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INNOCENT PURCHASERS IN THE SENATE.

The House bill to exempt from responsibility the purchasers of patented inventions "in good faith and in open market," regardless of the vender's right to sell, has been carried to the Senate. Its fate there should not be doubtful.

However willing a portion of our rural population may be to try to cure an avoidable evil affecting themselves, by introducing a vastly greater evil the burden of which shall fall irretrievably upon patentees, and however desirable it may seem to certain politicians to win their favor by granting their demands, there is, or should be, in the Senate too much practical good sense to suffer the wrong to be done. The abuses which the farmers complain of are vexatious, no doubt, but it is not to be believed that the country is ready to seek a remedy for them in a law which raises the infringement of patent rights to a semi-legal, semi-honorable occupation, by saying to patent stealers, "Just keep out of the patentee's reach, cover the ground in advance of him, and you can convey as valid a title to his property as he can." The present law, making the unauthorized user responsible for his share of the wrong done to a patentee whose property has been wrongly seized and sold, is the main protection of the inventor in a large class of inventions.

If the infringer's market cannot be spoiled in this way, or in some degree limited, the exclusive right to make, use, and vend, which the letters patent certify, is a delusion and a cheat.

The abuses which the bill in hand essays to remedy, have their origin in conditions for which the patent system is not properly responsible, though, to some extent, the administration of the patent office may be.

One condition, which patent legislation cannot reach and ought not to try to reach, is the ignorance and carelessness of many people in respect to legitimate business practices. They have not learned the tricks of swindlers, and are prone to buy patented inventions from unauthorized dealers, as they buy worthless lightning rods, worthless "specifics" for all human and animal ailments, or good-for-nothing seeds of impossible plants from plausible peddlers and traveling sharpers. This class of "innocent" buyers are slowly learning by experience the advantage of being more guarded in their dealings with unknown and irresponsible parties; and that is all the protection they need.

Another condition, and one which Congress may properly seek to remedy (though not in the way which this bill proposes), is the conflict of ownership in patented inventions, arising from infringements not properly guarded against by the Patent Office, in issuing letters patent for the same device to different claimants, or in allowing reissued patents to cover more than the patentee is justly entitled to claim.

So far as the complaints of "innocent purchasers" are just they are based upon evils arising from conflicts of this nature, too frequently aggravated by erroneous decisions of the courts touching the legal rights of the contestants. So long as men are liable to err, such conflicts, with their attendant evils, are to be expected. They cannot be wholly prevented in this sphere of property interest any more than in all others; but their frequency may be materially diminished by so improving the administration of the Patent Office that wrongly issued patents—relatively few now—shall be still fewer.

It is from this direction that the evils complained of by the advocates of this bill should be attacked. It is well known that the increase in the number of cases brought before the Patent Office every year has largely exceeded the proportionate additions made to the working facilities and personnel of the office. Let Congress be just to inventors before it is generous to infringers. The Patent Office is the only branch of the public service that is self-supporting, and more. If the surplus already accumulated from its fees were devoted to the needed extension of the facilities of the office, and its future excess properly applied to the improvement of its current work, the erroneous decisions, which have given rise to the conflicts complained of with their resultant hardships to unlucky purchasers, might be substantially done away with.

MARKINGS ON THE PLANET MARS.

At the brilliant opposition of Mars, in 1877, when his two moons were discovered, the existence of long narrow streaks, forming a kind of network on his surface, was first detected.

At the opposition of 1879-80, Schiaparelli, the Director of the Milan Observatory, found the same long narrow streaks more than anything else with which terrestrial observers are familiar. He made careful drawings of this unique topographical feature, for he knew that a discovery disagreeing with commonly accepted ideas, unless thoroughly substantiated, would not be acceptable to those astronomers who have firm faith in the physical resemblance between Mars and the earth.

At the opposition of Mars in 1881-82, Schiaparelli again attacked the problem. The result of his observations was as unexpected as it was almost beyond the bounds of belief.

He discovered a remarkable duplication of the previously observed canals by means of parallel lines running through them. And now comes the greatest wonder among all that were revealed. Between the 19th of January and the 24th of February, of the present year, in about twenty instances these lines unfolded progressively before his eyes, stretching out in similar and parallel lines through the canals, and thus duplicating their number.

