

April 3, 1928.

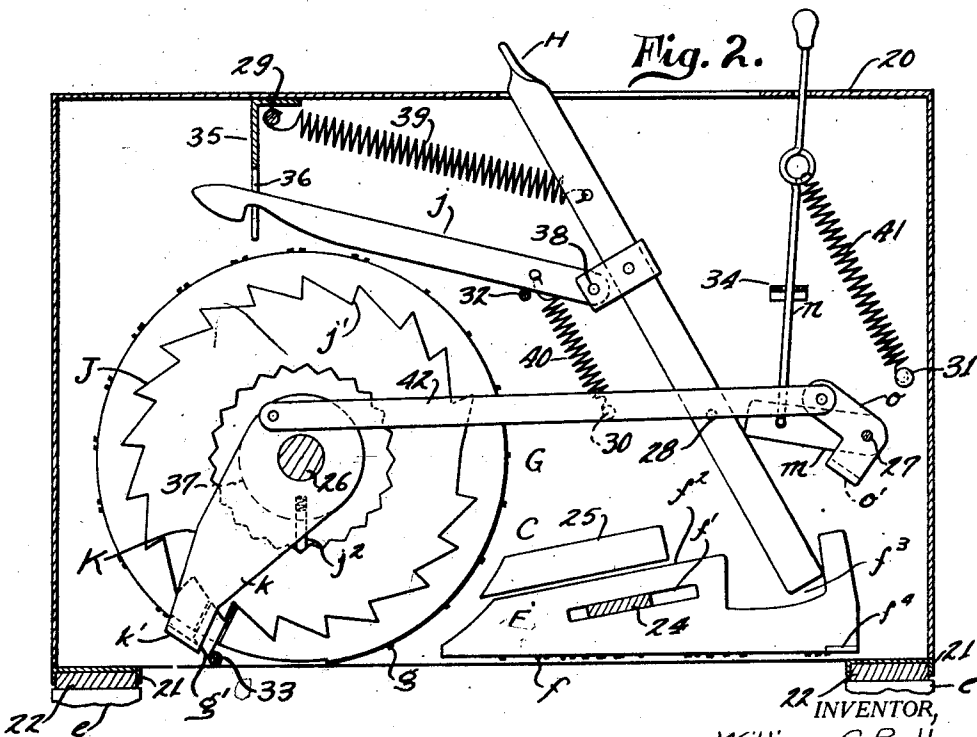
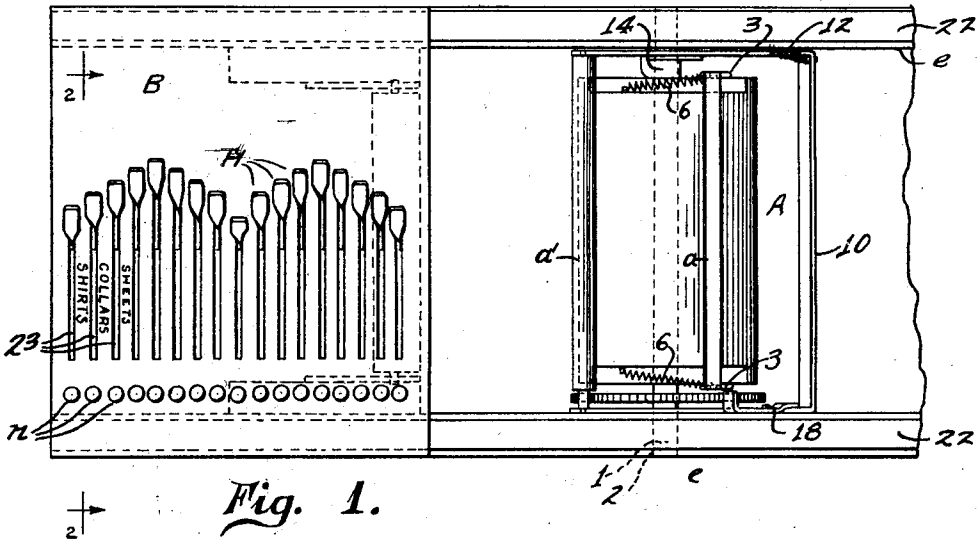
W. C. BULL

1,664,768

LISTING, COUNTING, AND PRINTING MACHINE

Filed Jan. 27, 1926

3 Sheets-Sheet 1



INVENTOR,
William C. Bull;
BY *Black & Brown*,
ATTORNEYS.

