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WANTED: A LEGAL PROCESS FOR CONFISCATING INVENTIONS.

Seriously, a legal process for the confiscation of certain kinds of property is just now urgently called for. It is very much needed—by a few rattle-brained extremists of the communistic sort, do you say?

We do not mean them. They are neither numerous enough nor influential enough to be taken account of here. The parties now begging for legal power to seize and convert to their own uses such property as they desire and do not wish to pay for, are not communists. They have a most wholesome respect for tangible property. They are clear-headed business men, and rank among the most honored and honorable in the land.

Impossible? Paradoxical rather, yet absolutely true. The parties interested in this iniquitous scheme are great among the financial and political powers; and they mean to get what they want. Already a bill drawn in their interest is before Congress, and there is no small danger of its becoming a law. The property they covet is, to be sure, intellectual property; but that does not change in the least the principles involved. Nor does it lessen in the least the wrong of the proposed robbery to describe the property to be seized upon as "abandoned and worthless."

The logic of the would-be confiscators' plea runs somewhat like this. Certain persons have taken out patents which have no real or practical value. The inventions patented have never been put into successful use, either because of imperfection or because the owners of them have not had the means to develop them. Be that as it may, the patents lie undeveloped or abandoned, consequently worthless. But these worthless patents are a serious hinderance to the complainants, who want to use the principles or devices they involve in the conduct of their affairs. To be restrained from so using them by the unexpired life of the patents, is to be subjected to inconvenience and serious loss. Consequently the complainants demand that the patent law be so changed that they may freely use these "worthless" yet desirable devices without being called upon to account therefor to the inventors.

Speaking in behalf of railway corporations, the Chicago Railway Review puts this plea very plainly; and argues it with amusing unconsciousness of the circumstance that the desire of the railway companies to confiscate and control such patents puts the reality of their value in the plainest possible light. If they were worthless, as alleged, nobody would want them. After describing the disadvantages the railways labor under in consequence of the vitality of unused inventions, the Review says:

"The railroads, therefore, demand nothing but simple justice when they ask that some modification of the law be made which will put an end to claims made under these abandoned patents. We will not attempt, at this time, to suggest the exact modification which would secure this end. We only insist that the principle should be embodied in the patent law in some practical form. Possibly a provision limiting a recovery, in a suit for infringement, to damages accruing during such periods only while the invention was in successful public use, under direct license or authority from the patentee or his assigns, and to such an extent as to give general notice to all of its successful operation, would be sufficient to accomplish the purpose."

No doubt it would: certainly in case, as the Review insists: "This provision should be so worded that the courts would construe the term 'successful use' so as to mean more than a mere provisional experiment, or one especially arranged to comply with the requirements of this act. It should be successful, not merely in the sense that a machine could be constructed under the patent which could be made to do the work for which it was designed, but that, as matter of fact, its manner of doing this work had so commended itself to the public, that it had passed into such profitable and sufficiently extended use as to entitle it to be termed a success in the ordinary acceptance of that term."

The Review suavely remarks that "much more stringent provisions could be framed;" but it considerably rests with the above, against which it can see no "just objection." Perhaps not: perhaps, on the other hand, inventors might. Let us see how it would work.

Mr. A. makes and patents an invention designed to increase the cheapness, safety, or simplicity of some appliance or process of importance in railroading. The more valuable the invention the more the railroads will have to pay for the use of it; we might add also, the more it will contribute to their prosperity, but that is beside the question. The pregnant fact in this connection is that the railroads will have to pay for the invention if they use it; and naturally they will prefer to use it without paying.

Now the inventor cannot build railroads for the sole purpose of applying his invention. To prove it successful "in the ordinary acceptance of that term," as the Review has it, the invention must be used continuously and profitably on some existing road. The interest of the railways lies in proving it not a success, and the proof rests entirely with them. The invention is tried, but for obvious reasons its use stops with "a mere provisional experiment." The railway officials declare it a failure, and prove it such, in the eye of the law, by declining to use it.

Subsequently the proper person in one of the railway shops makes the required "improvement," whereby the invention becomes just the thing. The "improved" device is put upon the roads, and the companies reap their reward. Meantime the real inventor is out in the cold. He may

whistle for his pay, since the law debars his recovering anything for the "worthless and abandoned" prior invention, which never passed beyond a mere preliminary trial.

Candidly, the communists' demand for a "fair divide" is manly and honest compared with such a roundabout legal confiscation of all an inventor's rights.

