Printing Press.-George P. Gordon, Brooklyn, N. Y
Patented Aug. 5, 1851. Reissued July 31, 1860
(No. 1,022.) Extended July 20, 1865: Fi: st I Claim sunport:ng upon a center or cente
 the impression and the point necessary for the receptino of the shitee


 sheet to be printed or when receiving the impression, a pers.
rest during the cuntinued motions of other parts of the press.
Proces; of Forming Stitches by Machin.ery.-Allen B Reissued Feb. 28, 1860. (No. 913.) Extended July 2t, 1865 :

##  

 \begin{tabular}{l} scrized. <br>
Secona, <br>
<br>
\hline
\end{tabular}


 Thnird, I claim a revolving hook so shaped as to 0 , erate substan-
tially in the manner specifeil on loops of neeale thre ta. Fourth, I claima a hook so shapeo and moved as to spread a a loop
substantialy in the manner set forth. in combination. with an eye-




 Seventh, I c'aim arranging a hook that operates subst aztilly in
 orm or table or taim machire, ,y which are antuated the ne ede the the moves in a verrical plane, or
Process of Forming Stitches by Machinery.-All en B
Wisson, Waterbury, Conn. Patented Aug. 12,1851
Reissued Feb. 28, 1860. (No. 914.) Extended Jul
24, 1865:


 Sowing Machine.-William H. Akins, Dryden, N. Y.
ented Aug 1851. Reissued April 11, 1865. Ex-
cnted Aug. $5,1851$.


Thirmed, substantially as set forth.
 grade movement.
Fourth, The combination in a sewing machine of a stitch forming
 Prith, The combination of at oothed feeding instrum
versible driving meclanism. substantially as set forth.
Sewing Machine.-Isaac M. Singer, Yonkers, N. Y.
Patented August 12, 1851. Reissued Oct. 3,
1854. Pitented August 12,1851,
Extended August 7, 1865 :

 sothrat the two threads shalii be drawn tight at the same time, as






 Machine for Numbering the Pages of Account Books. John McAdams, Brooklyn, N. Y. Yatented Aug. 12 ,
1851. Reissued Jan. 26, 1858. Extended Aug. 11 , 1865: the mode of arranging and operating the numeral types






 numbers or two pages on eache
ing once througlt the machine.
Nut and Washer Machine.- Robert Crichton and James
Rees, Pittsburgh, Pa., Executors of Henry Carter (deceased) and James 12ees. Patented Aug. 26, 1851. Reissued June 19, 1855. Extended Ang. 14,


Insulator for Lightning Rods.-George W. Otis, Lynn
Mass. Patented Aug. 26, 1851. Extended Aug. 25 , 1865: Patented Aug. 26, 1851. Extended Aug. 26 ,
I claim the insulated support and point for lightning rods, consist
 Leather-splitting Machine.-Hubbard Harris, Ensfield, N. H., Administrator of Alpha Riclardson (de.
ceased). 15, 1865:
 pose speciifed. second claim combining with the ordinary cast-iron spring plate
 ontaily, assereinabove set forth, and so that the front edge of the
Ower or castiron plate. may project under the edge of the knire and ,
Mowing Machine and Harvester.-Mary Manny, Rock
ford, Ill.. Executrix of John. ford, Ill. Executrix of John H. Manny (deceased)
Patented Sept. 23,1851 : Reissued Jan. 2, 1855 . (No 286). Extended Sept. 22, 1865

I claim the combination of the bar that supports the cutter with
diagonal 1 ever held down at its inner end, substantially as de: cribed
 herenoby set forth
heren
Arrancement of Joints for Attaching vester Frames.-Mary Manny, Rockford, Ill.. Exept. 23, 1851. Reissued Jannary 2, 1855. (No. 287) Extended Sept. 22, 1865
I clatin the arrangement of a flexible joint in the line of the cutter
 Arrangement for Controlling Harvester Cutter.-Mary Many, Rockfora, Ill, Executrix of John H. Manny Jan. 2, 1855. (No. 288). Extended Sept. 22 , 1865:


