feed inent judges, who were especially dispassionate and im- sures perfectly clean work. The advantages of this method al in the decisions cited, because no appeal to favor are that the sewer required to cut a wide kerf with a narrow them is discernible in the history of such cases. Their saw by gradations is much less than to cut the full kerf ons would form the safest hasis of legislative action, at once with full wide cutters, and that while a saw can be

were any needed. But the statute now in force is the fruit An accurate conception of the meaning of a patent and of of many additions and amendments. It has done well in the true status of an inventor is far from common. The fact the past, and is good for some time to come, as it seems that inventors are the possessors of a limited monopoly, that reasonably near the goal of adaptability and efficiency. It is is frequently of great value, weighs against them in the not only inventors, but the public at large, that should resist estimation of the less enlightened class. To form such a any change in it that will affect its efficiency and range of conception, regard should be paid to the opinions of those action. The public are more interested in it than are the most familiar with the subjects of inventious, with patent inventors. This is no paradox, for inventors are the servants laws, and with the structures themselves. The most enlight of the public, and protected inventions are the property of ened source for an opinion leading to such conception will the world of industry, withheld from common use for a

. THE PONS-BROOKS COMET.

We have received a communication from Adamsville, and in many cases their commercial importance. Besides Michigan, in which the writer asks for information concerngratis for every club of five subscribers at \$3.20 each; additional copies at having the judicial mind, developed by years of experience ing a comet he first "discovered about the 18th of Janupon the bench, they were familiar with the practical aspect 'uary in the southwest, about the same distance from Venus as Venus is from the sun, and a little south, with a tail ex-Of the older judges none attained higher reputation than tending east." He thinks the Scientific American was per-Judge Story. It is he who gave to Patent Law its famous haps mistaken in stating that the comet was visible in the

The comet seen by our correspondent in the southwest is country at large is worthy of record. In one of his early the same comet that was, as we stated, seen in the northwest decisions, given over fifty years ago, he says that "patents | when first visible to the naked eye. It was faintly perceptiare not to be treated as mere monopolies, odious in the eyes of ble on the 27th of November, and looked like a small nebthelaw, and therefore not to be favored." It appears from this ulous star. About the 21st of December it became a plain that the monopoly part of the question had been even then though not a conspicuous object in the northwest, being agitated. But this judge was always opposed to such views then in the northern constellation Cygnus. It has been The SCIENTIFIC AMERICAN Export Edition is a large and splendid peri- as those referred to. In another place he says that the Con- visible everyclear, moonless night since that time, pursuing stitution of the United States, in giving authority to Con- its course over the sky with a speed marvelous to behold. gress to grant such patents for a limited period, declares the having traveled from a position high in the northwest to its object to be to promote the progress of science and the useful present locality low in the southwest. It will continue to commercial trade, and manufacturing announcements of leading houses. larts, an object as truly national and meritorious and well move in the same direction till it is so far away as to become founded in public policy as any which can possibly be invisible in the largest telescopes. It will probably be visi-

> pick up unless one knew just where to look for it. When Judge Story declares the protection of patents to be a seen on the 18th of January, it was a little beyond its

> > This comet, known as the Pons-Brooks comet, was discovwas called the Pons-Brooks comet from the two discoverers.

Our correspondent desires information in regard to the best book that will "educate him in the revolution of our invention or discovery of that which was useful, and which planet, also others as far as possible." We recommend was not known before." Thus we find the monopoly of a Lockyer's "Elements of Astronomy" and Newcomb's "Popular Astronomy" as reliable and comprehensible

PECULIAR WOOD WORKING.

The auger is intended primarily for making holes in York is cited in support of this view. Accepting this as the lip on its lower end; and if the implement could be kept at point and the spiral above its cutting portion might be dis-

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cular saws in this manner for years.

A MENACE TO PROSPERITY.

the multitude, who directly or indirectly suffer by it.

bills now pending cannot long endure, even if by any mis- done ? fortune they should pass both houses of Congress and replate would prove very hurtful if not widely disastrous to national prosperity.