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1,664,768

LISTING, COUNTING, AND PRINTING MACHINE

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3 Sheets-Sheet 2

Fig. 3.

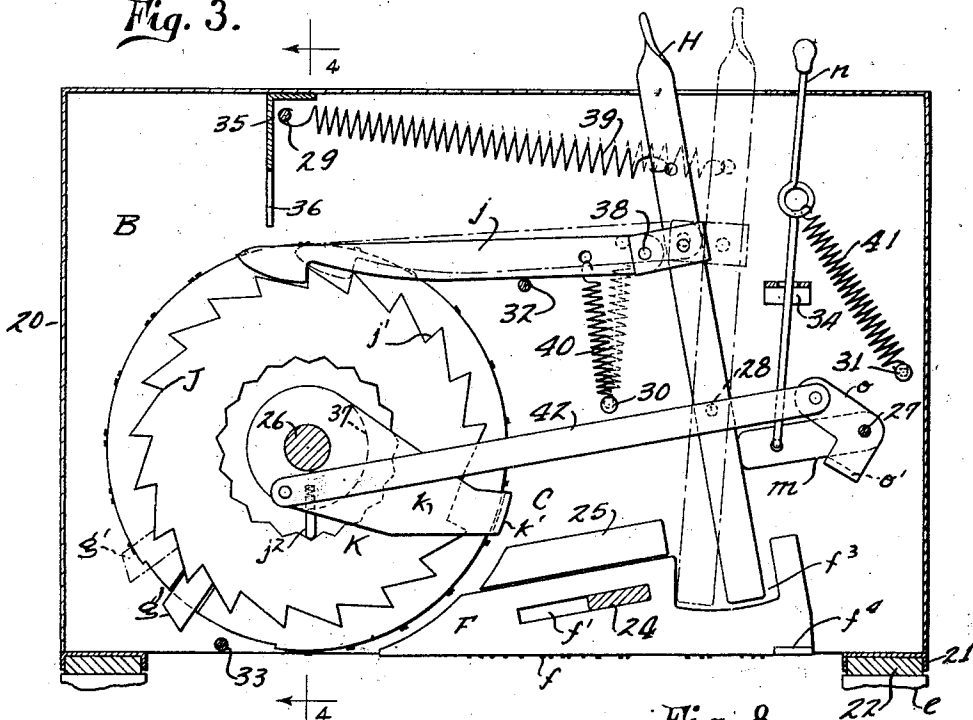


Fig. 7.

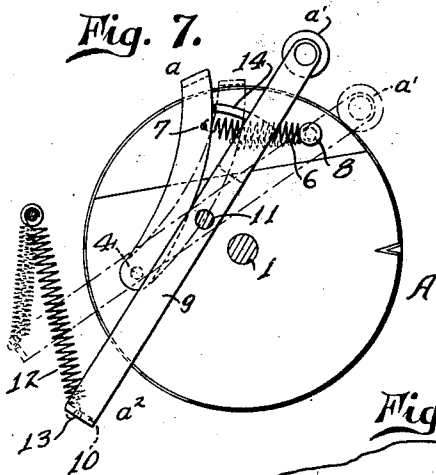


Fig. 8.

