WEEKLY SUMMARY OF INVENTIONS.

The following inventions are among the most useful improvements patented this week. For the claims to these inventions the reader is referred to the official list on another page.

REDUCTION OF METALLIC SULPHURETS, &C.

Messrs. J. J. A. de Bronac and A. J. M. Deherrypon, of Paris, France, have obtained Letters Patent in this country for an improvement in the reduction of metallic sulphurets and other ores, and particularly sulphureted ores of lead antimony, copper, silver and zinc. Their invention consists in the treatment of such ores with what is known as spongious iron, in the following manner. The ore and the iron sponge are first pulverized separately, then mixed in proper proportions, after which the mixture is compressed into small bricks and then treated either in a reverberatory or vertical furnace. The avidity of the spongious iron for new combinations, especially with sulphur, effects desulphurization by the formation of a sulphuret of iron, from which the metal to be obtained is afterwards separated by fusion or volatilization. It is claimed that this process effects a great saving in the time and expense of obtaining metals from such sulphurated ores as can be modified or reduced by iron.

IMPROVED MODE OF CUTTING BOOTS.

This invention consists in cutting out or otherwise forming a piece of leather or of cloth or other material that cannot be stretched by crimping, to a certain novel shape which by the aid of one gore admits of its being folded without crimping into the required form for the upper of a boot, the whole being so arranged that it can be cut from a piece of leather nearly square so as to save as much material as possible, leaving the boot entirely single with no hard seam across the foot and requiring no additional fixtures in order to give it the proper finish. The inventor is Lewis Duvall, of Big Spring, Kentucky.

BAGASSE FURNACES.

C. A. Desobry, of Plaquemine, La., has invented certain improvements in bagasse furnaces. One of these improvements consists in a novel system of air-ducts, combined with an air chamber for supplying the fire-chamber with the air necessary for combustion and for tempering the heat of the furnace; and another improvement consists in a novel construction of the throat or feeding hopper of a furnace for burning bagasse or other refuse fuel, whereby provision is made for feeding without any material escape of the heat of the furnace.

FOAM COLLECTOR FOR BOILERS.

T. G. Gardner, of Mount Pulaski, Ill., has invented a foam collector for steam-boilers which consists of a plate, or plates attached to the sides and heads of a boiler, and so arranged as to cover the whole, or very nearly the whole of the surface of the water therein, but with an opening for the escape of steam, and with a descent from the said opening toward the ends or sides of the boiler. The foam being carried up by the steam against the lower surface of the plate or plates is collected at the aforesaid opening, and caused to pass through it to the upper surface of the plate or plates to a receptacle formed at the lower part of said surface from whence it may be blown off. This seems to be a good contrivance.

IMPROVED EXCAVATOR.

This invention is an improvement in machinery for removing the earth which washes down from embankments and fills up the drains on either side of the railroad, where the latter passes through deep cuts. It consists in the employment of plows and excavators of a peculiar construction, which are connected to suitable arms extending out from the sides of a car by strong chains, so that as the car progresses, the earth can be taken up and removed to the nearest "fillings." This contrivance is the invention of E. O. Baxter, of Foreston, Ill.

IMPROVED STONE-BREAKING DEVICE.

This invention consists in the employment or use of straight or vertical cylinders, peculiarly ribbed, and used in connection with a hopper, the whole being so arranged that round paving stones or "boulders" may be cracked or broken equally as well as regular pieces of stratified rock. The difficulty hitherto attending the cracking or breaking of round stones or other hard substances by means of cylinders has been owing to the inability of the cylinders to catch or seize them, the stones in consequence of their rotundity being liable to turn and slip from the "bite" as the cylinders rotate. This difficulty is fully obviated by this invention, which has been patented by Ives Scoville, of Chicago, Ill.

MACHINE FOR SECURING THE JOINTS OF CLOTHES-PINS.

This invention consists in the employment or use of a clamping device, pliers, adjusting fork and shears, arranged to operate in such a way that the wire joints or hinges of jointed clothes-pins may be secured in the pins in a very expeditious manner and equally as well as can be done by hand. The several parts comprising a jointed clothes-pin are all made by machinery and the work is done very rapidly, and at a small cost. In articulating the parts or jaws of the pins, however, considerable time has heretofore been used in securing the joints in the parts, this work having been done manually. This invention is designed to supersede the manual articulation of the parts and execute the work with a rapidity commensurate with the manufacture of the individual parts of the pins. The inventor of this device is A. C. Mason, of Springfield, Vt.

