

M. BAYERDORFFER.

IMPRESSION MAKING OR PRINTING MEANS

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2 Sheets-Sheet 1



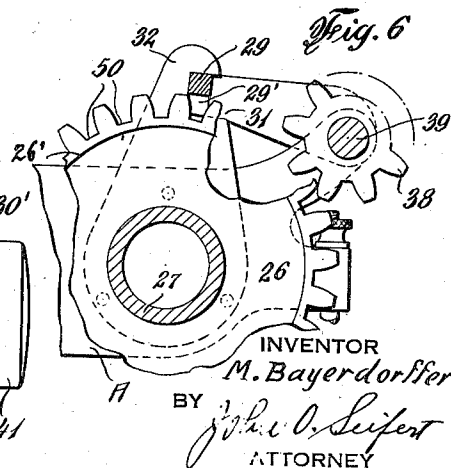
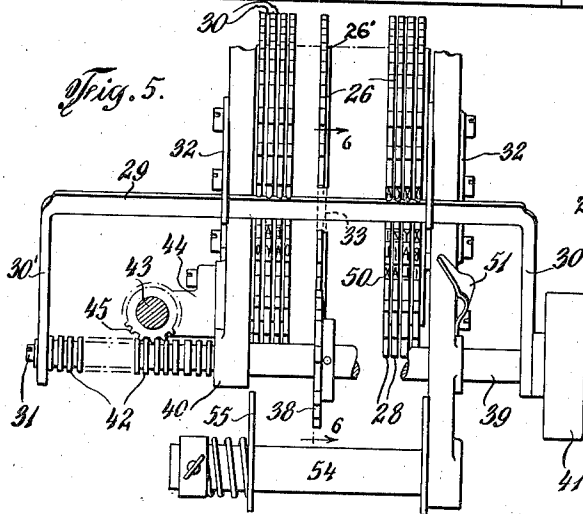
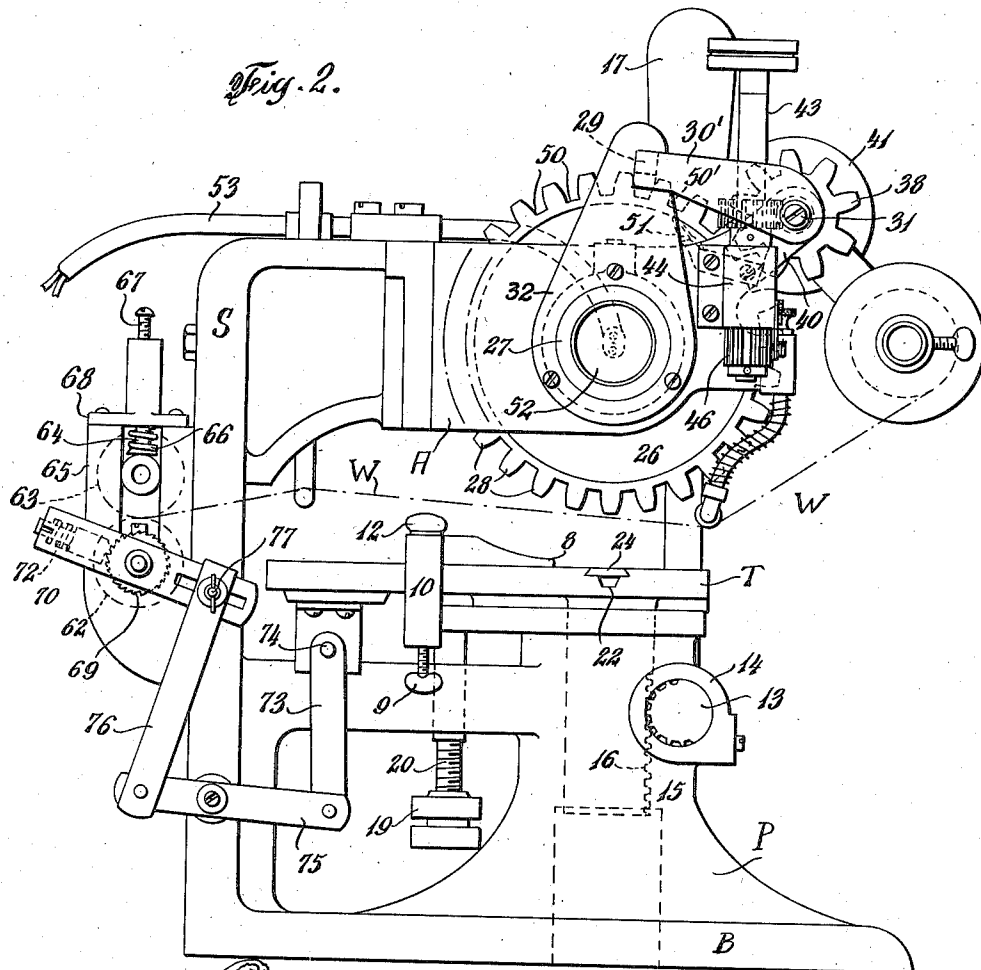
INVENTOR
M. Bayerdorffer
BY *John O. Liefert*
ATTORNEY

