## COUNTEY COTTAGE AND STABLE

We complete the series of designs which we recently published, extracted from Downing's Cottage Residences, pub. lished by John Wiley \& Son, New York city, with the accompanying engravings of a very tasteful and elegant country dwelling (Figs. 126 and 127), and of a neat and commodious stable (Figs. 99 and 100), which might be erected in connection therewith. The material for the construction of the cottage is brick, and a very picturesque style of architecture has been followed, with which the interior fittings of the house are designed to harmonize.
There is a large front porch leading to the vestibule, which is separated from the hall by an ornamental screen of carved chestnut. The flooring is of encaustic tiles of ornamental pattern. The main hall is large and roomy and communipattes at the right with a library which opens into a amall cates attory or fower alcove. The parlor immediately in conservatory or flower alcove. The parlor immediately in rear of this apartment is a spacious room, and fronts upon a broad veranda. The dining room is supplemented by a butler's pantry, and contains several closets and other conveniences. This story is ten feet high and finished in chestnut. The basement is similarly divided, the partitions being of brick to insure a strong support to the floor above. The kitchen is under the dining room and has three large windows.
The second story is finished in chestnut and pine, and comprises three square chambers and a small servants' room. The hight from floor to ceiling is ten feet. There are open fire places in all the rooms, and provision is made for a portable furnace in the cellar
In constructing the house, blue stone trimmings, neatly dressed, may be tastefully employed, and the bricks for the outside facings should be selected for uniformity of tint and sharpness of outline, and laid in dark colored mortar. The roofs are slated and surmounted by ornamental cresting of cast iron. The estimated cost is about $\$ 8,000$, but it is probable that, near cities or in localities where the ruling rates of building materials are high, this sum would be somewhat exceeded.
The stable is of quite ornamental form, and is designed to be built upon sloping ground. It has beneath it another story for farm horses, cows, cellar for roots, etc. (not shown in the elevation), making altogether a very complete building. It is constructed of sound timber, sheathed with matched pine plank, battened, and the whole filled in with brick. The walls of the cellar story are blue stone, laid in mortar. The plan shows a carriage roo.n, double floored and
ceiled all around, with a harness room and separately in closed stairway in the rear. On the left is a tool room, workshop, etc.; on the right a stable with stalls for four horses. Over the whole is a large loft for hay, with mouths in the floor to feed the racks below. The cost would average from $\$ 2,500$ to $\$ 2,800$, depending upon expense of labor and material.


Fig. 46.
In connection with our pres ent subject, we subjoin an engraving of a good and cheap arrangement of water closet (Fig. 46), which may be easily introduced into any dwelling, thus avoiding the necessity of the ordinary unsightly and disthe ordinary unsightly and The cistern, $a$, may be at any distance from the seat, $b$, provided it be on a higher level by four or five feet. The ba$\sin , c$, is an inverted hollow cone, and communicates with a closed leaden vessel, $d$, called the smell trap. In the side of $c$, at $e$, is a pipe, $f$, leading to the cistern, at its entrance into g. When it is desired to allow the water to rush down into the basin, it is only necessary to pull the string, $h$, which, if the cistern be at a distance, may pass over several pulleys. In order to insure the descent of a quantity of water to the basin every time it has been used, a cord, $i$, may be joined to $h$, and passed over a pulley, $k$. The end is then fastened to the upper part of the door of the closet at such a distance as will suffice to lift up the valve, $g$. The door should have a spring to shut it, lest it be left open by neglect. The waste pipe from the water closet should leave the house by a properly fitted underground drain, and should either terminate in a covered drain or sewer at a considerable distance or in well or cistern for liquid manure, the contents of which may be turned to valuable account.
the position of a hoube.
Houses on streets running north and south are far prefer able to those located on streets going east and west, in a sanitary estimate. In the first, here at the north of the equator, the sun shines brilliantly in the forenoon on the front
and with nearly eqnal force in the afternoon on the rear. Thus dampness is expelled, and the whole edifice is dry and far purer for its solar exposure. If a house is on an east and west street, those fronting north are decidedly the best for a residence, because the sun's action on the yard, the kitchen, and usual regions of neglected accumulations, purifies and modifies the humid atmosphere that is sure to predominate in yards and the back part of houses whose rear is north of the street. Thus circumstanced, the back rooms are never so pleasant, cheerful or economically warmed in winter, as when on the south side. Opening on the street, the front of such gets both light and air by reason of the fre quent swing of the front door.

