vention is to obviate the necessity of employing so many wagons for the various purposes of the farm and road, and it consists in adapting one wagon by a proper arrangement of parts to all or nearly all the various uses for which a common wagon is required.

PEAT MACHINE.-Thomas J. Wells, St. Anthony, Minn.-This invention re lates to a new and improved machine for grinding peat and pressing it into molds, so that it may be used for fuel. The invention consists of two rotary conical grinders, one revolving at a greater speed than the other, and placed within a suitable case, and also in reciprocating molds arranged with the discharge end of the case of the grinders, and provided with plungers.

STEAMBOATS FOR PROTECTION AGAINST FIRE.-Abraham. G. Polhameus Nyack, N.Y.-This invention relates to an improvement in the construction of steamboats to protect them against danger of fire, and consists in the construction of an iron tank or reservoir of water, as a foundation for the boilers and furnaces.

DETACHING BOATS FROM DAVITS .- Johann A. Libbertz, Hamburg, Germany .- This invention relates to a means for detaching boats from davits, and of that class which admit of both ends of a boat, being detached simultaneously by the manipulation of a single lever by one person. The object of the invention is to obtain a simple, efficient and economical device for the purpose, and one which may be operated with the greatest facility.

HAND POWER LOOM .- Deen, Bolding & Perry, Wassonville, Ohio.- This invention consists in so constructing and arranging the mechanism of a hand power loom that the operation of the treadles, and the consequent shifting of the harness, the necessary motions of the picker staffs to insure the effective throw of the shuttle shall be governed by the action of the batten, and be at all times under the full control of the weaver.

SPRING FOR VEHICLES.-J. B. Stuart, Bunker Hill, Ill.-This invention relates to a spring for carriages and other wheel vehicles. The object of the invention is to obtain an axle spring which will be strong and durable, pos sess a requisite degree of elasticity, and still hold the body of the vehicle firmly so as to prevent all side surging and a backward and forward play or movement, and render unnecessary the use of a perch or reach with its accompanying braces.

HEMP BRAKE.-Simeon Sherman, Weston, Mo.-The hemp is passed between breaking rollers, and thence is carried forward by and between endless carriers where it is exposed to the breaking and loosening action of oscillating beaters above and below whose teeth strike it in concert between the intervals of the bars of the carrier.

STEAM GANG PLOW.-W. H. H. Heydrick, Chestnut Hill, Pa.-The invention consists of an arrangement of devices by which the plows are caused serially to enter the ground on a given line at right angles to the course of the ma chine, and to be withdrawn in a similar manner, so that although they are arranged in a recoding series obliquely to the line of motion, they shall begin their furrows and terminate in a line at right angles to the course of the machine

SECURING TEETH TO THE SIGKLE BARS OF HARVESTERS .- C. S. William son, Covert, N. Y.-This invention has for its object the attaching of teeth to the sickle bars of harvesters, in such a manner that they may be readily detached when necessary, for the purpose of being ground or to have new ones applied, and also readily attached to the sichle bar.

HOISTING AND CANTING .- James Tracy, Brewer's Village, Me .- This in vention relates to improvements in machinery to be connected with a gang saw mill for canting and hoisting the timber after it has been cut into plank upon the table of a circular saw for edging the plank. This operation is usually performed by hand by several men with great labor, whereas by the application of my improved machinery the manual labor is saved and the operation is performed with great dispatch.

FLOUR AND GRAIN ELEVATOR.-Henry Stanley, St. Johnsbury, Vt.-This invention consists in an improved mode of constructing a reservoir or air chamber for cooling flour or grain by exposure to atmospheric air.

Hoop SEIRT .- Louis Fellheimer. New York City.- The object of this invention is to provide a hoop skirt which will overcome the ojection heretofore experienced by ladies on entering and leaving carriages from the entangle ment of their feet in the skirts. Another object is to provide a hoop skirt which will fit either stout or slender females.

