8th. In a printing telegraph, the combination of a fixed support, a paper tube upon which messages are printed, a row of holes perforated in said tube parallel with its axis, a spur wheel meshing with said row of holes, and an auxiliary wheel within which said spur wheel is journalled, as and for the purpose set forth. 9th. In a printing machine, a stationary support for a paper tube, a tube upon which messages are printed in page form having a series of holes in said tube, a feeding device meshing with said row of holes, means for moving said feeding device around said tube, and means for connecting said feeding device positively with a step-by-step escapement motor. 10th. In a printing telegraph, a support for carrying a paper tube, a sheet of paper in tubular form having a row of holes perforated parallel with its length, a feed wheel meshing with said row of holes, a ring wheel moving outside of said tubular support carrying said feed wheel and circumferential grooves formed within the exterior of such support, as and for the purpose set forth. 11th. In a printing telegraph, the combination of a paper tube upon which messages are printed, a spur wheel for feeding the same circummessages are princed, a spar wheel for carrying said feed wheel, a dogging disc  $q^i$ , and a pallet or dog  $p^i$  for holding the teeth of said feed wheel in their desired position. 12th. In a printing telegraph, a fixed tubular support, a feed wheel  $f^i$ , a bracket within which said feed wheel is journalled, said bracket being connected to and forming part of a ring wheel l for carrying wheel  $q^1$ , as and for the purpose set forth. 13th. The combination of feed wheel l, a ring carrying wheel t having spur teeth upon its periphery, guiding sur faces s and a bracket formed of parts  $a^1$ ,  $c^1$ ,  $b^3$ , as and for the purpose set forth. 14th. In a printing machine, a stationary tubular support, a paper tube upon which messages are to be printed, a row of holes perforated therein parallel with its axis, a feed wheel  $f^1$ , a ring wheel f for carrying said feed wheel, circumferential and inclined grooves cut in the periphery of said tubular support, and a slot  $w^*$  cut in said support parallel with its axis, as and for the purpose set forth. 15th. In a printing machine, the combination of a stationary support, a paper tube upon which messages are to be printed, a feed wheel for moving said tube, means for carrying said feed wheel around the tube, circumferential grooves cut in said stationary support and a groove  $u^{\pm}$  within which said feed wheel is adapted to rotate, as and for the purpose set forth. 16th. In a accepted to rotate, as and for the purpose set forth. If the In a printing machine, a stationary support, a paper tube upon which messages are to be printed, a feed wheel connecting with said paper tube, a wheel / carrying said feed wheel around the tube, having flanges s, and grooved rollers for supporting said wheel, as and for the purpose set forth. 17th. A tubular typewriter or telegraph blank, upon which messages or other matter is to be printed, with a lapped edge having a row of equidistant holes in the lap. 18th. A tubular typewriter or relevant blank muon which lap. 18th. A tubular typewriter or telegraph blank, upon which messages or other matter is to be printed, with a lapped edge parallel to the axis of the tube having a row of equidistant holes in the lap. 19th. In a printing machine, an escapement wheel, two escapement pallets, one movable and the other fixed, and means for manually disengaging said escapement wheel from its fixed pallet whereby the escapement wheel is withdrawn from the fixed rather than from the movable pallet, as and for the purpose set forth. 20th. In a printing machine, a stationary paper support, a tube upon which messages are to be printed, a feed wheel meshing with said tube, a ring wheel carrying said feed wheel, a manual disengaging device, and a unison stops, as and for the purpose set forth. 21st. A stationary support, a paper tube upon which messages are to be printed, a feed wheel gearing with said paper tube, an auxiliary wheel carry-invasid feed when a term of the desired and the said paper. ing said feed wheel, a train of gearing connected therewith, an escapement for controlling the step-by-step action of said feed wheel, a manual disengaging device for releasing said feed wheel from its pallets, a unison stop for arresting said feed wheel and its train in unison position, and a fly train which is automatically put in connection with said feeding apparatus to modify or slow its movement upon disengagement of the escapement wheel from its pallets. 22nd. In a printing machine, a stationary tubular support a for carrying a paper tube, said support being formed in three parts w, x, y, in the part x of which are cut circumferential and inclined grooves, as and for the purpose set forth. 23rd. In a printing telegraph system, a tubular support having an opening 21, a press pad within said tubular support, and a type wheel on the exterior thereof, a rubber band or belt 19, mounted within said tube, a ratchet wheel 16, and a pawl 15, for actuating said belt, as and for the purpose set forth. 24th. In a printing telegraph, the combination of a message blank formed into a paper tube having a row of equidistant holes parallel with its axis, a tubular support having circumferential and diagonal grooves, a slot  $u^1$  across said grooves lengthwise of the tube, a gear train for rotating the paper tube, a motor for driving said train, an escapement therefor, means for disconnecting the escapement wheel from its pallets, and a setting arm which is moved of the paper tube. escapement wheel from its panets, and a setting atm which is moved within the teeth of the wheel  $f^1$  while the latter is in line with slot  $u^1$  and which is moved away from the teeth of said wheel when it is desired to insert a new message blank. 25th. In a printing machine, the combination—of a message—blank formed—into a paper tube having a row of equidistant holes parallel with its axis, paper ture maying a row or equiusiant noise parallel with its axis, a tubular support having circumferential and diagonal gooves, a slot  $u^1$  across said grooves lengthwise of the tube, a gear train for rotating the paper tube, a wheel  $f^1$  whose teeth project through the holes in said paper tube into the circumferential and diagonal

