

Search history

- Search 1: FT=(inspection and press and print* and roll*) (Results 18849)
 Search 2: FT=(inspection and press and print* and roll* and sheet) (Results 9256)
 Search 3: FT=(inspection and press and print* and roll* and sheet) and IC=(b41f) (Results 940)
 Search 4: FT=(inspection and press and print* and roll* and sheet) and IC=(b41f11/00) (Results 31)

1) Family number: 42535314 (US2010139511A)

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INTAGLIO PRINTING PRESS SYSTEMS FOR RECTO-VERSO INTAGLIO-PRINTING OF SHEETS FOR THE PRODUCTION OF BANKNOTES AND LIKE SECURITIES

Abstract: Source: US2010139511A Intaglio printing press systems for recto-verso intaglio printing of sheets, in particular for the production of banknotes and the like securities, wherein first and second intaglio printing presses (1a, 1b) are operatively-coupled to one another by a sheet processing and transporting system (9) comprising an automated guided vehicle system for automatically transporting sheets from a sheet delivery station (8.1) of the first intaglio printing press (1a) where recto printing is performed to a sheet feeding station (1.2) of the second intaglio printing press (1b) where verso printing is performed.

Probable Assignee: KBA GIORI SA

Earliest Publication Date: 20081126

2) Family number: 29436424 (US5960713A)

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RETRACTABLE PRINTING-COATING UNIT OPERABLE ON THE PLATE AND BLANKET CYLINDERS SIMULTANEOUSLY FROM THE DAMPENER SIDE OF THE FIRST PRINTING UNIT OR ANY CONSECUTIVE PRINTING UNIT OR ANY ROTARY OFFSET PRINTING PRESS

Abstract: Source: US5960713A A retractable in-line inking/coating apparatus can apply either spot or overall inking/coating material to a plate and/or a blanket on the first printing unit or on any consecutive printing unit of any rotary offset printing press. The inking/coating apparatus is pivotally mounted within the conventional dampener space of any lithographic printing unit. The aqueous component of the flexographic printing ink or aqueous coating material is evaporated and dried by high velocity, hot air dryers and high performance heat and moisture extractors so that the aqueous or flexographic ink or coating material on a freshly printed or coated sheet is dry and can be dry-trapped on the next printing unit. The inking/coating apparatus includes dual cradles that support first and second applicator rollers so that the inking/coating apparatus can apply a double bump of aqueous/flexographic or UV-curable printing ink or coating material to a plate on the plate cylinder, while simultaneously applying aqueous, flexographic or UV-curable printing ink or coating material to a plate or a blanket on the blanket cylinder, and thereafter onto a sheet as the sheet is transferred through the nip between the blanket cylinder and the impression cylinder. A triple bump is printed or coated on the last printing unit with the aid of an impression cylinder inking/coating unit.

Probable Assignee: DEMOORE HOWARD W

Earliest Publication Date: 19961105

3) Family number: 63602251 (US2018043679A)

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PRINTING PRESS AND METHOD FOR OPERATING A DRYER DEVICE THAT COMPRISES A DRYER AND A CONTROL DEVICE IN A PRINTING PRESS

Abstract: Source: US2018043679A A dryer device for a printing press that prints in at least one printing position on a printing substrate by use of at least one printing unit, in particular a printing press for securities, includes a dryer with a drying unit formed by an array of a plurality of adjacent radiation sources. That array extends at least over the maximum width of the printing substrate and is used to supply radiation to the printing substrate in each activated state for drying the latter. A control device allows the radiation sources or some of the radiation sources to be switched on or off in a repeating cycle that comprises a sequence with at least one active and at least one inactive phase in correlation with one of a press and a printing-substrate phase position. The dryer device comprising the dryer and the control device is configured to switch on and switch off, for each cycle, only some of the radiation sources in some sections in at least four pre-definable radiation-source groups, spaced approximately equidistantly, i.e. at a distance deviating by a maximum 20 percent from the average distance and transversely to a transport direction, one of concurrently and collectively according to a sequence comprising one of multiple and at least three equidistant active phases of the same first lengths. The invention also relates to a printing press, in particular to a printing press for securities, comprising a dryer device of this type. During operation, the printing substrate is supplied with radiation in multiple tracks spaced apart transversely to the transport direction, synchronously with one of the printing substrate feed and with the press phase.

Probable Assignee: KOENIG AND BAUER AG

Earliest Publication Date: 20160922

4) Family number: 53204295 (US2014331877A)

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COMBINATION PRINTER

Abstract: Source: US2014331877A The purpose of the present invention is to provide a combination **printer** that makes it possible to perform both offset **printing** and Orlof **printing** on a single **printer**, and for offset **printing**, allows the selection of either double-sided or single-sided **printing**. An Orlof **printing** section (2) is provided with an Orlof **printing** unit that has the following: partial plate cylinders (11), a collecting blanket cylinder (12), a collecting plate cylinder (13), a blanket cylinder (9), an impression cylinder (10), and a moving inker (25). An offset **printing** section (3) is provided with front-side and back-side offset **printing** units (3a-3d, 3e-3h) that each have an ink-supply device (18), a plate cylinder (19), a blanket cylinder (15), and an impression cylinder (16). The respective impression cylinders of the front-side offset **printing** unit and the back-side offset **printing** unit are placed up against each other such that said **printing** units receive and output **sheets** between said impression cylinders. The offset **printing** section (3) is also provided with a front-side **inspection** camera (23) and a back-side **inspection** camera (24). The Orlof **printing** section and the offset **printing** section are connected by transfer cylinders (14).

Probable Assignee: KOMORI CORP

Earliest Publication Date: 20130321

5) Family number: 49957076 (US2013213246A)

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PRINTING PRESS FOR NUMBERING AND VARNISHING OF SECURITY DOCUMENTS, INCLUDING BANKNOTES

Abstract: Source: US2013213246A There is described a **sheet**-fed or web-fed **printing press** for numbering and varnishing of security documents, including banknotes, comprising: -a numbering group (02) comprising at least one numbering unit (21, 22) for numbering **printed** material in the form of individual **sheets** or successive portions of a continuous web carrying multiple security imprints; and -a varnishing group (03; 03ss) located downstream of the numbering group (02) for applying varnish onto recto and verso sides of the **printed** material, the varnishing group (03; 03ss) comprising at least a first varnishing unit (31) disposed above a path of the **printed** material to apply varnish on the recto side of the **printed** material and at least a second varnishing unit (32) disposed below the path of the **printed** material to apply varnish on the verso side of the **printed** material.

Probable Assignee: KBA NOTASYS SA

Earliest Publication Date: 20111123

6) Family number: 61900821 (WO16042482A3)

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INKING APPARATUS OF A PRINTING PRESS, PRINTING PRESS COMPRISING THE SAME AND METHOD OF PRODUCING A VIBRATOR ROLLER

Abstract: There is described an inking apparatus of a **printing press**, in particular an offset or letterpress **printing press**, comprising at least one ink duct (11, 12) with an ink supply **roller** (13, 14), an ink **roller** train (30) comprising at least one inking **roller** (31) which receives ink from the at least one ink duct (11, 12), and at least one vibrator **roller** (15, 16) interposed between the ink supply **roller** (13, 14) and the inking **roller** (31), which vibrator **roller** (15, 16) is swung back and forth between the ink supply **roller** (13, 14) and the inking **roller** (31) and intermittently transfers ink from the ink supply **roller** (13, 14) to the inking **roller** (31). A circumference of the vibrator **roller** (15, 16) exhibits an ink-transfer 10 structure (15a, 16a) which reflects a desired inking profile of a **printing** plate to be inked by the inking apparatus and is designed to modulate a quantity of ink transferred by the vibrator **roller** (15, 16). The ink-transfer structure (15a, 16a) on the circumference of the vibrator **roller** (15, 16) is subdivided, in a circumferential direction (y) of the vibrator **roller** (15, 16), into an integer number 1 (r) of individual ink-transfer portions (15b, 16b) that are repeated with a determined circumferential period (DELTAy) in the circumferential direction (y), each individual ink-transfer portion (15b, 16b) reflecting the desired inking profile of the **printing** plate to be inked by the inking apparatus. A contact length (CL) over which the vibrator **roller** (15, 16) runs in contact with the ink supply **roller** (13, 14) is equivalent to the determined circumferential period (DELTAy) of the individual ink-transfer portions (15b, 16b) or to an integer multiple of the determined circumferential period (DELTAy) of the individual ink-transfer portions (15b, 16b).