MACHINE FOR TONGUING AND GROOVING.

This invention consists in passing the boards to be tongued and grooved under rollers which serve as feed and pressure rollers, having flanges cast on their outer edges which press the faced edge of the board, as it is being fed to the cutters, up firmly against an annular ring keyed to the roller shaft by helical or other suitable springs, which permit the rollers to be laterally adjusted and to be set to the various thicknesses of boards to be matched; at the same time the rollers have a sufficient play to admit of the variations in the width of the same boards. The credit of this invention is due to H. H. Baker, of New Market, N. J.

IMPROVED WATER-METER.

This is a very ingenious device calculated to measure the water by a series of buckets of known capacity and of a peculiar form, which are so arranged in a hollow rotary chamber that the water, as it enters said buckets, causes the chamber to rotate simply by the action of the gravity of the water in the buckets, and entirely independent from the head or force with which it enters. The hollow rotary chamber is arranged in an air-tight vessel of such construction that the pressure on the water in the buckets regulates itself according to the head of the supply water. The inventor is B. S. Church, of Manhattanville, N. Y. This device was patented last week.

FOREIGN SUMMARY—METALS AND MARKETS.

A new apparatus for producing motion in metals by means of heat has lately been exhibited by Mr. G. Gore, of Birmingham, a gentleman favorably known for his scientific attainments. It consists of a massive circular railway of copper, the rails of which are made red-hot, and balls of German silver placed upon them and so arranged as not to run off. Whenever this is effected the balls roll on the rails, making revolution after revolution on the track as long as the rails remain sufficiently hot. This result is stated by the *Philosophical Magazine* (English) to be a new fact in mechanical science. It is no doubt so with this apparatus, but the principle of motion is the very same as that displayed by water rolling in globules on a heated plate of metal.

The largest balloon ever inflated was recently filled at Wolverhampton with 86,000 cubic feet of gas. It was intended for scientific purposes, under the auspices of the Royal Astronomical Society, and Mr. Green, the veteran aeronaut, was to take charge of the ascent. It was purposed to ascend to the hight of four miles and make experiments on the humidity of the atmosphere at different elevations, and also make experiments on the polarization of light. It is a subject of regret that, when the ascent was about to be made, a gale of wind came up and struck the balloon, tearing it in several places; and thus the scientific aerial expedition was defeated for the present.

The labor question in England is still exciting deep attention, on account of the great many strikes which have recently taken place among mechanics. The builders in London are still standing out for the reduction of the hours of labor from ten to nine daily. The chain-makers at Cradley in Stourbridge, to the number of 1,500 recently struck for a rise of wages, and the employers have exhibited a disposition to comply with the terms. The bill before the British Parliament to establish councils of conciliation between employers and workmen in such cases as disputes about wages, hours of labor, &c., provides for an equal number of employers and operatives sitting in the council upon such cases.

Very large orders for iron of all kinds have recently been received from India. One company has ordered no less than 400 tuns of railway-fastenings.

The schools of art established by government, principally for educating the youth in those branches requiring a display of taste and refinement, have been quite successful; and no wonder, because great encouragement is given to the pupils in the way of prizes. Thus, in one school in Liverpool, instruction was given last year in drawing to 1,436 pupils, mostly the children of mechanics. Twenty-six medals were awarded, and 89 other prizes. In Liverpool there is also a School of Navigation, the object of which is to raise the character of the mercantile-marine in a practical, scientific and moral sense.

A new method of steam propulsion has lately been tried on the Bridgewater Canal. It consists of an endless chain running over rollers situated at the bow of the boat, then passing along the bottom of the canal and up over pulleys at the stern, thence forward. Its object is to trail on the bottom of the canal, combining something of the principle of an elliptical wheel in action, so as to prevent the water injuring the banks by the swell. The boat run at the rate of five miles per hour, and the chain run eight miles while the boat was moved six—thus showing a slip of 25 per cent. This system of canal propulsion has been favorably considered, and a wealthy company formed to introduce the invention throughout the country.

In the South Staffordshire and East Worcestershire districts there were 129 iron furnaces in blast and 55 out of blast, last month. The average production of iron by each furnace is 110 tuns per week. About three tuns of coal, the same amount of ore and 12 cwt. of lime are required to produce one tun of pig-iron. The iron trade in England has not recovered from the panic of 1857 yet, and it may be some years before it will. There are 18 per cent less furnaces in blast to-day than there were in September of the panic year.

