Scientific American.

ESTABLISHED 1845

MUNN & CO., - - -EDITORS AND PROPRIETORS.

PUBLISHED WEEKLY AT

No. 361 BROADWAY, - NEW YORK.

TERMS FOR THE SCIENTIFIC AMERICAN. (Established 1845.)

One copy, one year, for the U.S., Canada or Mexico...........
One copy, six months, for the U.S., Canada or Mexico................. One copy, one year to any foreign country, postage prepaid, £0 16s. 5d. 4.00 Remit by postal or express money order, or by bank draft or check. MUNN & Co., 361 Breadway, corner Franklin Street, New York.

The Scientific American Supplement (Established 1876)

is a distinct paper from the SCIENTIFIC AMERICAN. THE SUPPLEMENT is issued weekly. Every number contains 16 octave pages, uniform in size is issued weekly. Every number centains Boctave pages, uniform in size with SCIENTIFIC AMERICAN. Terms of subscription for SUPPLEMENT, \$5.00 a year, for the U.S. Canada or Mexico. \$6.00 a year, for the U.S. Canada or Mexico. \$6.00 a year, or £1 4s. Sc., to foreign countries belonging to the Postal Union. Single copies 10 cents. Sold by all newsdealers throughout the country. See prespectus, last page. Combined Rates,—The SCIENTIFIC AMERICAN and SUPPLEMENT will be sent for one year, to one address in U.S., Canada or Mexico. on recepts of seen dollars. To foreign countries, eight dollars and fifty cents a year, or £1 14s. 11d., postage prepaid.

Building Edition of Scientific American, (Established 1885.)

(Established 1885.)

THE BUILDING EDITION OF THE SCIENTIFIC AMERICAN is a large and splendidly illustrated periodical, issued monthly, containing floor plans and perspective views pertaining to modern architecture. Each number is illustrated with beautiful plates, showing desirable dwellings, public buildings and architectural work in great variety. To architects, builders, and all wao contemplate building this work is invaluable.

Single expies 25 cents. By mail, to any part of the United States, Canada of Mexico. \$2.55 a year. To foreign countries, \$3.05 a year, of £5 12s. 4d. Combined rate for Building Edition with Scientific American, to one address, \$5.06 a year. To foreign countries, \$6.55 a year, of £1 6s. 9d. Combined rate for Building Edition, Scientific American, and Sciptlement, \$9.00 a year. To foreign countries, \$11.00 a year, of £2 5s. 2d., postage prepaid.

Export Edition of the Scientific American (Established 1878)

with which is incorporated "LA AMERICA CIENTIFICA E INDUSTRIAL," or Spanish edition of the Scientific American, published monthly, uniform in size and typography with the Scientific American. Every number contains about 100 pages, profusely illustrated. It is the finest scientific industrial expert paper published. It circulates throughout Cuba, the West Indies, Mexico, Central and Spanish possessions—wherever the Spanish language is spaken. The SCIENTIFIC AMERICAN EXPORT EDITION has a large guaranteed circulation in all commercial places throughout the world. \$3.00 a year, or \$0.12s. 4d., postpaid to any part of the world. Single copies, 25 cents.

MUNN & CO., Publishers, 361 Broadway, New York.

The safest way to remit is by postal order, express money order, draft or bank check. Make all remittances payable to order of MUNN & CO. Framework Readers are specially requested to notify the publishers in case of any failure, delay, or irregularity in receipt of papers.

NEW YORK, SATURDAY, OCTOBER 9, 1897.

(Illustrated articles are marked with an asterisk.)

Bicycle support and root restr 2
Beeks, new
Burglars' tools*
Caudiestick, pneumatic* 2
Changes in patent law
Christmas Island, expedition to. 2
Climate and crime 2
Dam and power house, Farming-
ton River* 2
Disbarment, the Wedderburn 2
Deck, dry, naval, preblem 2
Electric dark room lamp, an* 2
Electric power plant, Hartford,
Conn.*
Electric railways of Europe 2
Electric storage batteries* 2
Inventions recently patented 2
Iren, cleaning by sand blast* 2
Lightship at Hatteras 2

228 | Menument to Emperer William Petroleum stave, a pertable*. 232
Phetegraphic cloud printing. 233
Phetegraphic cloud printing. 233
Pipes, fixshing. 233
Plants that give light by night. 237
Power house, Farmington River*222
Propellers, large brenze*. 222
Science nates. 235
Station announcers, steamhoat. 235
Station announcers, steamhoat. 235 Station announcers, steamboat. 235 Steamer Kaiser Wilhelm der Grosse*.