HARROW .- Caleb Bates, Kingston, Mass. - This invention relates to a harrow of that class which are arranged with a revolving toothed portion, and are commonly termed revolving harrows. The invention consists in the application of swinging blades to the revolving portion or portions, whereby said portions are made to rotate under the draught movement of the imple This invention also consists in constructing two revolving portions in such a manner that they may be made to gear into each other like toothed wheels, so as to insure a simultaneous movement or rotation of both portions

THRIBBLE SWITCH FOR RAILROADS .- James Tillinghast, Buffalo, N. Y.-The object of this invention is to avoid accidents by a wrong adjustment of the switch-acontingency of not unfrequent occurrence, especially in those cases whereby thribble switches are employed.

SAFETY ATTACHMENT FOR POCKET BOOKS .- Simon B. Parker, New York City.-This invention relates to pocket books, whereby the same cannot be illegitimately abstracted from the pocket.

ADJUSTABLE RUNNERS FOR CHAIRS, CAMP STOOLS, MIC .- W. H. Stroup Pittsburg, Pa .- This invention has for its object to furnish a runner, so con structed and arranged that it may be attached to chairs, camp stools, etc., to adapt them for use as sleds on skating ponds, and from which they may be removed without injury to the legs of said chairs or stools.

RIDING SADDLE .- Samuel S. Spurgin, Jacksonville, Ill .- The elastic mem brane which is strained between the pommel and cantle and supports the seat, is fastened to and upon the springs whose ends rest upon the side plates

HANDLING GRAIN.-Fayette Clark, Marcellus, N.Y.-This invention con sists of a scoop having a handle at each end, and is intended to facilitate and expedite the handling of grain.

HAY LOADING WAGON .-- Eli Sweet, Whitney's Point, N. Y .-- This invention relates to new and improved devices to be attached to wagons for loading hay or fodder in the field or barn, and consists in the combination of a cran and single pulley rope with a nitchfork and a sliding tongue in connection with a brake on the forewheels, in such manner that by the sliding of the tongue, when it is tripped, the horses hoist the fork with the hay and at the same time chock the wagon by the action of the brake, the whole draft being very light and the operation convenient.

WAGON.-Benjamin Ryder, Jr., South Orrington, Me.-The object of this in- purpose of enabling government officials to ascertain with positive accuracy the amount of whiskey or other spirits distilled therein, and at the same time effect a separation of the " proof" from the low grade spirits, as revenue is rated and paid on " proof" spirits or that having a grade of 50° by hydrome ter. The object of the invention is to prevent the stupendous frauds now etrated on the part of a large number of distillers against the govern perp ment, false returns being rendered on the amount of spirits distilled.

> WINDOW SASH FASTENER.-Orville M. Ridgway, La Porte, Ind.-This in vention consists in the combination of a metallic spring and rubber block. with the opposite edges of the window sash for the purpose of holding it se curely at any point to which it may be raised.

> CORN CULTIVATOR .- H. P. Kvnett, Sisbow, Iowa,-This invention relates to an improved construction of a cultivator for Indian corn to work with a double beam on both sides of a row of corn at the same time.

> OBTAINING GREATER HEAT FROM PERMANENT INFLAMMABLE GASES .- SI non Stephens.-For this purpose, these gases are mixed with steam before reaching the burners, which increases the volume of theflame, so as to cause it to fill the spaces where the heat is to be applied. The steam may either be passed into the gas pipe, or may be used to cause an increased draft of air to act on the flame; and the mixture of gas and steam may be used in coniunction with ordinary solid fuel. The inventor applies the flame so obtained to the production of a lime light, etc.

> THE SOLUTION AND TREATMENT OF VARIOUS GUMS, RESINS, ETC .- Edmund Hunt.-This object is obtained by the use of some acid or alkaline substance which is an oleaginous fluid at any temperature below 300° Fah. Oleic acid, carbolic acid, etc., answer for solvents; but the selection must be de-termined by the cost. Waste pieces of vulcanized india-rubber may be utilized by this means ; also ebonite, etc. The gum, etc., should be reduced to small particles before being subjected to the action of the solvent. Heat and agitation are applied to hasten solution, and the solvent should be saturated. Different gums Lequire different treatment.