 Machine for Making Nuts, Washers, Etc.-William Ke yon, Steubenville, Ohio. Patented Oct. 141851
Reissued March 18, 1856 . ${ }^{14}$ Again Reissued Feb. 15 859. Extended Sept. 27, 1865

Iclaim. First Making nuts for bolts. by subjecting the blank of
which the nut is to be formad, atata welding heat, to compression



 the nuta and sustaining its sides while it ts subjected to pressure, sub
stantial
Third







 ne. Arranging the compressing dies. In relation to the punch,
wiating their rel ative motion in sucl manner substantiall


g3 ATENTS GRANTED
FOR SEVENTEEN YEARS

## MUNN \& COMPANY,

in connection with the publication
he SCIENTIFIC AMERICAN, have ac
as Solicitors and Attorueys for procuring "Letters Patent" to the past seventeen yearrs. Statistics show that nearly owerries during he past seventeen years. Statistics show that nearly one-half of al throughthis oftice; while paten ts in the United States are solicited taken in this ofce, while nealy Three-foorg of all he paten thken in freign countriesare prot ured through the same source. It ar-ing specifications and Crawings 1 or the United StatesPatent the proprietors of the SCIENTIFI! : AMERICAN are perfectly con ersant with the preparation of applications in the best manner, an the transaction of all business before the Patent Office; but the take pleasure in presenting the annextd testimonials from ex-Com missioners of Patents.
Mess re. MUNN \& CO.:-I take pleasure in stating that, while I held ALL THE BUSINESS OB THE OFFICE CAME THROUGH Yof HANS,
have no doubt that che public contidence thus indicated has been
uilly deserved, as I have always observed. in all your intercourse with ane no dobt that che public conicence thus indicated has been
nully deserved, as I have always observed. in all our intercourse with
hie office, a marked degrree or promptness, skill. and fidelity to the
nterests of your employers.
Yours very truly,
[See Judge Holt's letter on another page.]
Hon. Wm. D. Bishop. late Member of Congress rrom Connecticut,
ucceeded Mr. Holt as Commissioner of Patents. Upon resigning the Hitice he wrote to us as follows:
MESSRS. MUNN \& Co.-It gives me much pleasure to sas that, dur ing the time of my hoiding the office of Commissioner of Patents,
very large proportion of thie business or inventors betere tne Pate
 as eminentiy qualtied to nertorm the duties of Patent Attorveys wit
Very respectally, your obeaient servant,
WM.
Ekill and accuracy

THE EXAMINATION UF INVENTIONS.
Persons having conceived an idea which they think may be paten
submit it to us, with a full description, for advice. The points of novelty are carefully examined, and a written reply, corresponding CO., No. 37 Part Row New yont
PRELIMINARY EXAMINATIONS AT THE PATENT OFFICE.
The service wnich Messr\& MUNN \& CO. render gratuitously upoa examining an invention does not extend to a search at the Patent Office, to see if a like invention has been presented tiere; but is an opinion based upon what knowledge they may acquire of a similax accompom the records in their home ofde. Beription, they have a special search made at the United States Patent Office, and a report setting forth the prospects of obtaining a patent, etc., made up and mailed to the inventor, with a pamphlet, giving instructions for further proceedings. These preliminary examinations are made through the Brancal Oftice of Messrs. MUNN \& CC. corner of a and Seventh streets, Washington, by experienced and competent per sons. Many thousands of such examinations have been made through this office, and it is a very wise course for every in
Address MUNN $\&$ CO., No 37 Park Row, New York.
The Patent Laws, enacted by Congress on the 2d of March, 1861, are now in full torce and prove to be of great benentit to all parties who are concerned in new inventions.
The law abolishes discrimination in fees required of forelgners, ex the United States-thus allowing Austrian, French, Belpian, English Russian, Spanish and all other foreigners, except the Canadians, to enjoy all the privileges of our patent system (except in cases of designs) on the above terms. Foretgners cannot secure their inventions by filing a ca veat ; to citizens only is this privilege accorded.
ve thepapers prepared in the shortest time by sending a sketch and description of the invention the Government fee for a caveat is $\$ 10$. A pamphlet ol edvice re garding applications for patents and caveats is furnished gratis, ow
application dy mail. Address M UNN \& CO., No. 37 Park Row, New York.

