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ting it and catch belting and clothing．Both Keys and The Taper－Sleeve Belt Pulley has none of these objec－
tionable features．One Pulley sent on trial．

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All Fruitcan Tools， F erracute，Bridgeton，N．J．
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Prion Price only three dollars－The Tom Thumb
Electric Telegraph．$A$ compact working Telegraph ap－ paratus．for sending messages，making magnets，the
electric lignt，giving alarme，and varloue other purpoeses． Can be put in operation by any lad．Yacludes
key and wires．Neatly packed and sent to all parts of
the morid on rectipt of price．F．C．Beach \＆Co． 283 key and wires．Neatily packed and sent to all parts of
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Broadway，New York． Rue＇s＂Little Giant＂Injectors，Cheapest
snd Best Boiler Feeder in the market．W．L．Cleee \＆
Co．，98，88， 97 Lberty street，Nee York．

W．H．F．will find engravings of electro
motors in back numbers of the scrismiticic AMRRICAN


 or preventing midem ou

 261，vol． 29 f for tempering mill picks，on p．170，vol．25．－
C．W．R． 18 tnformed that we published a good rectpe or wood dilling on $p .155$ ，vol． 30 ．
J．B．asks． 1 ．On What Class of sea－going
steamer are high presure engtne used？A．They are not used．2．On what clase of sea－goting steamers 18 the
condensing engine used，and what 18 the presure


 gine e，and what tit the lowest terminal presere in both
the high preseure and condensing engines for sea－going purnoses，measured above a perfect vacuum？A．Yes．
Terminal
隹
 sea－going engtnes as a high preasure engine？A．No．
S．What 18 the most common form or type of eea－gotivg Condensing engines？A．Verticalt two－cylinder engines
6．If，at an additional expene of 8100 in the Aret cost of an en gne of one hundred hore pepower and deprrapes z2000 In a one thouanand horse power，the eftective workting
power could be increased from 10 to 25 per cent，depend－
 We do not get aclear ldca of what you mean．
S．asks：Which is the strongest and will
bear the most welght，a hollow pllar or a solld oue，of
 larger）plllar，will bestrongerthan if made into a solld
onc． J．S．S．says：1．I have been running my


 iso feet，thereny dotng away with one boller？A．We
would recommend the latter plan． 2 ．What sized plpe
 better to convey the ppe under or above ground？I．
need about sty horse power to run the gin．A．Which－ ver 18 most conventent．4．Will under runner rock
 ter．A．G．says：I have made a field camera
L．the directions given in Scernce feecrd for 1844 ，bu ind no twage on the paper unless the object 18 hel
within two feet of the lens，or the paper held with
 Dox 18 supported about 20 inchee above the table，and dark chamber 18 made by covering the wire with thlck
daik cloth．What 18 the matter？A．If the object or

 may be substituted ；or you may reverse the bos hat the lens 18 between mirror and table．
H．R．J．says：I
ng and work at architectural to be a thorough archtect． 1 have a very Sod Engllsh educa tion，but cannot afford to go to col
 structlve carpentry neceesarr？Whal 18 the bent and
simplest work on It？A．roucouldsucceed best by bo． ing into the oftre of an architectin good practice，an thus get access to his library，where you would fin
most tikely，the best works on every branch of the


F．C．R．asks：How are hollow plaster of
Paris to ${ }^{\text {g made？}}$ A．They are made in two or mor
J．E．S．asks：How can the residuum in the
till after the distilation of petroleum be best purifed toproduce a nice paramn oil？A．American ours eon




 per cent of the orliginal quantity） 18 azaln distilled with steam at 1500 to 2000 ，and the products，of varlable vola－
tulity are separately collected．
The last portlons of the tility a are separately collected．The last portions of the
ditatill
ata
atate
 Burmah．
 naintain that it will not．A．Most certainly， 1 t applied