> PRESERVATION OF ANIMAL SUBSTANCES .- Henry Medlock and William Bailey.-This is effected by dissolving ordinary commercial gelatin in boiling water, in the proportion of two pounds of the former to ten of the latter then adding to the solution of gelatin an equal volume of a solution of bisulphite of lime, having a specific gravity of about 1070. While the mix ture is still warm, the meat, poultry, etc., which is to be preserved, is dipped in, or brushed over with it two or three times. When the mixture of gelatin and bisulphate has solidified on the surface, the animal substance is to bepacked as airtight as possible; and if it is to be transported to a considerable distance, the interior of the box, etc., containing it should be brushed over with the mixed solution. To preserve hides, it is necessary only to coat their inner surface with the mixture. When animals are treated in this way, the viscera and blood must be removed, and their interiors also coated with the mixture. The latter may be removed by soaking in water.

> REFINING PARAFFINE WAX.-J. Leach, St. James' street, Hatcham Dated 23rd July, 1866.—This invention consists in the more speedy, effectual. and economical method of treating crude paraffine, so as to render it white, hard, and more suitable for the purposes for which it is employed. The process adopted is, First, to boil the crude paraffine for about two hours, more or less, with a solution of caustic alkall, which has the effect of precipitating the oil with which the paraffine is combined. The precipitated oil is then re moved by washing. The paraffine is then submitted to the action of animal charcoal, after which it is filtered and pressed. It is then re-melted, washed and again subjected to the purifying power of charcoal, after which it is again filtered and treated with about five per cent of naphtha and pressed. To remove more completely any impurity that may still exist, it is re-melted washed, treated with charcoal, and filtered.

> TANNING OF HIDES AND SEINS .- G. Mountford, Grasscroit, Yorkshire, and G. L. Loverside, Manchester. Dated 23rd June, 1866 .- This invention relates to an improved method of tanning by the employment of valonia and oak bark, in conjunction with American pearl ashes, and which, as is well understood, consists essentially of carbonate of patash, whereby a considerable diminution of the time required for the process of tanning 18 effected, and a leather or tanned hide or skin of a superior equality is obtained. In cases where it is advisable to give a yellowish color to the leather, turmeric may be used with the valonia or valonia and oak bark.

Answers to Correspondents.

- CORRESPONDENTS who expect to receive answers to their letters, must, in all cases, sign their names. We have a right to know those who seek in formation from us : besides, as sometimes happens, we may prefer to ad dress the cor espondent by mail.
- SPECIAL NOTE.—This column is designed for the general interest and in-struction of our readers, not for gratitious replies to questions of a purely business or personal nature. We will publish such inquiries, however, when poind for a advertisements at 50 cents a line, under the head of "Business and Personal."

A. G., of Wis.-Aluminium may be deposited by the battery from a fused mixture of anhydrous chlorides of aluminium and sodium. We consider it doubtful if aluminium has ever been deposited by the battery from an aqueous solution. There has been an abundance of rubbish printed on the subject.

- J. S. P., of Pa.-Black band ore, especially that containing two or more per cent of free carbon may be smelted profitably in small furnaces. The ian blast is not recommended for smelting furnaces. The fan does not give economically over one lb. pressure, while in iron smelting upwards of two 108. pressure is desirable. We know of nothing better than the blast furnade process.
- A. S. M., of O.-The ordinary working effective pressure in the Ericoson and other air engines we understand to be 5 to 8 lbs.
- H. H. W., of Mass., wants to know the best way of extinguishing a lamp, as he is warned against blowing down the chimney. Our practice has been to turn the wick down until the flame is feeble and then blow down the chimney.
- N. G. T., of N. Y.-" Will the pressure on a slide valve be increased by enlarging the ports, the pressure in the steam sheat remaining the same." Certainly, why not ?"
- C. D. M., of Pa.-Any salt of copper introduced into a flame will give it a green color. The green color of fire works is due to sulphide and other preparations of copper. The best way of producing mono-

air escapes out of its pores and it sinks. Hollow floats are commonly made of copper. What is the objection to them?

