

as described. 17th. The combination, with a socket or shank folding device, of a mandrel hinged to a pivoted bar and provided with an articulated extension, substantially as described. 18th. The shank or socket folder G, composed of two portions  $\sigma_1, \sigma_2$  having a hinged connection, and provided with knuckles  $\sigma_2, \sigma_3$  of uniform or varying size, substantially as described. 19th. The combination, with the folder G, of the mandrel F hinged to a pivoted bar E, and provided with an articulated extension f, substantially as described. 20th. The combination of the folder G, the pivoted bar E having lug  $\alpha$  and the mandrel F hinged to said bar, substantially as described. 21st. The combination of the folder G, trunnioned plate I, slide frame H, sliding former K and mandrel F. 22nd. The combination, with the trunnioned plate I and slide frame H, of the sliding former K, cross-bar L carrying rollers  $\rho, \rho$ , and the cam-ways  $h, h$ , said camways being each formed of two curves, one of which is concentric with the point on which the trunnioned plate and slide frame swing, the other curve being eccentric to said point, whereby the sliding former, while swinging with the slide frame is withdrawn and returned at the proper time, substantially as described. 23th. The combination, with the trunnioned plate I, plate and slide frame H, of the springs  $l, l$ , substantially as described. 24th. The combination, with the trunnioned plate I and the folder G, of the connecting rods  $m, m$ , bell cranks M, M, toggles O, O, and connections N, N, substantially as described. 25th. The combination, with the folder G, pivoted bar E and mandrel F having articulated extension f, of the slide b carrying plunger c, the bell crank D and the rod  $d$ , substantially as described. 26th. The folder G composed of two corresponding leaves, provided with joints or knuckles  $\rho_2, \rho_2$  journalled on a rod or hinge pin  $o$  having a tight collar  $\rho_3$ , arranged to form one of the knuckles of said folder, substantially as described. 27th. The combination, with the slide frame H, sliding former K and folder G, of the trunnioned plate I having guides  $\alpha, \alpha$  and pins  $\delta, \delta$ , substantially as described. 28th. The combination, with the trunnioned plate I and folder G, of the rods  $m, m$ , toggles O, O, bell cranks M, M having swivelled ends  $n, n$ , and the jointed connections N, N, substantially as described. 29th. The combination of the trunnioned plate I, and slide frame H, pivoted on a common centre, the sliding former K adapted to swing with the trunnioned plate and slide frame, and having a cross bar L carrying rollers  $\rho, \rho$  engaging in cam-ways  $h, h$ , the mandrel F hinged to a pivoted bar E, the folder G adapted to close around said mandrel, means for connecting the trunnioned plate I and folder G, and means by which to actuate the trunnioned plate and slide-frame, substantially as described. 30th. The herein described method of forming a hoe with blade and socket from a single blank at one operation, consisting in folding the socket portion of the blank around a mandrel and simultaneously folding or bending over the blade to meet its socket at the proper angle, substantially as described. 31st. A hoe having its blade and socket formed from a single blank at one operation, substantially as described.

### No. 20,475. Combined Chuck and Socket.

(Mandrin et Chaise de Tour Combinés.)

Simon P. Graham and James L. Blain, London, Ont., 3rd November 1884; 5 years.

Claim.—1st. The jaws D, D of the clutch, provided with two or more inclined flanges G, G, on each jaw, substantially as shown and described and for the purpose specified. 2nd. The slides C, C, provided with two or more inclined flanges G, G on each slide, substantially as shown and described and for the purpose set forth. 3rd. The jaws D, D, provided with two or more inclined flanges G, G, on each jaw, in combination with slides C, C, provided with two or more inclined flanges G, G, in each slide, substantially as shown and described and for the purpose specified. 4th. The parallel sleeve B, provided with a screw-thread extending throughout the whole of its inner face, and an inward flange I, substantially as shown and described and for the purpose specified. 5th. The combination of the parallel sleeve B, provided with a screw-thread on its inner face, with the slide D, provided with a screw-thread on its outer face directly over the grip of the jaw on the drill, substantially as described. 6th. A chuck, combined with a tapered socket F, substantially as shown and described and for the purposes specified.

### No. 20,476. Oscillating Spring Chair.

(Fauteuil à Ressort Bascule.)

Henry R. Willis, Woodstock, Ont. (assignee of Ezra E. Fisher, West Brattleborough, Vt., U.S.), 3rd November, 1884; 5 years.

Claim.—1st. As an article of manufacture, a spring composed of the elastic elliptical strip  $\alpha$  adapted to be attached to a base or foundation, and the rigid portion  $\alpha_1$  having the raised central portion 1 and offsets 2, 2, and adapted to be attached to a seat, as set forth. 2nd. The spring A, composed of the elastic elliptical strip  $\alpha$ , and the rigid portion  $\alpha_1$  having the raised central portion 1 and offsets 2, 2, combined with the seat S, as set forth. 3rd. The plate P, having downwardly projecting lugs  $p$ , combined with the bolt  $s$ , packing B, spring A and foundation frame F, as set forth. 4th. The combination of the springs A, constructed as described, the seat  $s$ , the plates P, jamb C and the foundation frame F, all arranged and operating substantially as set forth.

### No. 20,477. Electric Cable. (Câble Electrique.)

Thomas G. Turner, New York, N.Y., U.S., 3rd November, 1884; 5 years.

