

tionary tubular die p_1 , and the reciprocating male cutting die n_2 , all constructed, arranged and adapted to cut away portions of the metal from each side of the wire, to shape the sides of the nail, and to sever the nail from the body of the wire. 4th. The combination of the cylindrical tubular die p_1 set in a cylindrical socket, and the wedge or key o fitted to and moveable in a bearing at right angles to the die p_1 , and adapted to clamp said die to its socket in any desired position. 5th. In combination with the adjustable dies H_1 , H_2 , each provided with the vertical slot o , the bifurcated plate o_2 projecting into said slots o , substantially as and for the purpose described. 6th. The combination of the die-block H , provided with the grooves m and n , the dies H_1 and H_2 fitted to said groove m , and the adjusting screws m_1 , m_2 , each provided with the collar a which projects into and engages with the grooves n , n_1 , substantially as described. 7th. The combination of the die-block H , the adjustable cutting dies H_1 , H_2 , each provided with the vertical slot o , the bifurcated plate o_2 , the tubular die p_1 , and the reciprocating male cutting die n_2 , all arranged and adapted to operate substantially as described. 8th. The combination of the die block H , provided with the nail driving passage o_4 , o_5 , the adjustable dies H_1 , H_2 , the tubular die p_1 , the plunger I carrying the male cutting die n , the duplex lever J_1 , J_2 , provided with the adjusting screw p_4 and the cam B_5 , all arranged and adapted to operate substantially as described. 9th. In a machine for cutting nails from wire and driving the same, the combination of a pair of feed rolls arranged to gripe the wire, a ratchet-wheel secured upon a feed roll shaft, a two-armed lever carrying at the free end of the arm, a pawl to engage with said ratchet wheel and mounted upon and moveable about said feed roll shaft, a second two-armed lever mounted upon and moveable about an axis outside of or eccentric to said feed shaft, and arranged to bear at one end upon the arm of the pawl lever opposite to the pawl, and a cam constructed and arranged to act upon the pawl lever to impart a partial revolution to the ratchet, its shaft, and feed roll, and then during the same revolution to act upon the second lever to move it about its pivot, and through it to move the pawl lever in a backward direction preparatory to the engagement of the pawls with another tooth of the ratchet wheel for a second feed, substantially as described. 10th. As a means of regulating the length of wire to be fed, the combination of a pair of feed-rolls, constructed and arranged to gripe the wire to be fed, a ratchet wheel secured upon a feed roll shaft, a two-armed lever mounted upon and moveable about said shaft, and carrying at one end a pawl to engage with said ratchet wheel, an arm provided with a laterally projecting stop lug, and also mounted upon and moveable about said shaft, a vertically moveable bar pivoted to the free end of said stop arm, a spring for moving said bar upward, and an adjustable cam stop for limiting and varying the upward movement of said bar, a two-armed lever pivoted to said bar, with one end in contact with the toe of the pawl lever, and a cam constructed and arranged to act alternately upon the pawl lever to feed the wire, and upon the last-mentioned two-armed lever, to move said pawl lever backward into contact with the stop lug, substantially as described. 11th. The combination of the feed rolls e_1 , e_2 , the feed shaft e_3 , the ratchet wheel p , the pawl lever p_1 , the pawl A , the bar F , the lever G pivoted to said bar F , the anti-friction rolls i_1 , and i_2 , the cam B_5 , the lever F , the rod F_2 , the treadle F_3 , the spring i , the stop cams k and k_1 , the shafts k_2 and k_3 , the radius arms l and l_1 , the locking bolts l_2 , l_3 , and two series of detent holes j arranged in arcs of circles about the axis of the shafts k_2 and k_3 , all constructed, arranged and adapted to operate substantially as and for the purpose described. 12th. In combination, with the yielding horn L and the stationary nose I , the lever K provided with the cam surface r_1 , and carrying at its front end the roll r , the lever J_1 , J_2 and the cam B_5 , all arranged and adapted to force the boot or shoe mounted upon the horn away from contact with the nose preparatory to feeding the boot or shoe to a position for feeding another nail. 13th. In a shoe-nailing machine, the combination of the gauge r_4 , provided with a transverse groove, the stationary cap K_2 and the adjusting and locking lever K_1 , all arranged and adapted to operate substantially as described. 14th. In a nail cutting and driving machine, the combination of a reciprocating die for cutting the nail from the wire, a reciprocating plunger and driver for driving the nail, a lever carrying a rotatable presser-roller for forcing the shoe sole away from the nose of the machine, a lever constructed and arranged to reciprocate the cutting die and vibrate the presser roll carrying lever, a reciprocating bar and suitable toggle links connecting the same with the nail-driving plunger, and a cylindrical path cam constructed and arranged to operate all of said devices, substantially as described. 15th. The horn L pivoted to the bracket L_1 , loosely mounted upon the rod L_2 , in combination with the locking bolt e_4 , constructed and adapted to secure said horn in an upright position, and permit its being turned down to a horizontal position, substantially as described. 16th. The combination, in a nail cutting and driving machine, of a work supporting horn mounted upon a pivoted frame, and a three-sided crank pin for imparting to said horn and frame an oscillating motion about its pivot and depressing said horn and rod, substantially as described for the purpose specified. 17th. The combination of the frame M , the rod L_2 , the spring L_4 , the horn L , the forked arm N pivoted to the rod L_2 , the three-sided crank-pin v , the adjustable stop screws w_2 , w_3 , and the revolving shaft o , all constructed, arranged and adapted to operate substantially as and for the purpose described. 18th. A work-supporting horn mounted upon a yielding support, having bearings in a pivoted frame, as set forth, in combination with mechanism, substantially as described, for imparting to said frame and horn a vertical and a lateral motion, substantially as and for the purposes described. 19th. In combination with a work-supporting horn mounted upon a yielding and vertically moveable rod, a friction clamping shoe arranged to press against the periphery of said rod to clamp it in any desired position, and mechanism constructed and arranged to intermittently reciprocate said shoe in a direction at right angles to the axis of said horn supporting rod. 20th. The combination of the frame M , mounted and moveable about a horizontal tubular pivot, the horn-supporting spindle L mounted in bearings on said frame, the spring L_4 , the friction clamping plunger i , i_2 mounted in said tubular pivot, and mechanism for imparting to said clamping plunger a reciprocating motion, substantially as