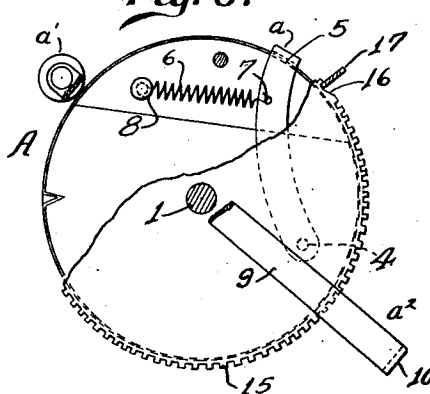
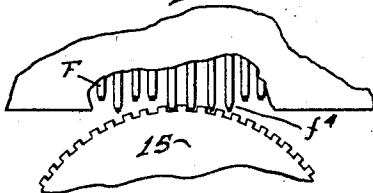


Fig. 9.



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April 3, 1928.

1,664,768

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LISTING, COUNTING, AND PRINTING MACHINE

Filed Jan. 27, 1926

3 Sheets-Sheet 3

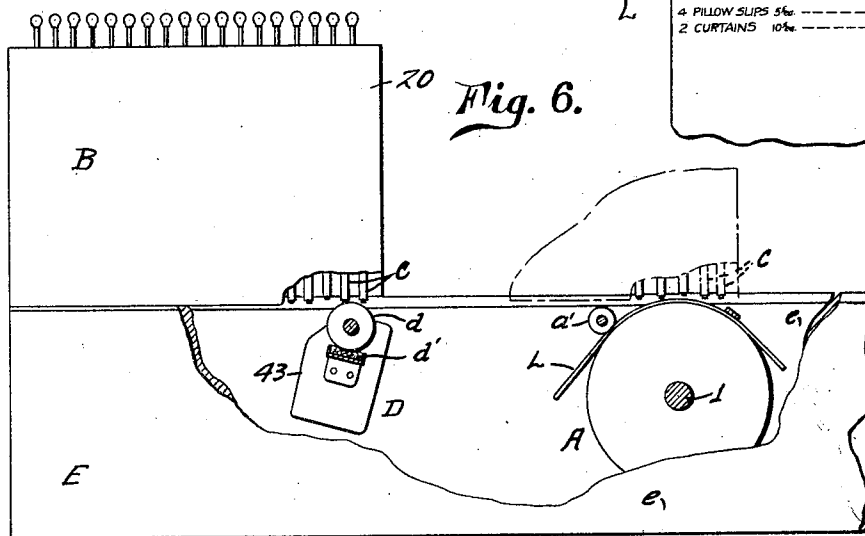
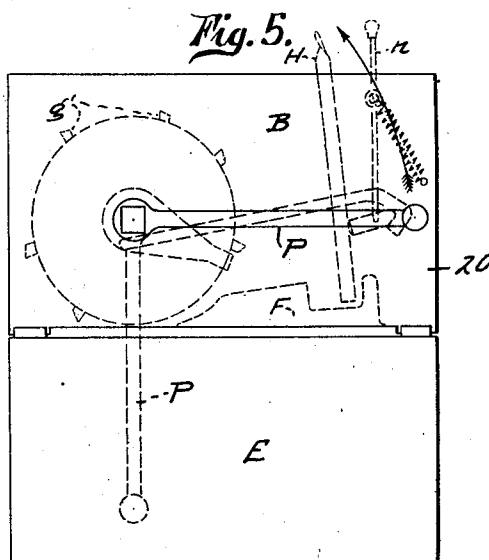
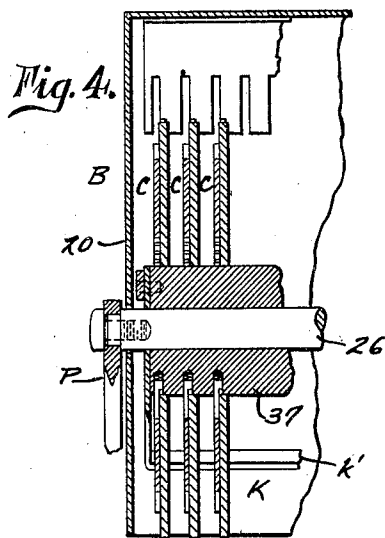


Fig. 10.