Probable Assignee: KBA NOTASYS SA

Earliest Publication Date: 20160323

7) Family number: 32097185 (US2005160928A)

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OFFSET PRINTING PRESS UNIT WITH REMOVABLE CYLINDERS

Abstract: Source: US2005160928A An offset **printing press** having plate and blanket cylinder retention mechanisms, each retention mechanism having at least one trunnion axially displaceable between an operative position and a disengaged position. Said trunnion is freely disconnected from an associated cylinder end in the disengaged position such that the plate cylinder and the blanket cylinder are removable from the **printing press** from between the frame structure. One of the cylinder retention mechanisms is selectively displaceable relative to the frame structure such that a distance between the cylinder axes of rotation is variable. The plate and blanket cylinders are thus removable from the **printing press** and substitutable with replacement cylinders having a different outer circumference. The **press** comprises a gear drive system which remains in gear meshed engagement with both the plate cylinder and the blanket cylinder regardless of the variable relative positions thereof.

Probable Assignee: MUELLER MARTINI DRUCKMASCHINEN GMBH

Earliest Publication Date: 20041103

8) Family number: 28186654 (US2002043167A)

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PRINTING PRESS

Abstract: Source: US2002043167A A **printing press** includes an impression cylinder, a seal cylinder, two number **printing** cylinders, and a transfer cylinder. The distance L1 between the outer circumference of the impression cylinder and the outer circumference of the impression cylinder, and the distance L2 between the outer circumference of the impression cylinder and the outer circumference of the impression cylinder are set longer than the **sheet** length Lo of the effective **printing** area of the **sheet**, and the distance L3 between the outer circumference of the impression cylinder and the outer circumference of the impression cylinder is set shorter than the sum of the effective impression area length La of the impression cylinder and double of length Lb of the notch of the impression cylinder, and an **inspection** portion for **inspecting** the **sheet** supplied to the impression cylinder is also provided.

Probable Assignee: KOMORI CORP

PRINTING PRESS

Abstract: Source: US2374668A I claim: 1. A **printing press** including a. plate-platen **roll** adapted to bear a plate and a, " platen for offset **printing** and a plate Or type for direct **printing**, a. second **roll** adapted to have a. transfer surface thereon agld making two revolutions for one revolution of e plate-platen **roll** whereby it rotates the transfer surface iirst in contact with the plate and then in cooperation with the platen, said second **roll**, also serving as 9. platen for direct **printing**, and chain delivery means for feeding **sheets** to the bite and for delivering **sheets** from the bite including chains extending around said second **roll** and extending away therefrom(a. single gripper unit carried by the chains and cooperating With the **rolls** for each **printing**, and means for causing said gripper unit to release the **sheet** approximately as it reaches the remote loop of the chains or optionally after it has passed around said loop whereby the **sheet** may be released with the **printed** face up regardless of which face is **printed**. 2. A **printing press** including a. plate-Dlaten **roll** adapted to bear a plate and a. platen for offset **printing** and a, plate or type for direct **printing**, 6 2,374,868 V » ' a. second **roll** adapted to have a. transfer surface thereon and making two revolutions for one revolution of the plate-platen **roll** whereby it rotates the transfer surface iirst in contact with the plate and then in cooperation with the platen, said second **roll** also serving as a platen for direct **printing**, means for feeding **sheets** toward the bite, and chain delivery means for delivering **sheets** from the bite including chains extending around said second **roll**, and extending away therefrom generally in the direction of feed, a gripper unit carried by the chains, and means for causing said. gripper unit to release the **sheet** before it passes around the remote loop oi' the chains or optionally after it has passed around said loop whereby the **sheet** may be released with the **printed** face up regardless of which face is **printed**. 8. A **printing press** including a plate-platen **roll** adapted to bear a plate and a platen for onset **printing** and a. plate or type 'lor direct **printing**, a. ' second **roll** adapted to have B. transfer surface thereon and making two revolutions for one revolution of the plate-platen **roll** whereby it rotates the transfer surface first in contact with the plate and then in cooperation with the platen, said second **roll** also serving as 9. platen for direct **printing**, means for feeding **sheets** toward the bite, and chain delivery means for delivering **sheets** from the bite including chains eXtending around said second **roll** and exbendin! away therefrom generally in the feeding direction, a shaft spaced from the second **roll**, sprockets on the shaft driven by and supporting the chain, a **roller** keyed to the shaft, a gripper Unit carried by the chains, and means for causing said gripper unit to release the **sheet** before it Passes around the **roller** or Optionally after it has passed around said **roller** whereby the **sheet** may be released with the **printed** face up regardless of which face is **printed**. 4. A **printing press** including a plate-platen **roll** adapted to bear a plate and a, platen for olfset **printing** and a plate or type for d1l'Ect» **printing**, B. second **roll** adapted to have a transfer surface thereon and making two revolutions for one revolution of the plate-platenroll whereby it rotates the transfer surface iirst in contact with the plate and then in cooperation with the platen, said second **roll** also serving as a. Dillfeli for direct **printing**, means for feeding **sheets** toward the bite, and chain delivery means for delivering **sheets** from the bite including chains extending around said second **roll** and extending away therefrom generally in feeding direction, a. shaft spaced from the second **roll**, sprockets on the shaft driven by and suD1_gt;0rti11s the chain. H **roller** keyed to the shaft, gripper unit carried by the chains, means for causing said Eripler unit to release the **sheet** before it passes around the **roller** or optionally after it has P95595 9-' degrees 11Dd said **roller** whereby the **sheet** may be released with the **printed** face up regardless of which face is **printed**, and a pressure **roller** adapted to **press** the **sheet** against the driven **roller** to continue the movement of the **sheet** after itsvrelease by the gripperunit. 5. A **printing press** including **Printing rolls**, the Exst of which -makes more- than one' revolution for each **printing** and the second of which has a portion cooperating therewith for **printing**, and cha-in regis€ration-delivery means including a chain extending around said Brst **roll**, having 3 length corresponding to more than the Periphery of said first, **roll** and carrying a. single Striv- ping unit cooperating with said **rolls** for successive printings by cooperation of said mst **roll** and said portion, 6. A **printing press** including **printing rolls**, the Hrst of which makes more than one' revolution for each **printing** and the second of which has a portion cooperating therewith for **printing**, and chain registration-delivery means including a chain extending around said first **roll**, having a length corresponding to more than the periphery uf said 'mst **roll** and carrying a single gripping and legistration-stop unit cooperating with said **rolls** for successive **printings** by cooperation of said first, **roll** and said portion, _said chain extending around and being driven by a sprocket angularly rigid with the Bret toll and having a seating engagement with t-he links of the chain. T. A **printing press** including **printing rolls**, one of which makes more than one revolution for each **printing**, and chain registration-delivery means including a chain extending around said one **roll** and having a. length corresponding to more than the periphery of said **roll** and carrying B. single gripping and registration-stop unit cooperating with said **roll** for successive **printings**, said chain extending around and being driven by a sprocket angularly rigid with the **roll**. 8. In a **Printing press** including a **printing roll**; chain delivery means including a shaft spaced from the **roll**, sprockets on the shaft, **roller** means adapted to rotate with the shaft between the sprockets, chains extending around the sprockets and around the **roll**, a gripper unit carried by the chains and engaging a, **sheet** as the unit passes adjacent the **roll**, means for causing the gripper unit to release the **sheet** optionally either before _or after. it draws the **sheet** around the **roller** means, a pressure **roller** adapted to **press** the **sheet** against the **roller** means, and collection means positioned to receive the **sheet** where it is ejected by the **roller** and **roller** means without being turned over or where it is released by the gripper unit after being carried around the **roller** means. ' 9. In a **printing press** including **printing rolls**, means for feeding a **sheet** toward the bite of the **printing rolls**, and chain delivery means including chains passing around one of the **printing rolls** and away therefrom in the feeding direction, a. gripping unit adapted to seize and grip the **sheet** as the unit passes adjacent said **roll**, and means for releasing the gripping unit after it has carried the **sheet** around a loop in the chain to turn the **sheet** over. - 10. In a **printing press** including **printing rolls**, means for feeding a **sheet** toward the bite of the **printing rolls**, and chairrdelivery means including chains passing around one of the **printing rolls** and away therefrom in t-he feeding direction, a gripping unit, adapted to seize and grip the **sheet** as the unit passes adjacent said **roll**, means for releasing the gripping unit after it has carried the **sheet** around a loop in the chain to turn the **sheet** over, and **sheet**-stopping means eH'ective to overcome the momentum of the **sheet** as it is re~ leased whereby the sheep may be allowed to drop on a pile. 11. A **printing press** including **printing rolls** and chain registration means including a. chain formed in a closed loop, one portion oi' which moves with the periphery of one **roll** as it is engaged by the other, and 9, single gripping unit carried by the chain, cooperating with said **roll** for successive **printings**, and after each such co- _ V a,a74,oes 4 7 operation being drawn awayfrom the **roll** by the chain. 12. A **printing press** including **printing rolls** and chain registration means including a chain formed in a closed loop, one portion of which moves with the periphery of one **roll** as it is engaged by the other, a single gripping and registration-stop unit carried by the chain, cooperating with said **roll** for successive pm-Intings, and after each such cooperation being drawn away from the **roll** by the- chain, and means for releasing the gripping unit at a position spaced from said **roll** after it has drawn the **sheet** therefrom. 13. A **printing press** including **printing rolls**, chain registration means including 8. chain formed in a closed loop, one portion of which moves with the periphery of one **roll** as it is engaged by the other. a. single gripping and registration-stop unit carried by the chain, cooperating with said **roll** for successive **printings**, and after each such cooperation being drawn away from the **roll** by the chain, and means for releasing the gripping unit at a position spaced from said **roll** after it has drawn the **sheet** therefrom, and means for feeding a **sheet** to the stop and gripping means for each **printing**. , 14. The combination of a **press** having **printing rolls** adapted to **print** optionally the upper or the lower face of a. **sheet**, and delivery means including gripper means and means including endless dexihle means for controlling the gripper means to draw the **sheet** away from a **roll** of the **press** and deliver it optionally either face up, said delivery means in one instance carrying the **sheet** around one end of the loop to turn it over. 15. A gripper unit for registering **sheets** for **printing presses**, including a gripper seat. a grip finger pivoted with respect to the seat to open therefrom to receive a **sheet** and to clamp the **sheet** thereagainst, and ,a registration-stop member carried by the grip finger and movable with it with respect to the seat to accurately position the **sheet** as to its entry within the gripper unit, the face of said stop member being approximately arcuate about the pivotal axis of the grip finger. 16. A **printing press** including a, plate-platen **roll** adapted to bear a plate and a platen for offset **printing** and a plate or type for direct **printing**, a second **roll** adapted to have a transfer surface thereon and making two revolutions for one revolution of the plate-platen **roll** whereby it rotates the transfer surface first in contact with the plate and then in cooperation with the platen, said second **roll** also serving as a platen for direct **printing**, means for feeding **sheets** toward the bite, and chain delivery means for delivering **sheets** from the bite including chains

