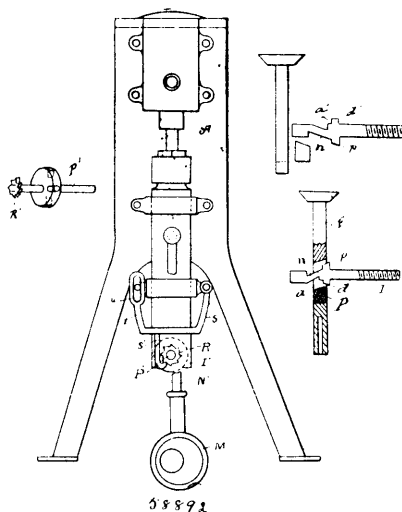


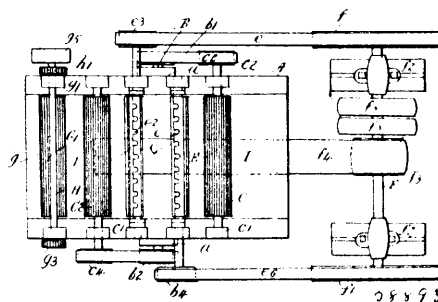
and described. 2nd. A device for regulating the supply of gas to a cylinder of an explosive-gas-engine, consisting of the valve-stem F<sup>1</sup>.



slotted longitudinally, the steel-bevelled block held therein, combined with the shaft I having the under side of its head bevelled and an integral stop p thereon, the outer end of the said shaft being screw-threaded, the adjusting-nuts R having hubs mounted on the screw-threaded portion of the shaft, and the pivoted lever S having a slot near its upper end through which the said shaft passes, and the spring interposed between the upper end of the said lever, and the casing carrying the valve-rod, the lower end of the lever S being connected with a collar which is moved backward and forward by a governor, substantially as shown and described. 3rd. In combination with the feed valve-stem as described, carrying the reversible bevelled steel block in a slot therein, the reversible shaft I, having a series of steps on its upper side, and a bevelled surface with an integral lug or step on its lower face, and means for reciprocating the said shaft, substantially as shown and described. 4th. A regulating device for an exhaust-valve in an explosive-engine, consisting of the exhaust valve stem B<sup>1</sup>, the reciprocating casing carrying the same, and spring interposed between the upper end of the casing and a jam-nut on the piston-rod, an alternating wheel mounted at the lower end of the said casing, and means for reciprocating the latter and for revolving the alternating wheel. 5th. A regulating device for the exhaust-valve of a gas-engine, consisting of the reciprocating casing C<sup>1</sup>, nut J<sup>1</sup>, the crank and pitman for operating the same, combined with the stem B<sup>1</sup> mounted in said casing, a portion of the length of said stem being screw-threaded, jam-nuts working on said threads, the spring interposed between the jam-nuts and the nut J<sup>1</sup>, and the alternating wheel journaled at the lower end of the casing, and a ratchet wheel and a swinging pawl designed to rotate the ratchet-wheel, which causes the alternating wheel to make partial revolutions, substantially as described. 6th. In combination the casing, the stem carrying thereby, the shaft journaled in the said casing, the alternating wheel mounted on said shaft, the friction-spring v, the ratchet-wheel R<sup>1</sup>, and the swinging pawl mounted as described and designed to engage with the teeth of the ratchet wheel as the casing carrying the ratchet-wheel is lowered, but to swing laterally as the ratchet wheel rises, substantially as described. 7th. In a mixer or vapourizer for explosive engines, the valve-chamber and valve therein, the stem to said valve, which is hollowed out at its lower end, combined with a gasoline feed-pipe, over which the hollow end of the said stem telescopes and regulates the supply of gasoline, as set forth. 8th. In a mixer or vapourizer for explosive gas-engines, the valve-chamber, valve and seat therefor, the stem of said valve hollowed out at its lower end, the guides in which said stem work, combined with the feed-pipe telescoping within the hollow end of said stem, the jam-nuts on the stem and coiled spring interposed between the same and the lower end of said guide, substantially as set forth. 9th. In a mixer for explosive gas-engines, the combination with the valve-chamber, the suction-valve and the stem thereto, the guides, cylinder for said stem, formed of a part of the casing of the valve-chamber, of the feed-pipe telescoping within the hollow end of said stem, the jam-nuts and spring bearing between the same and the lower end of the guide cylinder, of the sliding regulating-governor actuated stem working through an elongated aperture in the valve-stem, whereby the throw of the suction-valve may be regulated, substantially as described. 10th. In a mixing apparatus for explosive gas-engines, the combination with the valve-chamber, the guide cylinder integral therewith, the valve-stem working in said guide-cylinder, of the shell bolted to the lower end of the valve-chamber, the valve-regulating and governor-actuated stem supported in said shell, of the member H, the feed-