## Manufacture of Putty.

One of the largest manufactories of this substancs is that of Raynolds \& Co., at Bergen Point, N. J., and the process is thus described by a correspondent of the New York Times:
Only whiting and linseed oil are used; no barytes or other adulteration are introduced. The whiting and linseed oil are roughly mired in wooden troughs-two gallons of oil to 100 pounds of whiting-and are then shoveled into the mills, 750 pounds forming a batch. The chaser, which is an enormous iron wheel revolving horizontally in a pan like a fountain basin, is at once set in motion. It gradually works the whiting and oil together, two scrapers turning the mass up into a ridge in the center, on the principle of a plow share. In twenty minutes the putty is thoroughly kneaded into a pliable and lubricated mass, and is ready for packing. The daily product of the two mills is about 12,000 pounds. The putty is packed in ox bladders, tubs and barrels; about 10 pounds to a bladder, 100 pounds to a tub, and 720 pound 10 pounds to a tharel. It a amuing to wath the worty and it int the bladder with their thumbs with astonishing rapidity. A bladder is filled and tied in about ten seconds. It rather reminds one of sausage making, in our grandmothers' days The following figures will give somo idea of the extent of this business: Last year the firm packed $2,027,962$ pounds of putty in tubs and barrels, and 696,683 pounds in bladders, the latter using up no less than 62,116 bladders.

All new subscriptions to the Scientific American will be commenced with the number issued in the week the ames are received at this office, unless back numbers are ordered. All the numbers back to January 1st may be had, and subscriptions entered from that dateif desired.

A Pioturesqle Brick Cottage.


The Proportions of Ocean Steamern. In publishing (on page 309 of our current volume) Mr. W Cunningham's letter on the proportions of ocean steamers, an error in the engraving gave an incorrect impression as to the relative widths of the vessels. We therefore reprint the dimensions, with new illustrations accurately drawn to scale.


A tlantic, White Star line-L. 485 ft . b. 41 ft ; length to breadth, 10.61.
A New Window Awning.
Mr. George W. Gerau, of No. 359 Fulton street, Brooklyn, N.Y., has recently patented, through the Scientific American Patent Ägency, an improved window awning, which is so arranged as to afford shade and at the same time to create a draft, thus ensuring the thorough ventilation of the apartment to which it may be adjusted. The invention consists in making the wings of the awning detachable, so that, by merns of suitably contrived braces, either or both sides thus arranged, the other is stretched across the awning diag. onally and fastened to the window frame, thus forming a clear passage for the air into the room. The device can be readily applied to old awnings and will doubtless prove a convenicnt and pleasant addition to our means of keeping cool during the coming hot weather.

## NEW BOOKS AND PUBLICATIONS.

if tir annual Report on tie Nonious, Beneficial, and otifer Insects of tie State of Missounr, made to the
State Board of Agriculture. By Charles V. Riley, State Entomologist. Jeiferson City, Mo. : Regan \& Carter. This is not the first time we have had occasion to commend the liberality
of the State of Missourl in cngaging the distinguithed selentiat, to whom of the State of Missourl in engaging the distingulahed sclentist, to whom
we are indebted for this valuable report, to examine and deacribe the ingect tribes of ite rapidy advanclup province. As a truat worthy and Inatructive valued by all who will obtain and read it.
Tife german Pinariacopain: Translated from the German and carefully compared with the Original Latin Text We hive recelved advance sheets of this work, which show at once the
abllty aod accuracy with waith it has been tranglated. The supremacy of German acientits in all branches of chemistry to evergwhere acknow ledged; and this text book will be found welcome to the librarles of our
etudente and in our druggists' laboratorices. Mr. Lochman has only recently etudente and th our druggists' laboratorice. Mr. Lochman ha
contribated valuable tec initcal fuformation to our columna.
The Mineral Springs of North america: How to reach and how to use them. By J. J.
delphia: J. B. Lippincott \& Co.
Dr. Moormangives to the pubite in this timely volume, the result of a long experience tit the investigation of the nature and medictial applica-
b:tity of mineral waters. He telli, In a clear and conctise manner, to those desirous of regalning health through the heallug fountalne scattered over the country, juat what places should be visitted for the beneft of certatn everything in which one goln, to a watering place for a purpose other than to follow the dictates of fashlon would care to be poated. The work contatne several llluatratlons of popular resorte with inetructions how to get Tie Bath: Its History and Uses in Health and Disease. By R. T. 'Irall, M.D. 25 cents, paper; 50 cents, cloth He a York. D. R. Wells, 385 Broadwa
This is a neat ilttle volume, in which the various forms and usea of baths
are pleasantly degcribed, eapeclally with reference to hydropathy. The are pleasantly described, especlally with reference to hydropathy. The
Turkish and Rusilan baths are, however, dismised in one paragraph, and that teselected from the wrttings of a singularly prefudiced English physiclan. The text to liberally llluatrated with engravings.

