(40) W. W. W. writes: Can I get any more heat from steam at 50 or 60 pounds pressure (for heat-
ing houses or factories) than at 5 or 10 pounds pressure? If soo, what is the the difierence? A. You can get more
heat at the tigh pressure by nearly the difference in temperatures of the steam at the two pressures. Tem
perature at 5 pou nos pressure, 2280; at 10 pounds. $241^{\circ}$; perature at 5 pounds pressure, $2280^{\circ}$; at
at 50 pounds, $3011^{\circ}$; at 60 pounds, $311^{\circ}$.
(41) J. B. asks for a good receipt for a preparation to keep water out of a coat. I am a freman
and $m y$ coat is made of canvas; it is oiled and cost and my coat is made of canvas, it is oiled and coated
with some sort of black mixture, but whenever $I$ go to
abig fire the water goes througn it a big fire the water goes throug, it. A. Try the follow-
ing treatment: Soap, 2 ounces; glue, 4 ounces; water, 1 ing treatment: soap, 2 ounces; ; ghe, 4 ounces, water,
gailun. Dissove the glue and soop in the water by
heating. The cloth or garment is boiled in this for a quarter of an hour and then rinsed out and allowed to nearly dry: then it is allowed to lie in the following so-
lution for six hours: Alum, 13 ounces; salt, 15 ounces; water, 1 gallon. After which it is wrung out, washed
with water, and allowed to dry slowly, when it is ready for use. 2. Give a mixture to rub on boots that will keep out
foot oil.
(42) J. W. asks for a simple and easy plan of procuring eample of water from bottom of a well
1,300 feet deep, $4 \times$ inches in diameter. A. You may get a fair sample of water from a deep well by using the sand bucket. if you can make a leather valve on the up. per end, avd also make the bottom valve tight with a leather lining or, if you wish to make one. take a
piece of iron pipe-say 9 inches -one or two feet long piece of iron pipe-say 2 inches - one or two feet long,
screw a coupling upon one end, make a hard wood plug to screw into the couplng with a hole in it three-guarters of an inch riameter, and a soft lea'her clapper,
loaded with a piece of iron or lead nailed upon the in side the same as a common pump bucket. At the three-eighths iron, and arrange a leather valve upon block of iron, so as to fit tight upon the end of the pipe and have the bale as a guide. Let the bale have an ey for fastening a line, ana also be heavy enough to carry
down the line if you have a great depth of water to pass through. The bucket in descending will allow the water to pass through freely, but when you puil up $\mathcal{\ell}$ he
valvee, close and confine the water. The bucket gust not be allowed to have any motion backward alring
the whole ascent while in the water, or you will lose the charge and take a new one at the pofit tach ange:
(43) F. J. C. asks for information abouthe reversing gear on Maxim'ssteam launch Flirt. I would
like to apply it to an engine of mine, about $2 \%$ his horse power, as I think it cheaper and as good as the regular
reversing gear which works longitudinally on the shaft on it feather parallel with the shaft. On the outside diameter of in the eye of the eccentric. As the sleeve is moved back and forth. the eccentric is revolved to the extent
necessary for the proper lead when working abead or necess
back.
(44) J: S. asks: 1 . What is the area of a mehes do:s it contain? A. $12 \cdot 50$ souare inches: 2. A lever 28 inches long, the ball weighin9 50 pounis $s$ how many inches back on the lever must the ball be put so give the distance fromathe fulcrum to the valie.
(45) S. C. writes: 1. I am running a steam pump; the size of steam cylinder, 8 inches bore; water
cylinder, 24\& incies bore; 10 inches stroke; discharge pipe, 114 inches; suction pipe, zzy inches, Could I
draw water from a well 7 foet deep, providing my plunger, water valves, and pipe were all tight, having
foot valve on suction piepe, if I I were to first fill my suction pipe and pump full of water, having pressure of steam to move piston?
watermore than 23 or 30 feet if eyerything is "draw" tight. The pressure of the atmosphere limits the thieht. 2. What isthe greatest number of feet theat
hater can be lifted by enction with an ordinary steam pump? A. Fou would not be safe to attempt mote
than about 28 feet. than about 28 feet.
(46) F. S. asks: 1. In calculating the horse power of compound engines, how is the pressure in the
large or low pressure cylinder obtained? pressure is geneeally obtained from the indicator card 2. What are the duties and pay of oilers on steam ves
sels? A. About $\$ 40$ per month; sometimes less.
(47) T. D. M. asks: 1. What action would electricity have on a fur-bearing animal killed by it
A. None. 2 . I would like to know about sulphurous A. None. 2.1 would like to know about sul phurous
acid gas in reference to the eame purpose. A. Sul. phurous acid gas would not injure the fur.
(48) J. A. asks: Where can I obtain the latest and best information on the reduction of silve
ores? A. Obtain Percy's " Metallurgy of Gold and sil ores? A. Obtain Percy's "Metallurgy of Gold and sil
ver" from the booksellers who advertise in our col umns.
(49) C. E. B. writes: 1. You refer is issue of Nov. 18, 1883, page 399, of Scientrific American, to safe for an inexperienced person to apply? A. No. 2.
How is it poplied? A. By means of an aromizer. How is it applied? A. By means of an atomizer. (50) H. C. A. asks for a receipt for rempv-
ing lard oil stains from linen table covers. A. Lard oil
is soluble in 36 patts hot alcohol. White goode may be washłd with soap or.alkaline Iyes.