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2 Sheets-Sheet 2



INVENTOR
M. Bayerdorffer
BY John O. Seifert
ATTORNEY

UNITED STATES PATENT OFFICE

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IMPRESSION MAKING OR PRINTING MEANS

Max Bayerdorffer, New York, N. Y.

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6 Claims. (Cl. 101-110)

This invention relates to means for making impressions or imprints upon articles, and while the invention is adapted for various purposes and uses, it is particularly adapted to impress or imprint and simultaneously gilt characters or other indicia on articles, such as the name of the purchaser or user of a hat impressed or imprinted upon the sweat band of hats, and characters and indicia on the wood casing of pencils.

10 In apparatus of this character there is provided a platen to receive and support the article upon which the impression or imprint is to be made and impression making means and one of which is fixed and one adapted to have impression making movement toward and away from the other, the impression means comprising a series of juxtaposed wheels arranged with impression making or printing devices circumferentially spaced about the periphery of the wheels and the wheels independently adjustable one relative to the others to align in a row predetermined printing devices, such as characters, on the wheels, and it is an object of the invention to provide improved means selectively adjustable and operative to independently adjust the wheels one relative to the others and effect accurate alignment of printing devices or characters on the wheels and yielding detent means to releasably retain the selectively adjustable means in position to adjust the wheels and retain the wheels in adjusted positions with the printing devices or characters in alinement.

In apparatus of this character instead of using ink or the like to make the impression or imprint such material comprises a metallic foil, such as aluminum, silver or gold leaf, in the form of a web interposed between the platen and impression making or printing devices, the impression making or imprinting devices being arranged to sever the character or other symbol to be impressed or imprinted on an article from the metallic web, and to cause the same to adhere to the article heat and pressure is applied to the impression making means for which purpose the impression making means is heated, and it is another object of the invention to provide an improved construction and arrangement of impression making means and support therefor to apply a heating device axially to and heat the support for and the impression making means radially outward from the axis and comprising an electric heating unit adapted to be removably mounted in a hollow or tubular supporting shaft for the wheels of the impression making means.

Other objects and advantages of the invention will hereinafter appear.

In the drawings accompanying and forming a part of this application Figure 1 is a front elevation of impression making or printing apparatus embodying the invention.

Figure 2 is a side elevation looking at the left of Figure 1.

Figure 3 is a sectional detail view of selectively settable means to adjust the wheels of the impression making means and showing detent means for retaining it in adjusted position.

Figure 4 is a sectional detail view of the platen and a portion of its actuating means and a portion of the wheels with the impression making devices and showing the platen moved toward the impression making means and impressing an article thereon into contact with the impression making means to make an impression or imprint on the article.

Figure 5 is a fragmentary view looking at the top of a portion of the wheels with the impression making devices and a portion of the means to engage and hold said wheels in position with the impression making devices thereof in alinement; and

Figure 6 is a detail cross sectional view to show the mounting of the wheels arranged with the impression making devices and the construction and arrangement of the means co-operating with and holding said wheels against movement.