PRICES OF FOREIGN METALS, AUGUST 28.

	£	s.	d.		£	s.	d.
Iron, English Bar and Bolt :—				Iron, Swedish, bars, per tun	13	0	0
In London, per tun.	7	0	0	Russian C C N D.	17	0	0
In Wales	6	0	0	Steel, Swedish Keg, nom	20	10	0
In Liverpool	6	10	0	Do. Rolled.	19	10	0
Staffordshire Bars.	8	0	0	Faggot.	21	19	0
Sheet, single,	9	10	0	Spelter	21	0	0
Double	11	0	0	Zinc, in sheets	28	10	0
Hoop	9	0	0	Copper, Tile	107	10	0
Rod, round	8	0	0	Tough Cake	107	10	0
Nail Rod, square	9	0	0	Sheathing & Bolts, per lb.	—	—	11¾
Shipping Iron :—				Sheet	—	—	11¾
Staffordshire Bars.	8	0	0	Bottoms	—	—	12
Sheet, single	9	10	0	Old	—	—	10
Double	11	0	0	Yellow Metal	—	—	10
Hoop	9	0	0	Lead, British Pig	22	15	0
Rod, round	8	0	0	Spanish	22	10	0
Nail Rod, square	9	0	0	Sheet	23	10	0
Iron, Rails, in Wales, cash	6	5	0	Tin, English Block, nom	138	0	0
Do. 6 months	6	10	0	Bar	139	0	0
In Staffordshire.	7	0	0	Refined	145	0	0
Railway Chairs, in Wales	4	0	0	Foreign Banca	146	0	0
In Clyde	4	0	0	Straits	143	0	0
Pig No. 1, in Clyde	2	18	6	Tin Plates, Charcoal, IC, per box	1	13	0
3-5ths No. 1 and 2-5ths No. 3	2	13	0	Do. IX	1	19	0
Staffordshire Forge Pig, at the works, L. W., nom	3	15	0	Coke, IC	1	7	6
Welsh Forge Pig	—	—	—	Do. IX	1	13	6
Acadian Pig, Charcoal	3	15	0	Canada, Plates, p'r t'n	13	0	0
Scotch Pig, No. 1, in London	3	10	0	Quicksilver, per bottle	7	0	0

English tin is in good demand, and Banca and Straits somewhat higher than the previous week. Copper has also been in good demand, and the prices maintained. An order for 10,000 iron targets for rifle practice has lately been given out by the British government.

[The above are prices within three per cent discount, the pound being valued at $4.85.

New York Markets.

COAL.—Anthracite, from $4, $4.50, $4.75, to $5.

CORDAGE.—Manilla, 8¾c. per lb.

COTTON.—Ordinary Upland, 9⅛c. per lb.; Texas, 9⅜c.; Middling, 11¾c. to 12⅛c.; Middling fair from 12⅞c. to 13¼c.

COPPER.—Lake Superior ingots at 23c. per lb for cash; new sheathing, 26c; no change, but holders are firm.

FLOUR.—State, superfine brands, $4 a $4.30; State, extra brands, $4.40 a $5; Michigan, fancy brands, $4.10 a $4.30; Ohio, fancy brands, $4.40 a $4.50; Michigan, Indiana, Wisconsin, &c., $4.40 a $4.90; Genesee, extra brands, $5.40 a $7; Missouri, $4.30 a $7; Canada, $4.60 a $5.50; Richmond City, $6 a $7.

GLASS.—American Window—First, second, third and fourth qualities, per 50 feet: 6 by 8 to 8 by 10. $3.50 a $2.75; 8 by 11 to 10 by 15, $4 a $3; 10 by 16 to 12 by 18, $4.50 a $3.25; 12 by 19 to 16 by 24, $5.25 a $3.50; 16 by 25 to 20 by 30, $6 a $4; 20 by 31 to 24 by 36, $8 a $4.50; 25 by 36 to 30 by 44, $9 a $5. These prices are subject to a large discount—sometimes 50 per cent.

HEMP.—American undressed, $140 a $150; dressed from $190 a

$210. Jute, $95 a $90. Italian, $2.75. Russian clean, $210 a $215 Manilla 6½c. per lb.

INDIA-RUBBER.—Para, fine, 56c. a 60c. per lb.; East India, 37c. a 40c.