D. G. S., of Pa.-You will find coal tar and coal tar asphaltum a good covering for your wire ropes, and they are not corrosive to The "sulphur water," of coal mines is always acid and unprotected wire rope coming in contact with it is soon used up. There is probably no cheaper protective coating than some sort of tar.

E. R., of Vt.—" When a sugar maple is tapped does the sap comefrom above or from the roots." The water of sap for the most part enters, at the roots and travels upward, on its way up; in the trunk and branches of the tree the sacchariae matter is formed. When the tree is tapped the sap flows down by gravity. Below the tap there is very little saccharine matter.

D. R. M., of Pa.-You ask whether it will be cheaper to use one boiler, 30 feet by 5 feet, to run an engine 14 by 30 inches, rather than two of those dimensions, the pressure of steam on the two being 30 pounds and the velocity of your engine 70 revolutions. You omit to give us the character of your boilers, whether cylinder or flue, the amount of heating and grate surface, and the point of cut-off, if any, of your engine. So we can only reply that if you can make steam enough without unduly forcing the fire, one boiler ought to run your engine with less fuel than two. Certainly if the boilers are at all what boilers should be, one should be sufficient for your engine.

R. F., of Ill.-We cannot understand your reasons for considering a cylinder of boiler iron 52 inches in diameter less able to withstand a certain pressure per square inch than one of the same grade of iron 72 inches diameter; for these are exactly the facts in the boiler to which you refer. After very careful examination of upright boilers built on the Densmore plan, we cannot conscientiously consider them as inferior in strength, from anything in their peculiarities of construction, to any other cylinder bollers. By tests which have been made it has been proved that the inner tube cylinder you suppose to be a weak part, is stronger than other portions. We consider it sate, and believe the accident you refer to is attributable to other causes rather than defects in the plan or construction.

T. S. C., of Ohio.-We have examined your diagrams and are reluctantly forced, to give an opinion against your projects. You expectto gain power by attaching an eccentric to your crank-nin and thus increase the radius of the crank motion. It is a pretty theory, but you willgain nothing from it in practice but friction. You say you can gain 20 per cent of power—or "the utilization of power will be 20 per cent—and increased friction only 5 per cent, a handsome advantage of 15 per cent." If this is so, why not increase the throw of the eccentric and make a gain of 100 per cent? Please look into this matter more carefully and closely.

... Your plan of using steam expansively isnot new and in its arrangement of the two cylinders is really abaut. A similar plan, but more cor-rect, is now in successful operation. We preserve your diagrams subject to your order. Do not get discouraged atone failure.

T. P. K.-Your combination of gearing for driving rolls is good. The power of the engine you describe as of 6 inch bore, 18 inchstroke, 90 revolutions, and 60 pounds pressure is 13.53 horse-power. The power exerted on the rolls is that, less the intervening friction. The weight that could be raised by a rope passing around or between the rolls would be as much greater than the power directly by the engine as the surface of the rolls move slower than the periphery of the driving pulley on the engine shaft, less the friction. As much greater the weight you could thus raise than that raised by the engine direct would correspond to the velocity. There is no actual gain in power but a loss by friction. From marks and your data you can easily calculate the results. these r

J. H., of N. J., sends a copy by photography of a scientific document. But the copy is greatly reduced in size from the original, and is not legible to the unassisted eye, and under the microscope is quite indistinct. We shall be pleased to consider the subject if he will send us a paper which we can read.

T. E. L., of N. Y.-You can grind and polish the speculum of a telescope as you would any other disk of hard metal by chucking it in a lathe and grinding with emery and oil, polishing with flour of emery, crocus, and rouge. Care must must be taken not to scratch it.

