# Sorixutifit smmoram. 

## ES'IABIISHET 184.5.

MUNN \& CO., Editors and Proprietors. published ifeekly at
No. 361 BIROADWAY, NEW YORK.
o. d. MUNN.
A. e. beach.

TEKIS FOR THE SCIENTIEIC AMERICAN.
One cony, one year posrage included...
One copy, six months postage included

| 5320 |
| ---: |
| 160 | Clibs.- One extra copy of The Scientrfic American will be supplied same proportionate raie. Postage prepaid.

Remit ly postal order. Address

## MUNN \& CO . 361 Broadway, orner of Franklin street, New Yor

The Scientific American Supplement
is a distinet paper from the Scibetific american. The SUPplempin
is issued weekly. Every number contains 16 octavo mages, uniform in sizal is issued weekly. Every number contains 16 octavo mazes, uniformin size
with Scientric American. 'lerms of subseription for Suphiement $\$ 500$ a year, postage paid, to subscribers Single copies, 10 cents. Sold by all news dealers throughout the countrs.
 will be sent for one year postage tree. on receipt ot seven doluars. not
papers to one address or different aduresses as desired. The siffest way to remit is by draft, postal order, or re A ddress MUNN $\& C$ CO., 361 Broadway, corner of $\mathrm{F}^{2}$ ranklin street, New Yor

## Scientife American Export Edition.

The Scinntific amlicican Export Edition is a larke and splendid periodical, issued ouce a month. Eiach number contains about one hundre
large guart) pages, profusely illustrated, embracing:
(1, Most of the large quarto pages, profusely illustrated, embracing: (1.) Most of the
plates and pages of the four preceding weekly issues of the Sclustry: Amemicas, with its splendid engravings and valuable information: Commercial trade, and manuufacturing innouncements of leading hovses.
T'erms for Export Edition, $\$ 5.00$ a year, sent prepaid to any part of the T'erms for Lexport Edition, $\$ 5.00$ a year, sent prepaid to any part of the
world. Single copies 50 cents. Manuticturers and others who desire to secure foreign trade may have large. and handsomely displayed an nouncements nublished in this edition at a very moderate cost.
The ScIENTIFIC A MLHICAN Export Edit ion has a large guaraint tion in all commercial places throughout the world Address CO., 361 Broadway, corner of Franklin street, New York

NEW YORK, SATURDAY, OCTOBER 18, 1884.

table of contents of
the scientific american supplement NO. 459,

For the Weelk ending October 18, 1884 Price 10 cents For sale by all newsdealers
I. CIIEMISTRY. ETC.-Purffitation of Water.....
i. engineering and mechanics.-Automatic Freight car Couplers. Th Coplers selectece by the
Car Couplers on M assachusetts Railmays.
 read before the British Assoc
sectional elevation of tunnel.
The Darlington Forge.-Full page of illustrations.
Light Traction Engine.- With engraving. III. ELE TRICITY, ETC.-The National Electrical Conference.-
Work of the U. S. Siknal Service in relation to earth currents and
atmospheric electricity.-International electric standards. - Form. atmospheric electricity.-International electric standards. - Form-
ation of a unit of power.- Theory of the dynamo-electricmachine.ation of a unit of power.-Theory of the dynamo-electricmachine.Apparatus for Testing the Resistance of Likhtning Rods.-2 figures

IV. Archeology.- $\lambda$ stonishing Discovery.-Deifled mayas that lived in America thousands of years ago found among the gods
and guddesses of Japan-
V. Natural history.-Electric Fishes, Physiological, Chemical, needle.-Relative immunity of electric fishes with respect to their own discharge.
Root Fusion. - With engraving
VI. MISCELLANEOUS.-The Industrial Exhibition at Turin -With
engraving.................................................. The Nile Expedition.- With engraving of the Cataract bigole...........................$~$
Di. blography.-Prof. robairt e. Rogeng.-Chemist.