INDIGO.—Bengal, $1 a $1.50 per lb; Manilla, good to prime, 55c. a $1.10; Guatemala, $1 a $1.15.

IRON.—Anthracite pig, $23 a $24 per tun; Scotch, $23 to $23.50; Swedish bar, ordinary sizes, $85 a $87.50; English refined, $53 a $54.50; English common, $43 a $45. Russian sheet, first quality, 11c. a 11½c. per lb.; English, single, double and treble, 3¼c. a 3⅞c.

LUMBER.—Timber, white pine, per M feet, $17.50; Timber, yellow pine, $35 a $36; Timber, oak, $18 a $28; Timber, eastern pine and spruce, $17,50; White Pine, select, $25 a $30; White Pine, box, $14 a $18; White Pine, flooring, 1¼ inch, dressed, tongued and grooved, $24.50 a $25; Yellow Pine, flooring, 1¼ inch, dressed, tongued and grooved, $29 a $2: White Pine, Albany boards, dressed, tongued and grooved, $20 a $21; Black Walnut, good, $45; Cherry, good, $45· White Wood, cherry plank, $42: Spruce Flooring, 1¼ inch, dressed, tongued and grooved, each, 22c.a24c.; Spruce Boards, 15c. a 17c.; Hemlock Boards, 12½c. a 14c.; Hemlock Joist, 3 by 4 inch, 12½c. a 14c.; Shingles, cedar, per M, $28 a $35; Shingles, cypress, $12 a $25: Staves, W. O. pipe, light, $55 a $53; Staves, white oak, pipe, heavy, $75 a $80; Staves, white oak, bbl. culls, $20; Heading, white oak, hhds., $55.

LEAD.—Galena, $5.75 per 100 lbs.; German and English refined, $5.70; bar, sheet and pipe, from 6c. to 6¼c.

LEATHER.—Oak slaughter, light, 33c. a 35c. per lb.; Oak, heavy, 32c. a 35c.; Oak, crop, 38c. a 40c.; Hemlock, middle, 24c. a 25c.; Hemlock, light, 23c. a 24c.· Hemlock, heavy, 22c. a 23c. Patent enameled, 16c. a 17c. per foot, light. Sheep, morocco finish, $7.50 a $8.50 per dozen. Calf-skins, oak, 62c. a 65c.; Hemlock, 60c. a 65c.; Belting, oak, 32c. a 34c.; Hemlock, 28c. a 31c.

NAILS.—Cut at 3c. a 3¼c. per lb. American clinch sell inlots, as wanted, at 5c. a 6c.; wrought foreign, 3¾c. a 3½c.; American horse-shoe, 14½c.

OILS.—Linseed, city made, 58c. per gallon; whale, bleached spring, 53c. a 55c.; sperm, crude, $1.25 a $1.27; sperm, unbleached spring, $1.35; lard oil, No. 1 winter, 87c, a 92c.; extra refined rosin, 30c. a 40c.; machinery, 50c. a 100c.; camphene, 45c. a 46c.; coal, refined, from $1.12 a $1.50.

RESIN.—Common, $1.60 per 310 lbs. bbl.: No. 2, &c., $1.70 a $3; No. 1, per 280 lbs. bbl., $3.25 a $3; white, $3.25 a $4.50; pale, $5.50.

SPELTER plates, 5¼c. a 5⅞c. per lb.

STEEL.—English cast, 14c. a 16c. per lb.; German, 7c. a 10c.; American spring, 5c. a 5½c.; American blister, 4½c. a 5½c.

TALLOW.—American prime, 10⅝c. to 10¾c. per lb.

TIN.—Banca, 32¾c. a 33c.; Straits, 31c.; plates, $7.50 a $9.75 per box.

TURPENTINE,—Crude, $3.62½ per 280 lbs.; spirits, turpentine, 45c. per gallon.

ZINC.—Sheets, 7½c. a 8c. per lb.

The foregoing rates indicate the state of the New York markets up to September 7th.

Quite a large number of American candles are exported to Cuba and various parts of South America. A. Hay & Bros., manufacturers, this city, supply a large foreign demand. No less than 44,354 boxes were exported from January 1st to August 31st, 1859. This is a slight decrease on the amount shipped last year in the same period of time.

