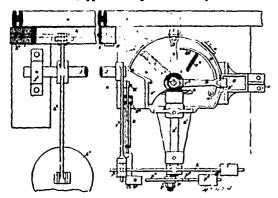
the paper shifter has moved sufficiently the same being operated automatically by the paper shifting mechanism at its extreme point of movement, substantially as described.

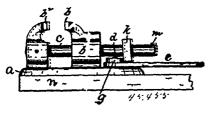
## No. 45,454. Fog Nignal Apparatus. (Appareil de signal de brume.)



John George Dixon, 98 Norman Road, Birkly, County of York, England, 3rd March, 1894; 6 years.

Claim.—Ist. A fog signal apparatus, having a detonator feeding-arm which can oscillate between the rail and a magazine, said arm being controlled by balance weights and by an inclined bar adapted to be depressed by the wheel of a passing engine or train, for the purpose specified. 2nd. In such apparatus, so providing that the inclined bar is not positively connected to the feeding-arm, for the purpose specified. 3rd. The combination, with the oscillating feeding-arm and the inclined bar, of a dash-pot or air cylinder to prevent the too rapid return of the inclined bar after each depression thereof, substantially as and for the purpose specified. 4th. In combination, with the apparatus claimed in the preceding claiming clause, the groove H\*, 'n the dash-pot, as and for the purpose specified. 5th. The spring controlled jaw, on the feed-arm, in combination with the means for opening said jaw during the return movement of the arm of the magazine, substantially as and for the purpose specified. 6th. The combination, with the feeding-arm of the magazine and the detonators therein, constructed and arranged, substantially as specified. 7th. The combination, with the feeding-arm, and the pulling-off lever connected with the ordinary semaphore signal, and so arranged that it will when operated engage the feeding apparatus when the latter is at the danger position, but not at any other time, substantially as and for the purpose specified. 8th. The combination, with the feeding-arm, the inclined bar, and their connected parts, of the locking-rod R, for locking the feeding-arm when the latter has been pulled off, substantially as and for the purpose specified.

## No. 45,455. Bench Vise. (Etau d'établi.)



Algernon Sidney Hubbell, Norwich, Connecticut, U.S.A., 3rd March, 1894; 6 years.

Claim.—In a vise, fixed and movable jaw, the latter having a rod extending through the support of the fixed jaw, as set forth, a nut loosely mounted upon said rod, and an eccentric adapted to engage and rock the said ma, substantially as and for the purpose specified.

## No. 45,456. Dental Clamp.

(Griffe dentaire.)



Joseph M. Stout, Portland Main, U.S.A., 3rd March, 1894: 6 years.

Claim.—1st. A dental clamp, substantially as herein shown and described. 2nd. A dental clamp, adapted to engage one tooth and

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## No. 45,457. Engraving Machine.

(Machine à graver.)

Charles C. Bruckner, Chicago, Illinois, U.S.A., 3rd March, 1894; 6 years.

Claim. -1st. In an engraving machine, a work table and a copy slide moving a fixed bed, a pivoting point on each slide and also on the bed, and an operating lever adapted to vibrate about one of said pivots and to slide with respect to the other two pivots. 2nd. In an engraving machine, a lever pivoted to a fixed support and also to two moving shiles, means for permitting the lever to slide with respect to two of these pivots, and means for adjusting at least one of said pivots with respect to the length of said lever. 3rd. In an engraving machine, a tool slide and tracing slide, a lever connecting said slides and serving to transmit motion from one to the other, a pivot for said lever, and a screw for adjusting said pivot by small degrees. 4th. In an engraving machine, a score for investigation to the said lever, and a screw for adjusting said pivot by small degrees. 4th. In an engraving machine, a screw for imparting transverse motion to an engraving tool, a ratchet wheel secured to said screw, a moving pawl for turning said ratchet wheel, and an adjustable throw-out device adapted to disengage said pawl from said ratchet wheel at a predetermined point. 5th. In an engraving machine, having a cutting tool controlled by an electro-magnet, a lever adapted to vibrate by the movement of a copy under a tracing point on said lever, two adjustable, insulated contact points between which said lever vibrates and against one of which it is normally held, a conducting wire leading from said electro-magnet, and means for connecting said who to either of said contact points whereby the same pattern may be used for either relief or intaglio engraving, substantially as set forth. 6th. In an electrically controlled engraving machine, a lever adapted to vibrate by the reciprocation of a pattern under a tracing point connected to said lever, two electrical contact points tracing point connected to said lever, two electrical contact points between which said lever vibrates, a conducting wire and means for connecting said wire so that either relief or intaglio engraving may be made from the same pattern. 7th. In an electrical engraving machine, controlled by the vibration of a tracing point in passing over a copy, a pivoted lever supporting said tracing point, two contact points between which said lever vibrates, a conductor, and means whereby shifting the conductor from one contact point to the other will change the machine from relief to intaglio engraving, or vice versa, without changing the pattern. 8th. In an electrical engraving machine, adapted to make either relief or intaglio engraving from a single pattern, means for controlling the operation of the cutting tool by vibration caused by the reciprocation of a pattern under a tracing point, a pattern consisting of a series of character faces clamped together, and a clamp for said pattern, said clamp being operated by a right and left hand serew. 9th, In an engraving machine, a work table and a copy slide moving on a fixed bed, a lever adapted to give synchronous movements of a fixed ratio to said table and slide, a copy, a tracing point and lever therefor,