In carrying out the embodiment of the invention illustrated in the drawings there is provided a supporting frame for the operative parts including a base B arranged with a pedestal P and an upstanding portion S in the rear of the pedestal having a bifurcated portion A extending forwardly therefrom with the bifurcation arms spaced apart and overhanging the pedestal.

A platen in the form of a horizontal flat support or table T for the article upon which the impression or imprint is to be made is supported to have reciprocatory movement in a vertical plane by a post 7 extended from the bottom thereof slidably engaging in a bore in the pedestal P. Imprints or impressions are adapted to be made upon an article, such as a sheet of leather, paper and the like, supported on the face of the platen, and means are provided to position the sheet on the platen in register with impression making or imprinting means in register with impression making or imprinting means to make an impression in predetermined position on the sheet on the platen. For this purpose a gauge 8 extends transversely of the platen for the abutting and gauging of the leading edge of the sheet, the gauge being mounted on the platen to have adjustment toward and away from the front edge of the platen and

secured in adjusted position by set screws 9 threaded into openings in portions 10 at the ends of the gauge extended about the sides and below the platen and adapted to be impinged against the under side of the platen. A further gauge 11 is provided for a side edge of the sheet, in the present instance shown to gauge the right hand edge, and adapted to have adjustment to the right or left, said gauge being adjustably mounted on the gauge 8 and secured in adjusted position by a set screw 12 extended through a slot in the gauge 11 and threaded into the gauge 8.

To impart reciprocatory movement to the platen a shaft 13 is rotatably mounted in a transverse boss 14 at the front of the pedestal P, the shaft being provided with gear teeth 15 on the portion within the boss, as shown in dotted lines in Figure 4, meshing with rack teeth 16 arranged in the portion of the platen supporting post 7 within the pedestal P. The shaft is rotated by a hand lever 17 fixed on the shaft 13 to impart impression making movement to the platen, and the platen is urged downwardly out of impression making position by a spring 18. To gauge and limit the upward movement of the platen an abutment is adjustably carried by the platen and adapted to engage a fixed part of the framework, and shown as a nut 19 threaded onto a stem 20 extended from the bottom of the platen in the rear of the post 7 and through an opening in a connecting and reinforcing rib of the framework extending between the pedestal P and the upstanding portion S of the framework. The abutment is threaded onto the stem below the rib 21 and by the upward movement of the platen as it reaches the limit of such movement the abutment 19 engages the rib 21, and by rotating the nut onto or off from the stem such movement of the platen is controlled and limited. To gauge pencils having wood enclosing casings on the platen to make an impression in and/or imprint thereon there is provided a transverse groove of angular form in cross section in the face of the platen, as shown at 22 in Figure 2, the depth of the groove being such that when a pencil 23 is engaged therein the upper surface will be substantially flush or project slightly above the face of the table. When impressions or imprints are to be made upon sheets the upper portion of the groove is arranged as a slideway for the engagement of a closure plate of a thickness so as to be flush with the face of the platen, as shown at 24 in Figure 2. The plate may be made in sections and one section engage in the slideway to serve as a gauge for the end of the pencil 23 and secured in gauging position by a set screw 25, as shown in Figure 1.

The impression making or printing means comprises a series of impression making wheels 26 loosely mounted in juxtaposed or contiguous relation on a support in the form of a tubular or hollow shaft 27 fixed in and extending between the arms of the forwardly projecting portion A of the framework with the axis of the support or shaft superposed to and extending parallelly of the center line of the groove in the platen P. Each of the wheels has impression making devices, such as characters or symbols, equidistantly spaced about the same. In the present instance the wheels are provided with equidistantly spaced teeth, and are in the nature of gears, with the impression making devices arranged upon the periphery or apex of the teeth, as shown at 28, with at least one tooth or a portion thereof of each wheel removed or undercut to provide a