We do not charge the advocates of the proposed amendment of the patent law with any intentional robbery: they have merely made their demand a little too strong. It rests with Congress to say whether progress in the sciences and the practical arts is to be "encouraged" by devices so transparently unfair to inventors.

GEOGRAPHICAL PROGRESS.

The annual address of the President of the American Geographical Society furnishes as usual an interesting review of the past year's work in geographical exploration. The grandeur of Stanley's achievement dwarfs all the rest to relative insignificance; nevertheless enough else was done in other parts of the world to make the year a notable one for geography even with Stanley's work left out.

In our own western territories and in certain portions of South America an unusual number of expeditions for geographical exploration have been sent out; and considerable good work has been done also in Central and Eastern Asia, the Indian Archipelago, and Australia. In Asia many explorers have been at work in Palestine, Persia, Turkestan, Thibet, China, India, and Japan. In South America Rivira and Werthemere have explored the mountains of Peru; Weiner has been at work in Bolivia, and Moreno in Patagonia.

At home the explorations of the United States corps of engineers have been, as our readers already know, both extensive and notably successful. The same may be said of the surveys under the direction of Professor Hayden. Of more immediate interest to ourselves has been the resurvey of the eastern portion of our own State. The triangulation has been carried through the eastern central part of the State, covering an area of 3,000 square miles between the Hudson river and the sources of the Mohawk, as far west as Utica, and embracing parts of eleven counties. During the coming season the triangulation will be carried across the entire State. The work is of the highest order of accuracy, every important point being located with absolute precision. Thus far the survey has not found a single town where it was represented to be on the old maps, many of them being a mile out of the way.

In Central America the reconnoissance of Lieutenant Wyse of the French navy has exploded the reports which the French have held to (in spite of the abundant testimony of American explorers to the contrary) that a ship canal without locks was possible across the Isthmus of Darien. His conclusion is that no navigable channel is possible between Tuyra and the Otrato without locks or tunneling. The researches of Dr. Le Plongeon among the ruins of Chichen Itza, Uxmal, and Aké in Yucatan, and on the once famous islands of Azumel and Mujeres, are mentioned with commendation; and the doctor's claims to the discovery of written and other evidence of communication between the people of Yucatan and the ancient people of the west coast of Africa are favorably noticed.

No real work was done in Arctic regions; considerable attention, however, is given to Barry's reports with regard to the finding of relics of Sir John Franklin's ill-fated expedition, near the Gulf of Boothia, north of Hudson's Bay. Sir Leopold McClintock has intimated to the British Admiralty that Barry's story is not worth much; Justice Daly, on the other hand, is convinced that Barry not only means to tell the truth, but has a sufficient acquaintance with Esquimaux speech to make his report of Esquimaux stories trustworthy. He believes, further, that the information Barry gives is sufficient to justify the sending of an expedition to examine the spot where the Netchelli say the white men died, and where their cairn is containing books and papers.

Stanley's conquest of the Congo is next reviewed at great length, and his course in fighting his way, when opposed, is unreservedly justified. Summing up the whole of Stanley's work in Africa, the speaker said, "It may truthfully be said that no man has ever, in explorations upon the land, done so much for the acquisition of geographical information," and with respect to the Congo and the Nile, "He has solved an enigma that has attracted the attention of the world for ages, and has fixed his name in the foremost rank of geographers, explorers, and travelers."

A CONGRESSIONAL SCIENTIFIC EXPEDITION.

The Senate Committee on Commerce has reported favorably a bill to authorize the granting of an American register to a foreign built ship for the purposes of the Woodruff Scientific Expedition. The bill has already passed the House of Representatives; and it operates to enable the projectors of the above named scheme to purchase a vessel abroad and sail her wherever they choose under the national protection. The measure also virtually gives national recognition to the project as of superior scientific importance.

In view of the foregoing, the New York Tribune has made a careful investigation of all the circumstances attending the inception and progress of the scheme, and publishes a long and detailed account thereof.

A couple of bankrupt adventurers who had failed disastrously in one of the real estate schemes common in the

growing cities of the West, revamped the old idea of a traveling expedition, called it "scientific" to commend it to the intelligent, and came to New York city to set it in operation. College professors were interviewed, and their support obtained through the magnificent prospectus set forth, and a show of substantial backing was thus secured. The preliminaries to chartering a vessel were begun, and then the mails were flooded with pamphlets replete with glowing descriptions, combined with gross inconsistencies and misrepresentations. The subscribers, however, who were expected to come forward and pay \$5,000 each for the privilege of accompanying the expedition, failed to appear, and the contract for the vessel expired by limitation.