JOHN DOE LAUNDRY		
☐		
1 SHIRT	10¢	-----
2 COLLARS	5¢	-----
3 TIES	5¢	-----
4 PILLOW SLIPS	5¢	-----
2 CURTAINS	10¢	-----

BY

INVENTOR,
William C. Bull;

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ATTORNEYS.

Patented Apr. 3, 1928.

1,664,768

UNITED STATES PATENT OFFICE.

WILLIAM C. BULL, OF LOS ANGELES, CALIFORNIA.

LISTING, COUNTING, AND PRINTING MACHINE.

Application filed January 27, 1926. Serial No. 84,040.

This invention relates to a listing, counting and printing machine for making up a list of articles, counting each article, and printing the list and the result of the count of each article.

An important object of my invention is to provide a machine of the character stated which may be used by laundries for making up lists of clothes and other articles to be laundered, counting each of the articles in the list and printing the list together with the laundry price and the result of count of each article opposite the same.

It is at present the practice of laundries to print on sheets of paper a list of every kind of article that may be laundered, together with the laundry price of each article opposite the same; and when it is desired to list a bundle of laundry, a check mark is made on one of said printed sheets on the name of each article thereon, corresponding to a like article or articles in said bundle, and the number of each of the articles in the bundle is written on said sheet opposite the name of said article which has been checked on the sheet.

The disadvantage of this practice is that the articles checked on the sheet may be scattered, that is to say, one article may be checked at the top of the sheet, another at the bottom and another half way between the top and bottom of the sheet, which makes the laundry list hard to read, and makes it difficult to add up the number of articles checked and the total laundry price thereof.

It is another object of my invention to print the list of articles, with their laundry prices and the numbers thereof, consecutively together so that the list may be more easily read and checked and the total laundry price thereof more easily added up, thus effecting a considerable saving of time and labor in checking and bookkeeping and making it possible for the operative in the distributing room to determine readily how large a space to reserve for the laundry bundle.

Another object is to provide a machine of the character stated which will be "fool proof", that is to say, it will prevent mistakes in listing, because it will print only the names of those articles handled which are contained in a bundle.

The invention has for a further object the provision of improvements of the gen-

eral character stated, which will be generally superior in point of relative simplicity and inexpensiveness of construction, taken in connection with positiveness and reliability in action and performance, and convenience in handling and manipulation, and which will be generally superior in efficiency and serviceability.

With the above and other objects in view, the invention consists in the novel and useful provision, formation, construction, combination, association and relative arrangement of parts, members and features, all as hereinafter described, shown in the drawing, and finally pointed out in claims.

The invention is illustrated in the annexed drawings which form a part of this specification and in which,

Figure 1 is a plan view of my invention with the parts shown in their initial and non-printing position;

Figure 2 is a transverse vertical section of my invention taken on the line 2—2 of Fig. 1, showing one of the printing units in its initial and non-printing position;

Figure 3 is a view like Fig. 2 except that the printing unit is shown set for printing;

Fig. 4 is a fragmentary transverse vertical section taken on the line 4—4 of Fig. 3;

Fig. 5 is a front end view of the invention;

Fig. 6 is a side elevation of the invention with the printing carriage shown in full lines in its initial nonprinting position and in dotted lines in printing position, and with the base frame broken away to show the inking roller and printing cylinder;

Fig. 7 is a view of one end of the printing cylinder;

Fig. 8 is a view of the other end of the printing cylinder;

Fig. 9 is a fragmentary view of the printing cylinder gear and printing cylinder, showing certain listing type bars engaging the teeth of said gear for intermittently advancing the gear and cylinder, when an article has been printed in the sheet, to bring the sheet in position for the next article on the list to be printed; and,

Fig. 10 is a face view of a laundry list made up and printed on my machine.