space between the teeth of adjacent wheels adapted to be alined with teeth and thus be able to make impressions of a number of words or names or single words or names having a different number of letters. The teeth of the wheels are of less thickness than the body of the wheels with one side of the teeth arranged flush with one side of the wheels, as clearly shown at the left in Figure 4, providing an annular shoulder 26' at the opposite side of the wheels which may have a diameter substantially the same as the root diameter of the teeth and effected by undercutting the peripheral portion of the wheels with the teeth. The wheels are assembled on the support therefor with the side of the wheels with the undercut portion 26' contiguous to the side of the adjacent wheel flush with the side of the teeth and thus providing a space between the tooth portions or character of adjacent wheels, as shown at 30 in Figures 4 and 5.

The wheels 26 are adapted to be rotatably adjusted one independently of the others whereby to aline the teeth of the wheels with selected or predetermined characters thereon in a row, and means are provided to retain the wheels in adjusted positions with the teeth thereof in alined rows.

To independently or individually adjust the wheels 26 on the wheel support one relative to the others to aline in a row teeth of the wheels having desired or predetermined characters in printing or impression making position and in line with and below the axis of the wheels in opposed relation to the gauge recess or groove 22 in the platen P, means are provided to rotate on an axis parallelly of the axis of the wheels 26 and have axial adjustment to cause said means to co-operate with and adjust any one of the wheels 26. As shown this means comprises a toothed wheel 38 fixed on a shaft 39 mounted in ears 40 extending forwardly and diverging upwardly from the bifurcated arms A to have rotative and axial movement with the wheel 38 positioned on the shaft between the ears 40. To manually rotate the shaft and wheel 38 a hand engaging knob 41 is fixed on one end of the shaft, in the present instance the right hand end as viewed in Figure 1.

The shaft 39 and wheel 38 are axially adjustable to position the wheel 38 with the teeth thereof in mesh with the teeth of any one of the impression making wheels 26, and to selectively axially adjust the shaft and set the wheel 38 with the teeth in mesh with a predetermined impression making wheel 26, means are provided to adjust the shaft 39 axially increments of like movement and equal to the spacing or thickness of the impression making wheels 26, yieldingly retain the shaft 39 in adjusted position and permit of rotation of the shaft and thereby of the toothed wheel 38 in adjusted position and the impression making wheel 26 the teeth of which are in mesh with the teeth of said wheel 38. For this purpose, as shown, the end portion of the shaft 39 opposite the knob 41 and projecting from an ear 40 is arranged as a rack in the form of a series of annular equidistantly spaced ribs 42, the spacing of the ribs corresponding to the spacing or thickness of the impression making wheels 26. A shaft 43 (Figure 3) is rotatably mounted in a bracket 44 fixed to the side of an arm A to rotate on an axis extending transversely of the shaft 39, said shaft 43 having a pinion 45 fixed thereon arranged with teeth to correspond to and mesh with the annular ribs 42, whereby as the pin-

ion 45 is rotated one tooth space in either direction the shaft 39 will be adjusted axially an increment of movement equal to the spacing of the impression making wheels 26, the shaft 43 having a hand engaging knob fixed thereon to facilitate the manual rotating of the shaft. To releasably retain the shaft 43 and thereby the shaft 39 in adjusted positions a second pinion 46 is fixed on the shaft 43 having the same number of teeth as the pinion 43 with which pinion 46 a spring influenced detent is adapted to co-operate, and shown as a ball 47 carried in an opening in a plate 48 fixed to the bracket 44 and the ball urged in a direction toward the pinion 46 to engage a tooth space thereof by a spring plate 49 fixed at one end to the plate 48 with the free end engaging the ball and tensioned to urge the ball toward the pinion 46. It will be obvious that as the shaft 39 is adjusted by the pinion 45 and the latter is retained against rotation by the ball 47 engaging a tooth of the pinion 46 that the engagement of one of the annular ribs on the shaft 39 with the pinion will permit of rotation of the shaft 39 in either of its adjusted positions and the setting or adjusting of any one of the impression making wheels 26.