The next step was to cut down prices, begin preliminaries again for a cheaper vessel, and send out a fresh batch of advertisements, in which misrepresentations were even more frequent than before. This also met with no success, and the projectors, finding that financial ingenuity and unlimited assurance were not as attractive as they imagined, sought in the person of Mr. John Roach, the well known shipbuilder, an indorser who would build them a ship, and by so doing commend their wild cat enterprise to public favor. But Mr. Roach was not to be so easily captured. He liked the idea of a scientific expedition, and was willing to help it by building a fine vessel on very liberal terms; but the projectors he evidently did not fancy, as he insisted on their placing the management in the hands of a well known banking house of this city, and in those of a committee of parents of subscribers—when the latter should appear. The adventurous couple, however, calmly disregarded this promise, and the result was another batch of advertisements asserting positively that Mr. Roach guaranteed the scheme, etc., which Mr. Roach promptly suppressed.

Thus, after three trials, the Woodruff Scientific Expedition consisted of only its two originators, for the naval officers and professors who had been induced to lend their names by specious promises had long since backed out. But the genius of the pair was still fertile. They remembered the hundreds of old steamers retired from service, now rotting in English docks. One of these can be obtained almost on any terms, and the grant of an American register would probably obviate the necessity of any payments, and allow them to get the ship "on tick." Accordingly, with unblushing audacity, which bears its falsity on its face, the couple coolly inform Congress that there are at present no ships under our flag suitable for their purpose, and demand a register for a foreign hulk.

The whole business is a miserable catch-penny deception, based on nothing but speculation. To stamp it as representative of American science would be shamefully unjust to all who have the real scientific advancement of the country at heart, and discreditable to the nation generally. Congress should promptly throw out the bill and leave this pair of speculators to invent a scheme which will not make the country a participant in their jobbery.

#### EDUCATED BRUTES AT THE NEW YORK AQUARIUM.

There is now on exhibition at the New York Aquarium a collection of trained animals, the performances of which indicate a degree of intelligence which is very remarkable. There are ten Broncho horses, a number of dogs, and a pair of Rocky Mountain goats, all of which possess accomplishments sufficient to fill up a long and interesting programme. It is stated that the horses were wild upon the plains three years ago, and consequently that during this brief period their education has been effected. In beginning the performances the whole ten are first introduced, and at the word of command they perform various military evolutions, such as marching in line abreast, in columns of fours by the flanks, etc., both at common and quick time. A handkerchief given to one is passed to the next and so on from mouth to mouth of the ten; any one horse called by name steps forward, and finally the act is closed by one of the number, who goes to each of his comrades in turn, and, crowding him out of the line, pushes him with his nose as a signal for exit.

Each horse is then introduced in turn to exhibit his special accomplishments. One walks up and to the middle of a balanced board, and there by moving his fore feet oscillates the plank, accommodating every muscle of his body to the movement. Finally he retires to one end of the board, bearing that extremity down and leaving the other high in the air. A second horse now called in puts his nose over the elevated end of the plank, forces it down until he can plant his fore hoofs on it, and then mounts thereon. The curious sight is then presented of two horses at the respective ends of the "teeter" gravely swinging each other up and down. The difficulty of teaching all this to an animal so careful as to stepping on insecure supports as the horse is can well be imagined. Perhaps the most remarkable feats accomplished on the board, which is quite narrow, are the turning around of a horse (who stands directly over the fulcrum, and is compelled while turning to balance himself with great care), and the rolling of a barrel over the whole length of the plank. Trainers find that it is an exceedingly troublesome undertaking to get a horse to do anything with his front hoofs which involves raising them to any height, but here the animal plants both hoofs on a barrel and rolls it up one side of the balanced board. Then as the latter swings over the horse catches the barrel with the rear side of his hoofs, and walks down the steep incline holding the barrel back. There are several tricks commonly performed by trained horses in circuses which these animals execute with remarkable readiness and accuracy. One of them selects a

flag of a given color out of three of different hues; another unties a handkerchief knotted around his hind leg, or around that of another horse; a third jumps over a gate, then turns and pulls a string which fires a pistol attached to its surcingle; a fourth waltzes in excellent time to music; and a fifth, a magnificent cream colored animal, accomplishes an astonishing leap over a six foot gate and four horses placed side by side against it.

