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New Double-action Vertical Steam Engines, with boiler. 12 Industrations.
Frieless and Hot Water Locomotives. History of all the Inventions upon this subject, with description of each improvement and its working. The demand for Engines of this kind, the uses to which they may be put, and the proper direction of invention.
The Hydraulic Ram. By C. L. HEIT. History of its invention and improvement. The latest improvements, with mode of operation, and 8 illustrations.

II. ARCHITECTURE AND BUILDING.—The Quadrangle, Muir College, Allababad, India. 1 eng.—A Concrete Building Dwelling House. An account of a Dwelling constructed entirely of Concrete, with cost, economy of construction, etc. New Double-action Vertical Steam Engines, with Boiler. 12 illustra-

III. TECHNOLOGY.—Hank Dyeing, Washing, or Sizing Machine. 3 illustrations.—Nicholson Blues.—Cochineal Red Printing on Woolens. By

balt and Nickel.—Determination of Oils.

V. ELECTRICITY, LIGHT, HEAT, ETC.—New Arrangement for Distinguishing the Axes of Double Refracting Substances. By H. C. SORBY, F. R. S. Read before the Royal Microscopical Society.—Magnetization of Tubes of Steel. By J. M. GAUGAIN.—Velocity Meter, or Self-registering Tachometer. I illustration.

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VI. MEDICINE AND HYGIENE.—On Rotary-lateral Curvature of the Spine. By Professor Lewis A. SAYRE. Lecture delivered at Bellevue Hospital, N. Y. Self-suspension, and the Latest and Best Practice and its beneficial Results as illustrated by several cases.—Chancre of the Lip. Was it communicated by a Dentist's Instruments? By C. W. DULLES, M.D.

W. DULLES, M. D.

I. ASTRONOMY.—The Modern Telescope. No. II. By J. N. LOCKYER.

The Defining Power; Adjustment; Diffraction Rings; Appearance of

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2 inches aperture. Excellent Instructions for the Amateur.

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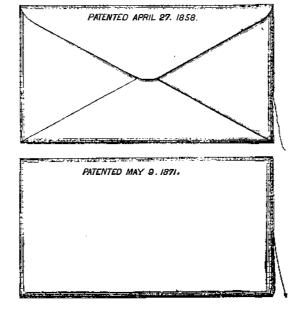
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#### A PATENT OFFICE COURT.

The Commissioner of Patents recommends, in his report, that the present system of appeals be abolished, and that "a Patent Court be established in connection with the office, to be composed of three members, appointed as other judges duties and establish uniform precedents.

shall have a standing in court—and this would be the charthe U.S. Treasury, leaves a total balance of \$1,114,222.40. acter of the proposed establishment—certainly possesses the charm of novelty; but it assumes a more important and reassuring aspect when it is remembered that the grave and weighty questions which so often threaten the average examiner with premature baldness may by this plan be subjected to the learned judicial mind in banc. Perhaps, armed with microscopes, their Honors will be able to demonstrate to lower orders of intelligence the hidden principle which underlies the granting of patents on infinitesimal distinctions, as exemplified in the envelope-opener case illustrated herewith. In 1858 Mr. Charles Phelps obtained a patent for a letter-opener, consisting of a thread placed in a crease of the envelope, as shown in the upper figure of our engraving. In 1871 Mr. Henry Gregg obtained a patent for a letter-opener, consisting of a thread placed in a crease of the envelope, as shown in the lower figure of our engravitg. In either case, to open the envelope you pull the thread so as to make it cut the paper. Unwary intelligence, ignorant of the profundity with which the Patent Office burrows into these subjects, would rashly assert that here was no difference; but the lynx-eyed genius of that institution pityingly points to a knot in the thread, to be found on our lower figure by the aid of a magnifying glass, and triumphantly issues a patent on that. Single minds cannot constantly be subjected to such stress, and a court is the obvious remedy.



Nothing short of a bench of gown-clad judges learned in the law can consistently grapple with such claims as that of Mr. Joseph A. Griffin, of Syracuse, N.Y., who, on December 7, 1875, patented the "compound as a substitute for eggs." What, for instance, are such simple legal questions as are involved in contingent remainders, the "rule in Shelley's case," and cestui qui trusts, beside the consideration of "ten parts cream tartar, three parts tartaric acid, one part alum, nine parts bicarbonate of soda," besides additions of "curcuma, sulphur, sugar, gum arabic, and starch?" It must be clear that nothing but the longest practice in digesting law can fit

baby rockers by the light of the back numbers of the Patent. The Commissioner has only in this case to issue an order Office Gazette, the common law, and the Revised Statutes? that hereafter models will not be required except in such Certainly not. Let us have that court, and at the same time special instances where they may seem necessary, as indiany other complications which will obstruct and muddle the business of the office and provide more expensive and useless officials for the inventors to pay for.