J. W. G., of Pa.-Crocus or Colcothar-sesqui-oxide of iron --- is used for polishing metals and glass. It is the oxide of iron remaining after the distillation of the acid from sulphate of iron.

Business and Personal.

The charge for inse tion under this head is 50 cen s a line.

Dayton, Allen & Co., Richmond, Va., want machinery, with cost of manufacturing 40-gallon liquor casks.

The address of A. S. Munger is Ansonia, Conn.

Wire and Nail Manufacturers are requested to send their addresses to Willis Weaver, Salem, Ohio.

G. D. Humphrey, Emporia, Kansas, wishes to correspond with manufacturers of wind mills or wind powers.

J. Shelon, Newport, Ky., enquires where he can obtain a gage to show the heat of the blast after it leaves the hot blast.

Inventions Patented in England by Americans.

[Condensed from the "Journal of the Commissioners of Patents."]

PROVISIONAL PROTECTION FOR SIX MONTHS.

223.-MACHINE FOR PULLING FLAX, BTC.-Samuel W. Tyler, Troy, N. Y. an. 28, 1867. Jan

331.-MODE OF ATTACHING TRETH TO SAWS.-Warren P. Miller, San Fran-cisco, Cal. Feb. 7, 1867.

379.-PRESERVING ANIMAL MATTERS WITHOUT LOSS OF FLAVOR.-Lewis H. Spear, Braintree, Vt. Feb. 10, 1867.

885.—THEATLING VEGETABLE SCHOTANCES IN THE MANUFACTURE OF PAPER PULP AND FIBERS.—Benj. C. Tilghman, Philadelphis, Pa. Feb.11, 1867. 403.-MACHINERY FOR MOLDING AND PRESSING BRICK.-Emery R. Gard, Chicago, Ill. Feb. 18, 1867.