The exhibition of the horses is followed by that of a troupe of dogs, one of which exhibits considerable skill as a rider on a pad saddle. It leaps over banners and through paper hoops, and finally springs upon a platform under which the horse passes. Then as the horse returns at a gallop around the ring the dog springs from the platform back upon the saddle. The eagerness of the dog in watching for the return of the horse, and its prompt retrieval in case of failure, seem to show that it takes actual pleasure in its performances.

The troupe of trained dogs appear to belong to no particular breed—a fact somewhat extraordinary, as trainers usually prefer to teach the intelligent French poodle. The performance opens with roll call, each dog answering to its name by a sharp bark. One animal then dances, two dance on their hind legs and seat themselves human fashion in small chairs, and others jump the rope. The most curious trick is one in which all participate. At the word of the trainer one of the animals takes off its collar with its fore paws. As the collar falls upon the ground a little dog runs forward, seizes it, and scampers away. Another animal pursues him, regains the collar, and puts it on. The trainer then asks, "What ought to be done to a dog that steals?" No sooner are these words uttered than two dogs jump upon chairs, to which uprights having large hooks at their upper extremities are secured. A third dog picks up a cross bar in his mouth, carries it to the two on the chairs, and these lift it up and insert it on the hooks. The trainer meanwhile slips a noose over the small thief's head, and another dog grasps the end of the rope and drags the culprit to the gallows. The problem then is how to get the rope over the cross bar, but this is quickly settled by the executioner jumping over the bar with the rope in his mouth. The hangman then pulls the cord, and lifts the struggling victim into the air, keeps him up for a few moments, and lowers him apparently dead. A wagon is now brought in and the hanged dog placed in front. Immediately one large dog places himself between the shafts, two more seat themselves upright on the seats, and another two push the vehicle from behind, and with the exit of the latter this little melodrama, which is played through without a word from the trainer or any other help than the affixing of the noose, terminates.

The accomplishments of the Rocky Mountain goats—large white animals with enormous horns—are the more curious, when the stupid, phlegmatic nature of the brute is remembered. Yet they leap upon the backs of horses, ride around the ring at full gallop, and are not displaced even when the horses take flying leaps over high fences. One of the goats emulates the dog in leaping upon and from a platform; but the solemn manner in which this is done, and the pertinacity with which the goat refuses to jump down until the horse is placed in what he considers exactly the proper position beneath him, are very ludicrous. A remarkable act performed by both goats is circling from one horse to another while at full gallop. The horses run side by side, and the goat on one places his fore feet on one pad and hind feet on the other; the other goat does the same. Then they follow each other in a circle, passing from horse to horse and back again.

The Aquarium is rapidly accumulating a collection of really wonderful specimens of the brute creation. A large cage now contains a dozen or so flying foxes—the nearest living link between bird and brute—which eke out their inverted lives hanging from the top bars of their prison. The monkey-faced hen we described in a recent number constantly attracts a curious crowd. A huge rattlesnake has recently been added, and divides popular interest with the baby hippopotamus and the giraffes. The latest addition was a pair of young chimpanzees, captured in the northern part of Africa, one of which has since died. The young male had the look of an old man, and the resemblance was ludicrously enhanced by the grave manner in which he sat and regarded visitors, while placidly pulling the tuft of white whisker under his chin. The female is covered with long black straight hair, especially about the head. She is the least ugly of the two in face. We shall probably present a picture of this interesting pair before long, as they are the first of their species ever brought over to this country.

It is hardly necessary to add that with the splendid collection of rare fishes, in addition to the above named attractions, the Aquarium just now is an exceedingly interesting place to visit.

#### Professor C. V. Riley.

We understand that the present entomologist of the Department of Agriculture is about to retire, and that the Commissioner contemplates calling Professor C. V. Riley to that post. Professor Riley is well known as the Chief of the United States Entomological Commission charged with the study of the insect pests which have devastated portions of the West, as State Entomologist of Missouri, and as an exceedingly able writer on all entomological subjects. His labors in this field have been long, arduous, and fruitful, with many contributions to knowledge. The Commissioner could hardly find a scientist more thoroughly suited to the position above mentioned.

