

air current for allowing any more or less knotty portions of the wood attracted to the upper sieve B to fall by its own weight, but of sufficient strength to retain the lighter particles, substantially as specified. 4th. In apparatus for sorting disintegrated wood, the combination, with endless travelling sieves, such as A and B, and suction boxes or chambers, such as L and O, of receptacles, such as M, P, O, for the reception of the sorted wood, substantially as specified. 5th. In apparatus for sorting disintegrated wood, the combination, with the lower sieve, of one or more air currents directed from a series of blast pipes against the wood, which throw the lighter particles against the upper sieve while the heavier particles remain on the sieve below, substantially as specified. 6th. In apparatus for sorting disintegrated wood, the employment of a rotating sieve drum onto which the wood is fed, in the interior of which a suction air current acts in such a manner that all lighter particles are attracted by it and held against the sieve drum until they arrive at a certain point where they are blown off by a current passing from the interior through the sieve, while the heavier particles fall at once off the drum partly by their own weight, partly in consequence of the centrifugal force, substantially as specified. 7th. In apparatus for sorting disintegrated wood, the employment of a rotating sieve drum T through the hollow axis of which passes a tube divided into two chambers by a partition Z, the interior of the drum being also divided in two chambers G, G', in one of which acts a suction air current, and in the other a blowing air current, substantially as specified.

No. 31,026. Machine for Bending Pipe.

(*Machine à courber les tuyaux.*)

Herbert E. Fowler, New Haven, Conn., U.S., 2nd April, 1889; 5 years.

Claim.—1st. In a machine for bending pipe, a roller provided with a gripping clamp or eye projecting radially from its periphery, in combination with an opposite roller having a groove or recess to receive the said gripping clamp or eye, substantially as specified. 2nd. In a machine for bending pipe, a bending roller comprising two separable sections, each carrying a part to form a gripping clamp or eye, in combination with a bending roller having a groove or recess adapted to receive the said clamp or eye, substantially as specified. 3rd. In a machine for bending pipe, a bending roll formed in two separable sections, and each having a circumferential curvilinear groove at their adjacent sides, and also having respectively a part which forms a gripping clamp or eye, in combination with a bending roller having a groove or recess to receive the said clamp or eye, and also a circumferential curvilinear groove to match the corresponding groove in the opposite roll, substantially as specified. 4th. In a machine for bending pipe, the combination of a shaft formed with a shoulder and with a reduced and screw threaded upper end, a roller which consists of two halves formed with grooved or recessed edges which form a nearly semi-cylindrical groove in the periphery of said roller, provided with two registering hook-shaped clamping jaws in their peripheries which form a projecting eye, and with a registering pin and hole in their facing sides, a wash upon said shaft and supported upon the top of said roller, and a nut upon the screw threaded end of said shaft and clamping said washer and roller halves against the shoulder upon said shaft, substantially as specified. 5th. In a machine for bending pipe, the combination with a bending roller, provided with a projecting eye at its periphery, of an opposite bending roller formed in its periphery with a notch or recess which registers with and receives said eye, substantially as specified. 6th. In a machine for bending pipe, the combination with a bending roller, provided with a projecting and adjustable clamp or grip at its periphery, of an opposite bending roller formed in its periphery with a notch or recess which registers with and receives said eye, substantially as described. 7th. In a machine for bending pipe, the combination, with a bending roller formed with slightly less than semi-cylindrical and circumferential groove, and provided with projecting and adjustable clamping jaws at its periphery, of an opposite bending roller formed with a similar circumferential groove, and in its periphery with a notch or recess which registers with and receives said eye, substantially as described. 8th. In a machine for bending pipe, the combination of a frame or table formed with a transverse slot and with a bearing at the inner end of said slot, and is formed with a lip at its outer end, and a bearing at its inner end, a screw which fits through a screw threaded perforation in a lip upon said table at the outer end of said slot, and bears against the lip upon said sliding block, a shaft or spindle journaled in the bearing in said sliding block, two meshing cog-wheels which are of the same diameter provided with long cogs, and secured upon said spindles or shafts, means for revolving one of said spindles or shafts, and interchangeable bending rollers upon said spindles or shafts, substantially as described. 9th. In a machine for bending pipe, the combination, with a circumferentially grooved bending roller, provided with a projecting clamping or gripping eye, a circumferentially grooved bending roller formed with a notch or recess in its periphery which registers with said eye, and a circumferentially grooved guide roller arranged in a line with the space between the bending rollers, and at right angles to a line drawn through the centres of said rollers, substantially as described. 10th. In a machine for bending pipe, the combination of the machine frame or table formed with the slot 9, the drive shaft 3 formed with the worm 4, the shaft or spindle 7 formed with the threaded end 23, and with the worm wheel 8, and cog wheel 18, and journaled in said frame or table, the divided and grooved roller 20 21 formed with the jaws 27 and 28, the washer 25, and handled nuts 23, 24, the sliding block 8 having the adjusting screw 11, the shaft or spindle 15 journaled in said sliding block, and provided with cog wheel 17, the roller 31 upon said shaft, and formed with the groove 32, and notch or recess 33, and the guide roller 34, substantially as described.