E．K．，Penza，Russia．and others write for mineral oill mentioned on p ． 5 s，vol 30 ．A．The write
minn of the paragraph declines to give further information．
O．L．asks：Is there any simple and cheap

 what you dealre to
able to answer：jon．

E．P．says：I have in use a 32 horse power
boller with 62 three inch fues．The brick work strikes the boller about 4 nchese below the water llne．Thesald
arch needs repaling．Would it be bad visable to conatruct 4 nches from the shell？Would not a bolle arched over in such a manner supply drier steam than
When covered tin the ordinary was？Would there be more danger of explosion？A．Such an arrangement
as you propose 18 very common． 2 ．Would coal tar and plaster of
it render 1
 bolled，
oughly．

 hear the thunder．He alos says that the thunder comes
 tend that the lightnitg comes irst，and that the thun．
der 18 caused by the ruabing together of the alr efter be－ Ing rent by the electrictly．He eass that there to never
any thunder accompanylng fash lightnng，that it only
 that the thunder accompanies both bindis or ilghturing
Which
of thunder，就 are 1 Ight in the matn．Wherever there 18
lightung there 18 always thunder，although it may be
 ning，8．called， 18 merely $t$

M．A．says：The peach crop in this section
of our state is beeoming a matter of some tmportance， nd the great diftlyuly y fin packing for sh：pment 18 th thata low temperature can be manntatned without the uase of tie．，and is there any agent other and cheaper
than ice by which the temperature of a room can be kept tat 45 or 50 Fah．？A．All methodsf for producing
low degree of temperature（excepting that of ce）are
 plan，however，which seeme to have worked well，and
 Ile，having only one small door．The room should be Suilt withdouble walle，about six Inehes apart，and be．
（ween these walle should be flled with sawduat ；the lween these walle should be flled with sawduat；the
coom 18 then covered both instid and out with a double coating of very thick feltiog．Into a natting hung in Ibe．of ice；the room can now be filled with fruit and
the door or opening made tight．It 18 sald that frut so stored will keep for months unaltered．After once losing the dooror openting．1t must not
M．A．B．－We have never seen any noise－ R．O．P．asks：Which of the fillings used
Areproof sates have stod the beat In large fires？
It cement and water or plaster of Paris and water constid ered dhe best？A．There has never yet betn nagit con
structed that was aboolutely freproof．That in which rroach to ireproof．But plaster of Parls and hydraulic cement
A．L．B．says： I am building a small oscil．
 simple way of making this？A．Arrange the valve
hat it
hll
admit steam at each end of the cyllder thar it will admit oteam at each end of the cylinder al－
ernately，opening the opposite end of the cyllnder to or at the same time．
F．S．J．asks：A few days ago I placed in a
amal phial a solution of water and aulphate of copper Then added about 20 drops of sulphuric acto，whic montanear at hand，I Idded it also to the mixture，by way of experiment．Immediatelyone halif（the upper
of the solution turned dark $b$ bue，with a hard white
 shook the bottlea moment or so when the dark bue and
bhte subatance entrely disappeared．．The bottle be white eubatance entrely disappeared．The botle be．
ing now full，empted about half of it out，and in in ng now full， 1 empted about thaif of it out，and in
Btead placed ammonta and spirts of turpentine，which had the same effect at firt as the ammon 1atn the former mixture；but after ehaking for some time，the mixture
urned a bright green，but was not clear．A．The hea turned a bright green，but was not clear．A．The heat
developed on the additlon of the sulohuric acid was due ded tering into chemicalunion with the ater．Yo
 in 18 in excess．The arurellquidits the solution of the
Dastcoulphate of copper in excess of ammonta．The oild part below the azure ts the bastc sulphate，wher

 was the ammonta．The green turbldity was due to the



J．W．says： 1 ．I have a new cistern for
aln water．Yhe patnt on the roof 18 dry．Ie the inret nilling of the clatern int for use，or should it be pumped
out and flled a second time before usin？Should it be

 mean fordrinking，we should say not．If the leaden
pipe that supplies the water from the roof 18 of good ine and 18 not trappead by having fits lower end in the havere an overtiow plpe leading to a drain，tit bhould be
be trapped．2．The tank tin the roof of my mouse ts 1ned with lead，and the plpe（leadtng Bome 35 feet）is lead
Is water from the lead tank，through lead plpe，good or cooktng purposes？A．We should say that wate lead plpe，was not good for cookstng purposes． s ．How
 weather 19 good and the house kept open to let the atr
be frequently changed， 1 ou outt to be in a proper cond1－ Hon to be occupled tit three weels
palit 18 put on．
S．asks：What is the best method for test－ Can you give me the name of some work where I can
 mostrecent 18 the 1odometrical method，and 18 base
upon the fact that saoluulon of chlurite of lime sep
 eestimated by means of hyposulphite of sods．The test
is thus executed： 100 cublc centimeters $(=1$ granme） blinus executed： 100 cublc centimeters（ $=1$ gramme）or
bleachlog powder solution，obtained by dissolving 10 grammes of chloride of lime in 1 itter of water，are mixed with 25 cublc centlimeters of solution of 10ddede
of potasesum aclditied with dillute hydrochloric acid． The ensu10g clear，deep brown colored solution 18 treat．
ed with hyposulphite of soda solution untll aute col orless．The byposulphite of soda solution ts composed of 24.8 grammes of that salt to 114 ter of watcr； 1 cubtc
centimeter of this solution neutralizes 0 0127 grammes