described. 21st. The combination of the horn L , the rod L_2 , the spring L_4 , the frame M mounted upon the fixed tubular pivot i , the clamping plunger i_2 , the toggle links o_4 , o_5 , the bar P and the cam P , all arranged and adapted to operate substantially as described. 22nd. The combination of the horn L , the supporting rod L_2 , the spring L_4 , the frame M , the pivot bolt i , the clamping plunger i_2 , the toggle links o_4 , o_5 , the lever o_6 , the adjusting screw v , the plunger w , the spring w_2 , the stop w , the cam P and the rod or bar P , all arranged and adapted to operate substantially as and for the purposes described. 23rd. In a machine for cutting nails from a continuous wire and driving the same, a reel or drum for carrying the coil of wire, having a detachable head secured in position by a threaded thumb-nut, and provided with a central oblong opening of a shape and size to permit the free passage of said thumb-nut through the same, when turned to a certain position and allow the wings of said nut to bear upon said head to clamp it to the drum when said nut is turned a quarter of a revolution or less from said other position, substantially as described. 24th. The combination with a nail-driving and severing mechanism, the driving shaft B , a recessed hub secured firmly upon said shaft, and provided with inner periphery with the circumferential groove w_3 , the stationary hub A_5 , provided with the eccentric surface w_6 , and the abutment m_7 and the ball x , all arranged and adapted to operate as and for the purposes described.

