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ADDRESS OF THE HON. S. S. FISHER, U. S. COMMISSIONER OF PATENTS BEFORE THE AMERICAN INSTITUTE.

On the evening of the 28th September, the Fair of the American Institute was honored by the presence of the Hon. Samuel S. Fisher, Commissioner of Patents, who delivered an interesting address on the occasion, which is here given in full. We also present a portrait of this gentleman who has acquired great popularity by his energy and promptness in the transaction of business, as well as by the marked ability he has displayed in the performance of the arduous duties of his office. The vexatious delays which formerly tormented inventors no longer exist; and the whole business of the office has been systematized so thoroughly that it meets with universal approval.

No Commissioner of Patents has achieved greater popularity, in so short a time, than Mr. Fisher. This is due to the rare combination of natural talent and educational fitness he brings to bear upon the work of the office. As our readers are aware he resigned a lucrative legal practice, in accepting the Commission; and the legal acumen which had secured him this practice enables him now to grasp nice distinctions, and to decide quickly and soundly upon all cases which, in the routine of the department, are brought before him.

THE COMMISSIONER'S ADDRESS.

LADIES AND GENTLEMEN: I left Washington with no other object than to visit this exhibition and extend the right hand of fellowship to those who were endeavoring to secure its success. I had no thought of speaking to you, and should have been glad if the managers had been willing to accept the seeing of the eye for the hearing of the ear. I bring you, therefore, no well-considered oration, but desire only to offer a few plain words of greeting, and a thought which it has occurred to me this may be the proper time and place to express. Among the earliest reminiscences of my boyhood are the Fairs of the American Institute, which were held many years ago—so many that I fear to count them—in Niblo's and Castle Garden. Of details I remember very little, except that there were models of ships and steamboats, and that two or three boys lost their fingers by injudiciously turning the horse powers, and that everything wound up with fireworks and a grand flight of rockets by Mr. Edge, of pyrotechnic fame. Once, indeed, at Castle Garden, I believe, the closing exercises were varied by omitting the fireworks, and substituting the bombardment of the Castle of San Juan D'Ulloa by the French, which mimic siege we converted into real earnest in a few years thereafter. From the character of these recollections you will see that I must have been very young indeed.

One thing, however, was noticeable even by my young eyes, and may be noticed now—that nearly every article in the Fair bore upon it the imprint of that magic adjective "patented." Those were the days just after the passage of the great Patent act of 1836, which established what is now the distinctively American system in regard to the grant of letters patent, and yet already the Patent Office had become a power in the land, and was sheltering under its wings the little brood of new-fledged American inventions. I have said that the fact which I noticed in my boyhood may be noticed now. You cannot walk through any of these aisles without finding in every niche, upon every table, above and around you, articles which have themselves been patented or are the product of patented processes or machines. I suppose, if upon your outer wall a banner were displayed announcing that no article would be received for exhibition with the creation of which letters patent had nothing to do, that very few of the many things upon exhibition here to-night would be stopped at the threshold by the prohibition. For this result, this and kindred institutes and associations are, in part, responsible; a responsibility, let me hasten to say, for which they need in nowise be ashamed. These great exhibitions—displays—advertisements—as I think one of your papers has called them, have made many an invention familiar to the public that would otherwise have remained unknown; have given many an impulse to some halting enterprise that would otherwise have failed to reach the goal; have called capital to the aid of genius, by showing to capital where it might profitably be employed. Many an inventor has grown famous, and many

a manufacturer rich, through the medium of your expositions, the awards of your juries, and the distribution of your diplomas and medals. The work of the Patent Office and of all such societies as this, is one. It has for its purpose the protection and development of the inventive genius of our country. We are more especially charged with protection, *you* with development, or, as I suppose you would prefer to phrase it, our motto is, "Protection to American genius," while yours is, "Protection to American industry." How both have prospered in their work may be learned by comparison of the earlier Fairs of this Society with the present, and by a glance at the Patent Office reports.