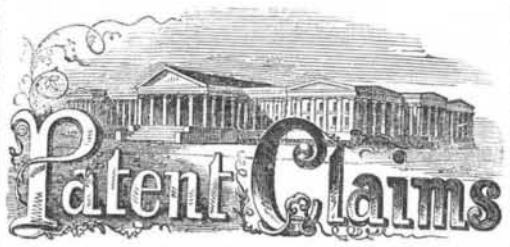
The amount of goods waiting shipment here, at this season of the year, for Charleston, Savannah and New Orleans, is prodigious. More steamers are required for the southern trade. Carmen will sometimes have to wait 10 hours, in turns, before they can get their loads on board the steamer.

The western trade, thus far, has been poor, owing to the previous indebtedness of western merchants. It is to be hoped they will get out of this position by next Fall, at the farthest. They tied up their ready cash in the United States Land-offices in 1856-'57, during the land speculation mania, and it has not yet found its way back to their coffers.

Our iron interests are looking up a little. The Philadelphia *North American*, of the 3d inst., says:—"There has been rather more inquiry for pig-metal, and holders, if anything, are firmer in their views. Sales include about 1,200 tuns anthracite No. 2, a good make, at $22.50, and 1,500 do. forge at $21, all on time; the latter price was refused for another lot of the same kind. Nothing doing in blooms or boiler-iron worthy of notice. Rails and bars are steady in price, with rather more doing, and the prospects of the trade generally are now encouraging."

Railroad shares are improving somewhat. The New York Central appears to lead all others in speculative dealings; the stocks advanced from 76 to 79½ per cent. on the 8th, as the receipts on this road during next Fall are expected to be very large. All the shares of our railroads are slowly advancing, which is a good sign of improvement in all kinds of business, as they are our avenues of commerce.

In the open market money continues abundant. The demand is fair, and readily met at the quotations annexed. On call, there are occasional transactions below 5 per cent, but the range for the most part is from 5½ to 6½ on Stock Securities.



ISSUED FROM THE UNITED STATES PATENT OFFICE

FOR THE WEEK ENDING SEPTEMBER 6, 1859.

[Reported Officially for the SCIENTIFIC AMERICAN.]

*** Pamphlets giving full particulars of the mode of applying for patents, size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York.

25,310.—H. W. Adams, of Brooklyn, N. Y., for an Improvement in Lamps:

I claim constructing the upper end of the wick tube, B, with the elevated ends, a a, so as to enclose the ends of the wick, G, and prevent said ends from burning too high, when the central part is sufficiently elevated above the central part, b, of the wick-tube to be allowed to burn, substantially as and for the purpose set forth.

[This invention relates to an improvement in the wick-tubes of lamp tops or burners designed for burning coal-oil and other hydrocarbons of a similar nature. Its object is to obviate the smoking of the lamp heretofore caused by an uneven trimming of the wick, and the tendency or aptitude of the ends of the wick at each side of its top surface to expand or project out more prominently than the central portion during combustion. The invention consists in having the ends of the top of the wick-tube project upward higher than the central part, so that when the central part of the top of the wick is raised sufficiently above the top of the wick-tube to burn, the ends of the top of the wick will be enclosed by the projecting ends of the tube, and combustion confined to the central part, thereby obviating the difficulty alluded to.]

25,311.—Wm Adamson, of Philadelphia, Pa., for an Improved Apparatus for Making Decoctions. Antedated April 6, 1859:

I claim the conical roller arranged within the caldron, A, when the same is used for the purpose of thoroughly intermixing the ingredients to be extracted during the process of boiling, as set forth.

[This invention consists in placing within the circular tank or boiler a conical roller, either solid or open, and revolving this roller during the process of boiling, for the purpose of thoroughly intermixing the ingredients to be extracted by the water or other fluid, by keeping them in a state of agitation while boiling—such, for instance, as soap, glue, and for extracting coloring matter from dye-woods, &c.]

25,312.—T. D. Aylesworth, of Ilion, N. Y., for an Improvement in the Cutting Apparatus of Harvesters:

I claim a cutting apparatus for harvesting machines, composed substantially of the cutters, c, and guards, b, when constructed and operating together without any motion except that of being advanced or drawn over a field, substantially as described.

25,313.—H. H. Baker, of New Market, N. J., for an Improved Tongueing and Grooving Machine:

I claim the employment of flanged feed rollers, having a lateral play, and acted upon by suitable springs, in combination with the fixed intermediate rings, or flanges, P P′, or their equivalents, when arranged and operating essentially in the manner and for the purpose specified.