Consumption and its Treatment in all its Forms. By Dr. Carl Both. Boston: Alexander Moore. Boston an New York. Lec \& Shepard. London: Trubner \& Co. of an able and learned writer. It containg much interesting phystologtca information which will be of value to the general reader as well as to the Tie Science of Healitir: Devoted to Health on Hygien: Principles. \$2 a year. New York: S. R. Wells, 38 Broadway. Also, from the same publigher:
hrenological Journal and Life Illustrated.
These two magazines are well known to our re dere, and are mentloned much varied matter, some of wilch is well selected from the current litera ture of both hem'sphere
Formulas and 'Fables for Architects and Engineers in Calculatin. the Strains and Capacity of Structures in
Iron and Wood. By F. Schumann, C. E. Illustrated Iron and Wood. By F. Schumann, C. E. Illustrated.
Pocket size in flexible covers. Wushington: Warren Pocket size i
Choate $\&$ Co.
We need add no further worde of recommendation of thts conventent Inttle volume than to say that it is a compendiu?n of the formulas of the
celebrated works of Welabach, fed and reduced to practical form. The book it dealgned for ready reler
fied ence-a pocket gulde. in fact-and hence apace is econoinized throughout though an incredible amount of information necessary in the dally routine
of the engineer and architect is comprised within its covers. The content include formulas for strengit of material, stralna, loads and all general calculations of simplar character. The volume is illuatrated with three hun-
dred ortginal dagraing, elucidating the text. The author, we think, in thus dred original dlagrame, elucldating the text. The suthor, we think, In thue
simpify ing rellable founulas so that they may readlly supplant the rough simplify ing rellable founulas so that they may readily supplant the rough
and empiricsi rules too often carelessly used, has done a nood work which and empirics1 rules too often carelesaly used, has done a pood work which
we do not doubt will meet with a well deserved apprectation from all members of the profession.

PATENT OFFICE DECISIONs.


## 

Chauncey S. Caple, Frankfort, N. Yurk Stand. aysignor to himeelf and willam Gates, of same place.-This invention consitat in the tmprovement of work atandg. The center plece is a casting of metal with iour vertica
holes arranged around the vertical center in which the ptvot pin of the table top works. In these holes are introduced the apper ende of the luge. A ring or dith connects the lega at the middle, and has a recess in the underside, and as many radial holes extending from the periphery to it as there are legg, and the legs, belng notched, are ifted in corresponding notches in the diak, and secared by boits inserted in the sald holes, and
faatened by keya driven into the enda projecting into the recesa, and having holea provided for sald keys. A apool stand is fastened detachably to the top of the table center. For so fastening it, and having it at the same
time so that it can be readily detached, a recegs is arranged in the bottom or the diak of metal, and a hole near the pertphery large enough to admitt the head of a pln. From this hole the slot, as wide as the ohankof a pin,
extendo to the center. The pla to fitted into the vertical hole in the center of the table, and has a solled spring itted in the bearing agatust the table top so as to constantly press it down. A lever to connected at one end to
the pin at tis lower end, and extende towards the periphery of the table the pin at its lower end, and extende towards the periphery of the table
top as far as the opening, when the finger can be applled to pueh it down op ns far as the opening, when the finger can be applied to puht it down
and rates the pin when the cover of the opening ta removed. The pin head, beIngsuitably shaped and held in it by the preseare of the spring, holds the otand in place so that it cannot be detached unt11 the pta ts ratsed by the lever. To detach the stand, the head of the pin tis rataed out of the countersunk recess, and the at
when it can be lifted off.