HON. S. S. FISHER, COMMISSIONER OF PATENTS.

WHAT HAS BEEN DONE IN FORTY YEARS.

During the forty years that this institute has been in existence, the department of huge vegetables, and of quilts with wonderful patchwork, has become sensibly smaller, while that of wonderful labor-saving machines and beautifully-wrought fabrics has become sensibly greater. (I believe I have seen a solitary pumpkin to-day.) In the days when I gazed with delight upon Mr. Edge's fireworks, the click of the sewing machine was never heard; electricity had not yet condescended to come out of the lecture room and enter the lists as a practical science; india-rubber, hard and soft, with its manifold applications, was a mere black and sticky plaster for shoes and ugly overcoats. We had the steam engine, as it came from Watt, and the steamboat as it was left by Fulton.

As for these beautiful textiles, it would have seemed madness to have dreamed that we should ever dare to dream of them thereafter. In the Patent Office, under the act of 1836, the Commissioner and "one examining clerk" were thought to be sufficient to do the work of examining into the patentability of the two or three hundred applications that were offered. Now sixty-two examiners are overcrowded with work, a force of over three hundred employés is maintained, and the applications have swelled to over twenty thousand per annum. This year the number of patents granted will average two hundred and seventy-five per week, or fourteen thousand in the year. These numbers are so startling, when compared with the days of which I have been speaking, that people are sometimes ready, in their haste, to suppose that there must be something wrong about the system, and some have doubtless been prepared to join hands with a few of your disaffected cousins across the water and to demand the repeal of the Patent laws and the abolition of the system itself.

OUR PATENT SYSTEM DEFENDED.

It has occurred to me, that, standing here to-night as the official representative of this system, it would not be inappropriate for me to say a few words in its behalf. In the first place no comparison can properly be made between our system and that of other countries. In England and on the Continent all applications are patented without examination into the novelty of the inventions claimed. In some instances the instrument is scanned to ascertain if it covers a patentable subject-matter, and, in Prussia, some slight examination is made into the character of the new idea; but in no case are such appliances provided, such a corps of skilled examiners, such provision of drawings, models, and books, such a collection of foreign patents, and such checks to prevent and review error as with us. As a result, an American patent has, in our Courts, a value that no foreign patent can acquire in the Courts of its own country. This has rendered property in foreign patents exceedingly precarious. Such as are granted have not been subjected to examination; they have no *prima facie* weight. Yet they may be valid. It is true that no one knows this, not even the inventor; but the possibility that they may prove so makes them weapons in the hands of unscrupulous men to frighten and coerce manufacturers who have very imperfect means, short of litigation, of arriving at the truth or falsehood of the self-asserted pretensions of the patentee. On the other hand, the inventor is in as much doubt as the manufacturer. He does not know what to claim as his invention. As he alone is to fix the limit, as there is to be no revision, he may claim much or little, how much or how little he must always doubt. As a consequence, foreign patents are of doubtful value, and the whole system has fallen into some disrepute.

THE SUPERIORITY OF AMERICAN INVENTIONS IN EUROPE.

I suppose that the foreign patents of American inventors, that have been copies of patents previously granted in this country, are the best that are granted abroad, and I know that many an English or French invention that has been patented without difficulty there, has been stopped in its passage through our office by a reference to some patent previously granted in this country, or perhaps in the very country of its origin. In spite of our examination, which rejects over one third of all the applications that are made, or, more properly, because of it, invention has been stimulated by the hope of protection; and nearly as many patents will issue in the United States

this year as in the whole of Europe put together, including the British isles. But a few days ago I took up a volume of Italian patents to see what progress the new Kingdom was making in invention, when I was amused and gratified to find on every page the name of the universal-Yankee, re-patenting there his American invention, and, I suspect, much the best customer in the Patent Office of united Italy. The truth is, we are an inventive people.

A NOVEL CATALOGUE OF INVENTIONS.

