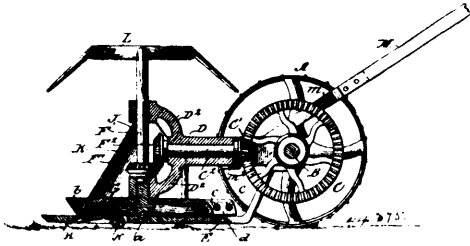
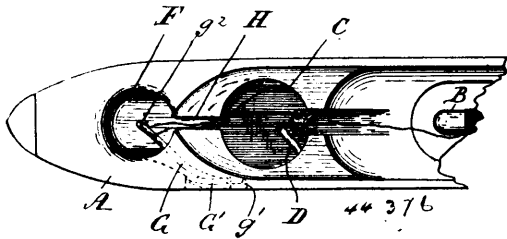


bevel gear C¹ at its rear end, and bevel gear F² at its front end, and the vertical cutter shaft F, arranged in the arms D², the finger



bar plate, and rods I, connecting the same to the horizontal arms D¹, substantially as shown and described. 2nd. The means for adjusting the revolving cutter and subjacent finger bar plate in relation to each other, consisting of the frame arms D¹, D¹, rods I, connecting the same to the finger bar plate, and having nuts f, f¹, on opposite sides of the arms at the upper ends of the rods, the yoke-shaped frame E, with finger bar plate, the revolving cutter shaft and set screw a, tapped through the finger bar plate and forming the step bearing for the cutter shaft, substantially as shown and described. 3rd. The combination with the finger bar plate, of the roller N, lever arm N¹, carrying the same, each having fulcrum bearing n, with adjusting screws n¹, n², on opposite sides of it, substantially as shown and described.

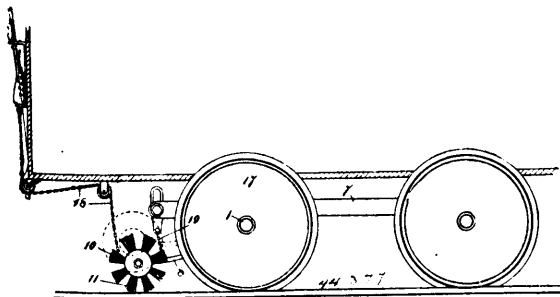
✓ **No. 44,376. Self-Threading Shuttle for Looms.**
(*Navette de métier renvideuse automatique.*)



Joseph H. Nason, Somerville, and Henry M. Hewes, Boston, both in Massachusetts, U.S.A., 3rd October, 1893; 6 years.

Claim.—1st. In combination, shuttle body A, perforated at F, and recessed at F, and a spiral of wire forming an eye, and lining perforation E, with an upwardly bent portion thereof extending into said recess F, in the shuttle body, and constituting the guiding pin, and a bent portion to secure the spiral to the shuttle body, substantially as described. 2nd. A shuttle body having a recess C, eye E, space F, and slot H, in combination with the feeding pin g², leading to the shuttle eye, all substantially as described.

✓ **No. 44,377. Street Rail Cleaning Brush.**
(*Brosse pour nettoyer les rails de rues.*)

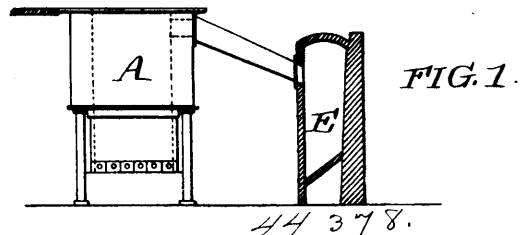


James A. Gowans, Toronto, Ontario, Canada, 3rd October, 1893; 6 years.