25,314.—E. O. Baxter, of Foreston, Ill., for an Improvement in Railroad Excavators:

I claim the arrangement and combination of adjustable timbers or arms, B C, plow and excavator, as above described, when the same are employed in the manner above shown, for the purpose of loosening and removing the earth and keeping the ditch free from the wash of the slopes on railroads.

25,315.—Jehu Brainerd and W. H. Burridge, of Cleveland, Ohio, for an Improvement in Turning:

We claim the use of the described compound for tanning, consisting of a solution of the named mineral salts, in mixture with a solution of tannin either with or without the addition of aloes:

25,316.—L. R. Breisach, of New York City, for an Improvement in Making Gas from Wood:

I claim the process of manufacturing illuminating gas from wood, by distilling the same in two retorts of varying temperatures, as set forth, one of which retorts is charged with charcoal, varying in amount according to the conditions indicated, the whole process being conducted as set forth.

[This is an improvement on a process for making gas from wood which was invented by Professor Pettenkoffer, of Germany, and introduced into this country by Mr. Breisach, in 1853. By this improvement it is claimed that a larger quantity of gas can be made, of a better quality, and with less labor. The inventor has paid much attention to this subject.]

25,317.—Archibald Cameron, of Charleston, S. C., and David Matthew, of Philadelphia, Pa., for an Improvement in Railroad Wheels:

We claim the peculiar construction of car wheels, having elastic curved arms, B, with chilled cast tread, A, and cast hub, C, forming one combined wheel, substantially as set forth.

25,318.—C. W. Clewley, of Providence, R. I., for an Improvement in Machines for Making Watch Rims, &c.

I claim the combination of the male and female plungers, substantially as described and for the purposes set forth.

25,319.—R. W. Davis and Daniel Davis, of Yellow Springs, Ohio, for an Improved Machine for Printing the Addresses on Newspapers, &c.:

We claim, first, The arrangement of wooden blocks, r, of suitable size for a single address, with indented letters in their faces, and attached by means of small tacks, or equivalent to a flexible band or belt, in close compact columns, and operated substantially as described.

Second, The use of the triangular stationary bed-piece, l, over which the belt slides, by means of belt pulley, p, and regulated and adjusted by means of lever, n, substantially in the manner and for the purpose set forth.

25,320.—Jean Justin Albert de Bronac and Augustin Joseph Martial Deherrypon, of Paris, France, for an Improvement in Treating Metallic Ores with Spongy Iron:

We claim the treatment of metallic sulphurets, or other ores, or metallic bodies, with a spongy iron, for purposes substantially as set forth, by the combination of the several processes specified in the order stated, viz.:—

First, Pulverizing the ore and the spongy iron separately.

Second, Mixing the two powders in definite proportions.

Third, Compressing the mixed powders into the form of cakes or small bricks.

Fourth, Treating the thus prepared ores in suitable furnaces, as described.

25,321.—R. Densmore, of South Haven, Mich., for an Improved Machine for Sawing Staves:

I claim, first, Surrounding the stationary drum, B, with a series of saws all hung in one gate and having the same movement, in combination with the rotating table, c, for the purposes and in the manner represented and specified.

Second, I claim, in combination with the rotary table and drum, B, the sliding carriages, when the same are arranged radially around said drum, and operated automatically to feed the bolts up against the drum, B, for the purposes and in the manner specified.

Third, I claim the rolling spring guides, P, in combination with the drum, B, for discharging the staves from the machine after they have been sawed, as set forth.

[The subject of this claim consists in hanging a gang of saws upon circular gates having a vertical reciprocating motion around a drum against which abuts the bolts from which the staves are to be sawed, and in the drum is encircled by a rotary table on which are arranged radially a number of automatic carriages for holding the bolts against the drum, and for feeding the same up to the drum as fast as the staves are sawed, said table revolves around the drum, and feeds the staves up to the saws by means of ratchets and pawls operated by cams fixed upon the saw shaft. It consists also in the arrangement of rolling guides in front and back of the saws around the drum: these are operated by springs situated within said drum, so as to hold the stave after it is sawed until it falls through a conductor.]

25,322.—Charles A. Desobry, of Plaqueminc, La., for an Improvement in Bagasse Furnaces:

I claim the combination of the upright air-chamber, D, having a vertical partition wall, a, and the system of ducts, E E F G and H and the damper or shutter, I, the whole applied in connection with the fire-chamber and the flue, C, or its equivalent, substantially as herein described.