TABLE OF CONTENTS OF

Scientific American Supplement

No. 1136.

For the Week Ending October 9, 1897.

Price 10 cents. For sale by all newsdealers.

rrice to cents. For sale by an newsdealers.	
F .	AGE
I. ANTHROPOLOGY.—The British Association Address in Anthropology.—Some distinctive characters of human structure.—The effect of clothes, the human foot and head, phrenology, instinct and intelligence, etc., are treated in this number.	18161
II. ARCHÆOLOGY.—Chemistry and Archæology. Mummied Heads.—4 illustrations.	181 64 181 6 3
III. ASTRONOMY.—Astronomical Work at Lick Observatory.—By EDWARD S. HOLDEN.	1 8163
IV. AUT⊕CARS.—The "Heavy Weights "Competition of the Automobile Club.—5 illustrations.	18159
V. CIVIL ENGINEERING.—Pavements for City Streets.—This is a most interesting and important paper, giving views in St. Louis, showing brick and Telford pavements, together with cost of various forms of pavement and large scale sections, showing the proper method of constructing Telford, brick, granite, graniteid, asphalt and macadam pavements.—10 illustrations.	18151
VI. ECONOMICS.—The Patent System as a Factor in National Development.—By WILLIAM C. DODGE	18164
VII. ELECTRICITY.—Should Generating Plants be Mounted on Springs?—By JAMES SWINBURNE	
VIII. ENTOMOLOGY.—The Spread of Land Species by the Agency of Man, with Special Reference to Insects.—By Leland of HowARD.—The couclusion of this important paper read before the zoological section of the American Association for the Advancement of Science.	18160
IX. GEOLOGY. — Restoration of Kansas Mosasaurs. — By S. W. Williston.—3 illustrations.	18162
X. MECHANICS.—Perpetual Motion. V.—The fifth installment of this important series, giving Carnot's opinion of perpetual motion. —4 illustrations.	18155
XI. MEDICINE.—Physiological Effects of Mental Work	18165
XII. MISCELLANE•US.—Selected F•rmulæ. Engineering N•tes. Electrical N•tes. Miscellane•us N•tes.	18157 18157
XIII. PHOTOGRAPHY.—Developing Powders	18156
XIV. TRAVEL AND EXPLORATION.—Experiences in the Arctic Seas.—An account of the Jackson-Harmsworth Polar expedition.	

THE WEDDERBURN DISBARMENT.

The full text of the decision of the Commissioner of Patents against Wedderburn & Company is at hand, together with the final act of the Secretary of the perty, any more than he can permit the office to refuse Interior, whereby the disbarment of this firm is officially sanctioned. Assistant Commissioner Greeley's the law entitled. report refers to the work of a certain "expert Hughes, chief of the sales department," whose office it was to "place values on inventions," a work, it appears, which elients with the full knowledge and approval of the rewas done "at sight, sometimes even without sight of spondents, for the purpose of inducing the payment of the invention or full description of it." Regarding this arrangement, the decision says:

"This valuation scheme as carried out by the respondents through Hughes is in and of itself fraudulent and deceptive, and clearly amounts to gross misconduct on their part. As one of the steps in the respondents' adroitly planned and skillfully executed scheme for securing fees from would-be inventors, as one of the steps in hunting the inventor for his money, it is even more glaringly fraudulent.

known to be or which should be known to be without to be—a reward of genius, a certificate that his invenvalue, where by reason of such valuation the inventor tion has been selected by some competent and disintermight be induced to part with a sum of money, in ested board of awards for its remarkable importdicates at least gross negligence. To make a practice ance. of sending out false valuations indicates deliberate purpose."

"By these methods the respondents have induced inventors to send to them their efforts at invention, to-tisements attracted the attention of the would-be ingether with sums of money, for the purpose of having ventor and secured his address; having sent him the preliminary searches made in each case to determine various pamphlets and papers before referred to, which the probable patentability of the invention. Upon the are deceptive and misleading as to the value of simple result of this preliminary search depends the future ac- inventions; having stirred the inventor to activity by tion of the inventor."

searchers employed by the firm in 1896 to 1897 varied a recklessly false and misleading estimate of the value from three to thirteen; yet-

"These searchers, it is stated on behalf of respondents, in two years reported on 33,000 inventions. Of these the searchers reported unfavorably on 60 per cent perly made or not, or having sent the inventor the or more, or 20,000 in round numbers. That this insufficient number of searchers, many of whom were inexperienced and some of whom were incompetent, were able to find anticipating reference in 20,000 cases shows what kind of crude conceptions and supposed inventions were gathered in by the respondents through stallment of fees for the preparation of application their advertisements and their pamphlets and papers. It shows that large numbers of persons were falsely induced by the respondents to believe themselves to be inventors, and were led to send to the respondents fees which never should have been sent.

