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endent upon the final result.
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Persons desiring to file a Caveat can have the papers prepared in the hortest time by sending a sketch and description of the invention. The government feefor a Caveat, ander the new law, is $\$ 10$. A pamphiot of adviceregarding applications forPatents and Caveaie, in. AnMUNA \& CO., No. 37 Park-row, New York.

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J. L. E., of Pa.-Warren's elements of geometrical draw ing, noticed in our last, is very suitable for you to commence with. After going through it you should use a more elaborate treatise on mechanical drafting.
P. M. M., of Mich.-We do not recollect any such apparatus as you mention for registering the pressure of steam, but such an apparatus has been used for registering the pressure of the atmo sphere and what would register the one would register the other The patent law makes no distinction between one elastic fluid and another in such a case, and therefore the most you could claim in a patent would be your particular apparatus.
T. C. R., of Wis.-Projectiles for cannon and also for smallarmshave been made with finely-grooved surfaces for the pur pose of obtaining a rotary motion in their discharge from smooth bores.
G. P., of N. Y.-Your skate improvement appears to be new and patentable. You can easily determine its practical value by a trial.
J. R., of Wis.-The Architect's and Mechanie's Journal is
J. G., of Conn.-By increasing the temperature of your electro-gilding bath you will obtain a deposit of a deeper shade. By moving the articles to be gilded back and forth in the bath, you can also change their color from a brass yellow to a red shade.
J. S., of Ind.-Your plan for propelling ships by means of balloons is one of bold novelly, but we think wholly impracticable. You propose to have the balloon attached to the ship by a line long enough to allow the balloon to rise till it should find a current blow-
ing in the right direction. The constant current from the West is ing in the right direction. The constant current from the West is
usually found at the hight of about a mile and a half. This would usually found at the hight of about is mile and a half. This woul
require a hawser too long for practical use. require a hawser too long for practical use
C. E. F., of Mass.-We are not acquainted with any method of removing the gilt bands from china cups and saucers withou injuring them tor use and display.
C. S., of Conn.-It is extremely difficult if not absolutely impossible to get all the water out of wood by mere seasoning. We have no doubt that the water which exuded from your sticks was simply expelled by the heat; and was not formed by the combustion of hydrogen.
E. G., of Mass.-You can easily arrange a weight to drive a small machine. The frequency with which it will have to be wound up will depend on the power required to drive the machine a machine with great precision; but it can add nothing to the nower.
L. K., of Ky.-Several correspondents have enquired of us where large plate springs can be obtained. We now understand us where large plate springs can be obtained. We now understand
that Messrs. Hanibal Green \& Co,, of Troy, N. Y., can supply such that Mes
springs.
K., of N. Y.-If you desire to obtain assistance in secur K., of N. Y.-If you desire to obtain assistance in secur
ing a patent for your mode of preventing dew from forming on ing a patent for your mode of preventing dew from form
show windows, you had better advertise for it in this paper.
P. W. A., of Ohio.--Government has no standing offer for a new motor. The cost of a patent is not affected by the value of a invention. We will send you one of our pamphlets of advice and a circular about foreign patents.
J. D. J., of Pa .-We are not acquainted with any one en gaged in the manufacture of oil barrels. Pernaps some manufac turer who sees the notice will advertise them in our paper.
J. S., of Iowa. - The only and best mode of charging a fluid with carbonic acid gas, is by confining the fluid in a tight vesse and admitting the gas to it in the same manner that soda water is charged. Saleratus is made by conveying carbonic acid gas from a furnace having a clear anthracite coal fire, into a close chamber filled with shallow pans on shelves containing the ground soda which absorbs the gas. The carbonste of soda and polash are neutral salts.
H. G., of Mass.-The solid contents of a cylindrical vessel, the circumference of which is 36 feet and hight 9 feet four inches is equal to 962.57 cubic feet, and the contents of a square vessel each slde of which is 9 feet and in hight 9 feet 4 inches is 756 cubic feet. D: P., of Mass.-You might obtain a patent on your addi tion to Jone's showing that your patent would be subject to histhat is to say, you would be compelled to make some arrangemen with him before you could use his. If it can be shown that yeur ad dition to Jone's spring proves of any advantage, we think a paten should be granted for it.
G. R. J.-A wind-mill does very well for pumping water but for driving a saw it is very unsatisfactory from its inconstancy If you object to steam perhaps an air engine might answer your purpose.
C. W., of N. Y.-The London Quarterly Review attributes the introduction of iron clad war vessels to Robert L. Stevens, of Hoboken, N. J. The origin and earliest date of chambered and cen trally perforated projectiles we presume it would be impossible to determine.
W. B., of N. J.-We do not believe that you will find anything better or cheaper than wood for the ball on the carpenter' brace. India rubber is worth about 70 cents per pound, and gutta percha is expensive.
F. N. B., of Wis.-If your boiler is of very good iron it ought to resist a tensile strain of about $60,000 \mathrm{lbs}$. to the square inch of sectional area; which would give $3,000 \mathrm{lbs}$. for each lineal inch for a thickness of . 05 . The steam in a boiler one foot in diamete would exert a tensile strain on each lineal inch equal to 12 times th pressure per square inch. So your boiler ought to bear a pressur of 250 lbs . to the square inch; making no allowance for the weak ness from riveting
J. M. K., of Co
J. M. K., of Conn.-A musket ball fired vertically from the earth, would fall with the same velocity that it had in its ascen
were it not for the resistance of the air ; but in consequence of this resistance it falls with less velocity.