guide the teeth of said wheel into circumferential grooves in passing slot  $u^{\dagger}$ , as and for the purpose set forth, 26th. In a printing machine, the combination of a message blank formed into a paper tube having a row of equidistant holes parallel with its axis, a tubular support having circumferential and diagonal grooves, a slot  $n^{\prime}$  across said grooves lengthwise of said tube, a gear train for rotating the paper tube, a wheel  $f^{\prime}$ , a removable directing arm for adjusting the teeth of said wheel to enter said circumferential grooves after leaving slot  $u^1$ , and a hand device for controlling said directing device for removing the same from the teeth of said wheel during the insertion of a message blank and for replacing said guide during the printing of a message, as and for the purpose set forth. 27th. In a printing machine, the combination of a stationary support, a paper tube, a step-by-step or escapement wheel j, a train of gear, feed wheel  $f^1$ , a manual disconnecting apparatus, cam 36, means for lowering said can through said manual disconnecting apparatus, and means, substantially as as described, whereby said wheel  $f^1$  may be raised and lowered, as and for the purpose set forth. 28th. In a printing machine, the combination of a stationary support, a tube of paper thereon having a row of holes, circumferential and diagonal slots in said fixed support, feed wheel ft, a step-by-step or escapement wheel, a train of gearing joining said step-by-step or end feed wheels and means for raising the feed wheel from the paper tube at the end of a message, as and for the purpose set forth. 29th. In a printing machine, the combination of a stationary support, a paper tube mounted thereon having a row of holes at its lap, a step-by-step or escapement wheel, a feed wheel gearing with said row of holes, a train of gearing joining the escapement and feed wheels, a cam with which the bearings of the feed wheel engage, and a manual device for disconnecting the escapement wheel from its pallets at the end of a message. 30th. In a printing machine, the combination of a stationary, tubular support, a paper tube, a feed wheel engaging therewith, an escapement or step-by-step wheel, a train of gearing connecting said escapement and feed wheels, and means for raising and lowering said feed wheel, for the purpose set forth. 31st. In a printing machine, the combination of a stationary support, a tube of paper, a feed wheel, an escapement wheel, a train of gearing joining said wheels, a cam for raising said feed wheel from the paper tube at the end of a message and a manual device for operatpaper tube at the end of a message and a manual device for operating said cam for the purpose set forth. 32nd. In a printing machine, the combination, substantially as described, of a stationary, tubular support, a paper tube, feed wheel  $f^1$ , ring wheel l, a pivoted support 40, carrying arms 41, 38, cam 36, spring 37, circumferential grooves in said tubular support, escapement wheel l, unison stop 7 and 18, manual disconnecting rod  $m^{11}$ , and means whereby the movement of said rod is communicated both to lower cam 36 and disconnect received the said for the said disconnect escapement wheel j from its pallets, as and for the purpose set forth.

Thomas Adam Clayton, Philadelphia, Pennsylvania, U.S.A., 31st January, 1900; 6 years. (Filed 22nd Argust, 1899.)

soft u actions said gaper tube, a wheel  $f^1$  whose teeth project through the holes in said paper tube into the circumferential and diagonal grooves of said support, and a removable directing arm, for adjusting the teeth of wheel  $f^1$ , which, during normal operation, serves to causing a forced circulation through the furnace and compartment