"This raising of false hopes is demoralizing to these persons. It has no other purpose than to secure from them money for searches, money, if possible, for applications for patent, money for foreign patents, money for advertising, money for 'write-ups' in the National fused further recognition as patent agents or attorneys, Recorder, and money for appeals. It shows a reckless and the facts disclosed should be reported to the disdisregard of the rights of people, a disposition to secure trict attorney for such action as the delinquency of money by any misrepresentation, any pretense, however false. . .

"This failure to revise the favorable reports of inexperienced and incompetent searchers or to have researches made upon the cases favorably reported by them, when by such revision or research an anticipating reference might have been disclosed and the inventor thereby prevented from paying further fees, indicates not only reckless disregard of the rights of the client and indifference to the agreement entered into for misconduct in office are pending." with respect to the search, but deliberate and intended fraud."

search had been made was a "mistake," the report are summarized as follows: says:

should not be held responsible for these reports. The respondents must be held fully responsible for the acts of their employes, and were bound by their agreement with their clients to have these searches made properly. Their failure to do so in these cases is gross and inexcusable negligence. The fault lay not so much with the searchers as with the system under which they

letter, of which the Assistant Commissioner has this to demand among capitalists and manufacturers for such

"It is upon its face a deceptive and fraudulent report. Its deliberate and continued use by the respondents was in violation of the trust reposed in them by their clients, in violation of the express agreement en-

1. 18158 in doing justice toward his client and justice toward | save them from being entrapped by captivating and

the public. He cannot be a party to an attempt to secure a patent for what he knows to be old, an attempt to take from the public what has become public proto his client the protection to which that client is under

Regarding the sending of medals, the report says in certain cases "the medals and letters were sent to the further fees in cases in which the so-called unfavorable report citing a reference had not secured a response from the client as quickly as was deemed desirable by the respondents."

Again, we read: "There can be no reasonable doubt that the silver medal scheme was fraudulent in its conception and fraudulent in its execution. It was intended to mean one thing to the inventor who received the medal and quite another thing to the respondents. It was intended that the inventor should believe the "The sending of a false valuation in a single case medal and certificate to be what on its face it purported . . .

> "Such a scheme has no place in the legitimate business of an attorney."

However, "Having by false and misleading adverthe offer of free advice as to patentability and sala-It is shown by the report that the average number of bility, and having in response to his inquiry given him of the invention; having by these means induced the inventor to pay for having a search made; having reported the result of the search favorably, whether profalse and misleading unfavorable report letter, as the case may be; having, if deemed necessary to secure an early response, sent the inventor a silver medal and its accompanying letter; having by the use of any or all of these means secured from the inventor the first inpapers, the respondents proceeded to prepare the necessary papers."

The report says in conclusion:

"In my judgment the respondents, John Wedderburn and John Wedderburn & Company, have been guilty, not only of gross misconduct in particular cases, but of a long-continued, systematic and deliberate course of gross misconduct. In justice to this office and in justice to the public, these respondents should be rethe respondents and the safety of the community demands. [The italics are ours.] The fact that the United States mail was being used by these respondents to promote schemes of fraud was called to the attention of the Post Office Department many months ago. but the matter was. I understand, placed in the hands of an official of that department, who, for some reason, failed to do his duty. He has since, I am informed, been dismissed and criminal proceedings against him

In the decision of Commissioner Butterworth approving the report of Assistant Commissioner Greeley, and Referring to the statement of the defendants that recommending to the Secretary of the Interior that the sending of a favorable report where no proper Wedderburn & Company be disbarred, the charges