extending around said second **roll** and extending away therefrom generally in the direction of feed, a gripper unit carried by the chains, and means for causing said gripper unit to release the **sheet** approximately as it reaches the remote loop of the chains or optionally after it has passed around said loop whereby the **sheet** may be released with the **printed** face up regardless of which face is **printed**. 17. A **printing press** including **printing rolls**, the first of which makes two revolutions for each **printing** and the second of which has a **printing** portion adapted to cooperate therewith for **printing**, and chain registration-delivery means including a chain extending around said first **roll** and having a length corresponding to twice the periphery of said first **roll** and carrying a single gripping and registration-stop unit cooperating with said **rolls** for successive **printings** by cooperation between said first **roll** and said portion. 18. A **printing press** including upper and lower **printing rolls** of which the lower **roll** is an ink-bearing **roll** adapted to **print** the ink on a **sheet**, and chain delivery means including chains extending around and away from the lower **roll**, gripping means carried by the chains and adapted to strip a **sheet** from the lower **roll** and deliver it **printed**-side-up at a point spaced therefrom, and stop fingers positioned uniformly with respect to the lower **roll** each time the gripping means passes therearound and moving with it for cooperating with the gripping means as the gripping means passes around said lower **roll** and accurately registering a **sheet** with respect to the lower **roll**. 19. A **printing press** including **printing rolls** of which one is an ink-bearing **roll** adapted to **print** the ink on a **sheet**, and chain delivery means including chains extending around and away from the said **roll**, gripping means carried by the chains and adapted to strip a **sheet** from the said **roll** and deliver it at a point spaced therefrom, and stop fingers positioned uniformly with respect to the said **roll** and moving with it each time the gripping means passes therearound for cooperating with the gripping means as the gripping means passes around said lower **roll** and accurately registering a **sheet** with respect to the said **roll**. 20. A **printing press** including **printing rolls**, a gripping unit passing around one of said **rolls** in predetermined relationship thereto and including a movable grip finger and registration-stop means carried thereby, and feeding means for feeding a **sheet** into the gripping unit at such speed and direction that the **sheet** will be buckled by the stop means outside of the grip finger as the grip finger is closed; said grip finger and stop means forming an angle into which the **sheet** is fed and which, in closing of the finger, moves relatively in a direction opposite to the direction of feeding. 21. A **printing press** including **printing rolls**, a gripping unit passing around one of said **rolls** in predetermined relationship thereto and including a grip base, a movable grip finger and registration-stop means carried thereby, and feeding means for feeding a **sheet** into the gripping unit at such speed and direction that the **sheet** will be buckled by the stop means outside of the grip finger as the grip finger is closed; said stop means extending continuously from the grip finger when it is open to the grip base whereby a **sheet** fed between the grip finger and the grip base cannot possibly slip past the stop means. 22. A two-purpose **press** having **printing rolls** adapted to **print** optionally the upper or lower face of a **sheet** with different methods of **printing**, and delivery means for delivering the **sheet** either face-up so that, regardless of which face is **printed**, the **printed** face may be visible on the delivery pile for inspection. 23. **Sheet** delivery apparatus adapted to deliver a **sheet** either face-up, comprising a **sheet** gripper adapted to engage the **sheet** to be delivered and to thereafter move through a loop to reverse its direction of movement, means for opening the **sheet** gripper approximately at the beginning of the loop to release the **sheet** and cause the **sheet** to be delivered beyond the loop first face-up, said means optionally being rendered inoperative, and means for releasing the **sheet** gripper after it has traversed said loop and turned over the **sheet**, to deliver the **sheet** with its other face up; the last-named means for releasing the gripper being adjustable to release the gripper at the earliest possible moment after traversing the loop which will produce satisfactory and dependable delivery of the **sheet**; the **sheet** in the position to which it drops upon said release being substantially visible from beyond the loop. 24. **Sheet** delivery apparatus adapted to turn a **sheet** over before delivering it, comprising a **sheet** gripper adapted to engage the **sheet** to be delivered and to thereafter move through a loop to reverse its direction of movement and means for releasing the **sheet** gripper after it has traversed said loop and turned over the **sheet**; said means being adjustable to release the gripper at the earliest possible moment after traversing the loop, which will produce satisfactory and dependable delivery of the **sheet**; the **sheet** in the position to which it drops upon said release being substantially visible from beyond the loop. 25. Chain feed and delivery apparatus for feeding **sheets** to the bite of a **printing press** formed by two members of which one is a cylinder rotating twice for each impression of a given **printing** member associated therewith comprising: chains extending generally around said cylinder and away therefrom and of such length as to make one cycle for each two revolutions of the cylinder, a single gripper unit carried by the chains and cooperating with the cylinder for each **printing**, means for causing the gripper unit to open to receive the **sheet** before the gripper unit reaches the bite and for causing it to close on the **sheet** and carry the **sheet** to the bite in accurate registration with the **printing** member and means for causing the gripper unit to release the **sheet** after it has pulled at least the leading end of the **sheet** away from the cylinder. 26. **Sheet** delivery apparatus for delivering a **sheet** optionally either side up including two pairs of axially aligned sprockets disposed with each sprocket in alignment with a sprocket of the other pair, **roller** means between the sprockets of one pair and rotatably mounted coaxially therewith, chains extending around the sprockets, a gripper unit carried by the chains and engaging a **sheet** in the vicinity of the other pair of sprockets, means for causing the gripper unit to release the **sheet** optionally either before or after drawing the **sheet** around the **roller** means, a pressure **roller** adapted to **press** the **sheet** against the **roller** means, and collection means positioned to receive the **sheet** where it is ejected by the **roller** and **roller** means without being turned over or where it is released by the gripper unit after being carried around the **roller** means. 27. The combination of a **printing press** including a **printing roll** and a member forming a **printing** bite therewith, chains extending partly around the axis of the **printing roll**, rotating with the **printing roll** and extending away therefrom, gripping means carried by the chains and at times rigidly disposed with respect to the **printing roll**, feeding means for feeding a **sheet** to the gripping means and moving it as fast as the gripping means moves to cause its leading edge to move with the gripping means, means for opening the gripping means to receive a **sheet** as it is fed to the gripping means and for closing the gripping means after the **sheet** is fed thereto and while the leading edge of the **sheet** is moving with the gripping means, and means for again opening the gripping means after the gripping means has carried the **sheet** away from the **printing roll** to release the **sheet** at the desired delivery point; the construction and relation of the parts being such that the **sheet** is held in predetermined registration with the gripping means as the gripping means is closed, and the gripping means is rigidly disposed with respect to the **printing roll** with the **sheet** in predetermined registration with the **printing roll** as the **sheet** enters the bite. 28. The combination of a **printing press** including a **printing roll** and a member forming a **printing** bite therewith, chains extending partly around the axis of the **printing roll**, rotating with the **printing roll** and extending away therefrom, gripping means carried by the chains and at times rigidly disposed with respect to the **printing roll**, feeding means for feeding a **sheet** to the gripping means and moving it as fast as the gripping means moves to cause its leading edge to move with the gripping means, means for opening the gripping means to receive a **sheet** as it is fed to the gripping means and for closing the gripping means after the **sheet** is fed thereto and while the leading edge of the **sheet** is moving with the gripping means, and means for again opening the gripping means after the gripping means has carried the **sheet** away from the **printing roll** to release the **sheet** at the desired delivery point; the construction and relation of the parts being such that the **sheet** is held in predetermined registration with the gripping means as the gripping means is closed, and the gripping means is rigidly disposed with respect to the **printing roll** with the **sheet** in predetermined registration with the **printing roll** as the **sheet** enters the bite, and stop means positioned uniformly with respect to the **printing roll** each time the gripping means receives a **sheet**, for cooperating with and moving with the gripping means and accurately registering a **sheet** with respect to the **printing roll**. 29. In a **printing press**, **sheet** feeding mechanism, a **printing** couple comprising an upper drum, and a lower drum, the latter being one-half the diameter of the upper drum and having its longitudinal axis offset, in the direction from which the **sheets** are fed, from the vertical plane which includes the longitudinal axis of the upper drum, means for mounting either a lithographic plate or a type plate upon the upper cylinder, means whereby the lower cylinder may act either as an offset surface or a platen depending upon the type of plate used on the upper cylinder, and means for delivering **Printed sheets** either forwardly from the **printing** couple in the event that direct **printing** is being done, or rearwardly toward the **sheet** feed in the event that offset **printing** is being done, whereby the **sheets** are in both cases stacked with their **printed** faces up. 30. Chain registration-delivery means for a **press** having a **printing roll** which makes two revolutions for each **printing**, including a pair of endless chains of a length appropriate for extending around sprockets coaxially with said **roll** and for making one cycle for each two revolutions of the **roll** and a single gripping unit carried by the chains and adapted to cooperate with the **printing roll** for each **printing** for delivering a **sheet** thereto in registration therewith, means for opening the gripping unit to receive the **sheet** and for closing the gripping unit, the construction and arrangement of the parts being such that the gripping unit will be rigidly associated with the **roll** from the time it closes upon the **sheet** until it delivers the **sheet** to the point at