Corresponding parts in all the figures are designated by the same reference characters.

Referring with particularity to the drawings my invention comprises generally a printing cylinder A, a printing carriage B, a

plurality of printing units C mounted in said carriage, and an inking device D, all of which elements are mounted on a box-shaped base member E.

5 The printing cylinder A is secured on a shaft 1 which is journaled at its ends in the side walls *e* of the base member E as at 2 so the cylinder is journaled transversely within the base member with its upper side
10 coincident with the upper edge of said member. On the cylinder A is mounted a paper clamp *a* which comprises a pair of arms 3, pivoted at 4 to the ends respectively of the cylinder, and a clamp bar 5 connected at its
15 ends to the outer ends of said arms and extending longitudinally over the periphery of the cylinder, there being springs 6 connected at one end to said arms at 7 and at their other ends to the ends of the cylinder at 8
20 for normally holding the clamp *a* in clamping position with its bar 5 against the forward portion of a list sheet L which is placed on the cylinder whereby said sheet is clamped on the cylinder by said clamp as shown in
25 Fig. 6. The name and address of the laundry may be previously printed on the list sheet. A guide roller *a'* engages and holds the rear portion of the sheet L on the cylinder A, which roller is journaled in a swing frame
30 *a*², comprising a pair of arms 9 and a connecting member 10 connecting the lower ends of said arms, the arms being fulcrumed on pivots 11 secured in the side wall *e* of the base member E and the guide roller *a'* being
35 journaled in the outer ends of said arms, there being springs 12 connected at one end to the frame bar 10 at 13 and at their other ends to the side walls *e* of the base member E, which springs hold the frame with the
40 roller *a'* in engagement with the list sheet L, as shown in Fig. 7 in dotted lines. On the swing frame arms 9 are projections 14 for engaging the clamp arms 3 and swinging the clamp *a* out of engagement with the list
45 sheet L, when the swing frame *a*² is swung on its fulcrum against the tension of its springs 12, and the roller *a'* released from the sheet, thus releasing the sheet so that it may be removed from the cylinder. On the
50 cylinder shaft 1 between one end of the cylinder A and the adjacent side wall *e* is secured a gear 15 provided with a notch 16 in its periphery to receive a latch 17 which is pivoted at 18 to the inside of one of the side
55 walls *e* whereby the cylinder and the list sheet clamped thereon are locked in their initial printing position as shown in Figs. 1 and 8.

The printing carriage B includes a box-shaped casing 20 open at the bottom and
60 mounted at its sides on channel-shaped slides 21 which slide on tracks 22 secured on the upper edges of the side walls *e* of the base member E whereby the printing carriage B is mounted to slide on the base member over

the printing cylinder A. The upper wall of the casing 20 is provided with a plurality of transverse slots 23. Transversely inclined bars 24 and 25, shafts 26 and 27, rods 28, 29, 30, 31, 32 and 33 and a guide member 34 extend longitudinally within the casing 20, said bars, rods and guide member being secured at their ends to the end walls of said casing, while the ends of said shafts extend through said end walls and are journaled therein.
70 To the upper wall of the casing 20 within the casing is secured a vertically depending guide plate 35 provided with vertical slots 36 extending upwardly from the lower edge thereof. A stationary sleeve 37 is mounted
80 on the shaft 26 within the casing 20.