"In a nut shell, the charges are that the respond-"I cannot agree with the respondents that they ents, as solicitors practicing before the office, concocted a scheme and plans to impose on, deceive, and defraud unsuspecting and unwary persons throughout the country by a system of advertising and correspondence which was false in suggestion, misleading in fact, and fraudulent in tendency and purpose; that the effect of their scheme and plans was to induce thousands, in fact tens of thousands, of persons to believe that the government of the United States would readily grant a The defendants, in the cases in which they made an patent on any improvement on articles or utensils in "unfavorable report," did so in a particular form of common use; that there was and is just now an active inventions, and that they stood ready to purchase any one of a thousand of such inventions; the suggestion being that John Wedderburn & Company had knowledge of this great demand and could successfully avail themselves of it to sell the patents of their clients, and tered into with their clients, in violation of honesty and that a fortune may be made out of some simple little common decency. The report in the cases in which it thing; that the respondents, while calling attention to was sent is a false and lying report. Its purpose is these alleged rare opportunities, felt anxious lest inevident from its language. It was intended to deceive ventors and those who are struggling to be inventors and mislead the client, to induce him to believe his in- may fall into the hands of unscrupulous patent sharks, vention patentable, notwithstanding the patent cited." or ignorant and dishonest solicitors, who are seeking It is further stated that the attorney in filing a certain employment; and the impression is created by the application "is false not only to his client, but is false literature of respondents that while in soliciting emin his duty toward this office. That the attorney has ployment they accept compensation for services, yet a duty toward this office as well as toward his client one of the motives, if not a controlling motive, with cannot be questioned. He is to assist the Patent Office them was to protect and aid struggling inventors, and

and suggest promises of gain that can never be realizereputation which is world wide and grows with the our dry dock accommodation. ed; and that while evincing in their publications this tearful solicitude for the honest, well-meaning, and wronged by sharpers, the respondents themselves were that the aspect of the Palisades is being rapidly suggested that the amount — \$5,775,000 — needed for in fact doing the very thing they so feelingly deprecate changed by the numerous quarries which have been these should be voted in annual installments, as is now and condemn; and indeed issued the very character of opened along its face. Where this has been done, the literature and published the kind of advertisement soft brown and gray tints of the cliffs have been decruisers. The list of the proposed docks is as follows: they criticise and denounce; and have so successfully faced by the dirty gray patch which indicates a quaremployed these means and agencies that more than ry, and the many-tinted foliage which clothes the base 32,000 persons have been induced to establish the rela- of the cliffs has given place to unsightly stone heaps, tion of clients of John Wedderburn & Company, and that of the 33,000 clients, less than 1,600 applications have been allowed."

Prior to his conclusion, the Commissioner lavs stress upon the fact that "if the business and the methods of a character that could be defended, the respondents and their backers and indorsers would have made all haste to make known, not only to the Commissioner and to the Secretary, but to the public that was interested to know, that they were carrying on a legitimate business in a legitimate way; but instead of that they have made substantially no showing at all, either in extenuation or defense of their offenses or in answer to the questions propounded, which were rendered necessary by reason of the facts hereinbefore recited, and which were not answered, nor was one of them answered."

The final clause of the decision is as follows:

My conclusion is, and I so decide, that John Wedsolicitors before this office, been guilty of gross misconmend that the honorable Secretary so order."

The following is the letter of the Secretary of the Interior confirming the decision of the Commissioner of Patents:

DEPARTMENT OF THE INTERIOR,

Washington, September 30, 1897. THE COMMISSIONER OF PATENTS:

Sir: I have examined with great care your report on the John Wedderburn and John Wedderburn & Company cases, together with the report of Assistant Commissioner Greeley, and herewith return both reports, expressing my full approval of the reports of your office. I request that when the reports are printed you will transmit a copy to the Postmaster-Gen ral and that his attention be especially directed to the use that has been made of the United States mails by the John Wedderburn Company. Very respectfully,

C. N. BLISS. Secretary.

Note.—Under the regulations of the Patent Office, the disbarred firm cannot prosecute pending applications or file new ones. The only remedy available to their clients for the recovery of fees wrongfully or Commissioner, is to bring the facts to the attention of the District Attorney of Washington, who can bring an action against the disbarred firm to recover. Those who do not desire to take this step have the right to transfer their business for further prosecution to registered and approved attorneys.

IMPENDING CHANGES IN UNITED STATES PATENT LAW.