		The Habit and FOR CLARKING WHEAT, ITUSamuel D. Mack, New York
CRUSHING AND PULVERIZING CLODS OF EARTHJohn Custer, Corsics, Ohio.	chromaticing attor indoor exhibitions is to surround the name with colored	City. Feb. 18, 1867.
-This invention relates to improvements in a machine for crushing and pul-	glass. At the theatres the lime light and colored glasses, have superseded	463APPARATUS FOR LETTING ON AND SHUTTING OFF GAS, AND IGNITING
verizing clode of earth after the ground has been plowed.	the old fashioned pyrotechnic compounds.	THE SAME,-Bowin K. Bean and Will. H. Mumber, Boston, Mass. Feb. 20, 1867.
	A. S. of Mo.—There is no electric light which can yet com-	404BOAT DETACHING APPARATUSGideon B. Massey, New York City.
FLOUR SIFTERJames A. Sinclair, Woodsfield, OhioThis invention has	note with the lime light for use with a freweling states with an arbitrition	
for its object to furnish an improved machine for sifting flour meal, or screen-	pete with the time light, for use with a traveling stereoptical exhibition.	403FILES AND HANDLESAlfred Weed, Boston, Mass. Feb. 20, 1867.
ing grapes, cherries, berries, etc.	It a battery be used as a source of the electricity 35 to 50 of Grove's cups	254 WRITING PAPERJoseph E. Hover, Philadelphia, Pa. Jan. 30, 1867.
Seven Dura Duran Manage It Anderson Hannellantile M. W. Mbig in	would be needed ; and a sufficiently powerful magneto electric machine	286ATMOSPHERIC PLATES OF ARTIFICIAL TEETHNehemiah T. Folsoni,
STOVE-PIPE DAMPER Inomas K. Anderson, Hornensville, N. 1 Inis in-	would weigh tuns, and the strength of more than one man to operate it.	Laconia, N. H. Feb. 1, 1667.
vention consists in an improved self-adjusting stove pipe damper so con-	Yet we have little doubt that electric light will some day come into fashion	292STEAM GENERATOREli Thayer, Worcester, Mass., Sabin P. Pond.
structed and arranged that the draft of the stove shall regulate the damper	and be cheap enough. As long as we know that light represents or is	1 lovidence, R. I., and Daniel B. Pond, Woonsocket, R. I. Feb. 2, 1867.
so as to maintain a uniform fire.	equivalent to a very small amount of electricity or mechanical force we	FRAMES - SELF-OILING SPINDLES FOR SPINNING, DOUBLING, AND WINDING
Mamon AND Sabara man Issae D Time Nam York Older The object of	connot give up the hope that we shall leave how to manufacture our light	Conn. Feb.2, 1867.
this importion is to obtain a simple and afficient device by which the amount	with as little lebox and trouble as we now grinde off so	302-MACHINE FOR MARTYA MACRINE ENTERING MACRINE
this invention is to obtain a simple and emclent device by which the amount	With as interested and trouble as we now grindbonde.	NEEDLESChas. P. S. Wardwell, Giltord, N. H. Feb 2 1867
of whiskey produced in a distillery may be ascertained by government offi-	G. W. S., of Pa.—" What mineral if any is contained in the	816WEAVERS' HARNESSCullen Whimple Cranston P. J. Fob 4 1007
cials with positive accuracy. It is well known that a large amount of whis-	enclosed sample of rock ?" The sample of rock weighs about ten grains	24APPARATUS FOR DEVING VARY Hack Whitehill N
key is distilled in the United States for which the government receives no	and is mainly sulphide of zinc. Such are is often called by miners "black	Feb. 5. 1867.
returns in the way of revenue tax, and this invention will effectually prevent	iack" and is one of the important sources of zinc	S36BOBBINS IN SPINNING MACHINERY -Metallin Bobbin Company No.
that fraud being practiced. The successful operation of a device for this pur-		York City. Feb. 6, 1867.
nose must possess three essential requisites First. A positive or sealed con-	H. C., of N. Y.—The sample of "stuff" which you say was	352 -MECHANICAL MOVEMENTS TO HE APPLIED TO ATTOM TOTAL
nestion of the worm with the meter Second An accurate measuring or	taken from what was represented as a bed of sulphuret of silver, is sul	HOBBY HORSESWm. F. Goodwin, Washington, D. C., and Henry S. Cohu
meterion of the worm with the meter. Becond, An accurate measuring of	phide of iron. Did you think it was gold?	New York City. Feb. 7, 1867,
weighing mechanism with an indicator or register connected therewith ac-	I D of Idaho informs us that the cultivation of heats for	429 WATER METERRobert Westcott and Job S. Crane, Elizabeth, N. J.
cessible only to the government inspector or omicial. Third, A separater by	J. D., of Idano, mioring us that the cultivation of beets for	1 (10, 10, 100),
which the high spirits or that above a certain grade which does not require	sngar is engaging much attention just now in the Pacific States.	19.1867 RAILROAD SWITCH INDICATORThos. S. Hall, Stamford, Conn. Feb.
to be ron through the still a second time may be separated from the low grade	I F of Pa - We do not think there is such material with a	10, 1001.
which requires a second distillation.	J. E., Of I a we do not think there is any material which	BRO-CLABORN VANNE AVE AVE AVE AVE AVE AVE AND COMPUSTION OF A HY
	can be long used in the solid form as a float in a steam builer. Wood is	R. Foote, Boston, Mass. Feb. 28. 1467.
METER AND SEPARATORIssac P. Tice, New York CityThis invention	ordinarily considered to be lighter than water. But its apparent light-	800 0
relates to a spirit Meter and Separator designed for use in distilleries for the	ness is due to its porosity. When wood is for a long time kept under water	Silas S Putnam Dorobeston Mass Marshall Silas S Putnam Dorobeston Mass
		S. 2 uttalin, 2010 herer, plass. March 2, 1867.