As stated the row of the teeth of the impression making wheels 26 below and alined with the axis of the wheel support 27 in opposed relation to the center line of the groove 22 in the platen P are the impression making devices of the wheels from which the impression or imprint is to be made, and to facilitate the adjusting and setting of the impression making wheels 26 so that teeth of said wheels with the desired or predetermined characters thereon will be alined in a row below the axis of the wheel support 27, index means is provided comprising characters or other symbols on the tooth spaces of the wheels 26, as at 50, corresponding with the impression making devices or characters on the apex of the teeth of the wheels 26. The characters are so arranged on the tooth spaces that such characters alined with an index or pointer 51 fixed to the side of the framework with the extremity extended over and in the direction of the wheels 26, as shown in Figure 5, will correspond with the impression making devices or characters on the teeth of the wheels alined in impression making position below the axis of the wheels 26.

To adjust and set the impression making wheels 26 to aline teeth thereon with desired or predetermined impression making devices thereon below the axis of the wheels, the shaft 39 is axially adjusted to mesh the teeth of the wheel 38 with the teeth of the wheel 26 at either end of the series of said wheels by the rotation of the shaft 43, when the shaft 39 is rotated by the knob 41 and thereby rotatably adjusting the wheel 26 in mesh with the wheel 38 until the character on the tooth space of such wheel 26 corresponding to the character on the tooth of the wheel 26 to be positioned below the axis of the wheels 26 and indicating that such tooth is alined below the axis of the wheel comes opposite to and in alinement with the pointer 51. The shaft 39 is then axially adjusted by the rotation of the shaft 43 to mesh the teeth of wheel 38 with the teeth of the next adjacent wheel 26, or any other one of said wheels desired to be adjusted to set the same with a desired character on a tooth positioned in alinement below the axis of the wheels 26, and this operation is continued or repeated until all of the wheels 26 have been adjusted to aline teeth with the desired characters below the axis of the

wheels as indicated by the characters on the tooth spaces in line with the pointer 51.

To hold the adjusted impression making wheels 26 in adjusted position and permit of adjustment of one of said wheels 26 there is provided a bar 29 having a longitudinal portion adapted to engage in alined toothed spaces of the wheels arranged in cross sectional shape to correspond to the shape of the tooth spaces between the teeth 28 of the wheels 26, as shown in Figure 6. The bar 29 is adapted to have longitudinal movement in alined tooth spaces in synchronism with the axial adjustment of the shaft 39. For this purpose the bar 29 is connected to the shaft 39 to participate the axial adjustment of the shaft by arms 30' that may be integral with the bar 29 or separate therefrom and connected to the bar, said arms being secured to the shaft 39 to extend rearwardly therefrom, the arm 30' at the left as viewed in Figure 5 being secured to the end of the shaft 39 by a screw 31 and the opposite arm to the opposite end of the shaft 39 by the knob 41. To retain the bar 29 in engagement in alined tooth spaces of the wheels 26 and permit of longitudinal sliding movement of the bar the bar is extended through an opening in plates 32 secured, as by screws, to the outer side of the opposite arms A of the framework. To permit of rotatable adjustment of the wheels 26 the bar 29 is provided with a transverse slot in the portion of the bar formed in cross section to the shape of the tooth spaces, as shown at 29' in Figure 6, said slot being of a width slightly greater than the thickness of the teeth 28 of the wheels 26 to permit of the ready passage of the tooth portion of a wheel 26 by the rotation of said wheel. The slot 29' is arranged in the bar 29 in alinement with the wheel 38 on the shaft 39, and the bar 29 and the shaft 39 are of a length and the slot 29' arranged in the bar 29 so that when the shaft and bar are adjusted to the extreme left hand end position the bar slot 29' will be at the outer side of the wheel 26 at the extreme left of the series of wheels. By the adjustment of the shaft 39 axially to mesh the wheel 38 with a desired wheel 26 to be rotatably adjusted the bar 29 will be correspondingly longitudinally adjusted and the slot 29' positioned in alinement with the wheel 26 the teeth of which are in mesh with the wheel 38 and which is to be adjusted by the rotation of the wheel 38 and permit such wheel 26 to pass through such slot while the other wheels 26 are held against rotation by the bar 29.

