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## INVENTIONS PATENTED.

No. 11,659. Improvements on Back Stay for Shoes. (Perfectionnements aux renforts des souliers.)
Charles E. Whittlesey and Samuel A. Stevens, New Haven, Ct., U. S. 19th August, 1880; for 5 years.
Claim.-A beel slay shaped from leather or other suitable flexible material and adapted for attachnent to the inside of the finished shoe.
No. 11,660. Improvements on Chromatic Printing Machines. (Perfectionnements aux machines à imprimer en couleur.)
George M. Wright, Philadelphia, Pa., U. S., 19th August, 1880; for 5 years.
Claim.-1st. The platen $D$, in combination with the double crank shaft G, cross beads $F$ and yokes $E$. 2nd. The platen $D$, in combination with the yokes E, provided with stems H , and the base $a$. 3rd. The platen D , in combination with the weighted levers V , pivoted to the base $a$ and bearing against the stems H . 4tb. The inking rollers J and guided boxes or bearings Jx , in combination with the jointed arms $K$, rook shaft $L$, arm $M_{\mathrm{I}}$ nd cam M. 5tb. The vibrating rollers $S$, in combination with the hinged bar T, consisting of two or more pieces hinged together, and each hinged to the frame A and provioed with ears $m$. 6th. The cylinders $N N_{1} N_{\text {Nu }}$, the in-
 ${ }^{\text {stop or throw off } Z \text {, in combination with the elbow lever } X \text {. which earries }}$ the pawl of the feed ratchet. 8th. The ratchet $W$, pawl $W_{x}$, elbow lever $X$, screw or throw off $Z$, and $t$ lescopic piece $Y$, in combination with the feed rollers. 9th. The combination with the feed rollers, of the telescopic piece Y , spring $t$ and adjusting nut $t_{\mathrm{r}}$.
No. 11,661. Improvements on Bolt Fasten-
ings. (Perfectionnements aux arretc-boulons.)
Edward Leslie, Orangeville, Oat., 21st August, 1880; (Extension of Patent No. 11,004.)

No. 11,662. Improvements on Bolt Fastenings. (Perfectionnement aux arrête-boulons.)
Edward Leslie, Orangeville, Ont., 23rd August, 1880; (Extension of Patent No. 11,004.)
No. 11,663. Governor for Horse Power. (fouverneur de manég..)
Josiah D. Heebner, Marritonville, and Anthony H. Seipt, Skippack ville, Pa., U. S., 24th August, 1880; (Extension of Patent No. 5,119.)
No. 11,664. Governor for Horse Power. (Gouverneur de manége.)
Josiah D. Heebner, Marttonvtle, and Anthouy H. Seipt, Skippack ville. Pa., U. S., 25th August, 1880; (Extension of Patent No. 5,119.)
No. 11,665. Improvements on Car Links. (Per. fectionnements aux chainons des chars.)
Allen Middleton, Philadelphia, Pa., U. S., 26th August, 1880; for 5 years.
Claim. A weldless link of steel, the ends of which are re-enforced in thickness and in which the grain of the metal is straight throughout.

No. 11,666. Improvements on Boat Sliding Seats. (Perfectionnements aux sieges des bateaux en coulisse.)
Octavius L. Hicks, Etobicoke, Ont., 26th August, 1880; tor 5 years.
Claim. -The combination of the rollers or wheels $G G$, which may be loose or fixed on their axis, concave or convex on their surface, or flyed in such a manner as to carry the seat on their circumference and run on the tracks B B.

No. 11,667. Improvements on Rollers for Printing, Dyeing, Embossing and other like purposes. (Perfectionnements aux rouleauc pour imprimer, teindre, bosseler et autres fins semblables.)
Joseph J. Sachs, Manchester, Eng., 20th August, 1880; for 5 years.
Claim.-Castiog Spence's metal, or other metal or composition of a like nature, in a tube of copper, brass or other suitable material.

No. 11,668. Improvements on Machines for Grinding and Reducing Grain and other Materials. (Perfectionnements aux machines à triturer et réduire le grain et autres objets.)
John Stevens, Neenah, Wis., U. S., 26 th August, 1880 ; for 5 years.
Claim.-1st. A grinding mill or cylinder taving a dress composed of a series of founded ribs with the advancing sides of easy bevel, and the retreatiog sides of sbarper bevel. 2nd. A grioding concave having a dreas composed of a series of rounded ribs, with the sides opposed to the revolu. tion of the cylinder of easy bevel and the other sides of sharper bevel.. 3rd. In a grinding mill, the combination of a cylinder having a dress composed of a series of parallel rounded ribs with a concave baving a dress composed of a series of parallel rounded ribs of easy bevel, on the sides opposed to the revolution of the concave and of sharper bevel on the other sides. 4 th. The combination of a cylinder having a dress composed of a series of rounded ribs of which the advancing sides are of easy bevel and the retreating sides of sharper bevel, with a concave having a similar dress applied reversely to that upon the cylinder, so that oorresponding faces of the ribs may meet. 5th. The concave journalled in sliding blocks, in combination with the rearWardly extending lever rigid therewith, and the adjusting sorew working in such lever. 6th. Tbe concave journalled in sliding blocks, in combination with the rearwardly extending lever rigid therewith, and an adjusting serew working in or against such lever and taking into aswivel block on the frame. 7th. The combination, with the concave mounted in sliding blocks, of tha adjusting screws for determining its maximum of retrest from the cylinder, and the springs for holding it against such cylinder. 8th. The combination, with the concave mounted in sliding blocks, of the adjusting screws for determining its maximum of retreat from the cylinder, springs for holding it aguinst the cylinder and means for adjusting the stress of such springs without affecting the adjustment of the screws. 9th. The combination, with the concave mounted in sliding blocks, of the adjasting serews for determining its maximnm of retreat from the cylinder, springs for bolding it against the cylinder coiled about such adjusting sorews and nuts upon the screws to adjust the stress of the springs. 10th. The combination with the concave mounted in sliding blocks, of adjusting screws having their heads at the exterior of the machine passing through the frame and threaded into such blucks, and bearing agaizst the pillow-blocks of the cylinder, to deter. mine the minimum of distance between said cylinder and concave. 11th. The combination of the concave mounted in sliding blocks, of springs to press against the oylinder and adjusting sorews having their heads at the exterior of the machine passing throngh the frame and threaded into pillow blocks, of the concave and bearing against the pillow blocks, of the cylinder to determine the limit of approach of said concave to the cylinder. 12th. The combination, with the sliding blocks in which the concave is monnted, of springs to press it againat the cylinder, adjusting devices to determine its maximum of retreat from asid cylinder and adjusting devices to determine the minimum of distance between the two. 13th. The combination of the concave, the adjusting screws $E$ to determine its maximum by retreat from the cylinder, and the adjusting sorews $F$ passing axially through the former threaded into the sliding blocks of the latter and bearing against the pillow blocks of the oylinder, to determine the minimam of distance between the