be rigidly associated with the **roll** from the time it closes upon the **sheet** until it delivers the **sheet** to the point at which **printing** thereof occurs. a, s'r4, ess ~ 9 31. A **printing press** including **printing rolls**, the mst of which makes more than one revolution for each **printing** and the second of which has a. portion cooperating therewith for **printing**, and chain registration-delivery means including sprockets rigidly mounted with respect to said nrst **roll** and rotating therewith, a pair of chains extending around said sprockets and each having a. length corresponding to said number of revolutions of said sprockets and a. gripping unit carried by said chains and cooperating with said **rolls** for successive **printings** by cooperation of said first **roll** and said portion, means for feeding a **sheet** for each **printing** and positioning it to be gripped by the gripping unit in a. predetermined position for producing a predetermined registration when the gripping unit carries the **sheet** to the **printing** position, and means for opening the gripping unit and closing it upon the **sheet** so positioned; said gripping unit from the time that it closes upon the **sheet** until after it has carried the **sheet** to the position of **printing** being carried by portions of the chains which are wrapped in engagement with the sprockets whereby the positioning of the gripping unit with respect to the **roll** will 'ne rigid during said time.' 32. A **printing press** including **printing rolls**, the :first of which makes more than one revolution for each **printing** and the second of which has a portion cooperating therewith for **printing**, and chain registration-delivery means including sprockets rigidly mounted with respect to said nrst **roll** and rotating therewith, a. pair of chains extending around said sprockets and each having a. lensh corresponding to said number of revolutions of said sprockets and a gripping unit carried by said chain; and cooperating with said **rolls** for successive **printings** by cooperation of said nrst **roll** and said portion, means for feeding a. **sheet** for each **printing** and positioning it to be gripped by the gripping unit in a predetermined position for producing a predetermined registration when the gripping unit carries the **sheet** to the **printing** position, and means for opening the gripping unit and closing it upon the **sheet** so P0sitioned. 33. A gripper unit for registering **sheets** for **printing presses**, including a gx'ipP&r seat, a grip finger - pivoted with respect to the seat to open therefrom to receive a **sheet** and to clamp the **sheet** thereagainst, and a. registration-stop member to accurately position the **sheet** as to its entry within the gripper unit, the face of said stop member being approximately arcuate about the pivotal axis of the grip nnger. 34. In u. two purpose **press**, the combination of a **printing** couple comprising a mst cylinder adapted to carry a **printing** plate on one portion of its periphery and a platen surface on another portion thereof, and a. second cylinder cooperating therewith and serving at times as a transfer surface for offset **printing** on one side of a **sheet** and at times as a platen surface for **printing** on the other side of a **sheet**, and delivery means for delivering a **sheet** which has been **printed** in the couple either face up so that regardless of which face is **printed**, the **printed** face may be 'visible on the delivery pile tor **inspection**