Instead of utilizing ink or the like to make the impression or imprint a metallic foil, such as aluminum, silver, and preferably gold leaf, is utilized and interposed between the platen P and impression making devices on the teeth of the wheels 26. For this purpose the impression making devices or characters are in relief to serve as cutters or dies to sever the character or other symbol from the gold leaf as the impression making device is brought into contact with the gold leaf against the article or sheet on the platen P. The gold leaf or other metallic foil is of such a nature that by the application of heat simultaneously with the impression making pressure it will adhere to the article to which it is applied. For this purpose means is provided to heat the impression making wheels 26 from the axis radially outward to the impression making devices on the teeth thereof, and, as shown, comprising an electric heating unit 32 of circular form in cross section to fit snugly in and substantially of a length equal to the length of the hollow or tubular sup-

porting shaft 27 for the wheels 26. This heating unit is adapted to be engaged axially into one end of said shaft 27, as shown in dot and dash lines in Figure 1, and has electric conductors connected thereto for connecting it with a source of electric current, the conductors being carried by a cable 53.

The gold leaf is in the form of a web W wound about a core whereby it is loosely mounted on a support 54 between a pair of heads 55, 56, the one head 56 being loose on the support 54 to have sliding movement thereon and is urged toward the other head by a spring 57 confined between said head and a collar 58 secured on the support. The web W is guided between the impression making wheels and platen over a roller 54' rotatably carried on the intermediate portion of a U-shaped member 59 mounted in brackets 60 fixed to the framework by extending the end portions through openings in said brackets and retained therein by thumb nuts 61 on the ends thereof, as shown in Figure 3. The web W is fed intermittently between the impression making wheels 26 and platen P by a pair of rollers 62, 63 and the waste portion of the web is wound upon the roller 62. The roller 62 is rotatable in fixed position, and the roller 63 is supported by and rotated from the roller 62, said roller 63 having trunnions at the opposite ends whereby it is mounted to rotate and have movement toward and away from the roller 62 in guideways 64 in brackets 65 fixed to the rear of the upstanding portion S of the framework and urged toward the roller 62 by springs 66 coiled about stems 67 vertically slidable in tubular portions of a plate 68 fixed on the brackets 65 with the springs confined between said plate 68 and the trunnions of the roller. The feed rollers are operatively connected to and rotated from the movement of the platen P into and out of impression making position. For this purpose a ratchet 69 is rotatable with the roller 62 and actuated from the oscillations of a lever 70, the lever being operatively connected to the ratchet wheel by a pawl slidably carried by one arm of the lever and urged into engagement with the ratchet wheel by a spring, as at 72. As the lever 70 is moved in one direction the pawl will engage with and rotate the ratchet wheel and thereby the rollers 62, 63 to feed the web between the rollers, and the pawl will ride over the teeth of the ratchet wheel during the movement of said lever in the opposite direction. The lever 70 is operatively connected to the platen P by a link 73 pivotally connected at one end, as at 74, to the platen and at the opposite end to an arm of a lever 75 pivoted on the framework, and the lever 75 connected to the lever 70 by a link 76 pivotally connected at one end to the lever 75 and the opposite end having an adjustable connection 77 with the lever 70.

While one embodiment of the invention has been illustrated and described it will be obvious that various modifications may be made in the construction and arrangement of the parts without departing from the scope of the invention, and that portions of the invention may be used without others and come within the scope of the invention.