## Improved Milk Cooler

Willam Hodgdon, North Craftebury, Vt.-Thite Invention conetsts of large water pan divided into compartments, with a вeparate water supply
pipe for each and a diacharge plpe connection of each with s maln waste water plpe,arranged for fillug and regulating the temperature in each independently. A separate milk pan to arranged for each cempartment, each pan having a discharge pipe for milk, all in a conventent way for treating he milk of each milking independentig, oo that the treatment can be varied as to the temperature, as required during the time it has to be cooled
The arrangement is also designed to faclltate the removal ofthe milk pang readily for painting the bottome, which has to be done frequently to protect them from corroston; also for cleanatng the large pan.
Improved Combined Stop Cock, Check Valve, and Blow Off.
Elbridge $\mathbf{G}$. Cuahing, Oswero, $\mathbf{N}$. Y. -This inveniton conalsta in a comthed atop cock, check valve, and blow off cock. The abell of an ordinary atop cock is used with the inlet pipe connection arranged near the bottom, o the lower part coinclding with the inlet plpe, and two athera in the upper part connclding with the outlet plipes. It alao has a diaphragmbetween the sald openinge, dividing the hollow apace into two chambers. A passage la formed through this daphragm, and a valve sestarrangedon the up peralde of it, on which a chectz valve is fitted to cloge downward. This part of the atem fits in such manner as to form a gulde for the valve. This tem acrews out and in through the top of the plug, having a hand wheel on the top, and it hasa shoulder on the lower end to be forced down on the top It the valve to fasten itclosed. Tbisa hoalder will also limit the amount of the opening of the valve in case it be desirable to do so. One plpe connec-
tion ta to be connected with the boller, and the other to be used for the blow Ifi. When the water to to be forced into the boller, the plug will be adjusted,
and plpe into the boller, and the eacape ts closed; but when the boller is to
be blown off, the poitton of the parts may besultably altered.

Improved Adjustable Sewing Machine Chair.
objec sewing machine operator alence of the operator masted that it maybe realimy back of whichwill automaticallyaduat itelf to the back of the operator. The pedestal is secure to the center of a cross bar, the ends of which have downwardly projecting
arms formed upon them, to which are attached plvots. To the outer ende of the plvota are plvoted plates attached to the alde edges of the chatr sea The upper middle part of the reararmsof the platen ls cuta way so that it loweredpe may be about upon slevel with the top of the cross bar, andin ald edge are formed not ches to recelve the lateh. The latch may be draw out to enter the notches of the plate, and pushed in to releafe said plate. kept from latersl movement by gulde lugs, and is locked in etther posiunder side. Sprlniss arc connected with the lower slde of the forward part of the chair seat. By this construction the chatr seat ta held securely in Dace when adjuated dy the latches, the springe simply muking the ad jus nent more easy. The chairmay be used as a rocking or osclllating chatr. bringaare attached to the connecting bars, whichpass up through slo
between the plates, and the edgea of the chair seat, and thetr upper end support the forward enda or the arms. Latches arc pivoted to these bar which eatch upon notches formed in the upper edges of the forward part of the plates. The lower edge of the lower part of the charr backis hinge ot that it may be adjuated in any desired postiton by adjuatiog the arms by easy. The lower part of the back cousiste of a cross bar and two alde the uppented spring ts so arranged as to tend to throw the lower end of the chalr.
Improved Carringe Axle Box.
Josenh Jones, Jamce Dunkerley, and Joseph
This invention to Donkerley, and Joseph Dansiey, Paterson, N.J le box so constructed as toprevent the entrance of mud and a arm an rm, and of the hub, to hold the axic box securely in place upon the axl led. The axle enable the axle to be conventently kept thoroughly lubrlea In pli:ce by a collar tormed upon the aald axle. The outer atde of the collar ject a little beyond the inner cud of the hub for this purpoee so tho pro and sand may be wholly prevented from working in at the end of the hub The inner end of the box ts also reamed out and enlarged to form a shoul dertorest againgt a houlder formed upon the axle to relieve the collar
from having to support the whole inward pressure of the wheel. In the outer end of the axle is formed a screw hole into which is screwed a screw
the head of which is made of a little larger diameter than the axle, ao as to rest againat a ahoulder. The screw projects begond lta head, and the pro lecting part to perforated longitudinally, and from the inner end of sat perforation an inclined hole is formed, leading ont at the inner alde of the head of sald screw. A serew cap screwe into the rececseed outer cnd of th box, and ts tlanged to orcrlap the outer end of the hub. The cap to made
hollow toserve as sn ofl chamber, the fnner wall of sald cap betng perifarated to recetve the perforated cud of the serew, so that the oll from sald chamber may pase through the perforatione of the screw to the axle arm,
which If grooved longitudinally to conduct the oll to the Inner part of eald axle its outer surface to prevent it from lurning in the hub.