Probable Assignee: WARD DAVIDSON WILLIAM

Earliest Publication Date: 19450501

10) Family number: 42104867 (US2010089261A)

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METHOD AND APPARATUS FOR FORMING AN INK PATTERN EXHIBITING A TWO-DIMENSIONAL INK GRADIENT

Abstract: Source: US2010089261A There is described a method and an inking apparatus (50) for forming an ink pattern (80) on the surface of a form cylinder (15b) of a **printing press**, which ink pattern (80) exhibits, at least in part, a two-dimensional ink gradient extending in an axial direction and a circumferential direction on the surface of the form cylinder (15b). At least first and second chablon cylinders (20, 25) are placed one after the other along an inking path of the ink train (20, 25, 30, 31, 32, 33, 34, 35a, 35b, 36, 37) inking the form cylinder (15b) for distributing ink in the axial and circumferential directions and means (200, 201, 210, 211, 212, 250, 251, 260, 261, 262) are provided for subjecting the first and second chablon cylinders (20, 25) to cyclical oscillation movements in the axial direction and the circumferential direction.

Probable Assignee: KBA NOTASYS SA

Earliest Publication Date: 20080820

11) Family number: 57349597 (US2016039195A)

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FORME CYLINDER FOR A **SHEET**-FED ROTARY **PRINTING PRESS** FOR THE PRODUCTION OF BANKNOTES AND LIKE SECURITIES

Abstract: Source: US2016039195A There is described a **sheet**-fed rotary **printing press** (100; 200; 300) for the production of banknotes and like securities comprising at least one **printing** form cylinder (115, 125; 215; 315, 325) having one or more segments. A nominal diameter (D) of the at least one **printing** form cylinder (115, 125; 215; 315, 325) substantially corresponds to an integer multiple of a reference diameter of a one-segment cylinder (103a; 103c;...) as used for **printing** onto super-format **sheets** exhibiting a standardized format with a width of the order of 820 mm and a length of the order of 700 mm. An axial length (AL) of the at least one **printing** form cylinder (115, 125; 215; 315, 325) is comparatively greater than a nominal axial length of a corresponding **printing** form cylinder as used for **printing** onto super-format **sheets**, by an amount such that the at least one **printing** form cylinder (115, 125; 215; 315, 325) is suitable for **printing** onto large-format **sheets** having a comparatively greater width (W) than the width of super-format **sheets**. Preferably, a circumferential length (SL) of each segment of the at least one **printing** form cylinder (115, 125; 215; 315, 325) is comparatively greater than a nominal circumferential length of each segment of a corresponding **printing** form cylinder as used for **printing** onto super-format **sheets**, by an amount such that the at least one **printing** form cylinder (115, 125; 215; 315, 325) is suitable for **printing** onto large-format **sheets** having a comparatively greater length (L) than the length of super-format **sheets**.

Probable Assignee: KBA NOTASYS SA

Earliest Publication Date: 20140910

12) Family number: 54310544 (US2013180419A)

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NUMBERING AND IMPRINTING MACHINE

Abstract: Source: US2013180419A This invention discloses a numbering and imprinting machine including a number cylinder, moving inker, first cleaning device, second cleaning device, inker position detector, and control device. The number cylinder includes at least one numbering device. The moving inker includes a number inker which supplies ink onto the number cylinder, and is movable between a **printing** position at which the number inker comes into contact with the number cylinder, and a retraction position at which the number inker separates from the number cylinder. The first cleaning device cleans the number cylinder. The second cleaning device cleans the number inker. The inker position detector detects the position of the moving inker. When the inker position detector detects that the moving inker is set at the **printing** position, the control device rotates the number cylinder, drives the number inker and controls cleaning operations by the first cleaning device and the second cleaning device.

Probable Assignee: KOMORI CORP

Earliest Publication Date: 20130717

COMBINATION PRINTING PRESS

Abstract: Source: US2013098255A Provided is a combination **printing press** including a collect-**printing** unit and an offset **printing** unit configured to perform offset **printing** on a paper **sheet** subjected to collect-**printing** by the collect-**printing** unit. The collect-**printing** unit has a movable inking unit disposed below a paper transport route, and is configured to perform collect-**printing** on a lower surface of a paper **sheet**. The offset **printing** unit includes lower surface offset **printing** subunits configured to perform offset **printing** on a lower surface of a paper **sheet** subjected to the collect-**printing** by the collect-**printing** unit. The impression cylinder of a collect-**printing** subunit and the impression cylinder of the lower surface offset **printing** subunit are connected by a single transfer cylinder.

Probable Assignee: KOMORI CORP

Earliest Publication Date: 20130424

METHOD AND SYSTEM FOR PRODUCING NOTES OF SECURITIES

Abstract: Source: US2010139463A There is described a method and system for producing notes of securities, in particular banknotes, wherein individual **printed sheets** or successive **printed** portions of a continuous web are cut into individual notes on a **sheet**-fed or web-fed processing system, and wherein these individual notes are subsequently processed by a single-note processing system comprising a plurality of single-note processing stations. Individual notes corresponding to independent production cycles or dependent production cycles are produced on the **sheet**-fed or web-fed processing system, each production cycle being processed on a separate one of the single-note processing stations. Each production cycle is subdivided into a sequence of distinct production sub-cycles corresponding to successive subsets of individual notes (150) that are to be processed on the single-note processing stations, the subsets of individual notes being produced on the **sheet**-fed or web-fed processing system (300) according to a time-wise interleaved sequence of production sub-cycles corresponding to distinct production cycles.

Probable Assignee: KBA NOTASYS SA

Earliest Publication Date: 20081015

IDENTIFICATION MARK PRINTING MACHINE

Abstract: Source: US2012160116A An identification mark **printing** machine including an impression cylinder, identification mark cylinder, transfer cylinder, **inspection** cylinder, and **inspection** device. The impression cylinder holds and transports a **sheet** having an image **printed** on it. The identification mark cylinder is in contact with the impression cylinder, and further **prints** an identification mark on the **sheet** held on the impression cylinder. The transfer cylinder is in contact with the impression cylinder on the downstream side, in the direction in which the **sheet** is transported, and holds and transports the **sheet** received from the impression cylinder. The **inspection** cylinder is in contact with the transfer cylinder, and holds and transports the **sheet** received from the transfer cylinder. The **inspection** device **inspects** the identification mark **printed** on the **sheet** held on the **inspection** cylinder.