Invention is by no means confined to our mechanics. Our merchants invent, our soldiers and our sailors invent, our schoolmasters invent, our professional men invent, aye, and our women and our children invent. Cheap protection has been a fertilizer that has produced much growth of brain and much fruit of discovery. One man lately wished to patent the application of the Lord's Prayer, repeated in a loud voice, to prevent stammering; another claimed the new and useful attachment of a weight, or other article possessing gravity, to a cow's tail to prevent her from switching it while milking; another proposed to cure worms by extracting them by a delicate line and a tiny hook baited with a seductive pill; while a lady patented a crimping pin, which she declared might also be used as a paper-cutter, as a skirt supporter, as a paper file, as a child's pin, as a bouquet-holder, as a shawl fastener, or as a book mark. Do not suppose that this is the highest flight which the gentler sex has achieved. It has obtained many other patents, some of which have no relation to wearing apparel, and are of considerable value.

THE VALUE OF PATENTS CONTRASTED.

But, I am asked, what proportion of all patented inventions prove to be valuable to their projectors or to the public? One-tenth? Probably not much more than that; but, let it be remembered, there are few failures so harmless as that of a useless invention. The patent gives it a chance to prove itself

worthy of the public patronage. It simply declares that if it be good it shall not be stolen; but, if it be useless, nobody will want to steal it. But of all those who enter upon any occupation of life, how many succeed and how many fail? How many young men have entered the bar, and have failed to take rank with Evarts, O'Connor, or Brady? How many have launched their bark, laden with mercantile ventures, and have been stranded, while Clafin and Stewart were sailing into port? How many have been moved to "start a paper," who have lived as long, but not to as much purpose, as Raymond, Bennett, or Greeley? I suppose that nine failures to one success is a very fair proportion for the professions of the world, including that of the inventor; or, at all events, I do not suppose that the failures among inventors are more numerous than among every other class of workingmen. As to property in inventions, I shall not stop to discuss it. That a man having, by long experiment—by patient thought—by brilliant genius—by the expenditure of time and of means, conceived and brought to perfection and embodiment some new idea, having created some new substance, put in motion some new machine, put some old force to new work, or given to some new force a field for labor, is not entitled to call this which he has done his own and to set his price upon it, need not I think be argued before honest men? If we owe nothing to the men who have made this century so illustrious by their great conceptions, then we owe nothing to anybody, and reputation ought to be the watchword of the age.

A CASH DEBT DUE INVENTORS—HOW TO REWARD THEM.

We do owe them much, not merely a debt of sentimental gratitude, but a debt payable in cash, which shall lift them above want, and place them upon such a pinnacle of happiness that the world shall say, "Thus shall it be done unto the man whom the nation delighted to honor!" How shall we give pecuniary consideration for inventions? There are two ways in which this might be done. One is by the purchase, for cash, by the Government of all inventions, for the use of the nation. This plan is met at the outset by the impossibility of determining the value. Every inventor supposes himself to have a fortune in every conception that he puts into wood and iron. Stealing tremblingly and furtively up the steps of the Patent Office, with his model carefully concealed under his coat, lest some sharper shall see it and rob him of his darling thought, he hopes to come down those steps with the precious parchment that shall insure him a present competency and that shall enrich his children. I should think if he were offered a million, in the first flush of his triumph, that he would hesitate about touching it without sleeping over it for a night. Yet fourteen thousand millions would be a pretty heavy bill to pay from a treasury not over full. Fourteen hundred millions might be thought an important addition to the national debt, or even one million four hundred thousand, which would be just \$100 a piece for all the patented inventions of 1869. I think, therefore, that we may set aside the plan of purchase as impracticable.

HOW TO DEAL JUSTLY BY THE INVENTOR.