RECENT DECISIONS OF THE COMMISSIONER OF PATEN CONCERNING TRADE MARKS AND LABELS.
The Official Gazette of the United States Patent Office, of September 30, 1884, contains a decision rendered September 22,1884 , on the vexed label and trade mark question by the Commissioner of Patents. In rendering bis decision the Commissioner gives very lengtby reasons, the text filling nearly two full pages of the Gazette. Tbe question is the old one whetber the Commissioner canse fuse to register as a label what in bis judgment constitutes a trade mark, and whether, if not a trade mark in all characteristics, it then can be registered as a label. Whoever as an applicant has bad labels subjected to Patent, Office rulings on the above question, will know what the decision was. The Commissioner beld that the words " not a trade marl" occurring in the statute gave him full power to refuse label registration to a label containing subject matter for a trade mark.
We take decided issue witb this decision. In former articles we have stated pretty fully what our views are, and bave fortified them by appropriate quotations from authorities. The great court decision in these matters was rendered September 30, 1881; it is in the case entitled the Willcox and Gibbs Sewing Machine Company against E. M. Marble, Commissioner. Tb is was a case before the Supreme Court of the District of Columbia, and in it a peremptory mandamus was issued, enforcing just sucb a registration as is now refused.
In his decision Mr. Butterworth disposes rather briefly of the opinion in the sewing machine case. He does not agree witb it, and so concludes tbat it was not fully argued, and asserts tbat it was practically an ex parte case. Now the truth is tbat the case in question did not go by default in any sense. In Mackey's Reports, vol. i., page 285 et seq., Mr. Marble's answer in the case will be found. If the de cision, publisbed also in the Official Gazette of October 17, 1882, be examined, it will be found unusually long and full. The court strikes at the root of the matter by going back to the original registration of labels with tbe Librarian of Congress under the copyright laws, and by deducing therefrom the powers of the Commissioner of Patents. But this opinion of so bigb a court is disposed of as given in "prac tically an ex parte proceeding,". . . . and as one ren dered in a case tbat "did not have careful consideration" from the court. Now, no one can impartially examine the from the court. Now, no one can impartially examine the
decision so shortly disposed of, witbout forming exactly the oppositeopinion. It is certainly a bold criticism on the methods of so bigh a court to say that it decided a case and issued a peremptory mandamus without "careful considera-
tion."
The Supreme Court of the District of Columbia is the successor of the old Circuit Court of the District. By the act of February 27, 1801, the original tribunal was establisbed, one of whose functions was to issue writs of mandamus $t$ ") compel public officers to do acts required of them by law in performance of their duties. The Supreme
Court of the District was established by the act of Marcb Court of the District was established by the act of Marcb
3,1863 , wbereby the oid Circuit Court was abolished, and the new court made its successor. Cases from the Supreme Court of the District may be appealed to the Supreme
Court of the United States. Thus the court we are consid Court of the United States. Thus tbe court we are consid-
ering possesses very bigh powers, exceeding in some respects tbose of the circuit courts. It is, to all intents and pur poses, in the mandamus proccedings a United States Court. Several judges, one chief and five associates, compose it. Yet a carefully rendered decision of sucb a court, given afterf ull deliberation, is disposed of by the Commissioner of Patents in a single sentence.
Tbree divisions of label and trade mark matter are created by the Commissioner's decision. Tbere is, first, the label, whicb must be descriptive; secondly, the trade mark, which must be arbitrary or non-descriptive, and in use in commerce witb some foreign nation or Iudian tribe; and thirdly, the subject matter for a trade mark, but not in the prescribed commercial use. Of these three the first two are registrable, the last the Commissioner decides is non-registrable. All this distiuction is purely a Patent Office cyeation. Tbe old registration under theCopyrigbt Laws witb the Librarian of Congress ${ }_{24}$ was subject to no sucb rulings. The inherited power of not be eitber. Tbe point overlooked by this official is that he registers labels under one clause of the Constitution and 29 trade marks under another. To define trade marks in addition to the special act of March 8,1881 , he has a multitude of court decisions. To define labels be is obliged to bave recourse to Worcester's dictionary. His predecessor used Webster. He does not take the point tbat the greater includes the less, and that the term label includes trade marks. Labels are registered under the conyrigbt law. Can any one conceive of an engraving being refused registration by the Librarian of Congress because it is arbitrary? Yet this is precisely wbat the Commissiouer upbolds as proper practice in tbe Patent Office.