Probable Assignee: KOMORI CORP

Earliest Publication Date: 20120627

NUMBERING AND IMPRINTING MACHINE

Abstract: Source: US2013139709A This invention discloses a numbering and imprinting machine including an impression cylinder, a stamp cylinder, a first **printing** cylinder, a second **printing** cylinder, and a moving inker which includes a first ink supply device and second ink supply device. A first space is formed between the moving inker, which is set at a retraction position, and the first and second **printing** cylinders so as to permit entrance of the operator into it. A second space is formed between the stamp cylinder and the first **printing** cylinder to permit the operator who has entered the first space to access the impression cylinder.

Probable Assignee: KOMORI CORP

Earliest Publication Date: 20130605

PRINTING PRESS

Abstract: Source: US2016059541A A **printing press** includes an impression cylinder, a blanket cylinder, a collecting plate cylinder, a collecting blanket cylinder, a plurality of partial plate cylinders, a plurality of inking devices, and a dampening unit. The impression cylinder holds and transports a **sheet**. The blanket cylinder is in contact with the impression cylinder. The collecting plate cylinder is in contact with the blanket cylinder, and a lithographic **printing** plate is mounted on the collecting plate cylinder. The collecting blanket cylinder is in contact with the collecting plate cylinder. The plurality of partial plate cylinders are in contact with the collecting blanket cylinder. The plurality of inking devices supply ink to the plurality of partial plate cylinders, respectively. The dampening unit supplies dampening water to the collecting plate cylinder.

Probable Assignee: KOMORI CORP

Earliest Publication Date: 20160302

INTAGLIO PRINTING PRESS

Abstract: Source: US2013104758A An intaglio **printing press** includes a feeder, an intaglio **printing** unit, and a delivery unit and is configured to perform intaglio **printing** on a paper **sheet** W having been subjected to **printing** in a previous step. The intaglio **printing press** comprises a first **inspection** camera provided between the feeder and the intaglio **printing** unit and configured to **inspect** one surface of the paper **sheet** having been subjected to the **printing** in the previous step.

Probable Assignee: KOMORI CORP

Earliest Publication Date: 20130501

19) Family number: 1925541 (US4448121A)

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ROTARY PRINTING PRESS AND INSPECTION METHOD AND APPARATUS THEREFOR

Abstract: Source: US4448121A A rotary printing press assembly includes an inspection apparatus interposed between a sheet feeder for feeding printed sheets and a rotary printing press having a printing cylinder for printing additional indicia on the printed sheets. The inspection apparatus has a pair of inspection cylinders rotatable in opposite directions. A printed sheet is supplied from the sheet feeder and is held at its face and back against peripheral surfaces of the inspection. Detectors are disposed in confronting relationship to the peripheral surface of the inspection surface cylinders for inspecting the printed sheet on the inspection cylinders for any defect and for generating signals in response to detection of any defect on the printed sheet. The printing cylinder is movable away from an operational position adjacent an impression cylinder to an inoperational position away therefrom in response to a signal from the detectors indicating a defective sheet. The printed sheet bearing the detected defect passes unprinted between the printing and impression cylinders and the defective printed sheet is discharged.

Probable Assignee: KOMORI CORP

Earliest Publication Date: 19821214

20) Family number: 30888966 (US4109483A)

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APPARATUS FOR PRINTING WEBS

Abstract: Source: US4109483A Printing medium is supplied to a plurality of individual dot-printing elements, and these elements are used for printing a pattern on a web by applying dots of printing medium from respective ones of the elements to the web, either to the surface thereof or into the depth of the same.

Probable Assignee: MITTER M

Earliest Publication Date: 19770830

21) Family number: 63989338 (WO16180615A1)

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MACHINE FOR THE MULTISTAGE MACHINING AND/OR PROCESSING OF SHEET PRINTING MATERIALS AND SYSTEM AND METHOD FOR PRODUCING PRINTED PRODUCTS FROM SHEET PRINTING MATERIALS

Abstract: The invention relates to a machine for the multistage machining and/or processing of sheet printing materials comprising at least one, e.g. aforementioned, printing unit, which, as a printing stage of the first type, is designed to operate in accordance with a rotational continuous printing process. The sheet printing material can be guided on a printing material path through the machine between a printing material feeder and a deliverer through the printing stage operating in accordance with the rotational continuous printing process, and can be printed in-line. The printing stage operating in accordance with the rotational screen printing process comprises a screen-printing cylinder and a doctor that can be set from inside onto a screen-printing form in a sectional region on or adjacent to the nip point to an impression cylinder, and a supporting device supporting the doctor indirectly or directly, wherein at least one further sheet-processing stage different in nature and/or type from the first processing stage is provided in the printing material path. As a further processing stage, a printing stage transferring the printed image to the printing material in direct printing in accordance with a printing process different from the screen-printing process is provided in the printing material path. For the production of printed products from sheet printing materials, said printed products are printed in the screen-printing process and additionally in a further direct printing process different from the screen-printing process.

Probable Assignee: KOENIG AND BAUER AG

Earliest Publication Date: 20161117

22) Family number: 22476629 (US2539382A)

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SHEET DETECTOR CONTROL MECHANISM FOR PRINTING PRESSES

Abstract: Source: US2539382A (Claim 1) 1. A printing press including a printing couple comprising a pair of printing cylinders one of which is movable toward and away from the other into and out of printing relation with the latter, latch disc means for said latch member for normally disposing the latter in an operative position to be engaged by said latch disc means, second spring means for urging said latch disc means in a direction to move said one cylinder away from said other cylinder and engaging said latch disc means with said latch member in the normal operative position of the latter to hold said one cylinder in printing relation with said other cylinder, cam means for said latch disc means for relieving the latter from said latch member against the force of said second spring means, means associated with said latch member for rendering said first spring means inoperative and for disposing said latch member in an inoperative position free of said latch disc means, and sheet detector means including a feeler finger operable in the absence of a sheet thereat to engage said last named means, is in timed relation with operation of said cam means to engage said last named means and render said first spring means inoperative

Probable Assignee: DAVIDSON CORP

Earliest Publication Date: 19451030

23) Family number: 19039272 (GB550413A)

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IMPROVEMENTS IN OR RELATING TO PRINTING PRESSES

Abstract: Source: GB550413A Divided out of 550,523. Drawings to Specification. [Classes 100 (i) and 100 (ii)] The Specification comprises a divisional application from Specification 550,523, and the description in the two cases is substantially identical but the claims differ. The present invention is concerned mainly with a printing press in which sheets are carried around a printing roller by means of a chain formed in a closed loop, and fitted with combined register and gripping means for registering the sheets to be printed and carrying them through the printing rollers.

Probable Assignee: WILLIAM WARD DAVIDSON

Earliest Publication Date: 19430106

24) Family number: 22405772 (US2358284A)

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PRINTING PRESS

Abstract: Source: US2358284A 1. A **printing press** for **printing** the upper face of a **sheet** optionally by a raised image method or an offset lithographic method including a smaller upper cylinder and a larger lower cylinder having a. platen segment and a plate segment thereon adapted to receive B. plate, dampening means for the plate, an inking unit for the plate adapted to apply paste Ink thereto and having 9. plateengaging **roll** and including a fountain **roll**, a. second **roll** and a. ductor roll shifttable between the fountain **roll** and the second **roll**, and means actuated by a. single lever for driving the fountain **roll** intermittently and shifting the ductor **roll** in synchronism therewith; said upper cylinder being adapted to . have a transfer surface thereon for receiving an image from the plate and transferring it to the upper face of B. **sheet** on the platen, and being adapted alternatively to have a. direct **printing** member thereon with a. raised Image adapted to print the upper face of a **sheet** on said platen with paste ink, and means for detachably mounting the inking unit alternatively at two positions to cause the plate-engaging **roll** thereof to engage the direct **printing** member on the smaller cylinder or, alternatively, the surface of the plate.