None more than ourselves applaud the well-meant efforts of Commissioner Spear in the direction of useful reform; but he can readily inform himself of the fact that the great majority of applications for patents are based on very simple

## THE ANNUAL REPORT OF THE COMMISSIONER OF PATENTS

From the above document, which has just been sent to Congress, we find that the amount of moneys received during the year from all sources was \$732,342.85. The expenditures of the United States Courts now are." The Commissioner were \$610,475.12, which is less than any year since 1871, notsays that this tribunal would relieve him of his judicial withstanding the expenses incurred during the fire. The receipts exceeded the expenditures by \$121,867.73, which, added The idea of a court sitting to discover whether a party to the present surplus to the credit of the Patent Office in

The following shows the business of the office for 1877:

Applications for patents and designs	20.308
Patents and designs issued	
Applications for reissues	639
Patents reissued	
Patents extended	2
Caveats filed	2,809
Patents allowed, but not issued for want of	
final fee	807
Application for trademark registration	1,416
Trademarks registered	1,216
Applications for registering labels	632
Labels registered	392

The Commissioner states that the photo-lithographing of the back issues of the old patents is still going on, and it is hoped that by the end of next March the tracing of the entire number of old drawings will be completed, ready for the photo-lithographers. In connection with this he suggests that the specifications of the back numbers of patents should also be printed, and asks for \$20,000 for a commencement of this important work, which is very much needed.

There is a falling off in the business done by the office as compared with some previous years, but this the Commissioner attributes to the fact that the increased facilities which the office by its publications has afforded the public for examination into the state of the various arts have affected and will continue to affect to a great extent the number and character of applications as well as of patents. A less number of applications covering old fields of invention will be filed, and a corresponding improvement will be found in the character of patents granted.

This is undoubtedly true, and is excellent evidence of the double advantage of publishing complete illustrated descriptions of all patents obtained as widely and at as cheap a price as possible. They spread valuable information among the public, and enable inventors to keep posted, both as to the most recent advances in invention and also as to the tendency of inventive genius, for, as we have pointed out before, invention runs in grooves, and there appear to be times when the world is ripe for certain original ideas, and these often simultaneously appear from different sources. The recent simultaneous discovery of the possibility of liquefying the so-called permanent gases by two investigators is another remarkable example in point of the workings of this possible law of invention.

The following table shows the number of patents issued to each State and Territory during the year:

Alabama	43	Montana Ter	3
Arizona Ter	2	Nebraska	
Arkansas	36	Nevada	
California	341	New Hampshire	
Colorado	28	New Jersey	502
Connecticut	607	New Mexico Ter	3
Dakota Ter	6	New York	
Delaware	28	North Carolina	. 51
District of Columbia	123		
· Florida	14	Oregon	
Georgia	63	Pennsylvania	1.515
· Idaho Ter	1	Rhode Island	. 212
Illinois	1.046	South Carolina	. 84
Indiana	450	Tennessee	. 114
Iowa	488	Texas	
Kansas	103	Utah Ter	. 4
Kentucky	151	Vermont	
Louisiana	79	Virginia	. 100
Maine	132	Washington Ter	. 4
Maryland	192	West Virginia	. 81
Massachusetts	1.392	Wisconsin	245
Michigan		Wyoming	
Minnesota		United States Army	. 14
Mississippi	39	United States Navy	. 2
. Misson ri	265	-	
Total			13.029
		*****************	590
. •			
Total			13,619

that nothing but the longest practice in digesting law can intrations.—Nicholson Blues.—Cochine a Red Printing on Woolens. By M. KLEJATTER.—Puring Skins.—Protecting Metalic Surfaces.—Protecting Metalic Surfaces.—Protect cated above. No new legislation is necessary. The Commissioner has nothing but precedent, which is not obligatory, to set aside, as under the law applicants are to furnish models when "required by the Commissioner."

## Indestructible Writing Ink.

An ink that cannot be erased even with acids is obtained devices, and that it is rarely that one is so obscure as to be by the following receipt: To good gall ink add a strong beyond the intelligence of any well versed mechanic. This solution of fine soluble Prussian blue in distilled water being the case, there certainly is, or ought to be, ample abil-: This addition makes the ink, which was previously proof ity among the members of the examining corps to meet all against alkalies, equally proof against acids, and forms a questions which may come before them, and consequently writing fluid which cannot be erased without destruction of a new Patent Court is as unnecessary as it is objectiona- the paper. The ink writes greenish blue, but afterward turns black.—Pharmacist.