pipe carried thereby, which telescopes within the hollowed lower end of the valve stem, of the apertured air chamber surrounding a portion of said shell and communicating the interior of the latter with the valve-chamber, substantially as set forth. 11th. In a vapourizing apparatus for explosive gas-engines, the combination with the valve-chamber, the valve and stem carried therein, the shell J secured to the valve chamber, the member L, the air chamber K having screw-threaded connections with the lower end of said shell J and the member L, the feed pipe c seated in a duct in the said chamber, a space intervening between the outer wall of the feed-tube and the inner walls of the hollow screw threaded portions of the said shell and member L, of the gasoline supply reservoir and supply pipe leading from said reservoir to a valve-regulated duct, which leads to the feed-tube, substantially as shown and described. 12th. In a vapourizing apparatus for explosive gas-engines, the combination with the valve-chamber, shell, air-chamber, valve stem and feed-pipe as described, of the member L, the supply pipe leading thereto, the valve M with its tapering end designed to regulate the flow of gasoline through a constructed passageway in said member L, the indicating-wheel carrying pointer mounted on stem of valve M, the dial and pipe A<sup>2</sup> for carrying away the surplus gasoline, substantially as shown and described. 13th. In combination with the mixer as described, the gasoline regulating valve, the reservoir, the pipe connecting same, with passageway in which the said valve works, the supply tube T with lateral apertures near its upper end, the pipe N and V, all arranged substantially as shown.

#### No. 58,893. Splint Making Machine. (Coupe-écarts)



John T. Whitten, Passaic, New Jersey, U.S.A., 3rd February, 1898; 6 years. (Filed 26th November, 1897.)

*Claim.* 1st. In a splint machine, the combination with a knife, of a pair of arms carrying the knife, a pair of levers to which said arms are pivoted, said levers being fulcrumed on a fixed frame, an eccentric for oscillating said lever and an eccentric oscillating the arms, substantially as described. 2nd. In a splint machine, a combination with a knife, means for forming the knife down and mechanism for moving the knife rearward, of a bed having an opening or plate movable in said opening and provided with a slot into which the knife can project, and connections between the knife-moving mechanism, and the plate whereby the slot is kept below the knife, substantially as described. 3rd. In a splint machine, a combination, with a moulding machine consisting of a frame supporting a pair of front and a pair of rear feed rollers, a bed having an opening between said front and rear feed rollers, a pair of cutter-heads arranged one above and one below said opening, knives secured to said cutter-heads, and a reciprocating knife, a pair of arms carrying the knife, a pair of levers to which the arms are pivoted, said levers being fulcrumed on a fixed frame, and eccentric for oscillating said levers, and an eccentric for oscillating the arms, substantially as and for the purpose specified.

#### No. 58,894. Means of Making Beads, Balls, etc.

(Moyen de faire des boules, etc.)

Charles T. Mitchell, Waterloo House, Rowheath Road, King's Norton, Worcester, England, 3rd February, 1898; 6 years. (Filed 17th April, 1897.)

*Claim.* 1st. The machinery or apparatus for the manufacture of beads, balls, and the like, by simultaneously forming and cutting off two or more from a heated bar or rod, by means of a continuously revolving drum or disc having the desired number of parallel grooves round its periphery, the parts between the grooves being brought to a cutting edge, a segment of a cylinder correspondingly grooved internally being adjustably fixed round the grooved drum, the segment being adjusted so that the cutting edges between the grooves at one end are close to the cutting edges between the grooves round the drum, whilst at the other end of the segment the cutting edges between its grooves are removed sufficiently from the cutting edges between the grooves round the drum, so that a heated bar of properly determined diameter being inserted, parallel with the axis of the drum, at such open part between the grooves on the drum and the grooves in the segment, is rolled forward and compressed at one operation into a number of balls equal to the number of parallel