Tbe misfortune of the whole business is, tbat these cases are usually not of sufficient importance to be brought before the court. The applicant, on finding registration refused him, usually prefers to submit to the loss so unjustly incur red rather tban go to the expense of an application for a mandamus. The predecessor of the present Comuissioner of Patents incurred such a proceeding, however, in the case we bave cited. It served to cbange the practice of the office during his term. Under such amended ruling the business of label and trade mark registration went on with perfect smoothness and satisfaction. It is a great pity that any
change has been inaugurated. The status of aftaiss now is that the Supreme Court decision is set aside, and that rulings are made that would unquestionably incur a mandamus from that tribuna! were one applled for. But owing to the somewhat minor importance of this class of privileges, such proceedings will not, ofteo be inaugurated.
Tbe Commissioner's arguments in the case in question as affecting labels are derived from these words of the statute: "not a trade-mark," and from Worcester's dictionary. This is but a small basis for a decision. The true way to treat ucb a case is to go to the root of the matter, and examine the origin of the powers whose limitations are under discus. sion. Had the latter method been adopted, and not the more superficial plan, a different result would probably bave been reacbed. But taking the issue as presented, we find that the Cominissioner quotes Upton's definition of a trade mark, and Worcester's of a label. Tbe trade mark according to Upton is "the name-symbol," etc. . . . adopted by a manufacture or merchant "to designate the goods tbat be manufactures or sells." . . . Worcester says a label is " a small piece of paper or other material containing a name, title, or de. scription, and affixed to anything to indicate its nature or contents." Certainly these two definitions quoted by the Commissioner in his decision come very close to each otber, conidering tbat tbey describe tbings that be considers so radically different. Even in Worcester's definition of a label bsolute descriptiveness is not insisted on, as nature and contents may be indicated arbitrarily as well as descripively. It is in such arbitrary indication tbat the commerciai alue of a trade mark consists.
We can only hope for the satisfaction as well of the Commissioner as of the public tbat some of these cases will again be brougbt before the Supreme Court of the District of Coumbia. Mr. Butterwortb, we are couvinced, desires sucb an issue no less than the prospestive registrants of labels and rade marks. When sucb a case does arise, the Commissioner, to borrow bis own expressions, will bave a good chance to fully argue tbe case and see tbal, it receives careful consideration from the judges of the court.

## SHOP SAVINGS.

A very suggestive sight was witnessed a sbort time ago in visit to a large manufactory of machinery and tools. The utlet to the sink had been been closed, and the large drain pipes bad to be removed and cleansed. The result of that cleaning was a surprise to the proprietors, although it was not so to at least some of the workmen. If a list of the ar ticles found in the drain pipes and at their outlet into the tail race was made it would be almost like an inventory of the small parts used in the manufactures of the estalilish, ment. Tbere were hundreds of pieces of broken files, taps, reamers, drills, parts of macbines and tools spoiled in the working, and a wagon load of cotton waste. The water closets bad been used as convenient "catcballs," "scrap beaps," and "glory holes." How much the establishment had lost in tbis way could not readily be estimated, as mucb of it must have been swept away by the stream and much of it buried out of sigbt.
It is surprising how much may be saved in the sbop by judicious attention to little things and by bandy appliances for saving. An establishment that works up brass and iron in about equal proportions for more tban a year, mixed the drillings, turnings, and tilings of both metals indiscrimi nately, and dumped them out of doors as useless rubbish to be got rid of. A separating machine was suggested, and now one of the proprietors declares tbat it paid for its cost witbin three weeks. It is self-operating, requiring only the occasional supply of the chips and the removal of those al, ready separated. The mixed cbips pass througb a trougb in a tbin stream before a revolving cylinder composed of horse. shoe magnets; the brass chips drop in front into a box, and the iron and steel cbips are carried on the magnets to the under side, and are brushed off by fixed brushes into another box. Before being separated, these mixed chips were wortbless; after being separated the iron cbips had a marketable value, and I be brass cbips a value ten times as great. In a large manufactory of machine screws, where two barrels of oil a day is not an uncommon amount to use, if all the machines were supplied afresh, three-fifths of this amount-sometimes more-is saved for furtber use. This is dove by a small centrifugal macbine. The chips, soaking in oil, are dipped into the little cup sbaped receiver, the cover closed, the belt started, and the oil comes in an almost invisible borizont:ll sheet against the sides of the enveloping pan and runs into a tank ready for use. The chips are cleaned so nearly tbat they barely soil the bands. In a certain machine shop worn out and broken files are placed in a transverse holder on the grindstone frame, held against the face of the stone by springs, given a traverse by a belt and a spiral cam, and the result is bits of smooth steel just adapted for forging to b:ring bar culters and keys, with a further result of keeping the stone trued.
In bruss manufactories there is unavoidable waste of the metals in the scoriæ of the melting furnaces, in the rolling mill department, and the wire drawing. Wbatever of this waste, with the sweepings, can be gathered is put into large mortars and subjected to the impact of pivoted pestles until the whole is pounded to a dust Then it is floated in a running stream of water through a chute over riffles, whicb catch the heavy metallic particles and allow the ligbter trasb to pass off. The metalic residuum, packed in crucibles with luted covers, gives back a profitable percentageof solid brass to be reused.