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Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Paten Office from Jan. 29 to Wednesday Feb. 5 1862:-
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ocult our beloved country.
Having always maintained the duty of good citizens in all parts of the land to stand by the Constitution, in its spirit and letter, when that Constitution was assailed and its overthrow attempted, we accord ingly at once gave a cordial support to the Government in its patriotic endeavor to assert its lawful authority over the whole land. Believing secession to be rebellion, and when attempted, as in this case, without adequate reasons, to be the highest crime, we hold

1. That the war was forced upon us by the unjustifiable rebellion of the seceding States.
2. That the Govern
3. That the Government, as the ordinance of God, must put down rebellion and uphold the Constitution in its integrity.
4. That every citizen is bound to support the
5. That every citizn is bound to support the Government under
which elives, in the struggle to reestablish its authority over the
whole country whole country
6. That the .onsitution of the United States is the supreme Lavy of the Government as well as of the people ithat the war should be
prosecuten solely touphol the Constitution and in strict subordination toits provisions: and the war should be er erested, and peace concluded
just so soon us the people now in revolt wrll lay down their arms and Just so toon as the peopple now in revolt whll lay d.
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## Dafelbly fit bu baben:






## Improved Breech-Loading Cannon.

The accompanying engraving represents one of the latest modifications in breech-loading cannon, and varies in some important particulars from anything that has preceded it. It has a conical breech pin inserted and held in place by a screw, but the screw, instead of having its female thread in the cannon, is passed through a metal bar, which is attached to two massive rods, extending back from. the trunnions. Of all plans yet suggested for closing the breech of a cannon, we know of none that prevents the escape of gas except the conical breech pin, pressed in by a

## MAYHEW'S PATENT KEROSENE LAMP.

The accompanying engraving illustrates an improved mode of securing chimneys to lamps by means of which the wick is made accessible for trimming or adjusting without the trouble of taking of the hot cone or deflector, as at present practiced.
The deflector, A, and chimney, B, Fig. 1, rest upon a flat ring, C, Fig. 2, and this ring is secured to the lamp by two pendant rods, $d d$, which slide loosely in holes in the lamp top. From this arrangement it will be seen that to render the wick accessible it is only


## LA BOYTEAUX'S AND DANGERFIELD'S BREECH-LOADING CANNON.

screw. This perfect closing of the breech has been the great difficulty with this class of artillery. If there is the slightest leak, the gas in rushing through the orifice will soon enlarge it so as to disable the gun. The arrangement of the several parts of this cannon will be understood by a glance at the cut.
The breech pin, $a$, is made tapering at its forward end, and fits into a chamber in the breech ; its conical end pressing against a tapering shoulder at the inner end of the chamber. The breech pin is secured to the end of a stout screw, $b$, which passes through the metal bar, $c$, and has the crank, $d$, upon its outer end. The bar, $c$, is fastened by means of large nuts to the ends of the two rods, $e e$, which are looped at their forward ends to the trunnions of the gun. By turning the screw the breech pin is drawn out, when the breech of the gun is tipped up in the position shown in the cut, and the charge is inserted. The gun is then tipped back into its proper position for firing, and the breech pin is pressed into place by turning the screw in the opposite direction. For tipping the gun the lever, $f$, is keyed firmly to the trunnion, which extends beyond its bearing on the carriage for this purpose.
From the positions of the lever and crank it will be seen that one man can easily work the breech and tip the gun, while two more only arerequired to work it ; one to insert the cartridge and the other to discharge the piece. In case it should become necessary to abandon a gun constructed after this plan it can be easily disabled by siraply turning off the nuts and carrying away the breech pin and screw.
The inventor says that he has fired one of these guns five times in a minute, and that three men have fired it fifteen times in a minute.
Application for a patent for this invention has been made through the Scientific American Patent Agency, and further information in relation to it may be obtained by addressing the inventor, J. H. La Boyteaux or James Dangerfield, at Jacksonville, Ill.

Boiled oats, fried in fat, are recommended for laying hens as the very best food for the production of egge
necessary to take hold of the chimney, or of the screw, $e$, and raise both the chimney and deffector clear of the wick; the guide rods, $d d$, securing the return of the parts precisely to their proper places.

The plate, $f$, through which the screw, $e$, passes has

considerable elasticity, enabling the screw to yield to any expansion of the glass, and thus prevent the chimney from cracking. This is a very important matter, as a great many chimneys are broken, either
by having the screw turned in too tight, or by the expansion of the glass afterward.
The patent glass cone can be used with this improvement, a fact which the inventor regards as of considerable consequence, as he says that the use of the transparent cone is effecting a notable economy in the burning of oil.
This improvement was invented by T. Mayhew ; the patent was granted, through the Scientific American Patent Agency, Jan. 7, 1862, and further information in relation to it may be obtained by addressing Mayhew \& Barratt, at Poughkeepsie, N. Y., or R. D. Mann, agent, at No. 8 Dey street, New York city.

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