

opener K having its forward end pointed, inclined downwardly and curved tangentially to the circular path of the needles, combined with the cone E carrying the upper needles, and the thread guide *g*. 4th. The double latch opener K<sup>1</sup> carried by thread guide *g*, combined with the needle cylinder B and lower needles. 5th. The fender K formed with eye *a*, and the thread guide *g* combined together in a machine having an upper and lower set of needles for use with two threads, in the manner specified. 6th. The adjustable stitch cam *n* and plate *m* having projection *q* attached within the revolving conical sleeve F, in combination with the cone E carrying the upper set of needles. 7th. The triangular stitch cam *n* attached to the sleeve F by set screw *p* and having its point extending into a slot *n*<sup>1</sup> formed in the rib *l* of the sleeve. 8th. The central cam S, wing cams *u* connected with the centre cam, to form a continuous support for the needles, and adjustable stitch cams *t*, combined together and attached with the revolving cylinder C having rib *r* for operation of the lower needles. 9th. The pivoted gate *v*, formed with projection *v*<sup>1</sup>, combined with the cams *t* *u* and rib *z* of the cam cylinder C.

### No. 11,879. Improvements on Wire Fences.

(*Perfectionnements aux clôtures métalliques.*)

John Westgarth, Warrington, Eng., 15th October, 1880; for 5 years.  
*Claim.*—1st. A drawn or rolled wire, figure 1. 2nd. A drawn or rolled wire of section, figure 1, slotted or pierced with holes *a*, figure 2. 3rd. A barbed wire fencing, figures 5 and 6. 4th. A coupled barbed wire fencing, figure 7.

### No. 11,880. Improvements on Wheeled Vehicle Brakes.

(*Perfectionnements aux freins des voitures à roues.*)

Watson P. Widdefield, Siloam, Ont., 15th October, 1880; (Extension of Patent No. 5,290.)

### No. 11,881. Apparatus for Setting and Distributing Type.

(*Appareil pour composer et distribuer les caractères.*)

Frederick Wicks, Glasgow, Scotland, 19th October, 1880; for 5 years.  
*Claim.*—1st. The combination of the galley A, gauge plate *h*, ejector *b*, race C, doors *d*, operating rods and keys E and receiving grooves *c*. 2nd. In the modification with reference to figure 13, 14 and 16 of the drawings, the combination, with the race C and doors *d* opening from the side, to form combinations, of the main race with the grooves *c* of the wheels L, for delivering the distributed types upon their feet. 3rd. In the modification for delivering the types upon their sides, the combination with the race C, doors *d* opening from the side of grooves *c* inclined downwardly and then continued horizontally as shown. 4th. The combination of the gauge plate *h* and ejector *b*, and mechanism for operating them to eject the types by contact with their sides, or by contact with their foot. 5th. The combination of the galley A and the main race C in the relative positions described. 6th. The guides or doors *d*, in combination with the main race C and branch grooves or guides *c*, the said doors *d* forming, when closed the bottom of the straight race C and, when opened, forming guides for diverging the types from the main race C to the branch grooves *c*. 7th. The combination of the lever, or picker *p*. 8th. The combination of the wheel L (whether formed singly or in a series) having thereon projections solid therewith, also the construction of the said wheels and the parts at the commencement of the type guides through which they pass in plates or disk. 9th. The arrangement or construction of the branch grooves or guides *c* for diverging the types from the main race C to the said grooves or guides, curving the said grooves or guides *c* at their junction with the main race C as shown at *c*<sub>1</sub> in figures 9 and 10. 10th. The arrangement and combination of parts constituting the machine for composing or setting up type consisting in the combination of the type holder R and ejectors S with a race Q and wheel T. 11th. The arrangement of the race Q and the type holders R in relation to each other, the type holders R being at the side or sides of the race Q. 12th. The combination of a straight inclosed race Q down which the types descend to the part of the machine when they are set on end, whether the said race be formed with one, two or more grooves therein. 13th. The relative arrangement of the grooves *q* *q*<sup>1</sup> of the race, whereby the said grooves are led into one outlet. 14th. The combination with the wheel T for placing the types on their heels and moving them forward, a wheel having, formed solid therewith, projections for receiving the said type, whether the said wheels be constructed or formed in one, or whether the said wheels and the end of the type guides through which the said projections pass be formed of plates or disks with filling pieces between. 15th. The combination, with combination keys, consisting of a bar S<sub>1</sub> which is depressed by one stud S<sub>2</sub> and is provided with two or more projections S<sub>3</sub>, for causing the simultaneous ejections of two or more types. 16th. The combination, with and use in the groove or grooves of the race Q, of the brakes *w* for preventing the turning of the types in the said groove or grooves. 17th. The type spaces, that is to say: space constructed with openings or cut away parts to allow of the compression of the said spaces. 18th. The combination, with the galley Y, of the lever Z and bar *z* for compressing the spaces.