New York should not fail to paya visit to the extensive offices of MUNN \& CO. They will find a large collection of models (several hundred of valous invenions, which will affor them much interest. The whole establishment is one of great interest to inventors, and is undoubteüly the most spacious and best arranged in the world.

## UNCLAIMED MODELS.

Parties sending models to this ofice on which they decide not to apply for Letters Patent and which they wish preserved, will pleas o vast accumulation, and our lack of storage room Parties ther fore, who wish to presve thermols slould order them roturne within one year atter cending them to us, to insure their obtaning them. In case an aplication hes made for a patent the model is in doposit at the Patent office, and cannot be withdrawn
It would require many columns to detall all the ways in which the vite all who have anything to do with patent properts or invention to call at our extensive offices, No. 37 Park Row, New York, where any questions regarding the rights of Patentees, will be cheerfuliy

## FOREIGN PATENT:

Messrs. MUNY \& CO., are very extensively engaged in the preparaion and secunng of patents in the various European countries. For ane in : enniers. Brussels. Thev think they can sately saythat THREE-FOURTH3 of all the Furopean Patents secured to American citizens are p:o cured through their agency.
limit the English law does net ent there.
Pamphlets of information concerning the proper course to bepur suedin obtaining patents in foreign countries through MUNN \& CO.'S Agency, the requirements of ditter $t$ nt Government Patent Offices, \&c.
may be had, gratis, upon applicatlon at the princlpal otfice, No. 3y Part Row Now y, SEARCHES OF THE RECORDS
Having access all the officialrecords at Washington, pertaining to he sale and transfer of patents, MESSRS. MUNN \& CO., areat all times ready to make examinations as to titles, owna f patents. Fees moderate.

ASSIGNMENTS OF PATENTS.
The assignment ot patents, and agreements between patentees and manutacturers carefully prepared and placed upon the records at he Patent Office. Address MUNN \& CO. ,at the Scientific Americad HOW NO, M. ST AN APPLIC York
a patent
Every applicantror a patent mustrurnish a model of his invention must furnish one, or, if the invention is a chemical production, he consists for the Pate of nventor's name marked on them, and with the Govid, ees, by express. The express charge should be pre pald. Smal safest way to remit money is by a draft or Postalorderon York, payable to the order or Messrs. MUNN \& CO. Persons who live in remote parts of the country can usually purchase drafts from their merchants on their New York correspondents; but, if not conve ient to do so, there is but little risk in sending bank bills by $m$ ail解 CO., No. 37 Park Row,New York.

REJECTED APPLICATIONS.
Messro. MUNN \& CO. are prepared to undertake the investigation and prosecution of relected cases, on reasonable terms. The close proximity of their Washington Agency to the Patent Office atfor them - opp , cution of reiected cases has been very great. The principal portion ot therr charge is generally left dependent upon the final result.
All persons having rejected cases which they desire to have pros ated, are invieted to correspond with MUNN \& CO., on the subjec ving a brief history of the case, inclosing the owcial letters, etc. speculate or trafic it patents, under any circumstances ; but tha
they devote their whole time and energies to the interests of lieir
clients.