Probable Assignee: DAVIDSON MFG CORP

Earliest Publication Date: 19440912

25) Family number: 1354693 (US3999480A)

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APPARATUS FOR EFFECTING SECONDARY PRINTING IN THE COURSE OF PAPER DELIVERY IN ADDITION TO PRIMARY PRINTING ACHIEVED WITHIN THE BODY OF AN OFFSET PRINTING MACHINE

Abstract: Source: US3999480A An apparatus for effecting secondary **printing** in the course of paper delivery in addition to primary **printing** achieved within the body of an offset **printing** machine comprises a delivery mechanism, a mechanism provided with a **printing** couple for performing secondary **printing**, a mechanism for applying **printing** pressure and a mechanism for arranging paper **sheets**.

Probable Assignee: HAMADA PRINTING PRESS

Earliest Publication Date: 19761228

26) Family number: 3859581 (GB1393902A)

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PRINTING LABELS

Abstract: Source: GB1393902A 1393902 **Printing** process and apparatus NEW JERSEY MACHINE CORP 31 July 1972 [3 Aug 1971] 35693/72 Addition to 1298205 Heading B6C In a method of **printing** as described and claimed in Specification 1,298,205 an image vehicle is used which has a plurality of different **printing** materials to afford a plurality of different **printing** surfaces.

Probable Assignee: NEW JERSEY MACHINE CORP

Earliest Publication Date: 19750514

27) Family number: 30195712 (WO04000556A1)

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INTAGLIO PRINTING DEVICE, THE PRINTING PRODUCTS MADE BY THIS DEVICE AND THE PROCESS FOR PRODUCING THE PRODUCTS

Abstract: The present invention relates to engraved intaglio **printing**. In particular, the invention provides an Intaglio **printing** device, the **printing** products made by this device and the process for producing the products. In the process, the **printing** stock is input between a plate cylinder and a transfer/impression cylinder at intervals, the ratio of plate number of the plate cylinder is the ratio of an even number to an odd number. After **rolling** impression, a **printing** product which has at least one unsmooth surface is obtained in only one double-sided **printing** run. The invention overcomes the defects in known art, and can achieve double-sided engraved intaglio **printing** in one process. The intaglio characters and patterns in intaglio face-to-face **printing** can be transferred mirror-imaged and identified exactly. Thus, the mirror-imaged intaglio face-to-face **printing** of the pattern on both sides of the **printing** stock can be achieved. The precision of which is greatly higher than that of the offset face-to-face **printing**. The ability of Anti-forgery is enhanced, the **printing** technological flow and the **printing** cycle can be shortened, the cost of **printing** can be reduced, and the labor capacity can be improved.

Probable Assignee: CHINA BANKNOTE PRINTING AND MINT

Earliest Publication Date: 20031231

28) Family number: 2235436 (US4843959A)

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PRODUCING PILES OF SERIALY-INDEXED PAPERS FROM A PLURALITY OF UNINDEXED IMPRINTS

Abstract: Source: US4843959A **Sheets** (s) or a web (w) of bank note imprints are advanced in single file through an indexing station (I1-4) where a unique identifying index is applied to each imprint. The indexed imprints are stacked as a pile of strips, downstream of the indexing station (I-4), and the pile of strips cut into piles of individual indexed bank notes. Strips (s) containing imprints with **printing** blemishes or incorrect indexes are rejected before reaching the stacking station (252, 255, 51, 52). Computer-control (257, 37) of the indexing units (I1-4) in the indexing station (I1-4) maintains an unbroken sequence of indexes on the imprints advanced to the stacking station (252, 255, 51, 52) despite the presence of reject strips.

Probable Assignee: KOMORI CURRENCY TECHNOLOGY UK LTD

Earliest Publication Date: 19881012

29) Family number: 23020033 (FR1336766A)

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MACHINE ROTATIVE POUR L'IMPRESSION COMPLETE DES PAPIERS FIDUCIAIRES EN GENERAL ET

**DES BILLETS DE BAUQUE EN PARTICULIER
ROTARY MACHINE FOR THE COMPLETE IMPRESSION OF TRUSTEES PAPER IN GENERAL AND NOTES
BAUQUE PARTICULARLY (MACHINE TRANSLATION)**

Abstract: Source: FR1336766A (Claim 1) 1 Machine rotative a la feuille pour l'impression complete des papiers fiduciaires en general et des billets de banque en particulier, combinant une multiplicité d'elements d'impression de manœuvre de différents procedés d'impression et produisant des feuilles complètement imprimées sur les deux cotes dans un seul tirage, comprenant essentiellement un element d'impression taille-douce rotative qui recoit la feuille du margueur et l'imprime sur l'un ou les deux cotes en une ou plusieurs couleurs; un premier systeme transporteur transferant la feuille a un element rotatif d'impression offset ou d'un element rotatif d'impression offset ou d'un element rotatif d'impression typographique directe ou indirecte qui imprime la feuille sur l'un ou les deux cotes en une ou plusieurs couleurs; un second systeme transporteur transferant la feuille a un dispositif de controle électronique de la qualité ou les feuilles rejetées sont déposées sur la table et les feuillets imprimés correctement sont dirigés par le systeme transporteur a un element rotatif de nu-merotage et de surimpression de textes, dans lequel la feuille recevra l'impression ou le gaufrage a sec de numeros, signatures, sceaux ou petits textes;

Machine translation: (Claim 1) has a rotary machine for the **sheet** the impression of complete security papers in general and in particular bank notes, combining a multiplicity of **printing** elements for maneuver of different processes in **print** and produce leaves completely **printed** on both sides in a single run, including essentially an element of intaglio **printing** tive rotation which receives the **sheet** feeder and **prints** it on one or both dimensions in one or more their necks; first system the transferring carrier **sheet** has a rotary offset **printing** element or element of a rotary offset **printing** or rotary letterpress **printing** element directly or indirectly that **prints** on the **sheet** one or both dimensions in one or more colors; a second conveyor system transferring said **sheet** has a positive electronic control of the quality or rejected **sheets** are deposited on the table and **printed sheets** are properly directed by the carrier system has a rotating element of naked merotage and text overlay, in which the **sheet** will **print** or emboss a dry numbers, signatures, seals or small text

Earliest Publication Date: 19630906

30) Family number: 26368950 (GB1157146A)

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**METHOD AND APPARATUS FOR PREPARING WEBS OF PAPER PROVIDED WITH WATER MARKS AND
SUITABLE FOR THE **PRINTING** OF DOCUMENTS SUCH AS BANKNOTES**