(51) C. W. asks for a receipt for making ! the cement for putting gum soles on shoes. A. (1)
Diseove 10 parts of caoutchouc, in small pieces, in 280 parts of chloroform by maceration, melt 10 parts more
of finely cut carutchouc with 4 parte of resin ; add 1 part turpentine, and dissolve the whole in 40 parts of
oil of turpentine. Then mix the eolutions. For use dip a piece of linen in the cement and apply it to the
article, which should article, which should also receive a layer of the cement
before and after the application of the line before and after the application of the linen. (2) A
cement is made by dissolving india-rubber in carbon disulphide, chloroform, or benzine. Apply as above.
(52) W. H. R. asks how to wash or erase ink from paper, ledger books, etc ? A. Writing may be and acetic acid. In the Scientific American for No vember, 1881, pyrophosphate of foda is recommended. It is best to first apply tallow to the ink spot, then wasb
in a solution of pyrophosphate until both tallow and In a solution of pyrophosphate until botn tallow and
ink have disappeared. Solution of potassium oxalate ink have disappear
(53) F. R. H. asks for a process for treating barytes with oil of vitriol and steam to purify it. A
Barytes may be prepared artificially for use as a pig nent by adding dilute sulppuric acid to a eolution o barium chloride, when a white precipitate is formed
this is washed and dried. Also, it may be prepared by this is washed and aried. Aso, it may be prepared by
heating the native mineral, rrinding it to powder, and ashing it, first in dilute sulphuric acid in order to 1 e white powder is then thond afterward in wacer; the process at Matlock Bath, Derbyshire, England.
(54) P. H. IL asks: 1. If a phosphorus lamp of any degree of light can be made by pouring phosphorus in it, and then hermetically sealing. if so, how can I boil the oil? .A. To make phosphorus lamp. or bottle dissolve 24 : grains phosphoras in an ounce of olive or coton seed
The two should be mixed in a thin vial (flask which should then be placed in hot water. When the phosphorus melts, cork the vial and shake vigorously ntil nearly cola. Upon being uncorked, it emits con ideratation. Give process for erasing or absorbing pulation. ${ }^{2 .}$. Give process for erasing or absorbibg
writing ink after it has become dried on the paper And if it can be made in a solid form to use as a rubber eraser is used for leadpencil writing. A. For this purpose a solution of oxalic acid may be used. into uickly. While the paper should be eaturated with sis solution, its pores should not be clogged, and in wing git, it.should be applied to the spot to be removed
(55) E: N. H. asks: What is the composi on of Seidlitz powders, and in what proportions? The blue powder contains 1 drachm bicarbonate The white powder is one-half drachm tartaric acid.
(56) E S. asks how to electroplate articles that are non-conductors of electricity, such as leaves.
fishes, insects, etu.? A. The leaf is carefully dried, and laid upon a smooth. piece of milled lead, which is placed between two steel plates and passed between oilers; these press the leaf into the lead, and produce a complete mould. Copies from this may be taken with copying of nettle and other leaves so perfect that all hie hairs on their surface were to be seen. One of the sides of a fresh leaf was covered by means of a brush with a thin paste of plaster of Paris, and after the dryresisting block haid been obtuined with the leaf unper most. The free side was then covered with several coats nos. The with a brush or pencil of gutta-percha dissolved in carbon bisulphide, and lastly with melted guttapercha. The mould was removed from the leaf, metal ast reptiles, embed the subject in a mould made four par 8 of plaster of Paris, one of unburnt lime pow-
der, and one of Y'landers' brick dust. Dry the mould der, and one of F'landers' brick dust. Dry the mould carefully in an oven, then make it red hot, and burn
the subject out of it, taking care to free the mould from the ashes. Fusible metal may be cast in this mould, or a was model may be taken of the object, pouring the wax in just before setting. The whole is now placed in water, the lime causes the mould to disolve or break up, and the iggure modeled within 1 , fterward mand covered with copper and the was ther small animals may be typed in this manner.
(57) G. M. asks for a method of crystalliz ing tin plate. A. Heat the plate until the tin beeins o melt, and tip it into a solution of 1 part of bichromate of potassa in 3 parts of water, 2 parts of muriatic cid, and 1 part of nitric acid. After rinsing well, nuriatic acid is poured over the tin plate, and then a of water. The crystalline fiowers produced thereby dieplay a great variety of colors according to the time of contact. Rinse well with water, then with alcohol, and lastly lacquer.
(58) E. H. B.: The following is a good ime, 20; quartz sand, 25 ; sal ammoniac, ${ }^{3}$. These are formed into a paste with vinegar, and then applied. The cement is left to dry slowly before heating. 2. Iron flings, 180 parts; lime, 45 ; common salt, 8. These
are worked into a paste with strong visegat. The cement must be perfectly dry before being heated. By eating it hecomes stone hard.
(59) J. C. asks If there is any process known y which we can dissolve india-rubber or gutta-percha? Use bisulphide of carbon: be careful not to use it
(60) D. H. V. asks for the best method cleaning bronze statuary or other bronze ornaments, in the fine lines of which dust bas collected? In the
ordinary process of dusting I have not been able to reordinary process of dusting I have not been able to re-
nove the dust so collected and which causes such orraments to assume a gray, dingy appeararice. A. Use weak soapsends or aqua ammonia.
(61) O.N.N. asks how to soften tin that as been hardened by being heated too often, so that it $\begin{array}{lll} & \text { mill not injure irs piting properties? } & \text { A. Melt it again }\end{array}$

Mrebats, etc.-Specimens have been re ceived from the following correspondents, and xamined, with the results stated M. M.-The sample you sent is composed of iron pyrites (salphine of iron) in
containing no gold or silver.

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