Claim.—1st. In a cable, the combination of the flexible core, a group of insulated conductors surrounding said core (one of which is an indicator), and an armor having a longitudinal seam substantially as set forth. 2nd. In a cable, the combination of the flexible core, a spirally disposed group of insulated conductors surrounding said core (one of which is an indicator) and an armor having a longitudinal seam, substantially as set forth. 3rd. In a cable, the combination of the perforated tubular core, a group of insulated conductors surrounding said core, an armor enclosing said conductors, and metallic binders arranged at intervals and connecting the core with the armor,

substantially as set forth. 4th. In a cable, the combination of the tubular core, a spirally-disposed group of insulated conductors surrounding said core (one of which is an indicator), and an armor consisting of a ribbon of metal folded around said conductors and having its longitudinal edges united by solder, substantially as set forth. 5th. In a cable, the combination of the tubular core, a spirally-disposed group of insulated conductors surrounding said core (one of which is an indicator) and an armor consisting of a ribbon of metal folded around the conductors, and having the outwardly projecting surplus of metal at its edges united by solder interposed between them, substantially as set forth. 6th. The improvement in the art of forming continuous cables, which consists in feeding a group of insulated conductors (one of which is an indicator), each having a separate spool, spirally upon a core, splicing the individual conductors at the respective spools become exhausted, folding a ribbon longitudinally upon the conductors as they are laid upon the core, and uniting the meeting edges of the ribbon by solder to form a longitudinal seam, substantially as set forth.

### No. 20,478. Tuck Marker. (Traceur des Francis.)

Joseph S. Sackett, Wallingford, Ct., U.S., 3rd November, 1884; 5 years.

Claim.—1st. In a tuck marker, the combination of the tubular shaft B having an arm L to extend into connection with the mechanism of the sewing machine, whereby a rocking movement will be imparted to the shaft, the leading screw C arranged longitudinally within said shaft, the corresponding screw-threaded slide E also within said shaft, the arm F arranged upon said shaft in connection with the slide E, the slide G carrying the arm I and in connection with the screw C, said arms F and I carrying the creasing mechanism, substantially as described. 2nd. In combination with a tuck marking attachment for sewing machines, the shoe P arranged for attachment to the lower creaser arm, substantially as and for the purpose described. 3rd. In a tuck marker, the combination of the tubular shaft B having an arm L to extend into connection with the mechanism of the sewing machine, whereby a rocking movement will be imparted to the shaft, the leading screw C arranged longitudinally within said shaft, the corresponding screw-threaded slide E also within said shaft, the arm F arranged upon said shaft in connection with the slide E, the slide G carrying the arm I and in connection with the screw C, said arms F and I carrying the creasing mechanism and the guide R with the leading screw T, substantially as and for the purpose specified.

### No. 20,479. Seal Lock for Car Doors.

(Serrure Scellée pour Portes de Chars.)

Joseph M. Edgar, Argentine, Ks. U.S., 3rd November, 1884; 5 years.

Claim.—1st. A sealing device for car doors, adapted to receive a seal on a hook or hooks, and having the engaging end of said hook inserted into and concealed in a suitable aperture in the door, said hook being automatically fastened inside the door, substantially as and for the purposes specified. 2nd. A seal lock for car doors, consisting of a bolt provided with a hook upon one end, and a keeper upon its opposite end, and a self-acting engaging device concealed within the door and engaging with said keeper, as and for the purpose specified. 3rd. A seal lock for a car, consisting of a bolt provided with a hook upon one end, and a keeper upon its opposite end, and a self-acting engaging device concealed within the door, and engaging with said keeper, for the purpose specified. 4th. The combination, with the door of a car having suitable perforations, of a seal bolt having a hook upon one end and a keeper upon its opposite end, and a seal plate adapted to receive and retain said seal bolt, of a spring bolt arranged within said door to engage with said keeper, for the purpose specified. 5th. The combination, with the door of a car having suitable perforations and countersunk, as described, of a spring bolt adapted to be operated, as shown and described. 6th. The combination, with a car door having suitable perforations, of the seal bolt provided with a hook and keeper, as described, a seal plate adapted to permit the entrance of said seal bolt, a spring bolt concealed within the door and a hasp, as and for the purpose specified.

### No. 20,480. Fog Alarm. (Sifflet de Brume.)

The Neptune Fog Horn Company, Quebec, (assignee of Noah S. Woodward, Sherbrooke, Que., 3rd November, 1884; 10 years.

Claim.—1st. In a fog-horn apparatus, the combination, of a steam generator, a steam cylinder, and an air cylinder having in them pistons which are raised by the force of steam admitted to the underside of the piston of the steam cylinder, and which fall by their own gravity, substantially as described. 2nd. In a fog-horn apparatus, the combination, of the steam cylinder B, air cylinder B<sub>1</sub>, rods E, E<sub>1</sub> and an automatically-operating valve mechanism consisting of a lever G, disk D, arm C and rod A, the parts being arranged to operate substantially as and for the purpose set forth. 3rd. In a fog-horn apparatus, the combination, of the rods E, E<sub>1</sub> operated by pistons of the cylinders B and B<sub>1</sub> and the valve operating lever G, when constructed and operating substantially as set forth. 4th. In a fog-horn apparatus, the combination, of the steam-induction pipe A, induction valve A<sub>3</sub>, arm C and educting valve C<sub>5</sub>, the parts being arranged with reference to each other, substantially as set forth. 5th. In combination, with the eduction pipe, of a fog-horn apparatus, and eduction valve for allowing the steam to pass from the cylinder, and a cock or valve for regulating the passage of steam in such a manner as to control the downward movement of the pistons in the cylinders thereof, substantially as set forth. 6th. In a fog-horn apparatus, the combination, of the cylinders B and B<sub>1</sub> and their respective pistons, whereby they are arranged with reference to each other, as described, whereby the piston of the air cylinder is made to force air through a trumpet or horn provided with a suitable vibrating reed and thus cause an intermittent alarm to be given, and whereby the piston of the steam cylinder is made to move the induction valve into its open position, and the piston of the air chamber is made to close the same, substantially as described.