Having described my invention, I claim:

1. In impression making means, a fixed support, a plurality of toothed wheels arranged with impression making characters on the teeth thereof, the teeth being of less thickness than the body of the wheels with a face of the teeth extending in the plane of a side of the wheel and

arranging the wheel with an annular shoulder at the opposite side of the teeth and said wheels being mounted on the support to have independent rotative adjustment to aline predetermined characters on the teeth of the wheels and the wheels arranged with the side having the annular shoulder contiguous to the side of an adjacent wheel extending in the plane of a side of the teeth and axially space the teeth of adjacent wheels, a plate fixed on the support at each end of the wheels and having an opening in line with the tooth portion of the wheels, a longitudinally adjustable bar engaged in said plate openings and in alined tooth spaces of the wheels arranged with a transverse slot intermediate the ends adapted by the adjustment of the bar to be placed in register with any one of the wheels to permit of rotative adjustment of said wheel and hold the other wheels against rotation and retain all of the wheels in adjusted positions in one position of adjustment of the bar, a gear connected to and adjustable with the bar rotatable in the plane of the bar slot operative by the rotation thereof to adjust the impression making wheel registering with said bar slot, and means connected to the gear operative to adjust the gear and bar increments of movement of equal length and yieldingly retain the gear and bar in adjusted positions.

2. In impression making means, a fixed support, a plurality of wheels having teeth equidistantly spaced about and projecting from the periphery thereof arranged with impression making characters on the apex of the teeth, and said wheels mounted on the support in juxtaposed relation and to have independent rotative adjustment one relative to the other to aline teeth of the juxtaposed wheels having predetermined characters thereon, a shaft supported to rotate on an axis parallelly of the axis of the toothed wheels and have axial adjustment, a pinion fixed on said shaft adapted by the axial adjustment of the shaft to be meshed with the teeth of any one of the juxtaposed wheels and by the rotation of the pinion with the shaft rotate said wheel in mesh therewith, a bar engaging and longitudinally adjustable in alined tooth spaces of the juxtaposed wheels mounted on the pinion carrying shaft to extend parallelly of and participate in the axial adjustment of said shaft, said bar having a transverse slot therein in line with the pinion on the shaft adapted to be registered with the juxtaposed wheel in mesh with the pinion and permit rotative adjustment of said juxtaposed wheel by the rotation of the pinion with the shaft and hold the other juxtaposed wheels against rotation and said bar adapted to be positioned by the adjustment thereof with the pinion carrying shaft to hold all of the juxtaposed wheels against rotation in adjusted positions, means slidably engaged by the bar to hold the bar in position to engage alined tooth spaces of the wheels, and manually actuated means connected to the pinion carrying shaft operative to axially adjust said shaft with the pinion and bar increments of movement equal to the spacing of the juxtaposed toothed wheels and retain the shaft with the bar in adjusted position against axial movement while permitting rotation of the shaft in its adjusted positions.

3. Impression making means as claimed in claim 2, wherein the means to axially adjust the pinion carrying shaft comprises a pinion rotatable on an axis extending transversely of the axis of the pinion carrying shaft and meshing with 75

annular ribs on the pinion carrying shaft formed by annular grooves in said shaft, and detent means to yieldingly retain the second pinion against rotary movement in mesh with an annular rib on the pinion carrying shaft and thereby retain said shaft against axial movement in the adjusted positions thereof and permit rotation of said pinion carrying shaft.