Patents are nowgranted for seventeen years, and the Government fee reauired on fling an applicationfor a patent is $\$ 15$. Other changes in the fees are also made as rollows.-


## EXTENSION OF PATENTS.

Many valuable pateots are annually expiring which might realiug be extended, and if extended, might prove the source of wealth to
tireirfortunate possessors. Messrs. MUNN \& CO. are persuaded that very many patents are suffered to expire without any effort of exten sion, owing to want of properinformation on the part of the patent ees, their relatives or assigns, as to the law and the mode of proce dure in order to obtain a renewed grant. Some of the most valuable grants now existing are ertended patents. Patentees, or, if deceased, their heirs, may apply for the extension of patents, but should giv ninety days' notce of their intention.
Patents may be extended and preliminary advice obtained,by con sulting, or writmg to, MUNN \& CO.. No. 37 Park Row, New York. Communications and remittances by mail, and models by expres
(prepaid) should be addressed to MUNN \& CO. No. 37 Park Row. New (prepaid) should be addressed to MUNN \& CO. No. 37 Park Row. New York

## 

T. C. D., of Mass.-Your balloon with masts and sails is quite an old idea.
W. B. I., of Ohio.-It is quite an easy matter to arrange a slide lathe to feed across the face plate. Put a small pulley on a counter shaft over head, and another on the back end of the screw that moves the tool in and out, then put on a belt and
go a head. To cut a scroll you must thave some positive arrancgoahead. To cut a scroll you must thave some positive arrange-
ment, as gearing belts would slip. Any mechanic can devlse a mont, as gearing be
plan in flve minutes.
wlan in five minutes.
W. S., of Ill.-You will find an article on the pressure on a slide valve on page [51, Vol. XIL.. of the Scientific Amer ICAN, which will give you all the information you want
G. L. D., of Conn.-Silver is readily soluble in nitric acid; the two substances combine, forming nitrate of silver, or lunar caustic.
F. J. S., of Tenn.-If water is heated in a close vessel above the temperature of $212^{3}$, and then allowed to escape into
the atmosphere, it immediately expandsinto steam, Increasing its the atmosphere, it immeduately expandsinto steam, Increasing its
volume 1,700 fold. In boiler explosions the destructiond is due volume 1,700 fold. In boiler explosions the
principally to steam thus suddenly formed.
G. E., of Ind.-The admixture of sand with fire clay tends to prevent unequal contraction and cracking under the action of he $t$; the proper proportions of sand vary with the purpose for which the clay is to be used. Mica is a very infusible mineral, and, in some cases, would, doubtless, be as good, or better, than pure quartz sand, but this could be ascertained only by experiJ. G. M., of Conn.-We have had suggestions enough in rela ion to the cable, unless some one can propose something manirestly of practicalvalue
T. W., of Pa.-You can only obtain the Patent-office Reports through your Member of Congress. The Commissioner is supplice with but few conies
T. K., of N. Y.-The question in regard to the rotation that we do not care to open tho subject now. Try the experime: and you will be able to settle the question without our advice.
N. S., of N. Y:-So far as we know, all fles are made by the force of a blow upon the surface or the steel. We inquired use of a cutting thol, as you suggest. He thought a good file could not be made in that way, but if you can succeed you will be doing something new so far as our information extends.
J. R. I., of Va.-We should be happy to tell you the value of the contents of the machine shop you are about to pur chase if we had any means or knowing. Inasmuch't know what miles from here, hat we dave never seenit, ard opinion would not tools there are in
W. H. T., of R. I.-This correspondent wishes to know the best works for a young man to read who wishes to be some thing more than common. As he has not informed us of the na ture of his calling we cannot say. "Bourne's Catechism of the
Steam Engine;" "King's Notes on the Steam Engine;" "Silliman's First Principles of Philosophy" are all good works for ists and engneers.
W. R., of N. Y.-Rosewood is polished by varnishing it and afterward rubbing it down with pumice stone and water The operation is repeated two or three times. Any wood can be thus polished. Cariages are so trea, and the sult is like an
H. H., of Wis.-In regard to the question of two levers, each fourf eetin length; one having the fulcrum at the erd, and the weight one foot from the end; and the other having the way of consideringthe relative power is to let each lever sweep a conplete circle around the fulcrum as a center. Ia both cases the clicle described by the weight will by two feet in diameter, but sIx fest in diameter, and in the other fight; and the power is in proportion to the distance passed over.