On January 1, 1898, important changes in the patent laws of the United States will take effect. These changes will bear principally upon the relation of applications for United States patents and grants made upon such applications to foreign patents for the same invention. In a former number (issue of March 20, 1897) we have commented at length upon the latest amendments to the patent law. We would now draw the attention of our readers, especially those residing abroad and holding foreign patents for inventions not protected in this country, to the necessity of filing United States applications covering such inventions before January 1, 1898. After that date, applications for United States patents may be rejected if filed more than seven months after the date of filing the ment of any importance will almost certainly necessiearliest foreign application. Under the present law, tate the subsequent docking of many of the ships enhowever, valid United States patents may be obtained for inventions patented abroad several years ago, provided the forcing and the application for the United States patent is filed. This ments of the present and prospective navy has re- may at first seem to be justified need to be checked by provision is of interest and advantage, not only to ported that ten new docks should be constructed at a later investigations before they can be practically the holder of the foreign patent, but to the American manufacturer or capitalist who desires to secure in this country the monopoly for an invention patented abroad and not so protected here.

----PRESERVATION OF THE PALISADES OF THE HUDSON.

Perhaps in all America, if we except Niagara Falls,

alluring advertisements which inspire delusive hopes second greatest city of the world, it has acquired a that our recent naval activity has greatly outstripped passing years.

Everyone who has had occasion of late years to pass wholly unsuspecting person who is so liable to be up or down the Hudson River must have noticed wharves and hoisting derricks.

It has been suggested that on account of its commanding height this ridge of rock would be a menace one concrete dock, 500 feet long, \$1,100,000. Total, to the safety of New York if it should fall into the \$5,675,000. In addition to the docks urgently needed, hands of an enemy, and steps have been taken to in-, the board recommends that structures be built at these and practices of the respondents had been tolerable and terest the government in the question of its reservation places: At New London, fresh water basin, with dock, for the emplacement of guns and for general military: \$1,000,000; at Newport News, a steel floating graving purposes. Another scheme suggests that the government purchase a strip of land along the river from Fort Lee to Piermont, wide enough to include all the | natural features which are threatened, and preserve them from future depredations. A third proposition contemplates a joint purchase by the States of New York and New Jersey. Of these propositions the first is opposed by military men, on the ground that the heights have no such strategic value as would justify their fortification. An attack on New York is never likely to be made by land and by way of the Hudson Valley; the city is most vulnerable on its seaward side, and the proper place for defensive works is at Sandy Hook and derburn and John Wedderburn & Company have, as on the Sound. Nor is it within the province of the gov- out the drawback of excessive cost. The difference in ernment to undertake the work of preservation as duct, and that they should be disbarred from practic-such. The case of the Yellowstone and Yosemite Parks, Island is to cost but \$1,100,000 against the reputed cost ing before the Department of the Interior, and I recom- is not in point, inasmuch as these lands were already in the possession of the government.

It remains then for the two States affected to undertake the work. They are about equally interested: for although the larger part of the Palisades is in New Jersey, its natural beauties are only visible from the New York side of the river.

The agitation of this important question, which, although technically a State matter, has sentimental navy yard, which render the system hazardous in a grounds which make it of national importance, is being work of such pressing necessity as the speedy provision taken up by the women's clubs of New Jersey. It has of docks for a nation's navy. been proposed to build a continuous drive at the foot of the cliffs from Fort Lee to Piermont, a distance of miles in extent. The idea is attractive, though we fear that the cost would be prohibitive. Whether the drive No. 3, and probably less than the latter structure will be built or not, the purchase and care of this truly magfraudulently obtained, as suggested by the Assistant nificent wall of rock could certainly be carried out for a sum which would be moderate in proportion to the good in sheltered waters. work achieved.

THE NAVAL DRY DOCK PROBLEM.

There is no problem connected with the naval affairs construction under way. of the United States of such paramount importance as the construction of adequate dry docks. Unfortunately there is no naval problem regarding which the public is so ignorant and apathetic. To awaken an intelligent interest in the matter has been the endeavor of every | says the Monthly Weather Review. This seems to writer and journal of importance in the country; but the effort proved futile until the country was subjected to the humiliation of having to send its finest battleship to a British dockyard to have its bottom scraped and painted.

Ridiculous as the situation was, it served to teach the country the absolute necessity of providing dry docks for our navy if that navy is to be available in time of war. The $\mbox{d} ry \mbox{d} ock$ is as much a concomitant of the modern warship as her engines or fuel. In time of peace the fouling of the steel hulls necessitates docking and cleaning at intervals of a few months, and what little experience has been gained of the behavior of modern warships in action shows that an engage-

The board of experts which was recently appointed vided the foreign patent is in force at the time the by Admiral Bunce to inquire into the docking require- of statistics by physicians, and any conclusions that total cost of \$11,075,000. We have at present eleven applied to the public welfare. such docks, of which only three can accommodate the largest battleships. With the construction of the new docks we would possess twenty-one altogether, none too many, if we consider the probable increase of the navy in the near future.