Each printing unit C includes a type bar F with type *f* for printing the name of an article, a type wheel G with type *g* for printing the number of said articles to be listed,
85 an actuating lever H fulcrumed on rod 28, a ratchet wheel J secured concentrically to said type wheel, a pawl *j* pivoted to said actuating lever at 38 for engaging the teeth of said ratchet, a concentric locking rack *j'* cut in the ratchet wheel J, a spring, dog *j*² mounted in the sleeve 37 for engaging said rack, a detent *m* fulcrumed on the shaft 27 and a pull rod *n* connected to said detent.
90 The type bar F is provided with an inclined slot *f*¹ through which extends the inclined bar 24, and the upper edge *f*² of said type bar is inclined parallel to the under side of bar 25 for engagement therewith. The type bar F is provided with a notch *f*³ in its upper edge near its outer end to receive the lower end of the actuating lever H. A part *f*⁴ of the lower edge of the type bar F at the outer end of the bar is adapted to engage the teeth of the cylinder gear 15. The type wheel G
95 is turnably mounted on the stationary sleeve 37. The upper end of the lever H extends through a slot 23 in the upper wall of the carriage casing 20. The levers H of adjacent units C are of different lengths so that the upper end of any lever may be readily grasped without grasping at the same time another adjacent lever, thus preventing inaccuracies in printing by setting the wrong type. The upper portion of the lever H is
100 connected to one end of a spring 39 which is connected at its other end to the rod 29, which spring resists outward movement of the lever. The pawl *j* is connected to the upper end of a spring 40 which is connected at its lower end to the rod 30, said spring normally holding the pawl in engagement with the teeth of the ratchet J. The lower edge of the pawl *j* rests upon the rod 32 which serves as a guide for lifting the en-
105 gaging end of the pawl out of engagement with the teeth of the ratchet *j'* into a slot 36 when the lever H is swung to its extreme inward position, in which slot the pawl is held in alignment for swinging down into en-
130

engagement with the ratchet when the lever H is swung outwardly. The pull rod *n* extends through an opening *n'* in the top wall of casing 20, and through the guide 34, and is connected at its lower end to the detent *m*. The push rod is also connected to the upper end of a spring 41, the lower end of which is connected to the rod 31, which spring resists upward movement of the push rod.

On the type wheel G is provided a lug *g'* which projects beyond the periphery of the wheel and is arranged to engage the rod 33 to arrest the return movement of the type wheel in zero position.

A return actuator K is provided for returning the type wheels G of all of the printing units C to zero position when said wheels have printed their selected members on a list sheet, which actuator comprises a pair of arms *k* and a bar *k'* connecting the outer ends of said arms and extending across the peripheries of the type wheels of all of said units, the inner ends of said arms being secured on the shaft 26 within the casing 20, between the end walls of said casing and the ends of the sleeve 37 (see Fig. 4). To one of the arms *k* of the return actuator K is connected one end of a link 42, the other end of which is connected to one arm of one of a pair of bell cranks fulcrumed on the shaft 27. The other arms of said bell cranks are connected to a bar *o'* for engaging the lower edge of the detents *m* for the purpose hereinafter more fully set forth. On the front end of the shaft 26 outside the casing 20 is secured a crank P.

On the top wall of the carriage casing 20 adjacent the slots 13 respectively are placed the names of the various articles that may be printed by the machine on the list sheet, such as Shirts, Collars, Handkerchiefs, etc. to indicate which levers H should be pulled to count the numbers of the different articles to be listed and to set the number wheels G to print said numbers.

The inking device D comprises a frame 43, secured to the inside of the side walls *e* of the base member E, an ink roller *d* journaled in the upper part of said frame transversely of said base member in position to ink the set type bars F and type wheels G when the carriage passes over said roller, and an ink pad *d'* mounted in said frame for wiping said ink roller and applying ink thereto.

The operation of my invention is as follows:

The printing carriage B is at first at the left end of the base member E as shown in Figs. 1 and 6. The cylinder A is held in position to receive a list sheet L, by the engagement of the latch 17 with the notch 16 in the gear 15. A list sheet is inserted under the guide roller *a'* and the clamp *a* on top of the cylinder A and clamped by said clamp