## TO OUR READERS.

Patent Claims.-Persons desiring the claim of any invention which has been patented within thirty years, can obtain a copy by adresig a copying. We canalso furnish a sketch of any patented machine copying. We can also furnish a sketch of any patented machin MUNN \& CO.. Patent Solicitors, No. 37 l'ark Row, New York.
Receipts.-When money is paid at the office for subscriptions, a receipt for it will always be given; but when subscriber remit their mones by mail, they may consider the arrival of th first paper a bona-fich ncknowledgement of our receptionof thei
iunds
nvariable Rule. -It is an established rule of this office
to stop sending the paper when the time for which it was pre-pai to stop send
has expired

## BackNuinbers and Volumes of the 'SAcientific

 American."VOLUMES IV., VII., XI. AND XII., (NEW SERIES) complete (bound) may be had at this ottice and from periodical dealers. Price, bound, $\$ 300$ per volume, by mail, $\$ 375$ which in Cudes postage. Every mechanic, inventor or artisan in the Unite
S +ates should have a complets set of this publication for reference subscribers should not fall to preserve their numbers for binding VOLS. I., II., III., V., VI., VIII., IX. and X., are out of print and annot be supplie:

## RATEES OF AJVERTISING.

TWENTY-FIVE CENTS per line for each and every insertion, pay able in alvance. To enable all to understand how to calculate the we will explainst not be admitteu into our advertising columns, and, aH heretofore, the publishers reserve to themselves the right to reject any advertisemen they mav deem objectionable.

 $\mathrm{I}^{\mathrm{E}}$




Assistant $A$ Tilutanterderal
BUSINESS OFFERS ARE SOLICITED BY A YJUNG Bumerican Engineer, who has had a tho Bough Sienific and
Mechanical Education. ${ }^{\text {Has }}$ had several years experienci in the practical designing of steam machinery, at the two eadingmachine
shops of this city (referencesfrom whicl will be shown), aid is nnw employed as Inspeccor of Sesteam Mochinery being ctustructod
for the ©ovenment. Can command some cappital, and wishes to
devote tis whole time and attention to business, with a few 10 part


PORTABLE STEAM ENGINES.-THESE WORKS
 prompter and clueaper than from more eastern points per rairoad
Stationary and Propeller Eygines with Boilers of the best esign
nade to onder. The stationary Ensines ha ve Variable Cut-of worked by overnor. Send for circular betore buying.
1617
F. WM. RAEDER,
A mes Iron Works, Oswego, N. Y.
DLATINUM CRUCIBLES AND DISHES-FOR SALE by H. M. RAY NOIR, Importer of Platina, No. 748 Broadway
N.

$\mathbf{1}^{*} \quad \begin{gathered}\text { WM. R. BROOKS, } \\ \text { Northbridge, Mass. }\end{gathered}$
W ${ }_{\text {mathematically }}^{\text {HAmpossible }}$ have demons: mathematically impossible I have demons rated to be math
emartically certain. Price 15 cents hy mail. W M. ISAACS LOONIS
Martindale Depot. Col. Co., N. Y.
A GENTS WANTED. - LIVE AGENTS WANTED everywhere If you want employment and a good chance to
make money. send your address and receive my circular free by
BENJA wiN W. HITCHCOCK.
nail.

P ATENT RIGHT FOR SALE. $-\Lambda$ NEW AND NOVEI $\underset{16}{\text { rease }}$
MANUEACTURERS OF SHINGLE SAWING MA${ }_{16} 2^{*}$ chines may findi4nurchaser by acdressing J. RUSE, Duncannon, Perry Co., Pa.
PLAIN AND ORNAMENTAI, CASTINGS A ND MA
CHINERY male to order at No. 100 First street, Willams
1

## A GENCY WANTED-FOR THE MANUFACTURE OR e experience in the business, and having capital. by ma rincipals only will please addres

Box 1,827 N. Y. P. o.
D ENTIST WANTED.-TO AN AN ACTVVE YOUNG Is offered a of good character, hhation or dis pose of $\$ 600$ or more cash,