Abstract: Source: GB1157146A 1,157,146. Number-**printing**. MASCHINENFABRIK GOEBEL G.m.b.H. 18 Aug., 1966 [20 Aug., 1965], No. 37117/66. Heading B6C. [Also in Divisions B4 and B8] Paper webs which have a repeated watermark thereon are provided with one or more continuous series of perforations in register with the watermarks whereby during subsequent **printing** of the webs for producing, e.g. bank notes, the perforations can be employed to register the **printing** with the watermarks. In apparatus for carrying out the perforating, a watermarked web 1 passes from a **roll** 2 to feed **rollers** 3, 4, a guide **roll** 6, over a table 8, between perforating discs 12, 13 over a guide **roll** 19, between feed **rollers** 20, 21 to a wind-up **roll** 23. The **rollers** 20, 21 may be a pin-wheel feed engaging the perforations formed by the discs 20, 21. Between the **rollers** 4, 3 and **roll** 6, an electrical device 7 causes the machine to be stopped if a fault in the web is detected by the device. The faulty part may be cut out by knives 9 provided above the table 8 and the resulting ends of the web joined in correct register by adhesive strip. The feed **rollers** 3, 4, 20, 21 are driven from a shaft 31 which is coupled by gears 32, 33 to an infinitely variable gear 30 the output shaft 34 of which drives the perforator discs 12, 13. A photo-electric scanning device 11 detects a predetermined place in each watermark and causes an impulse to be transmitted to an amplifier 37. These impulses are compared in known manner with impulses transmitted to the amplifier by an electrical contact on the shaft 35 of the disc 13. If there is a time difference between the impulses due to the perforating device not operating in register with the watermarks, an auxiliary motor 38 is started to adjust the gear 30 so that timing of the perforator is corrected. Each line of perforations may be formed by pins on one of the discs 12, 13 coating with bores in the other disc, or the lower disc 13 may have projections corresponding to the size of the required perforations and be rotated at the web speed, the counter tool being constructed as a milling cutter rotating at a higher speed. For removing dust, a casing 14 encloses the perforator and has suction ports 15, 16 and blowing nozzles 17, 18. Beyond the casing 14, rotary brushes 25 connected to suction devices may be provided. Number **printing**.-Beyond the feed **rollers** 20, 21, a counter 27 which registers the number of **sheets** in the web is provided and may be operated by optical scanning of the perforations or, if the **rollers** 20, 21 are of the pin-feed type, the device 27 may be driven from the **rollers**. A number-**printing** mechanism 28 is controlled by the counter 27 so that a consecutive number is **printed** on the web whenever a predetermined number of perforations corresponding to a **sheet** length passes through the numbering mechanism.

Probable Assignee: GOEBEL GMBH MASCHF

Earliest Publication Date: 19670531

31) Family number: 18599279 (GB302966A)

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IMPROVEMENTS IN OR RELATING TO **PRINTING MACHINES**

Abstract: Source: GB302966A Rotary intaglio machines; gripper mechanism.-A rotary power plate **printing**-machine is constructed with grippers carried by discs freely mounted on the impression cylinder and driven by epicyclic gearing so as to be retarded after taking a **sheet** from the feed-board 3, Figs. 1 and 2, the **sheet** being advanced during **printing** solely by the plate cylinder 1 and impression cylinder 2. The manner of mounting and operating the grippers forms the subject matter of Specification 302,983. The **printed sheets** are delivered by a chain 4. Inking-apparatus. The plates 6, Fig. 1, are inked by **rollers** 63 supplied from a duct **roller** 40, Fig. 6. which rotates in a duct 39, and co-operating with the **roller** 40 is an adjustably actuated transfer **roller** 60 co-operating with distributing **rollers** 61, 62, 63 for applying ink to a **printing**-forme 6. The **roller** 60 is mounted in lever arms on a shaft fitted with a springpressed bell-crank lever 56 provided with a **roller** 56 normally co operating with a cam 57 on the shaft 41 of the duct **roller** 40. When desired, contact of the **roller** 60 with **roller** 40 can be prevented by means of a stop 53 engaging a projection 54 on the bell-crank 56, or this stop may be so operated as to adjust the time of contact of the **roller** 60 with the **roller** 40. 'The stop 53 is carried by a bell-crank lever 51 connected by a link 50 to a bell-crank lever 48, 49 having an adjustable screw connection 47 with lugs 46 on a lever 45 oscillated by a cam 42 on the shaft 41. By adjusting the screws 47 the movement given to the stop 53 can be varied, and thus the time of contact of the **rollers** 40, 60 can be controlled. The plates 6 are scraped by a doctor blade 8 which is provided with means for automatically removing the scraped ink from the blade 8, this ink-removing means preferably consisting of a **roller** 87, Fig. 8, with which the blade 8 is periodically brought into contact. The blade 8 is mounted on a shaft 64 and normally maintained in the position shown in Fig. 8 by a cam 80 on cylinder 2 acting on a lever arm 78 which is adjustably connected to a forked member 65 secured to the shaft 64. An adjustable spring-controlled rod 82 normally **presses** the lever 78 towards cam 80. 'When the plate 6 passes the scraper, a cam 72 rocks a lever 69 connected by a spring-**pressed** rod 68 and a pin 66 to the member 65, and the shaft 64 is moved clockwise to contact with the **roller** 87 which is mounted in adjustable levers 89. An adjustable scraper 82 keeps the **roller** 87 clean, and deposits ink into a reservoir 93. The shaft 64 is mounted in bearing 94 adjustable by screws 95. For **inspecting** the blade 8, the rod 68 may be disconnected from the member 65, and when the shaft 64 is rotated by hand in an anticlockwise direction, the spring-**pressed** rod 82 maintains the parts in the **inspection** position. After being scraped, the plates 6 are wiped by strips 9 which pass over wiping pads 10 which are reciprocated axially of cylinder 1 in guides 142, which are mounted slidably in brackets 143 and are normally **pressed** by springs so as to maintain the pads 10 in contact with the plates 6. Extensions on the guides 142 are **pressed** into contact with discs concentric with the shaft 95 of cylinder 1, and these discs maintain the pads 10 at a constant distance from the cylinder 1 whether this cylinder is in tripped or working position. The pads 10 are normally reciprocated in the guides 142 by eccentrics on a horizontal shaft driven by bevel gearing from a shaft 152 geared by bevel gearing to the shaft 37 of the chain delivery mechanism. The shaft 152 by skew gearing drives a series of eccentrics 154 which operate pawl-and-ratchet mechanism to rotate wheels 159 intermittently, the wheels 159 being geared to **rolls** 160 for winding up the strips 9 into **rolls** 161. The strips 9 are paid out by **rolls** 162 fitted with controlling brakes' for controlling the tension of the strips. Tripping-arrangements.- The shaft 95 of the plate cylinder 1 is mounted in eccentric bearings 96 which are themselves mounted in outer eccentric bearings 97 adjustable by worm-gearing operable by a spanner to adjust the **printing** pressure. The **printing** contact between the cylinders 1, 2 can be broken or made only when the plates 6 are out of alignment with the cylinder 2, and the tripping mechanism for effecting this is shown in Fig. 2, and comprises a thrust block 122 fixed to a shaft 118 on which are arms 123 connected by rods 102 to the eccentric bearings 96. The shaft 118 is rotated clockwise to throw the cylinders 1, 2 into engagement, and in the reverse direction to trip the cylinders, by means of discs 126 freely mounted on the shaft 118 geared to oscillating sectors 128 operated by cams 131 on shaft 31 which is one of the driving shafts of cylinder 2. The discs 126 are formed with shoulders which can engage one or other of two pawls pivoted to the outer ends of the thrust block 122, and these pawls are controlled by cam discs operated by a segmental gear connected by a rod to an arm on a shaft 104 which is operable by a foot-pedal 103, and in the other direction by a spring. The shaft 104 is fitted with arms engaged by catches for holding the cylinders tripped or in operative position, and these catches are controlled by cams associated with the cam member 28 for releasing the shaft 104 so as to permit the cylinders to break or make contact only when the plates 6 are out of alignment.

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