#### "HEAT IS LIFE—COLD IS DEATH."

There is no greater fallacy than the opinion held by many, particularly the young and strong and vigorous, that winter—especially a sharp, frosty one, with plenty of snow—is the most healthy season of the year. Very few persons seem to realize the fact that cold is the condition of death, and that, in both warm and cold climates, it is our unconscious effort to maintain our bodily heat at a temperature of 98° that wears us out. To this temperature, called "blood heat," every cubic inch of oxygen that serves to vitalize our blood must be raised by our own bodily heat, or life ceases. Since in cold weather the maintenance of a sufficiently elevated bodily temperature becomes very often a difficulty too great for our strength, the advent of a severe winter is really more to be dreaded than the visitation of a pestilence.

The saying, "Heat is life—cold is death," has a striking illustration and confirmation in the reports now regularly submitted by Dr. Russell to the Glasgow Sanitary Committee. The death rate rises and falls with the regularity of the thermometer. So many degrees less heat, so many more deaths, and *vice versa*. In a recent fortnightly report Dr. Russell says: "The death rate in the first week of the fortnight was twenty-one, in the second week twenty-five. The mean temperature in the former week was 40° 8' Fah., in the latter 39° 5'." He attributes the low rate of the first week to the high mean temperature of the preceding fortnight, which was 47° 3', and adds: "This is a good illustration of a law which we frequently observe in these reports of temperatures and death rates—that a week of low temperature produces a rise in mortality the week following."

In our climate it would probably be difficult to find a more frequent cause of serious ailments than taking cold. Whatever weak place we have, whatever constitutional disorder we be subject to, cold will surely discover. We take cold because our vitality is too low to ward off the effects of the reduced temperature around us. As a matter of the first importance, then, to resist cold and the various derangements of the system consequent, it is necessary by proper nutrition to maintain our natural animal heat; second, to retain this heat by a sufficient quantity of clothing; third, to regulate with care the temperature of the air we breathe. Contrary to the opinion current among lovers of cold weather, a fire in a bedroom in the winter is cheaper and better than a doctor's bill; for, owing to our inactive condition during sleep, the circulation of the vitalizing blood is both slow and imperfect, and hence the danger of taking cold by breathing cold air is greatly increased.

A cold is the beginning of everything that is bad. If any one conscious of having caught one feels cold chills creeping up the back, let him apply a mustard plaster to the bottom of the spine and lower part of the back at once; and by so doing he may avert a dangerous illness before it is too late and medical advice can be procured. It should never be forgotten that "Heat is life—cold is death."

#### THE LESSON OF THE CHINESE FAMINE.

In the northern province of China seventy millions of people are starving. Famine is no infrequent visitor in those parts, but never before has abject want been so widespread or severe.

For centuries the sterilizing influences, which have converted the once densely populated regions of central Asia into a vast desert, have been reaching eastward. During the past two hundred years the desert has been encroaching upon northern China, the regions now afflicted undergoing in that time a climatic change almost without parallel in the history of civilized countries.

The fertilizing water courses have disappeared; massive bridges now span river beds whose floods have wasted; and everywhere the traveler finds evidence of a former population rivaling in density that of the still fertile regions of South China. Repeated local famines and civil disturbances resulting therefrom have greatly thinned the population; yet in the afflicted region there still remain probably twice as many people as there are in all the United States. And these are not only starving, but are almost hopelessly beyond the reach of relief from without. Formerly the deficiencies of northern China were supplied from the south by way of the great canal, extending 650 miles from Soochow to Tientsin, on the Peiho, near Peking. For a thousand years this was the greatest artery of commerce in the world; but it lost its feeders, and became for the most part unnavigable, when the Yang-tse-Kiang shifted its channel and found a new outlet three hundred miles to the north of its old one.

Thus cut off from its only source of relief in case of failing crops, with scanty means of internal communication, and subject to a government that has not the energy to combat so dire an evil, even if it had the power, the stricken region must bear its affliction as best it may. Millions must die, while the rest of the world looks on appalled by the magnitude of the disaster, yet impotent to relieve its victims.

To the world it is but another illustration of the pitiless sequence of material cause and effect, against which the prayers of 70,000,000 human beings have no more influence than the cries of as many insects. Will it be anything more to China? The experience of civilization has been that the surest means of averting famines are found in good and abundant roads. No failure of crops, however complete, could create a famine along a line of railway, nor in a country well supplied with such means of quick communication. In tearing up the first and only line of railway in China, the government has but lately shown its hostility to this instrument and safeguard of civilization.