4. In impression making means, a fixed shaft, a plurality of wheels having teeth equidistantly spaced about and projecting from the periphery thereof arranged with impression making devices thereon and the wheels mounted on said shaft in juxtaposed relation to have independent rotative movement one relative to the other to align teeth thereof having predetermined impression making devices, a shaft supported to rotate on an axis extending parallelly of the axis of the fixed shaft and to have axial adjustment and said shaft arranged with equidistantly spaced annular ribs on an end portion thereof and a hand knob on the other end to rotate the shaft, a gear fixed on said shaft adapted by the axial adjustment of the shaft to be meshed with the teeth of any one of the juxtaposed toothed wheels and operative by the rotation of the shaft to rotate said toothed wheel in mesh therewith to align a tooth with a predetermined character thereon with teeth of the other wheels having predetermined characters, a pinion rotatable on an axis extending transversely of the axis of the gear carrying shaft and adapted to mesh with the annular ribs on said shaft and by the rotation of said pinion adjust the gear carrying shaft axially in opposite directions increments of movement equal to the spacing of the juxtaposed toothed wheels and adapted to hold said gear carrying shaft in adjusted position against axial movement while permitting rotation of said shaft, a spring influenced detent means to permit of intermittent rotative movement of said second pinion and effect axial adjustment of said gear carrying shaft and hold the pinion against rotation and thereby retain the gear carrying shaft in axial adjusted position while permitting rotation of said shaft and the gear thereon to effect rotative adjustment of the toothed wheel in mesh with said gear, a bar mounted on and extending parallelly of the gear carrying shaft to participate in the axial adjustment of said shaft, said bar engaging and slidable longitudinally in aligned toothed spaces of the juxtaposed toothed wheels and having a transverse slot therein in line with the gear on the shaft and adapted to be registered with the toothed wheel in mesh with the gear to permit rotative adjustment of said toothed wheel by the gear and hold the other toothed wheels against rotation, and said bar in one position of adjustment with the shaft adapted to hold all of the juxtaposed wheels against rotation, and means to hold the bar in engagement with aligned tooth spaces of the wheels and prevent the bar participating in the rotary movement of the gear carrying shaft.

5. In impression making means, a frame, a hollow shaft fixed in the frame, a plurality of toothed wheels mounted in juxtaposed relation

on said shaft to have independent rotative adjustment one relative to the others and having impression making characters on the periphery of the teeth, a shaft mounted to rotate on an axis parallelly of the axis of the hollow shaft and axially adjustable, said shaft having a hand engaging knob on one end to manually rotate the shaft and equidistantly spaced annular ribs on the opposite end portion, a toothed wheel fixed on said shaft adapted to be meshed with the teeth of any one of the juxtaposed toothed wheels by the axial adjustment of its carrying shaft and in said position by the rotation of said shaft independently rotate the toothed wheel in mesh therewith whereby to position predetermined teeth of the juxtaposed wheels in alignment, means to axially adjust the axially adjustable shaft increments of movement equal to the spacing of the juxtaposed toothed wheels comprising a shaft rotatable on an axis transversely of the axially adjustable shaft and having a pinion thereon adapted to mesh with the annular ribs on the axially adjustable shaft, a second pinion on said transverse shaft, a spring influenced detent engaging the teeth of the second pinion to yieldingly retain said transverse shaft against rotation and thereby the axially adjustable shaft in axial adjusted position and permit rotation of said latter shaft, and a bar extending parallelly of and connected to the axially adjustable shaft to participate in the axial adjustment thereof, said bar engaging in aligned tooth spaces of the juxtaposed wheels and having a transverse slot therein in the plane of rotation of the toothed wheel on the axially adjustable shaft and adapted to be registered with and permit rotation of the juxtaposed wheel in mesh with the toothed wheel on the axially adjustable shaft and the bar retain the other juxtaposed wheels against rotation and in one adjusted position thereof with the axially adjustable shaft hold all of the juxtaposed wheels against rotation.

6. In impression making means, a fixed shaft, a plurality of wheels having teeth equidistantly spaced about and projecting from the periphery thereof arranged with impression making devices thereon and the wheels mounted on said shaft in juxtaposed relation to have independent rotative movement one relative to the other to align teeth thereof having predetermined impression making devices, a shaft supported to rotate on an axis extending parallelly of the axis of the fixed shaft and to have axial adjustment, a gear fixed on said rotary shaft adapted by the axial adjustment of the rotary shaft to be meshed with the teeth of any one of the juxtaposed wheels and operative by the rotation of the rotary shaft to rotate said wheel in mesh therewith to align a tooth with a predetermined character thereon with teeth of the other juxtaposed wheels having predetermined characters, and a second rotary shaft having a pinion and rack connection with the first rotary shaft adapted to adjust said first rotary shaft axially in opposite directions and position the gear thereon in mesh with teeth of a predetermined impression making wheel.

MAX BAYERDORFFER.