W．J．N．W．asks：1．I hear some men say
 rue？A．No．2．．Ree that the locuat deposits 1 te eggs
rn the twigs of trees．Why 18 t that they come up out in the wige or trees．．Why 18 that they come up out
of the earth and from what depth do they come？Do The eggs of the locust（cicada septemdecime are depos－ ted in pairs in the terminal twige of difiterent species of ent in ans rrees，espectally the oak．The larva hatch he ground，In which they llve，feeding on roots of trees， few days．Whea about to tre pupa state lastling bu date they ascend to the surface，making cyllndrical burrows，frmly cemented and varnished so as to be wa．
terproof．In low and wet localties the puppe often ex－
 ace．In the upper end of the chambers the pupe can

 transformations in the useal manner．Thees 188ue from
thert burrows in countlessm（1110ne，in foresta or where
 noties aunding like＂Pharoah＂prouaced thy whe male


 licalltes；in thts rictinty they ap
G．F．P．Bays：1．We are informed that
hollow copper IIghtning rode are used io preterence tu solld ones，on account of conducting the electrict1y better，also that the hollow rod conducte better，as the
tmosphere 18 damo withulu the rod，which 18 \＆Detter
 eavee，would dit not render it dangerous？Does not the
currentrequire the amme amount of space to pase all e smashed nearly togethe Where they were bent in turning the eaves and cornices does thls make any difference？A．A good material
for constructing lightnigg rode 18 three quarter inch ron，terminating at the top in a glit copper arrow hea
eery धמamp onducting material．The metals are oy far tha best conductors；damp or matitat alr are very fryerifor th
com parison． 2 ．Do rode runing only three or four


M．W．J．asks：：Why is it that growing
clover causes cows to
swell？
I never hear any com．



 Will not，or at most very 11 ittle．A．In consequance of
hecomplicated digestive，apparatus in cattle，if their or other eucculent or saccharine food，fermentatio takes place，the carbonic acid gas thus formed（soume
times in exceseive quantity）distending and often rup time in excessive equantits）distending and often rup
turing the stomachand thus cuasing death．This re arrng the stomana and thus causing death．This re eede，thus allowing the with a cannula or apirato sindlan meal，sometilmes causes death in cattle ised in excessively large quantitiles：in their greed ack，swells and becomes a hard mass which 18 very dif cult to remedy
N．L．T．asks：1．Can you inform me of
meme cheap and efticlent solution for the preservation of．shlngles on roofs？A．A solution of chloride of
zinc．2．Can I construct a rellable liphtning rod of od？and what should be the size of fron for such conductug power of a lightining rod tojured．by patint inf，and will ordinary paint prevent iron undergroun
rom rusting？A．No；red lead might be used．4．Is it ufticlent to extend the rod vertically into the groun rodephevel with a creek，about ten rods distan
rom the house？A．No．It would be better to extend your rod underground out into the water of the creek．
5n my victnity，the lightning rods generally used made of copper and hollow，the metal betng about $3 /$
$f$ an inch in thickness，and the rods about ion of inch in diameter，extending into the ground aix feet．
Are these reliable in your opluion？A．No．Theyare conducting surface in contact with the ground ro rodis really a safe conductor unless it has an extensive
amount of conducting material for its base，or terminal contact with the earth
J．W．S．asks ：1．Will galvanized iron un－ A．Yes，but very slowly．2．How can I make a varnish
with shellac which will not chip oft afterbetng appled ometime，as it does when dissolved in alcuhol alone A．Some recommend the adding to the varnish about
tablespoonful of bolled $11 n$ need oll to each plat of var tablespoonful of boiled hinseed oll to each plit of var
nish；of course the ofl remains only in mechantcal mix
cure． 3 ．C $a n$ I collect ozone in small or 8 ounces，by displacement of water（as oxjgen 18
made）？if not，how can I obtann it？A．No ：it canno be obtained separatefrom theosygen or alr from whit is formed．If a stick of phosphorus molstened with
few drops of water be placed carefully in a bottle of air，the slow oxidation of the phosphorue 18 attended
with the production of ozone．In atout one hour this as reached 1 ts maximum，when the phosphorus shou e removed，otherwise the ozone odor will disappear
This 18 one of the beat methods of obtaining it in mall lust
uisitites，ulthough very dilute．