No. 31,027. Spray Producer.

(*Pulvérisateur d'eau.*)

Allen De Vilbiss, Toledo, Ohio, U.S., 2nd April, 1889; 5 years.

Claim.—A liquid-receptacle located upon an air tube into which it opens so that the two have interior connection, in combination with

a liquid or fluid tube passing out from the side of said receptacle, and a spray-point arranged and adapted to be turned at right angles to the line of the said tubes, substantially as shown and described,

No. 31,028. Road Scraper. (*Grattoir de rue.*)

John H. Wiles, Roseburg, Ore., U.S., 2nd April, 1889; 5 years.

Claim.—1st. The lever, in combination with the plates, and tongue-braces, substantially as set forth. 2nd. The connecting rod, the circular plate, in combination with plates, lever, scraper and tongue, substantially as described.

No. 31,029. Traction Engine.

(*Machine locomotive.*)

Henry D. Smith and Francois M. Walker, Newark, Ohio, U.S., 2nd April, 1889; 5 years.

Claim.—1st. The combination, in a traction engine, of the bevel wheels I, J, the wheel G carrying a bevel-pinion meshing with said wheels I, J, and having two sets of teeth, with a pinion F constructed and adapted to mesh with either set of teeth, substantially as described. 2nd. The combination, in a traction engine, of the bevel wheels I, J, the wheel G carrying a bevel pinion meshing with the said wheels I, J, and having two sets of teeth, with the pinion F, the shaft C, and the laterally moving box O carrying said shaft, substantially as described. 3rd. The combination, in a traction engine, of the wheel G having two sets of teeth, and mounted on the shaft D carrying the pinions K, K, with the pinion F, the shaft C, the laterally moving box O, the sleeve M carrying said box, and the frame carrying said sleeve, substantially as described. 4th. The combination, in a traction engine, of the wheel G having two sets of teeth, with the pinion F, the shaft C carrying said pinion, the laterally moving box O, the sleeve M carrying said box, and the small truss-frame L supporting said sleeve, all substantially as shown and described.

No. 31,030. Device for Measuring Cloth in Rolls. (*Appareil pour mesurer les draps en rouleaux.*)

Thomas Guilfoyle, Collingwood, Ont., 2nd April, 1889; 5 years.

Claim.—As an improved measuring device, a case A containing a roll of cord or tape B, and having a hollow projection C through which the cord or tape B passes as it is paid out around the roll of cloth, substantially as and for the purpose specified.

No. 31,031. Elevator Bucket.

(*Godet d'élevateur.*)

William G. Avery, Cleveland, Ohio, U.S., 2nd April, 1889; 5 years.

Claim.—An elevator-bucket consisting essentially of two parts, substantially valves, the meeting edges of which abut and are secured together by brazing or fusing, whereby the smoothness of the interior is preserved, substantially as set forth.

No. 31,032. Axle Bearing. (*Coussinet d'essieu.*)

Thomas Hayden, Port Hope, Ont., 3rd April, 1889; 5 years.

Claim.—The combination, with an axle A, of a sleeve B, caps D and F adjustably fitted onto the said axle, and forming a bearing for the hub C, substantially as and for the purpose specified.

No. 31,033. Art of Reflecting Pictures.

(*Art de réfléchir les images.*)

Charles E. O. Hager, Hagersville, Ont., 3rd April, 1889; 5 years.

Claim.—The process of enlarging a picture by a magnifying lense, which carries with it to the canvass every shade and color of the original picture, substantially as described.

No. 31,034. Sweat Pad Fastener.

(*Crochet de collier de cheval.*)

Ernest F. Pflueger, Akron, Ohio, U.S., 3rd April, 1889; 5 years.

Claim.—The pad, catch, or fastening having a body portion *g* provided with rivet-seats, and catch hooks or prongs having free or headed ends, in combination with a removable and adjustable C-spring having a series of apertures adapted to engage said catch hooks or prongs, substantially as specified.

No. 31,035. Car Axle Box. (*Boîte à graisse.*)

William E. Heffner, Huntingdon, Penn., U.S., 3rd April, 1889; 5 years.

Claim.—The combination, with the axle-box formed on its inner face with the cam surfaces, and with the top K between said surfaces, and having a notch *f*, of the cover, the cross-bar on the inner face thereof, and forming the lugs *h* and *i*, the inclined lug *g* on the outer face of the box, and the spring *b* on the outer face of the cover engaging the lug *g*, substantially as shown and described.

No. 31,036. Load-Lifting Sling Catch.

(*Crochet d'lingue de charge.*)

John W. Provan, Oshawa, Ont., 3rd April, 1889; 5 years.

Claim.—In a load-lifting sling, a clevis having a tongue pivoted in its mouth, the said tongue being provided with a hooked tail to receive the closed end of the sling, in combination with a chain fixed at one end to the releasing hook, and passed through the clevis, substantially as and for the purpose specified.