and roller upon said cylinder in position for printing. The crank P is in horizontal position as shown in Fig. 5 and the return actuator K is in the position shown in dotted lines in Fig. 5 and in full lines shown in Fig. 3. The detent *m* is up out of locking position (see Fig. 2). A bundle of laundry being opened nearby the machine, when an article such as a shirt is picked up, the lever H, indicated Shirts, is pulled forwardly into the position shown in dotted lines in Fig. 3, whereupon the lower end of said lever engages the rear edge of the notch *f*³ and forces the type bar F rearwardly, while the pawl *j* is drawn forwardly out of the guide plate 35 into engagement with a tooth of the ratchet J, whereby the type wheel G is advanced one unit or from zero to 1 with the type *g* of said wheel bearing the numeral 1 in its lowermost and printing position in which position the wheel is held by the dog *j*² and rack *j'*. The rearward movement of the type bar F brings the inclined bar 24 into engagement with the sides of the slot *f'* and the inclined bar 25 into engagement with the upper edge of the type bar, whereby the type bar F bearing the type *f* with the word Shirts is caused to be lowered so that said type will be in printing position. When the lever H is pulled forwardly as above described the detent *m* is forced downwardly by the pull rod *n* under the influence of the spring 41, so as to engage the rear edge of the lever H to limit the return movement of said lever under the influence of its spring 39 and prevent the lever from withdrawing the type bar F from printing position, but at the same time allow sufficient forward movement of the lever to enable the pawl *j* to advance the ratchet J one tooth and the type wheel G one unit each time such movement of the lever is effected, as illustrated in Fig. 3. If another shirt is picked up from the bundle, the lever H will be pulled forwardly from its dog-locked position, shown in full lines in Fig. 3, to its dotted line position, shown in said figure, whereupon the pawl *j* will advance the ratchet J one tooth and the type wheel G one unit, in which position of the type wheel the type *g* bearing the numeral 2 will be in its lowermost and printing position. For each additional shirt found in the bundle the last described operation of the lever will be repeated, so that lowermost type *g* of the wheel G will bear the number corresponding to the number of shirts in the bundle.

When other articles such as collars, handkerchiefs, etc. are found in the bundle the levers H corresponding to said articles, will be operated to set the type bars F and type wheels G to print the name and number of such articles, in the same manner that the lever H corresponding to shirts was operated to set the type bar F and type wheel G to

print the name and number of shirts found in the bundle as above described.

When all of the type bars and type wheels are set for printing the names and numbers of the different articles, the carriage B is moved on its tracks 22 to the right first over the inking device D and then over the cylinder A. As the carriage is moved over the inking device, the type *f* and *g* on the type bars F and G which are set for printing, are inked by the inking roller *d*.

As the foremost unit C, whose type bar and type wheel are set for printing, is moved over the cylinder A and the name and number of an article printed by said unit on the list sheet L on said cylinder, the edge *f*⁴ of the type bar F of said unit will engage a tooth or gear 15 (see Fig. 9) and rotate the cylinder A a short distance equal to the predetermined space between two adjacent items on the list sheet L, so that the next unit C may print the name and number of its article directly under the name and number of the article printed by said first unit, the latch 17 being lifted by hand out of the notch 16 to permit such rotation of the cylinder. The carriage being moved further to the right, the second unit C will print the name and number of its article directly under the name and number of the article printed by the first unit, while the edge *f*⁴ of said second unit will engage a tooth of gear 15 and rotate the cylinder a short distance so that the third unit C may print the name and number of its article directly under the name and number of the second unit. The above described operations will be repeated upon further movement of the carriage B to the right until every unit C, set for printing, has passed over the cylinder and the name and number of every article in the bundle will be printed one immediately under the other on the list sheet L.