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E. M. B. Says: I have a horizontal tubular Soncrin which ire goes under thestella ad then throuk
the tubes. Would it save coal to puta brck floor with tn 9 tnches of the shell 8 front end, and 6 tiches from back
end to keep the heat in the shell of booller. A.We would ant recommel
at present.
J. K. asks: How are artesian wells made er stock? A. The mere fact of tinerting a plpe wit ter stock? A. The mere fact of ninerting a plpe win
ot cause the water to fow. It ts necessary to bore un til water 18 reached that comes from
than the place where the well 1 s made.
H. J. I. asks: What is the rule th calculate The preasure ona hydrailic ram? A. The pressure o by the pump,multiplied by the number of square tnche In the cross section of the ram.
J. A. A. says: 1 . We lhave a fire engine
hat will tirowabout 140 feet. The machine has no vacuum chamber. Whilt help her to put one on? Wwillt
be ans advantage, and how mem oches bore by 7 tuches stroke; suction ta $3 \%$ mparea $b$ $i 8$ feet long. A. We would not recommend tt, it tha


O. J.P.says: We generally use here lift and force piston pumps for tanks in housee, bathing pur pumps of $23 y_{i}$ Inches bore and 24 tinches stroke, with al easels, and connected together, with the same action a this case, the pump will be about 200 feet from the
Iver and 18 or 20 feet above the level of the water, the ankbetng 30 feet above the pumps. I fear that two plunger pumps could not be used as advantageous
is as a plston pump for liftling the water, but I under tand that the plunger pumps would force up the wate tand that the plunger pumps would force up the water
more advantageowsly than a plston one. Am Irtght A. We think that the piston pumps will give better sat.
sfaction in this case. Your other question ts a profes. isfaction in this case. Your other question ts a pr
stonal one and should be referred to an engineer.
J. H. W. asks: 1. Is it possible to transmit ptpe, 15,000 to 20,000 feet long, by forctng compressed air into one end? Could the loss of power and the time equired for transmission be calculated? A. Yes. Yo ill fnd some facts in regard to the matter in reports Ensineering a few years ago. 2. Is the process of lightng street lamps by electrictty attended with such a de a to preclude to employment on the score of ation my? A. We thank so. 88 What on the score of be the ecobable approxims te cost of erecting the apparatus necessary to
light toe 5 ,000 lamps of Botion. Mass., and what would probably be the annual working expense? A. We be leve the attempt was made some time ago; and proba-
ly by writing to the authoritles, you can obtain the in ormation you destre
$\underset{\text { mensions, focal alstances, etc., of of toe lenses tor a won }}{\text { Wive }}$ me the der camera, as described in your paper of June 6? A.
The larger your objectives, the clearer will be yourptcthe sizeof plecure destred. gas cannot be obtained? A. A coal oll lamp has been used to advantage. 3. Would an extra lens between the
light and the photograph be an advantage, and what the better. 4. Wbat is the next step in the education o a mechanical engineer after a college course, and on ther enms are learners taken tnto machine shops an other engineertng escablishments? A. The nextstep 18
to lay astde the ddea that college cducation will give anything buta theoretical knowledge, and to learn do any mental labor that a mechantc has to do with al the strength and abllity he possesses. On these terms,
if he is fortunate, he will be admitted into a machine J. C. K. asks: Is it injurious to the water n leadservice pipes, orto the pipes, to the in the same
trench as gas plpes, the gas plpe and water ptpe lying within three or four tnches of each other, and passing
through the same opening in a stone wall? If so, what through the same opening in a stone wall? If so, what
is the effect? A. No; there ts no reason why it should is the effect?
C. F. B. asks: What are the velocities of Ight aud electricty? A. Wheatstone gives electrictty
(of high tenson, such as atmosphertc) a veloctty o about 288,000 miles per second. Light has a speed o
J. K. asks: Does the sun, by shining on
one alde of a asw every day for a lengta of tlae, injure one side or a saw every day for a lengta of thee, injure
it? A. Ordtnarlly, we scould suppose not. We do not, however, know the ctrcumstances of the case to which
 Can I do it with an atr pump? What stzed valve would t? A. Yes. The size of the valve is not the matter to be considered. A large air pump would answer. 2. If
the atr were taken from an airtight cyltider in which was placeda a fywheel running at moderate speed, would