No commission could satisfy the inventor, and no price that we could afford to pay would take the place of the stimulus of the hope of unlimited wealth which now lightens his toil and shines like a beacon at the entrance of the harbor that he hopes to make. The other plan is to offer protection for a limited time, in payment for the new discovery. We may say to the inventor, "You have a valuable secret, which may benefit us. To disclose it without protection would be to lose it. To keep it would deprive us of its use. If you will disclose it to us by so describing it and illustrating it, as that we may fully understand it and may avail ourselves of it without difficulty, we will agree that for seventeen years you shall be protected in its use. You may make out of it what you can. When your limit of time has expired we shall have it without further payment. We cannot pay you in money, we will pay you in time." I submit that this is a fair bargain. A new thought developed, explained, described, illustrated, put on record for the use of the nation—this on the one side. The right to the exclusive benefit of this new thought for a limited time, and protection in that right—this on the other. This is the patent system. A fair contract between the inventor and the public—ideas paid for by time. It is manifest that the utmost good faith is required upon both sides. On the one hand there must really be an invention; no stealing of the ideas of other men, no crude notions resulting only in experiment. The inventor must have something to sell. On the other hand there must be protection—no infringement, no piracy, no stealing of the soul of the invention by clothing it in immaterial changes of form.

THE INVENTOR'S BEST SECURITY IS TO TAKE A PATENT.

To secure this fair dealing we have, on the one side, the Patent Office, with its examiners, its drawings, its models, its books, and its foreign patents, to scan and test the invention. On the other side we have the courts of law to protect the inventor and punish the thief. It is possible that these instrumentalities may do their work imperfectly. This may sometimes happen; but to the extent to which they do it, a fair contract for an honest and useful purpose is made and is maintained. This is the American system. Under its protection great inventions have been born, and have thriven. It has given to the world the steamboat, the telegraph, the sewing machine, the hard and the soft rubber. It has reconstructed the loom, the reaping machine, and the locomotive. It has trained up each trunk of invention until it has become a graceful tree with many branches, adorned with the fruits of many improvements and useful modifications. It has won from the older homes of the mechanic arts their richest trophies, and, like Columbus, who "found a new world for Castile and Leon," it has created new arts, in which our nation has neither competitor nor peer. Without the protection of

our Patent laws, no such exhibition as this would have been possible. By far the greater number of the inventions which now crowd the shelves of the Patent Office would be missing. No doubt many weaklings would thus have been spared a contact with a cold and unfeeling world; but many vigorous children, that have come to a robust manhood, would have perished long since for want of sustenance. Men will not take the risk of introducing new inventions, of educating the people in their use, of overcoming opposition and prejudice, unless they can be assured of reasonable protection in their work until their capital has made return. They will not sow that others may reap, and, when the land is ready for the harvest, come forth with greater capital and more laborers, and thrust aside the pioneer who has borne the burden and heat of the plowing and cultivating. For the proper administration of such a system as I have attempted to sketch, it is manifest that much skill and honesty are needed in the Patent Office, in all its departments. Speaking for the gentlemen associated with me, I believe them to be both skillful and honest. They pass in review many valuable interests. They are attended by a body of skillful practitioners. They are beset by an array of eager inventors. If in the examination of twenty thousand applications they make no errors, they would deserve statues of gold. That they make no more, and that in all these years and in all their number well-founded charges of corruption have been few and far between, are strong tributes to their integrity and ability. On behalf of this great American bureau of invention, I bring you greeting to-night; on behalf of the one hundred thousand American inventors whom it represents, I bespeak for it your cordial support and sympathy.

ROQUEFORT CHEESE.

[From the Grocer.]