## Improved Saw Set. ord Springs, Conn., asial

Cyrue E.Grandy, Stafiord Springe, Conn., aselgnor to himeelf, Ziba B Grandy, and willam D. Heald, of tame place.-This invention conetits in the mode of combining certaln instru:ncutalltes to form a saw set for
band saws. The atock to whleh the narts of the san set are attached forme a handle and base of the instrument. The the bar ts hinged to the end of the stock and carries the die. low er ts applikd by means of a cam lever contined to the end of the ille har by means of an adjustable link. The back
motion of the die bar is produced by a spring. The spring keeps the end of motion of the die bar is produced by a spring. The spring keeps the end of
the die bar in close contact with the canl end of the lever, and the powrr to applited by atriply ratiatg the end or operating the lever. The purchase thux obtained ts very great, and the power ts applled gradually. A guldes)ldes on thestock sothatit can be aduated to the width of the saw. This ruide to used In setting band and glg aswa. $\Lambda$ loose adjastable pawlis attached
to the stock, which in setung band saws engazes with the teeth, and thereby governa the position of the teeth in relation to the dles. Allowing the by governa the position of une teeth in relation to the dice. Allowing the
tecth of the saw to be of unfform alzencht of pawl to each al ternate toot's will bring the proper tooth to be set in contact with the die.

Inproved "Knock Down" Chair.
ng, Loutsville, Ky., asetgnor to Lonf \& $\mathbb{C}$ br
Charles R. Long, Loutsville, Ky., aseifnor to Lonf \& Brothers, of same place.-For making knock down chairs, for cunventence of packing them
in parts for shipment and storage and then setting them up readily, the in in parts for shipment and storage and then setting them up readlly, the in
ventor proposes to bevel the ends of the back rail of the seat frame, and form a half round noteh in esch end ntting the tenon of the side stretchers, and arrange them so that asid tenons extend through and by katid notches
to enter the iolea for them in the poats of the ')ack of the chair, In which to enter the noles for them in the posts of the back of the chair, in which holes for the the are made for the ends of the back rall colnciding whin the holes for the tenons of the slde atretchers. When the seat frame to put to-
gether, a nd the seat bottom woven In it, the back rall and the side siretch ers can be put together with the back posta by enterfng them in the notches atted tog together from the front. The back rall and alde atretchers are the front poats in the ordinary way. The seat bottcm, when woven on, formsan L-shaped atructure which neste together compactly for shipping. The back poata are connected together by the
are In conventent ahape for packing compactly.

## Improved Weather Striv.

Jerome Bacon and Gilbert Bacon, Medina, Wis.-The object of thte invention is to furnish a weather strlp for doors. Triangular shaped pleces of wood are connected together by butt huges and by a spring, a plece of eheet rubber covering them. This rulber extende a little above the up-
per plece and constderably below the lower plece. Metallic atrips, by per plece and considerably below the lower plece. Metallte atrips, by
means of which the rubberis fastened, are placed even with the upper and the lower edges of the wood. The upper plece is screwed to the outside of the door. A lug ti inade in the door alll or in the jamb casing of the door, and a hoois or prijection is attached to the end of the other part of the uoor strip. When the door ts closed the hook catches on the lug and draws
the part down on the sill, thus making a tight Jolnt under the door. When the door is opened the spring forces the lower part upwarl so that it will owingclear of all obstructions.

## Improved Washing Machine

Nelson O. Whicox, Umaha, Neb.-The object of this invention is to provide conventent means for washing clothes, and it consists in an extenton be
for adapting it and fastening it to tubs of different dianeter, and in a corrugated springroller, which is placed directly over and nearly in contact with the bed rollers. It will be underatood that when the clothesare made to pasa hat inotlon will be reslated by the spriner and consequently the clothes will be squeezed by a force proportioned to the strength of the springs.

Improved Thrashing Machine.
Charles M. Powers, Fidgewood, N. J.-The object of this tavention is to Yurnith a machine for thrashing and cleaning grain, which may be used
ettherby hand or motive power, and which shall effectually beat gratr withand or motive power, and which shall effectually beat out the
grain withoug the atraw. The frame of the machine is of rectansular form and elevated to a conventent hight. In the middle and on a line with the platiorm is ihe corrugated and perforated!bed. The materlal to
be thrashed ts latd upon an endless apron, which carrles it along over the bed, where the grain is beaten out. The straw is then carried along by another apron and discharged from the tall of the machlue. Wnile the graln 1o pasaing over the bed it is subjected to the action of the beater, which to composed of a serles of bars. The thrashing 18 effected by a rapld up and
down motion of the beater, the barg of which are brought in contact or down motion of the beater, the bars of which are brought in contact, or
nearly in contact, with the bed at each atroke. The motion of the beater ts produced by means of the pin wheel on the driving ahart. The araln and proff fall upon aleves ae they pass through the bed. Theee oleves are
chiven a vibratiogmotion by means of the ordinary fanningmill device.