The influence of new inventions, as a factor of industrial development and national wealth, is sufficiently conspicuous and generally recognized to make unnecessary any extended was given to manufacturers under patent rights, insuring ing upon the question may be not without interest. Official inquiries made some years ago demonstrated the fact that something like nine-tenths of all the manufactures of the mately dependent on patent rights to endure a wanton discountry were of articles recently patented or made by patented machines or processes. The same is not less the case to-day. The census of 1880 found our factories turning every honest manufacturer. out products worth, that year, \$5,369,000,000, by far the greater part being manufactures involving patent rights. In 1870 the annual products were worth \$3.385.000.000, and in 1860 only \$1,885,000,000. Thus, in twenty years, the in- has been done this year by the rapid and great rise of the crease had been nearly threefold. Meantime, the United Ohio River and its tributaries. The snow fall had been States patents issued had increased in number from 26,641 large, and for nearly thirty days the temperature has been to 223,210; now they approach 300,000.

main, factors of this phenomenal industrial development, but which rise in the elevated portions of Western New York, they were an obvious and potent factor, since the advance was Pennsylvania, and Virginia. Nearly every year floods simichiefly in industries called out or radically modified by re- larly caused do more or less damage, but last season's loss cent inventions. In agriculture, the conditions of labor in was so great on this account, that most people will be surwhich had been materially changed for the better by the in-prised that such great disastercould be inflicted in two followventor's labors, the annual product had increased in value ing years. Last year the water in the Ohio at Cincinnati the fewest patents in proportion to population being issued from \$1,400,000,000 in 1860 to \$1,800,000,000 in 1870 and reached a depth of 66 feet; on the evening of Feb. 8, it had to Mississippi, which received one for an average of 22,188. \$2.200.000.000 in 1880. It may be a surprise to some to note that the manufactured products of the country now ex- last year's flood. Large numbers of people were compelled cel in value the agricultural nearly two and a half to leave their homes, most of the railroad communications times. Both these great productive interests increased in of the city were interrupted, and there was great damage to value much more rapidly than did the population of the property, although there appears to have been no loss of life. country, demonstrating a largely increased individual capacity of production, thanks wholly to the labors of inventors. women, and children having to be removed from their In 1860 the population was 31,000,000; it rose to 38,000,000 houses by small boats stopping at the windows. About the in 1870, and to 51,000,000 in 1880.

from \$16,000,000,000 in 1860 to \$30,000,000 in 1870 and lagacy of debt, depreciated credit, heavy taxation, and all were flooded, including the homes of 25,000 people. the other evils incident to an exhaustive civil war.

Thus twenty years of unexampled progress were coinciinventors. No one presumes to say that such progress was principal disasters have been on the Ohio and its tributaries. not desirable and beneficial, or that it could have existed or is likely to continue without a continuance of a like degree of activity on the part of those who more than any others make industrial progress possible.

solute control of his invention for a term of years.

stage of industrial pre-eminence and stability at which it can witnessed by several observers besides himself. safely say to inventors, "There is no further need of your efforts," or "We cannot any longer afford to protect you in the ownership of your inventions."

of diameter large enough to cut through a wide or thick appears in those bills which take away the legal safeguards piece of lumber, there is a much lower limit to the econom- of the patent rights of those establishments which contribute phenomena observed at Hamacas, in Porto Rico, and at ical and effective projection of chisel cutters from a head. most of the five billion dollars annual product-a product Sulphur Springs, in Ohio, are connected in some unaccount-One of the largest manufactories of agricultural and domes-that would in two years purchase all the farms of the United able way with the superb afterglows that have formed a tic machinery and implements in the country has used cir- States at their assessed value. Deprived of the power to delightful feature of the season. Flashing lights, flaming defend in the courts their property against infringers, there banners, varied and fantastic cloud-forms, and every imaginwould be little to induce manufacturers to undertake the able tint of color have diversified the sky, and made the commercial development of a large part of the most widely winter of 1883-84 one long to be remembered for its bril-Sooner or later every act of Congress is brought to the useful of all new inventions; and millions of dollars now liant sunsets and sunrises. The phenomenon is ascribed to test of Constitutional sanction or to that of practical work- invested in the manufacture of specialties would be lost, or the presence of volcanic dust, meteoric dust, or moisture. ing. If it fails in the one, it is invalid; if in the other, it is withdrawn for safer uses. To take from the patentee the We may never discover the cause of the gorgeous illuminapretty sure to be repealed as soon as its vicious tendency is absolute control of the manufacture and sale of the article tion that has surrounded the path of the setting and the rising discovered. Temporary delusion or local or party preju- patented would in many, perhaps most, cases forbid his sun, but it will be long before we shall cease to remember its dices may secure the passage of a bad law; but an unjust making any effort to develop it, or prevent his getting finan-result. and impolitic law is not likely to long withstand the will of cial assistance for such work; for who would run the risk