Nothing but entire confidence in the great ability and experience of the observer will enable us to accept the truth of so startling an assertion. We have faith in the canals and their duplication, but that an observer many million miles away should see lines actually lengthening, pushing their way along with mathematical precision, seems to be something beyond the power of the human vision to penetrate.

The keen-eyed astronomer saw other things on the Martian disk as well as the progressive development of the parallel lines in the so-called canals. Though the opposition of Mars in 1881-82 was under unfavorable conditions, his atmosphere was clearer than it was in 1877. The Professor did not fail to improve the propitious occasion for strengthening the evidence of previous discoveries as well as for making important additions to them. The markings detected in 1877, and seen dimly in 1879-80, were more easily discernible in 1881-82, and the accuracy of the two earlier charts was confirmed in the most satisfactory manner. The other noteworthy observations made at the same time include a variable brightness in some great regions, the progressive enlargement of the "Kaiser Sea" on one side, since 1879, and the brightening of certain supposed continents or islands toward the limbs. The discoverer thinks that he traces a connection between these progressive developments and the seasons of the planet, and earnestly desires that other observers, at the coming opposition of 1884, will trace the same connection, and confirm the observations recorded on his charts. He is preparing a fuller and more detailed account of the wonders seen on the Martian disk, which will be looked for with great interest as a means of calling closer attention to these mysterious appearances.

Schiaparelli ranks among the most distinguished and reliable observers of the age. He made the brilliant discovery that the August meteor zone is made up of a swarm of particles following Tempel's comet in its orbit. He is an indefatigable worker and keen observer, and devotes his life to the progress of astronomical science. Every discovery made by Schiaparelli is therefore entitled to respectful attention, and the remarkable record of his observations on the disk of Mars is not to be looked upon as the result of an active imagination, but as a theme for profound study in the present, and for close observation in the future.

When the sun, the earth, and Mars come again into line, with the earth in the center, at the next opposition of Mars on the 31st of January, 1884, some of the great telescopes that are now being built will be in successful operation. With these increased facilities for a nearer view, we may hope to learn something more tangible concerning the curious movements that are taking place on a planet whose real features are more nearly within the power of the human eye to grasp than those of any member of the solar family.

Manufacture of Steel Pens.

Steel used for making pens reaches the factory in sheets about 2 ft. long by 1 ft. 3 in. wide, and 0.004 inch thick. They are cut into bands of different widths, according to the dimensions of the pen required, the most usual widths being 2, 2 1/2, and 3 inches. The bands are then heated in an iron box, and annealed, when they are passed on to the rolls and reduced to the desired thickness of the finished pen, thus being transformed into ribbons of great delicacy, about four feet long. The blanks are then stamped out from the ribbons by a punching machine, the tool of which has the form of the pen required. The blanks leave the die at the lower part of the machine, and fall into a drawer, with the points already formed. They are then punched with the small hole, which terminates the slit, and prevents it from extending, and afterward raised to a cherry-red heat in sheet-iron boxes. The blanks are then curved between two dies, the concave one fixed, and the convex brought down upon it by mechanism. The pens, now finished as regards their form, are hardened by being plunged, hot, into oil, when they are as brittle as glass. After cleansing by being placed in a revolving barrel with sawdust, they are tempered in a hollow cylinder of sheet-iron, which revolves over a coke fire after the manner of a coffee-roaster. The cylinder is open at one end, and while it is being turned, a workman throws in twenty-five gross of pens at a time and watches carefully the effect of the heat on the color of the pens. When they assume a fine blue tint, he pours the pens into a large metal basin, separating them one from another, to facilitate the cooling. After this process, which requires great skill and experience, comes the polishing, which is effected in receptacles containing a mixture of fine sand and hydrochloric acid, and made to revolve. This operation lasts twenty-four hours, and gives the pens a steel-gray tint. The end of the pen, between the hole and the point, is then ground with an emery wheel revolving very rapidly. There only now remains to split the pens, which is the most important operation, being performed by a kind of shears. The lower blade is fixed, and the upper one comes down, with a rapid motion, slightly below the edge of the fixed blade. To give perfect smoothness to the slit, and at the same time make the pens bright, they are subjected to the operation of burnishing by being placed in a revolving barrel almost entirely filled with boxwood sawdust.—Chronique Industrielle.

EXPLOSION OF CARBON BISULPHIDE.—A fatal explosion recently occurred at Bradford, England, due to the escape of carbon bisulphide into the public sewer. It appears to have come from a grease works where it had been used in the extraction of oil from seeds.