No. 26,014. Telephone Transmitter.

(*Transmetteur Téléphonique.*)

The Bell Telephone Company, Montreal, Que. (assignee of Ezra T. Gilliland, New York, N. Y., U. S.), 16th February, 1887; 6 years.

Claim.—1st. In a telephone transmitter, a horizontal diaphragm controlling the circuit varying medium, which is located thereon, combined with a downwardly-projecting tube or passage for directing the air waves thereon, having a plane side or wall upon which the air waves impinge and from which they are directly deflected to the diaphragm. 2nd. The combination, in a telephone transmitter, of a fixed horizontal diaphragm upon which the current varying medium rests, and a downwardly-projecting tube or passage, the interior wall of which remote from the operator is substantially as plane surface and is fixed at an angle with the diaphragm, whereby sound waves are deflected therefrom directly on said diaphragm. 3rd. The combination, in a telephone transmitter, of a fixed horizontal diaphragm for vibrating the current varying medium resting thereon, and a downwardly-projecting tube or passage elliptical in cross-section, the interior side or wall remote from the speaker, being substantially a plane surface. 4th. A telephone transmitter, supported at the free end of a ringed arm, adjustably with respect to its distance from a given point or object, combined with means such that the movement of the arm to vary the distance automatically preserves the relative position of the transmitter with respect to the given point of object unchanged. 5th. The combination of a telephone transmitter, pivoted upon the free end of a hinged arm, and a mechanical connection between the said transmitter, and a fixed support, whereby the movement of the transmitter to vary its distance from a stationary object automatically preserves the relative position thereof unchanged. 6th. The combination of a telephone transmitter, a hollow arm pivoted to said transmitter and to a fixed support, and a bar enclosed in said arm and independently pivoted to the transmitter and to the support, substantially as and for the purpose described. 7th. The combination of a telephone transmitter, a hollow hinged supporting arm therefor, pivoted at its face and to said transmitter, a mechanical connection enclosed in said arm and acting automatically to shift the transmitter and prevent its tilting when raised and lowered, and means for counteracting the weight of said transmitter and its supporting arm, substantially as described. 8th. A telephone transmitter, having a fixed horizontal diaphragm, upon which the current varying medium rests, a downwardly-projecting tube or passage through which the sound waves are directed upon the diaphragm, combined with a hinged arm, upon the free end of which the transmitter is pivoted, and a mechanical connection between the transmitter and a fixed support, whereby the movement of the transmitter to vary its distance from a fixed point automatically turns the transmitter on its pivot, so as to keep the diaphragm always in a horizontal position. 9th. The combination, in a telephone, of two or more parts or elements, each element having one or more electrical contact points, springs, or projections registering with and adapted to form contact with an equal number of electrical contact points, springs, or projections upon the other, for the purpose of facilitating interchangeability of parts. 11th. The combination, in a telephone transmitter, of an enclosing ring of insulating material, a perforated screw-threaded ring for clamping the diaphragm thereto, a mass of pulled divided conducting material confined within the ring, an insulated screw post in electrical contact with the diaphragm, and connected to one pole of the battery by a flexible insulated conductor, and a cap or cover for the said enclosing ring electrically connected through a metallic supporting arm with the other pole of the battery.

No. 26,015. Shield for Street Car Drivers.

(*Abat-Vent pour Conducteurs de Chars Urbains.*)

John E. Gardner and Benjamin Sutton, Hamilton, Ont., 16th February, 1887; 5 years.

Claim.—In a shield for protecting street car drivers from storms and severe weather, the combination of a semicircular shield or protector B , made of the most suitable material and having a sloping overhanging roof of sheet metal attached to roof of platform of car, and with the sloping lower part B also of sheet metal and provided internally with fuge c , for the purpose of securing the same to dashboard, the windows c , as shown, the elongated aperture D for the reins, and a street railway car A , substantially as and for the purpose hereinbefore set forth.