The preparation and maturing of Roquefort cheese are the most elaborate, careful, and interesting of all cheese-manufacturing processes. In its rich color and blue vein marbling, it bears a close resemblance to our Stilton, the most esteemed by the *gourmet* of all native cheeses, of which, perhaps, it is the most carefully made. The art of dining is an eminently progressive art, and with the advance of knowledge and the refinement of taste, the Roquefort cheese increases in respect. The amiable and witty Brillat-Savarin, who was the most enlightened of gastronomes, has said that a dinner without cheese is like a lovely woman with only one eye. Many other gastronomes go further than this, and declare that no choicely concocted *menu* is complete without *fromage de Roquefort*. It cannot be regarded as a new favorite by any means; indeed it may be said to be as old as the hills which give it birth, for it was a familiar delicacy to the Roman palate, and its praises were sung by Pliny. The birthplace of Roquefort cheese is in the mountains which rise in the south-east of France, half way between the Eastern Pyrenees, and the beautiful but boisterous gulf of the Mediterranean, called the Gulf of Lyons. The village of Roquefort, in the French department of Aveyron, is a place somewhat difficult to get at. It is about ten miles from the railway station at Milhau. It lies on the flank of a mountain in one of the most beautiful valleys of France. It is sheltered by forests of superb chestnut trees, a limpid mountain stream runs before it, while behind tower the rugged sides of the plateau of Larzac, 1970 feet above the sea level. It is upon this plateau that the immense flocks of sheep from whose milk the cheese is made find their food. In the sides of these rocks is excavated a perfect *cheese-citadel*. The cliffs are honey-combed in every direction with caverns, natural and artificial, some of them five stories in height. Hence we find in this district a happy combination of requisites; the summit of the plateau offering pasturage, the broad flanks of the rocks caves for warehousing and ripening, while the village so snugly nestling below supplies the human elements of the trade. The food which the ewes obtain upon the stony pasturage is composed of herbs of the choicest flavor, and a great deal of the superiority of this kind of cheese may be attributed to this cause; but it is to the caverns of Roquefort, above all, that the success of the comestible is due. The average temperature of these caverns is about 30° Fahrenheit. The learned have been fertile in theorizing as to the causes of this low and equable temperature; but, according to M. Turgan's great work "Les Grandes Usines de France," to which we are indebted for a great deal of the information to be found here, no generally accepted explanation has yet been given. Whatever may be the cause, these cool vaults were turned to good use by the local shepherds from the most distant times, and Roquefort cheeses are very often mentioned in old French charters. By an edict of the parliament of Toulouse, in 1550, the monopoly of the Roquefort cheese manufacture was granted to the village of that name, and other persons were prohibited from making it. As time went on, and commerce extended, the reputation of these caverns spread till the country folks, for miles around, came to offer payment for the privilege of depositing their cheeses in these rock-warehouses. A better system of trade was inaugurated at a later period. By this improved mode, which simplified the process of production and sale, the producers sold their wares to the proprietors of the caves, who kept the cheeses till they were perfectly ripened, and then sold them on their own account. Just before the close of the last century, the entire trade was in the hands of three rival firms, and the annual production was about 250 tuns. Between the years 1800 and 1815 the production rose to 500 tuns. After the fall of Napoleon, and until about 1830, there was an almost perfect stagnation of trade in France. The cheese fell in price, the three monopolists were ruined, and the Roquefort establishments passed into new and more numerous hands. Sub-