## 


$\mathrm{K}^{\text {eiep boilems clean by using minans' anti- }}$ INCRUSTATON 1, OWDER
Saves many times ts cost in fuel. H. N. WINANS, New York. $162^{*}$ W. B ILEY \& CO., PROVISION BROKERS, NO. Lar, Tallow, eresse, Oils, etc., carefully and promptlv Hilled
XIII $1644^{*}$
CHEAP IRON !-WE OWN IN WILLS VALLEY, 18 miles S. W. fom Chattanooga, Tenn., a property possessing
extraordinary fadilities for the manufacture of iron, viz
uantities of fine quantities or finet Ores, Tlmber and mincral Coal, all very easy or
access; oue sure ior new Blast Furnace, within a few days' work access; oue suteetior new Blast Furnace, within a few days' work of
completion, imnediately upon the rairoad. engine sufficienc tor
two 40,000 busiels Charcoal in house; 4,000 cords Wood. cut; 30
 Lands, sufficeett to sustain operaticns and stock; climate and
health unsurpased. We desire to interest one or more practical
manufacturersof iron, who will invest thirty or orty thousand dol lars and take charge of the business, and with such a one wel
recounmended we will make a very liberal arransement. Adires
us, care of Critchtild, King \& Co., Chatshnonga, enn.
$162^{*}$
M. B. JICMAHAN \& CO.

## SOLID EIERY WHEELS, SILICATE OF VULCAN-

 ITE of e'ery sIze, promptly made or \&hipped from stock. Emeryby the tun or keg, warranted pure, NEW YoRK EMERY W1TERY
Co., No. 94 Yeekman strcet, New York.
$164^{* *}$

TO MANUFACTURERS.-A FORMER GRADUATE from tic Lawrence Scientific School of Harvard College 13 de
sirous of oita inng a situalion as Chemis in some manufactory
or d seing stablishment. Address J. R. SANDS, Boston, Mass. 162

HOR SALE-THREE PLANERS.-ONE OF THEM IS


 Pateris, Etc.; a beautiful and superior a ticle. Dealers to pupplit on
a libeal discount
H. W. KNIGHT \& BRO., Seneca Falle, N. Y. Y.

D. BARNUM'S SELF SEWER OR SELF GUIDE

TOR SALE.-TEN NEW IMPROVED
R. I.
BARAGWANATH \& VAN WISKER, No. 200 BROAD-
her countries. Branch oftices. Londou, Paris. and Melbourne. 154
【 WISH TO COMMUNICATE WITH MANUFACTURERS of machinery tor making Drain Tiles, also with manufac
turers of Drain and Ditchng Plows, with a view to purchase the
best. Address S. B. COE, Norwalk, Huron Co, Ohio.

THE SUBSCRIBER IS PRNPARED TO FURNISH at short notice, ot an sizes. the Andrews \& Ralbach water


 Oxy-hydrogen stereopticons. A priced and Illustrated Cata
e sent rree by mail on receipt of application.
$3^{*}$

W ANTED--A SITUATION BY B A A MECHANICAL steam engines and michinery. Is competent to make the necessary
plans and estimates for locating new naehinery and superintending
the erection. Address A. B., P. O. Box 2,178.
$143^{*}$

CHARLES A. SEELY (LATHE PROFESSOR OF
 Hedicines, Ores. Minerans, Etc. Advice and
tons, Instruction in Chemicai Processes, Etc.
H. с.f $4 \pm$ Wawazavwiw several Southern Sates. Best of references Hast and West. Ad
dress, untill Oct. 10th, Pomeroy, Ohio. Home address, South P Ass,
Union Co. Ill.
PR RFSSURE BLO WERS.-B. F. STURTEVANT, MANUUFACTURER, No 2 Sudbury street, Boston. Blowers for al



GIX THOUSAND $\Lambda$ GENTS WANTED, TO SELL SIX


[^0] TOR TINANG, Buring Machines, Car-Tenoning Machines, Car Planing
and Geading Machines, Etc., address J. A. FAY \& CO., Cincmint
Ohio


[^0]:    