of proving the utility of an invention and making a market On this ground it is fairly certain that the invasion of the for it when the control would be wrested from him as soon property rights of patentees threatened in certain patent as his pioneering and perhaps very expensive work was

ceive the Executive signature. Nevertheless, in a single hoped to enjoy "free trade in inventions," in other words get year, such laws as House bills Nos. 3,925 and 3,934 contem- for nothing the inventions of other nations by allowing no patent rights for foreign inventions, is instructive here. Naturally the plan failed. So long as foreign inventions were freelto all, no one cared or dared to bear the expense of introducing them; their manufacture began as soon as protection argument to prove it here. Nevertheless, a few facts bear- an absolute though temporary control of any new industry they might establish.

Our manufacturing interests are too vast and too intiturbance of such security without national injury. Even the threat of such disturbance should call out protests from

THE FEBRUARY FLOODS.

At Wheeling, Pittsburg, and Cincinnati, great damage high, while a good deal of rain has fallen. This has, of Inventions were not the only, perhaps were not among the course, made rushing torrents of all the feeders of the Ohio reached 63 feet, and gave promise of reaching the extent of At Wheeling one-half of the city was submerged, men, railway stations only the stacks of the locomotives were Meantime the aggregate wealth of the country increased to be seen, and numbers of factories were inundated.

At Pittsburg a large portion of the business part of the \$43,000,000 in 1880; all this in spite of the grievous city was flooded. Between five and six thousand buildings

done at many smaller places on the Allegheny, Monongadent with a period of unprecedented activity on the part of hela, and lesser streams, as well as on the Ohio; but the

..... A REMARKABLE PHENOMENON SEEN AT SULPHUR SPRINGS, OHIO.

A correspondent in Sulphur Springs, Ohio, refers to THE Yet there seems to be in Congress a majority disposed to SCIENTIFIC AMERICAN of the 19th of January, which conchange all this by removing the great incentive to inventive tained an account of a remarkable phenomenon seen in Porto

Our example in the matter of liberality to inventors has nucleus, observed in a four-inch refracting telescope, under effectual. For the same purpose oxalic acid or salts of set half the world at work along the same line of policy, a power of 20, was ruddy in color and quite bright. Our sorrel (hydrogen potassium oxalate) may also be employed, looking to the development of useful arts and manufactures correspondent incloses a sketch, giving the general view as and that most economically, in fine powder to be sprinkled through increase of invention called out by guaranteeing to it appeared to the naked eye, though the nucleus is repre-lover the stains and moistened with boiling water.

We are, however, inclined to think that the celestial

----PATENT OFFICE WORK OF 1883.

The Hon. Benjamin Butterworth, Commissioner of Patents, submitted his annual report to Congress Jan. 29. From it we learn that the total receipts of the office for the The experience of Canada and other British colonies that year 1883 were \$1,146,240, and the expenses \$675,234. There was in the Treasury to the credit of the Patent Office, at the commencement of the year, \$2,205,471; and adding the excess of receipts over expenditures for the twelve months, this fund amounted, on the 1st of January last, to \$2,676,476.

> The total number of applications relating to patents was 34,576, of which 33,073 were for inventions, 1,238 for designs, and 265 for reissues. There were 2,741 caveats filed, 915 applications for registry of trade-marks, 834 for registry of labels, 18 disclaimers, and 640 appeals, making a total of 39,724 cases for investigation and action.

> The number of patents issued in 1883, including designs, was 22,216, and there were 167 reissues, or a total of 22,383, against 19,267 patents and reissues in 1882, and 16,584 in 1881. There were also 902 trade-marks registered in 1883, and 906 labels, while 8,874 patents expired, and 2,366 were withheld for non-payment of the final fee.

New York State received the largest number of patents, 4,359, Massachusetts following with 2,173, and Pennsylvania with 2,168; then come Illinois with 1,792; Ohio, 1,604; Connecticut, 883; Michigan, 727; Indiana, 712; Missouri, 625; California, 596; Iowa, 445; Wisconsin, 394; Rhode Island, 327; and Minnesota, 310. The United States Army is credited with 6 and the Navy with 3 patents. According to population, the District of Columbia received one patent on the average for 318 inhabitants. Massachusetts one for 320, Connecticut one for 705, and Rhode Island one for 845,

The patents issued to citizens of foreign countries numbered 1,259, or 124 more than were so issued in 1882. England takes the lead with 435. followed by Canada with 251. Germany 235, France 179, Austria 33, Switzerland 22, and Belgium 20.