the motlon of the wheel create alraganin the cyllnder? the motion of the wheel create airagainin the cyllinder?
A. No. 3. If a tube, open at one end, were placed wit A. No. 3. If a tube, open at one end, were placed with
the open end tn a clistern of water, could the air be aken out of it so as to create a perfect vacuum Would alr enter by the water at the lower end? A. Va
por of water and air transplting through the wate would prevent obtaning a perfect vacuum. 4. Pleas name some good work on alr pumps. A. Consult a
work on natural phillosophy, Gacot's" Physics," for ex work on
ample.
T. J. K. asks: What is the best material to
put on a carpet when sweeping it? A. Try spent tea
H. W. asks: 1. Will scrap zinc do to use In a HIll or blue vitritol battery? A. If meltedand cast,
yes. 2. What sized cyllinder do I want to make a 1.6
. orse power englae at solins proke, making 60 revolutions per minute,will give just over1-6 of a nominalhors C. L. F. asks: H3w can I determine the he true meridlan? A. By the declination compass. E. B. W. asks: What is the rule for find through a nozzle 3 tnches dtameter at varyting prestures reatise on hydraultce for an answer to your question, a 1ts consideration would occupy-too mueh space for
these columns. We have discussed some of the in our a
vol. 29.
H. I. W. asks: What is the best equilibri
m side valve? A. We do not recommend spectal ar M. C
M. C. S. asks: What are the chief objec
Hons to an ron or steel rall whose under slde to wrought nto a sertes of arches or curves, designed to span the spaces between the thes? The top or tread of the rall 18
o be horizontal as now, but the underside curved, ex ept wherizal as now, but the underside curvea, ex hat the change 1s very desirable.
C. R. asks: Will a spring made of the best n engine? If so, la there any metal or alloy that wil esist the most intense heat of steam and retain its or-
(ginal form? A. Springs exposed to high pressures and emperatures are apt to become weakened. We do not now of anv hetter material than steel.
G. M. R. asss. Who compose the American soclety, and what formalitles are necessary to become
a member of this soctety? What are the time and place of thetr meetings and are the meetings publtc or not
A. It numbers the princtpal engineers of the country mongits members. By addressing the secretary ( G. Leverith, 63 Whlliam street, New York city), you
can obtain full tnormation in regard to your other
F. W. B. asks: 1. Would there bea demand provided witha reverstigg attachment? A. There are uchenglnes in the market. 2. Is an osclllatingengine,
with a given head of steam, Infertor to an engine whos A.asks: 1.How can gutta percha be fastened
co ordinary sole leather? A. By using gutta percha dissolved in naphtha as a cement. 2 . Whil it wear a
long as sole leather ? $A$. No. 3. Will with or
. dlaary sun heat o
P. P. W. asks: If the pressure is greatest A. We do not see the connection between the two. As
oo yourother question : According to general ubage, a
G. W. M.- Your questions are too compre the flight of birds fully explatned in Pettigrew's" An
$\underset{\text { Enstructed on the princtple of the sompound micros }}{\text { E. }}$ cope, with achromattc object glass 1\% tnches in dame erand 13 tnches focus. Eye.plece consists of 4 lenses. ject gla
A. Yes.
J. S. asks: How can I cut moss agates and
cornellans? A. By means of a blade of soft tron and diamond dust. Copper is sometimes used in place of the
ditan
S. D. L. asks: 1. Is there any difference Cetween a stereoptcon and a magic lantern? A. No
2. Can colorel photographa be used in them? A. Yes 3.Can photographtc negatives be used? If so, how can
they be colored? A. Readdirections for coloring pubished onp.
D. G. asks: 1. What is the process of polbrushmarksare to be seen? A. Carrlage patnting and described in these columns. Sec M. Arlot's work, fre quently advertised in our pages. 2. What causes patn

## S

S. says: If spiritualism is a humbug, how Edmands believing in it? A. Splrituallsm is no morea humbug than ts hydrophobls. Both phenomena have
cettain points of resemblance. Both appear to be al fections of the nervous system, resulting from some is Induced ts net positively known; but there is evi dence to show that a mental Impression, a whim, or the magtaation of the indiviaual, may be a sumfient excles, nervous disorders of all binds, are not respecter of persons. They attack all classes, the learned and the rally tound but che earilest and easiest victims are gen onditions.
T. A. C. says: Tell D. S. H., whom you an He pulley with leather to keep his belt from silpping He can put it on with tacks or ver
Ides together 1 think, work best.