sequently the trade was exposed to vicissitudes, out of which however, it came triumphant, and at the present day it is in a flourishing condition; it is better organized, and its commercial relations are widely extended. As we have stated, the cheese of Roquefort is made from the milk of ewes, of a particular breed, called the Larzac breed, named after the plateau of Larzac, which was their original feeding ground. Some years ago many attempts were made to improve the old style of manufacture, by using the milk of the cow and of the goat, as well as by introducing another breed of sheep; but these experiments always turned out unsuccessfully. Forty years since, General Salignac put to the Larzac ewes some merino rams. He desired to try the effect of crossing—hoping to get blended in the cross-bred animal the milk-producing qualities of the ewes, and the silky merino of the ram. Unfortunately his experiments were imitated by others, for the result was a great falling off in the production of milk. A new order of things now prevails; the sheep-owners seek for animals of the pure race, careful feeding and the best hygienic conditions are relied upon to improve the quality of the fleece. But it is the milk-producing powers of these animals that occupy the farmer's most anxious care. At the present moment there are about 350,000 sheep. We may set down the rams, lambs, sick beasts, etc., at 150,000; the remaining 200,000 are milk-producing ewes. The average value of a three-year-old ewe is 20 francs. At the age of seven years they are fattened up for market, and are sold to the butcher at the September fairs, at an average of 15 francs each. It used to be the plan to feed the sheep exclusively on wild thyme, lavender, rosemary, sage, and mint, together with such other kinds of herbage as could be found growing in the rocky crevices of the stony plateau. A cow could never find sustenance in this region, even if she could pick her way over the rugged ground. Lately, however, various successful attempts have been made to introduce Burgundian hay, which has been found capable of sustaining the almost tropical heat of midsummer in this region. Each ewe yields an annual profit to her proprietor of 28 francs—that is to say, milk, 20 francs; wool, 5 francs; and lamb, 3 francs. The average annual production of six ewes is about 200 lbs., which is about double what they gave a century ago. This increased yield is due to careful keep of the animals; they never pass the night in the open air, but are brought home from the pasturages every evening to clean, spacious, and well-ventilated sheep-folds. After being allowed a rest of one hour, the whole of the ewes are driven out into a roomy courtyard, where they are milked. It requires seven persons to milk, twice a day, a flock of two hundred ewes. The way in which they are milked is somewhat peculiar; each ewe passes through three different hands. The first draws from the teat all the milk he can, by gently pressing the udder; this done, he passes on the animal to the milker seated next him. This latter gives two or three sharp blows with the back of his hand upon the teat, and then milks until the udder appears to be exhausted. The third milker then takes the ewe, strikes it in a similar way, and draws away whatever remaining milk there may be in the teat. It is usual to mix the evening's produce with that of the following morning, obtained before the departure of the flocks for the pasturage. The evening's milk is heated up, but as a rule the morning's milk is not. After being mixed and curdled by rennet in the ordinary way, the curds are subjected to very great pressure to get rid of as much whey as possible. The curd is then placed in earthenware molds, with holes pierced in them. Between the different layers of curd there is placed a small quantity of a bluish-green powder, which is supplied to the ewe-owners by the proprietors of the caves. This powder is nothing else than mold of bread prepared in a certain way specially for this purpose. The powder acts as a ferment, which, during the subsequent sojourn of the cheeses in the caves, hastens the production of those blue veins which the connoisseur exacts in his *fromage de Roquefort*. The cheeses are turned many times during the three days in which they remain in the earthenware molds. They are frequently wiped, so as to dry them without heat, and during the drying stage they are often wrapped in coarse cloths to prevent them cracking. When they have acquired the necessary consistency, they are transferred to the caves. The very best kinds of Roquefort cheese are produced in the immediate environs of the village of that name, but the adjoining valleys of Camarés and Sorgue produce a great quantity of less excellent kinds. The difference in quality is due to the fact that the pasturage is superior in the neighborhood of Roquefort. The cheeses are sold at the various fairs held during the year in the department of Aveyron. A society of proprietors purchases the cheeses from the producers at a fixed price; and by carefully drawn-up agreements the former engage to take all that the latter can produce. By this method, which appears to suit both parties, the precious cheeses escape being hawked about on hot and dusty country roads. They pass at once from the dairy to the caves. Many of the farmers forward their produce to the caves in carts, but for the most part the cheeses are taken thither on the backs of mules, which set out before sunrise so as to escape the heat as much as possible. Each description of cheese has its own distinctive mark, which shows from which dairy it has come. By this mark its maker can always be recognized. Should there be any faults of shape or quality, the maker has to answer for them to the cave proprietor. As a rule, however, the agriculturists never attempt fraud. At this stage, the cheeses weigh about 6½ lbs. each, are about eight inches in height by four in diameter, and of a shining white color. They are all examined on entrance to the receiving room of the caves, after which they are forwarded to the salting-hall, there to undergo special treatment. The temperature of this salting-hall is not less than fifteen degrees lower than the outer re-