25,323.—Hugh T. Douglas, of Zanesville, Ohio, and John Cooper, of Mount Vernon, Ohio, for an Improvement in Portable Evaporating Apparatus:

We claim the combination of the diving flue, H I, the valves, F′ F′, and i, and the damper, J, when the several parts are arranged in relation to the evaporating pan, and operating in the manner substantially as set forth.

25,324.—M. D. Dubois, of Newburgh, N. Y., for an Improved Roofing Cement:

I claim a composition formed of the ingredients or substances compounded in the proportions and in the manner as herein specified, for the purpose set forth.

[The object of this invention is to obtain a roofing cement that will not soften under the rays of the sun, at least not in an appreciable degree, and at the same time one that will not harden and crack at a low temperature.]

25,325.—Lewis Duvall, of Big Spring, Ky., for an Improvement in Boots:

I claim the within-described method of cutting the piece of leather or other suitable material, A, and uniting the same with the gore, B, so that when it is folded in the lines b b′, and f f′, and if the gore is brought in the proper position, said piece, A, together with the gore, assumes the required shape of the upper of a boot, substantially as specified.

25,226.—William T. Edson, of Philadelphia, Pa., for an Improved Machine for Cutting and Finishing Shoe-heels:

I claim the combination of the movable post, F, the former, H (on the upper of the shoe) the guide, K, and the cutter wheel, D, or an emery or burnishing wheel, with the hand lever, G, bow guide, O, springs, N N, and radius bar, J, acting substantially as set set forth. for cutting or shaping, smoothing and burnishing the heels of shoes, either before or after they are fasened to the shoe.

25,327.—Benjamin G. Fitzhugh, and McClintock Young, Jr., of Frederick, Md., for an Improvement in Automatic Rakes for Reaping Machines:

We claim the locating of an automatic sweep rake at the rear left hand or outside corner of the platform, when said rake has a rising and falling motion that will admit of its passing over the outside division board or fence, and then drop into or on to the extreme outer end of the platform, and sweep it of the cut grain, substantially as described.

25,328.—Thomas G. Gardner, of Mount Pulaski, Ill., for an Improved Foam-collector for Steam Boilers:

I claim fitting a boiler with one or more plates, so applied as to present inclined surfaces above the surface of the water, with one or more outlets, b b, for steam and foam, at the highest parts of said plate or plates, and as to provide a receptacle for foam above the said plate or plates, substantially as described, and to operate substantially as set forth.

25,329.—Edward Hæckel, (assignor to Hæckel & Co.) of Cincinnati, Ohio, for an Improved Apparatus for Mashing:

I claim the described combination and arrangement of the central shaft, C, and satellite shafts, N, the whole being armed with beaters, Q, and rotated simultaneously, substantially in the manner and for the purpose set forth.

25,330.—E. H. Hancock, of Augusta, Ga., for an Improvement in Flood-gates:

I claim the combination of the flood or dam gate, C, tilting trough, D, and the draining structure, A B, or its equivalent, substantially as and for the purpose set forth.

25,331.—Jason W. Hardie, of New York City, for an Improvement in Sewing-machines:

I claim, first, The method of making the "knot-stitch," as described, namely, by taking the needle thread at the back of the needle, or at the side opposite to the position of the bobbin, and first doubling it upon itself around the needle and then looping it over the bobbin thread substantially as specified.

Second, I claim the employment of two hooks, h h, acting in opposite directions, when they take the thread at the back of the needle, or at the side opposite to the position of the bobbin, for the purpose of forming either the knot-stitch or the ordinary shuttle-stich, by simply reversing the motion of the driving shaft, as set forth.

Third, I claim making the feed eccentric, i, self-adjusting by means of the loose sleeve, u, slot, v, and pin or stop, i4, so that the feeding shall take place during the descent of the needle, whichever way the driving shaft may be turned, as described.

25,332.—Hiram H. Herrick, of East Boston, Mass., for an Improved Carpet-sweeper:

I claim, first, Providing the end of the box with a groove, as from x to x, when the same is used in connection with the flaring brush on the end of the shaft, F, substantially as and for the purpose specified.

Second, Dividing the box into two parts, and providing each with a partition dividing the botton of the box in two parts, through which the brushes protrude, and providing these parts of said bottom with flanges which hold the dirt; the several parts being connected and arranged together substantially in the manner set forth.