### No. 11,882. Improvements in Electric Lighting.

(*Perfectionnements dans l'éclairage électrique.*)

James E. H. Gordon, London, Eng., 19th October, 1880; for 15 years.  
*Claim.*—1st. In the production of electric light by means of a combined apparatus consisting of a magneto-electric or dynamo-electric machine, an induction coil or coils, and a lamp containing lumps of refractory metal, carried on thin stems, and heated by the discharge in the secondary circuit or circuits. 2nd. The use, in combination, for the production of electric light, of a magneto-electric or dynamo-electric machine, and a lamp containing lumps of refractory metal carried upon thin stems. 3rd. The use, in combination, for the production of electric light, of apparatus yielding an alternating electric current of high intensity and with rapid and sharp reversals, and a lamp containing lumps of refractory metal carried upon thin stems.

### No. 11,883. Improvements in Gate Latches.

(*Perfectionnements aux loquets des barrières.*)

Robert Standing, Boston Mills, Ont., 19th October, 1880; for 5 years.  
*Claim.*—1st. In combination with a gate, the latch A hinged by bolt *b* and provided with lips *aa*. 2nd. The catch B formed with inclined edges and notches *j*, and stop E. 3rd. The combination of the hinged latch A, inclined edged catch B, stop E, and plate *d*.

### No. 11,884. Improvements in Electric Lighting.

(*Perfectionnements dans l'éclairage électrique.*)

Charles W. Harrison, London, Eng., 19th October, 1880; for 5 years.  
*Claim.*—1st. The manufacture of electrodes or burners. 2nd. The current regulator. 3rd. In lamps for electric lighting in which the electrodes are fed towards one another, the combination of break wheel J and drums K, L. 4th. The combination, in similar lamps, of magnetic needle V, break block W and break wheel J.

### No. 11,885. Apparatus and Process for Tempering and Straightening Saws Without Hammering.

(*Appareil et procédé de trempage et dressage des scies sans martelage.*)

Roswell H. Smith, St. Catharines, Ont., (Assignee of George F. Symonds Fitchburg, Mass., U.S.), 19th October, 1880; (Extension of Patent No. 5,288).

### No. 11,886. Improvements on Apparatus for Feeding Nail Machines.

(*Perfectionnements aux appareils à alimenter les machines à clou.*)

William Briggs, Montreal, Que., 19th October, 1880; (Extension of Patent No. 10,741).

### No. 11,887. Improvements on Apparatus for Feeding Nail Machines.

(*Perfectionnements aux appareils à alimenter les machines à clou.*)

William Briggs, Montreal, Que., 20th October, 1880; (Extension of Patent No. 10,741).

### No. 11,888. Improvements in Iron Box Piles for the manufacture of Nail Plate Iron.

(*Perfectionnements aux paquets de fer pour la fabrication des plaques de fer à clou.*)

Thomas Miller, Portland, N.B., 20th October, 1880; for 5 years.  
*Claim.*—Making an iron box pile, to be used in the manufacture of nail plate iron, from one piece of angle iron, and that the same so constructed will manufacture at one heat about 30 per cent. more material than any box pile now in use.

### No. 11,889. Improvements on the Production of Light and Heat.

(*Perfectionnements dans la production de la lumière et de la chaleur.*)

Quentin L. Brin, London, Eng., 28th October, 1880; for 5 years.  
*Claim.*—1st. The use or employment of a current or currents of oxygen projected or carried to carbon sticks known as electric candles or sticks, or other bodies of or containing a carbonaceous solid or liquid material or composition, and by igniting the said oxygen when in contact with the carbon material, the production of light and heat by the combination of the oxygen or carbon. 2nd. The apparatus described and illustrated with reference to all the figures of the drawings.

### No. 11,890. Improvements on Grinding Mills.

(*Perfectionnements aux Moulins à triturer.*)

John Rae, New York, U.S., 20th October, 1880; for 5 years.  
*Claim.*—1st. In combination with suitable means for supplying and receiving the material, the disks or wheels B C turning towards each other and mounted in skewed positions, so that the upper portion of the adjacent surfaces B<sup>1</sup> C<sup>1</sup> shall be wider apart than the lower portion with provisions for adjusting the distances at will. 2nd. In combination with the disks B C turning toward each other and mounted in skewed positions, the yielding bearing G held to its work by one or more springs I with adjusting means H adapted to allow the separation of the disks in emergencies. 3rd. The combination of the hopper A<sup>1</sup>, formed so as to extend down a little between the surfaces B<sup>1</sup> C<sup>1</sup>, in combination with the wheels B C mounted on axes which are out of parallel. 4th. The disks B C with slightly hollow conoidal faces and arranged in combination with the hopper A<sup>2</sup>, adjusting means D G H and yielding springs I.

### No. 11,891. Improvements on Churns.

(*Perfectionnements aux barattes.*)

Henry Calcutt, Ashburnham, Ont., 28th October, 1880, for 5 years.  
*Claim.*—The principle of constructing churns with corrugated metal sides, and their application, in assisting the dasher to break the butter of globules, and for oxidizing the milk in its flow over the corrugated surface.

### No. 11,892. Improvements on Draining Wells.

(*Perfectionnements aux puisards des égouts.*)

Théophile Gervais, Hochelaga, Que., 20th October, 1880; for 5 years.  
*Resumé.*—1°. La combinaison d'une citerne A avec une trappe E, le tout formant un puisard à travers lequel s'opère le passage des eaux des égouts