Claim.—1st. In a street rail cleaning brush, the combination of the supplemental frame pivotally connected to the car, a spindle journaled in said supplemental frame in advance of the car axle, a rotatable brush mounted on said spindle at each end thereof, a sprocket-wheel mounted on said spindle intermediate said brushes and adapted to rotate therewith, a sleeve encircling the car axle and

sliding there along, a sprocket-wheel mounted on said sleeve, a clutch rigidly secured to said axle and rotating therewith, said clutch adapted to engage with the clutched end of the said sleeve, a bar connected to the supplemental frame, a forked lever pivotally connected to said bar, the forked end of said lever engaging with the hub of the sprocket-wheel mounted on the sleeve, a spring connected to the said lever, said spring and lever when in their normal positions adapted to throw the clutched end of the sleeve into engagement with the said clutch, a sprocket chain passing over the said sprocket-wheel and adapted to transmit motion from the sprocket wheel on the car axle to the sprocket-wheel on the brush spindle, substantially as described. 2nd. In a street cleaning brush, the combination of the supplemental frame pivotally connected to the car, a spindle journaled in said supplemental frame in advance of the car axle, a rotatable brush mounted on said spindle at each end thereof, a sprocket-wheel mounted on said spindle intermediate said brushes and adapted to rotate therewith, a sleeve encircling said car axle and sliding there along, a sprocket-wheel mounted on said sleeve, a clutch rigidly secured to said axle and rotating therewith, said clutch adapted to engage with the clutched end of the said sleeve, a bar connected to the supplemental frame, a forked lever pivotally connected to said bar, the forked end of said lever engaging with the hub of the sprocket-wheel mounted on the sleeve, a spring connected to the said lever, said spring and lever when in their normal positions adapted to throw the clutched end of the sleeve into engagement with the said clutch, a sprocket chain passing over the said sprocket-wheel and adapted to transmit motion from the sprocket wheel on the car axle to the sprocket wheel on the brush spindle, a bracket pivotally secured to each of the said side bars between the car axle and the brush spindle, a spindle mounted in said brackets and wheels mounted on said spindle and adapted to travel along the rail in advance of the car wheel, a slot formed in each of said brackets and a pin secured to the side bars of the supplemental frame projecting through said slot allowing the said bracket a vertical movement, substantially as described. 3rd. In a street rail cleaning brush, the combination of the supplemental frame pivotally connected to the car, a spindle journaled in said supplemental frame in advance of the car axle, a rotatable brush mounted on said spindle at each end thereof, a sprocket wheel mounted on said spindle intermediate said brushes and adapted to rotate therewith, a sleeve encircling the car axle and sliding there along, a sprocket-wheel mounted on said sleeve, a clutch rigidly secured to said car axle and rotating therewith, said clutch adapted to engage with the clutched end of the said sleeve, a bar connected to the supplemental frame, a forked lever pivotally connected to said bar, the forked end of said lever engaging with the hub of the sprocket wheel mounted on the sleeve, a spring connected to the said lever, said spring and lever when in their normal positions adapted to throw the clutched end of the sleeve into engagement with the said clutch, a sprocket chain passing over the said sprocket-wheel and adapted to transmit motion from the sprocket wheel on the car axle to the sprocket-wheel on the brush spindle, a bracket pivotally secured to several of the said side bars between the car axle and the brush spindle, a spindle mounted in said brackets, wheels mounted on said spindle and adapted to travel along the rail in advance of the car, a slot formed in each of said brackets and a pin secured to the side bars of the supplemental frame projecting through said slot, allowing said brackets a vertical movement, and a chain connected to the said supplemental frame and passing up the side of the dash-board, substantially as described.

No. 44,378. Method of and Apparatus for Saving Fumes of Lead Sulphide. (*Méthode et appareil pour ménager les fumées de sulfure de plomb.*)



Eayre O. Bartlett, Joplin, Missouri, U.S.A., 4th October, 1893; 6 years.

Claim.—1st. The combination of two or more lead smelting furnaces of the high cupola shaft type with a common system of cool-flues for conducting the gases and fumes therefrom, and a series of fabric screens situated at the end of said flues for separating the fumes from the gaseous constituents of the furnace smoke. 2nd. The method of saving the fumes of lead sulphide driven off in reducing lead ores in high cupola shaft furnaces, which consists in drawing the smoke and fume from a series of such stack furnaces so operating into a common system of cooling flues, and through said flues, to a series of fabric screens whereby said lead sulphide fume is separated unaltered from the furnace gases.