Of the total 622 dry docks in the world, about 348 are owned by Great Britain, and of these 266 are situthere is no object of natural beauty and grandeur that ated in England, Ireland, and Scotland. So essential enjoys a wider reputation than the majestic Palisades does that country consider the dry docks to her comof the Hudson. This extended line of natural ram-mercial and naval supremacy that she possesses as till they assume a bluish violet color, and they are parts, which looks down on one side upon the fertile many as 10 in Australia, 15 in China, 30 in India and then further toned in a bath of: valleys of New Jersey and on the other watches the the East Indies, and in Canada and British Columbia swift encroachment of New York City upon the wooded there are 12. At the great naval station at Portsmouth heights of Manhattan Island and the rolling country there are nine dry docks with 331% to 411% feet of water to the north, would be noted for its natural beauty on the sills, and the other great dockyards are all libeven if it were far removed from the haunts of civili- erally supplied. Now, although our needs do not call After washing, the prints are fixed.—The British Jourzation. Standing, as it does, at the very gates of the for any such provision as this, it is nevertheless certain nal of Photography.

The report states that while an outlay of \$11,075,000 is recommended, there is no urgent necessity for constructing more than five of the docks at present. It is done in the construction of the new battleships and At Boston, one concrete dock 700 feet long, \$1,500.000; at New York, one concrete dock 500 feet long, \$1,200,000; at Norfolk, one concrete dock 500 feet long, \$1,100,000; at Port Royal, improvements, \$25,000; at New Orleans, floating graving dock, \$750,000; at Mare Island, dock, \$650,000; at Tortugas, a steel floating graving dock, \$650,000; at San Francisco, concrete dock at Yerba Buena, \$1,500,000; at San Pedro, concrete dock 700 feet in length, \$1,500,000. The report also states that ultimately dry docks should be constructed at Pensacola, Florida, and Galveston, Texas.

It will be noticed that the materials of which our existing dry docks have been built, viz., stone and wood, is not recommended for the new structures, steel and concrete taking their place. As regards concrete, it may be said that if the work is well carried out a dry dock of this material has all the advantages of solidity and permanence offered by one of granite withcost is great; the proposed concrete dock at Mare of \$4,000,000 for the present stone dock. Moreover, a concrete dock can be built in considerably less time.

There will be objections raised against the complete abandonment of the timber construction by those who have faith in this system. But while it is true that there are timber docks that have been giving good service for from 30 to 40 years, there have been failures, or partial failures, like that at the Brooklyn

An even greater innovation would be the construction of steel floating and graving docks, as proposed. The thirteen miles, thus affording, with the present Hudson docks would compare favorably in cost with the dis-County Boulevard, a continuous driveway nearly thirty carded timber docks, the estimate of \$650,000 being about equal to the cost of the Brooklyn dry dock have cost by the time it is put in serviceable shape. It also has the advantage of being movable, at least with-

> The policy is a liberal one; but not more liberal than the situation demands, and it is sincerely to be hoped that Congress will act promptly in placing the new

CLIMATE AND CRIME.

The public press has lately given much attention to the subject of the relation between weather and crime, have started with a private communication from some Weather Bureau observer and has greatly interested every one. A preliminary collection of statistics seems to indicate that crime is more prevalent in hot weather.

The Chief of the Weather Bureau has expressed his opinion that it is utterly wild to contemplate at present the possibility of issuing predictions of prevalence of crime, and he has no intention of attempting it. In fact, there is no official investigation of the subject being made or contemplated in the Weather Bureau and no legal authority for doing so, even if it were considered desirable, which it is not. The statistics of disease have generally shown a very broad connection between climate and disease and the investigation of that subject is ordered by Congress, but that has no official connection with crime. The discussion of such difficult subjects is a matter for the careful study

PLATINUM AND GOLD TONING.

Kastner suggests the following treatment for matt solio paper, and states that it gives pure black tones. The prints are first toned in:

Water 1000 "

Ammonium sulphocyanide...... 20 parts.
 Citric acid.
 20

 Chloride of gold.
 2