The Commissioner closes his report by directing attention to the inadequate room allowed for conducting the great and steadily growing business of the Patent Bureau, the insufficient force, and the necessity for paying better salaries to command a higher grade of talent in the examining corps. Similar views were expressed by Commissioner Marble last year, but they were unheeded, and the growth of the business now invests them with added force. It is not as though the Besides these principal losses there was much damage cost of such additional help and improved service were to be made at the expense of the tax payers, for the funds therefor have already been accumulated from the fees paid by patentees, and it is no more than justice that sufficient should be appropriated from the receipts to insure the hest possible administration of the business of the office.

Removing Stains from Cotton or Linen Goods, Curtains, etc.

Grease spots are best removed by soap; stains from oil effort, the hope of large reward through the inventor's ab- Rico on the 21st of November. He also describes a wonder colors, as a rule, do not resist the action of a mixture of of the sky seen about that time in Sulphur Springs, though soap and caustic potash. If spots of tar or axle grease are It seems to us that the country has not yet reached that he is not certain as to the exact date. The phenomenon was unaffected by soap, they will usually yield to the solvent action of benzine (so-called), ordinary ether, or of butter, The object was seen in the southwest in a vertical posi- which may afterward be removed with soap and water. For tion. It consisted of a bright nucleus in the center with two ink stains, dilute hydrochloric acid, which must subsetails, one pointing downward and the other upward. The quently be carefully washed out, will generally be found

> The action of these solvents may be hastened by gently rust to be removed, dyer's tin salt (stannous chloride) will perform the work at less expense than the oxalic acid comture of two parts argol with one part powdered alum. Bilberry stains usually yield to the stains of burning sul-The zodiacal light is a lens-shaped appendage of a mystephur. Stains caused by red wine, white wine, and fruit rious nature surrounding the sun and extending a little bejuices in general are treated successfully with salts of soryond the earth's orbit. As seen from this planet, it extends rel or with solution of hypochlorite of soda. The latter upward from the sunset point nearly in a line with the especially must be carefully removed when the ends have ecliptic, or sun's path, reaching to a point in the heavens been attained. Another well-tried plan, when space is available, is to In the tropics the zodiacal light is almost constantly spread the stained fabric on the ground in the open air. visible, and is sometimes sufficiently luminous to cause a smear the spots with soap, and sprinkle ground potash or common salt upon them. Water is added and replaced of a ruddy hue, especially at the base, where it is brightest, when lost by evaporation. After two or three hours' exand puts out the light of the small stars. Sometimes unposure the whole fabric may be washed, and will be usually freed from its stains.—Industrial Record.

inventors some chance of profit from their labors. Every- sented as it was seen in the telescope.

where (save in the House of Representatives) the tendency | We can give no explanation of this strange phenomenon. rubbing, or still better, by placing the stained portion of the is to increase rather than lessen the inducements held out to It was not a comet, or it would have been visible all over fabric in contact with metallic tin. If there is much iron inventors and introducers of new inventions; and other na- the northern world. Its conical form suggests the zodiacal tions are not likely to take the back track if we do. Hither- light, and this soft, faint column of light has already been obto the advantages of liberal patent laws have been on our served and described as unusually brilliant, as well as in pound. Another solvent for such stains consists of a mixside; reverse this condition of things, and how long will we advance of its usual period of visibility. It is seldom seen be able to lead in the industrial race? in this latitude until February and March.

Curiously, those legislators who profess to be most anxious to extend and expand our foreign trade, to build up an American mercantile marine, and all that, are those very ones whose anti-patent tendencies would soonest make it impossible for Americans to command their home market, much less invade successfully the neutral markets of the near the Pleiades, but has no appearance of a nucleus. world in competition with our increasingly inventive rivals. The last improvement in any article commands the trade: if we cease to make these improvements, or the majority of sensible glow in the opposite quarter of the heavens. It is them, our hope of ever attaining commercial eminence will have nothing to rest on.

But a more immediate menace to our industrial prosperity dulations and flashes mingle with its soft, nebulous light.