MINERALS, ETC.-Specimens have been re oxamined with the results stated
R.R. R.- No. 11 f finely laminated micaceous achis contatning, as farascan be determined from such smal
pleces, rodules of tmpure steatte. No. 2, heavy apar or barite. The specticic gravity of the spectmen enclose 1844. No.s, Itmonite, contatntng on an average from W. - No. 1, on analysis, was found to contaln a hitt nate of lime. It ts not a hydraulic limestonc. Prop is burned it would be converted into quickilme. No. der,for pollshtng purposes, with rouge,the finest Frenc merypaper, and Bath brick. It ts a medtum between and much superitor to the emery. It is just equal to Bath brick, which it closely resembles in color. A minent opticlan observes that it might be used epattc pyrites, in which the sulphuret has been con erted into oxide of tron.
F. E.T. says: Piles driven in salt water o They might be protected by metal sheathing, but that ooexpensive. Is thereany method known. both chea these worms? -J.C. G. asks: How can I burnlsh brass? H. B. asks : How th raw wool prepared for dyelng with Indigo blue ?-T. H. R. asks: How can I wash a chamot hirt without shrinking or iojuring it?-H. L. K. asks
How are white rubber hand stamps made? What ktnd f molds are used, and what kind of rubber? How it bands of different sizes sold by stationers jotned to as any other part.-H. B. S. asks: What matertals are used in the manutacture of frebricks, and what is the usual meth, of of thetr manufacture?-H. E. K. asks What ts the best way to make putty of the colors o
different woods (walnut, ash, etc.)?-L. H. asks: What will prevent pastel colors from betng rubbed?-G.H.M. asks: What part of a horse power is an elght day cloc pring? What is the wetght of a four horse power en fine? -W. C. L. says: The front wheels of a wagon are high, or the front wheels are 4 feet and the hind wheel feet 6 inches. What is the rule for setting the axie,an hould the hind axle be any longer than the fore? ${ }^{\text {W. W. }}$. . W. asks: 1. What 1s the rule for computing the horse width of buckets 4 feet, depth 18 tiches by average of $331 n \mathrm{nches}$, with a 101 nch run, making 64 buckets to the Wheel: 2. What ts the meaning.of the word "rages," ised bs machinsts? 3 . Whi crawish work in soft slate g cloth to wash it
We shall be glad to receive replies to the bove for publication.

## communications received

The Editor of the Scientific American cknowledges, with much pleasure, the re ceipt of original papers and contributions upon the following subjects
On Feathered Arrow Heads. By S.C.G y T. L. W., and by A. H. I.
On a Balloon Device. By L.
On the Dress of Women. By F. M. S
On Bursting and Explosion of Boilers. B
M.

On the Boiler Explosion at Geddes, N. Y By D. T.
On the International Rifle Match. By E H. $P$

On the Chances of War. ByW. W. H.
On the Interior Angles of a Polygon. By E.

On a Small Steamer. By J. F. K
Also enquiries and answers from the follow ing:
J. A.C.-C. M. C.-W. C.-H. L. M.-C. E. J.-J.E.Jr.
D. в. s.-T. M. е.

HINTS TO CORRESPONDENTS
Correspondents whose inquiries fail to ap pearshould repeat them. If not then pub ons, the Editor declines them. The addres of the writer should always be given.
Enquiries relating to patents, or to the pa entability of inventions, assignments, etc. will not be published here. All such ques ions, when initials only are given, are thrown into the waste basket, as it would fill half o our paper to print them all; but we generally take pleasure in answering briefly by mail f the writer's address is given.
Hundreds of enquiries analogous to the following are sent: "Please to inform me where I can buy sheet lead, and the price Where can I purchase a good brick machine Whose steam engine and boiler would you recommend? Which churn is considered the best? Who makes the best mucilage? Wher can I buy the best style of windmills?' All such personal enquiries are printed,as will be observed, is the column of "Business and Personal," which is specially set apart for that purpose, subject to the charge menioned at the head of that column. Almost any desired information can in this way be expeditiously obtained.

## [OFFICIAL.] <br> Index of Inventions

 for whichLetters Patent of the United States June 23, 1874

## and rach bearing that date,