When the list, including the name, number and laundry price of each article is printed on the list sheet L, the crank P is rotated counter-clockwise which correspondingly rotates the shaft 26 and return actuator K, and through the medium of link 42, the bell cranks O on shaft 27 are correspondingly swung, whereupon the bar K' of the return actuator engages the lugs *g*' of the type wheels G, of all the printing units C which have printed their items on the list sheet L, and rotates said wheels counter-clockwise until arrested in their zero position by the engagement of said lugs with the rod 33, while the bar *o*' of said bell cranks engages the lower edges of the detents *m* and lift the detents out of limiting relation to the levers H, whereupon the springs 39 of the said units C swing the levers H which are connected to said springs back to their initial position, during which operation the pawls *i* connected to said levers are moved

rearward and swung upwardly by their engagement with rod 32 into slots 36 in guide plate 35, while the lower ends of said levers engage the forward edges of the notches *f*³ of the type bars F of the units which have printed their items and withdraw the type bars forwardly and upwardly out of printing position. The crank P is then swung clockwise back into its initial position and the printing carriage B is moved on its tracks 22 back to the left or front end of the base member E. The cylinder A is rotated by hand counter-clockwise until the latch 17 engages the notch 16 in gear 15 and arrests the cylinder in its initial printing position. The swing frame *a*² is swung counter-clockwise and guide roller *a*' lifted out of engagement with list sheet L, while the projection 14 engages an arm 3 of clamp *a* and swings said clamp out of engagement with said sheet. The printed list sheet is then removed from the cylinder.

Any individual detent *m* may be lifted out of limiting relation with a lever H by pulling up the pull rod *n* connected to the detent, so that the lever may be swung by its spring 39 back into its initial position and the lower end of the lever caused to engage and withdraw the type bar F from printing position.

Referring to Fig. 10 it will be seen that my machine prints the name, number and price of each item immediately adjacent the name, number and price of another item so that all of the items are grouped close together and not scattered apart as in the present practice of listing.

With the items listed close together by my machine they may be more easily read and their numbers and prices more easily added than is possible when the items are scattered, thus effecting a considerable saving of time and labor in checking and bookkeeping and making it possible for the operative in the distributing room to determine readily how large a space to reserve for the laundry bundle.

It is obvious that many changes and variations may be made in the general and particular construction of the device and its parts and features, in relation to the recitals hereinabove made in that regard, in practicing the invention, and in adapting it to varying conditions of use and service, without departing from the true spirit of the invention.

Having thus disclosed my invention, I claim and desire to secure by Letters Patent:

1. In a machine of the character disclosed, an impression cylinder, means for clamping a list sheet on said cylinder, a printing carriage, a plurality of printing units on said carriage, each unit comprising a type bar for printing the name of an article, a type

wheel for printing the number of the article, means for setting said type bar and said type wheel in printing position for printing on said sheet when the carriage is moved over said cylinder, and means for advancing the cylinder a short distance each time an item is printed on said sheet so that the next item may be printed on said sheet immediately against said preceding item.

2. In a machine of the character disclosed, an impression cylinder, means for clamping a list sheet on said cylinder, a printing carriage, a plurality of printing units on said carriage, means for setting each unit in printing position for printing an item on said sheet when said carriage is moved over said sheet and cylinder, and means for advancing the cylinder each time an item is printed on said sheet so that the next item may be printed by another unit on said sheet immediately adjacent said preceding item.

3. In a machine of the character disclosed, an impression cylinder, means for clamping a list sheet on said cylinder, a printing carriage, a plurality of printing units on said carriage, means for setting each unit in printing position for printing an item on said sheet when said carriage is moved over said sheet and cylinder, means for advancing the cylinder each time an item is printed on said sheet so that the next item may be printed by another unit on said sheet immediately adjacent said preceding item, and means for inking the type of said printing units.

4. In a machine of the character disclosed, an impression cylinder, means for clamping a list sheet on said cylinder, a printing carriage, a plurality of printing units on said carriage, means for setting each unit in printing position for printing an item on said sheet when said carriage is moved over said sheet and cylinder, a gear mounted to turn with said cylinder, and parts on said carriage for engaging said gear and advancing the cylinder each time an item is printed on the sheet, so that the next item may be printed by another unit on said sheet immediately adjacent the preceding item.

5. In a machine of the character disclosed, an impression cylinder, means for clamping a list sheet on said cylinder, a printing carriage, a plurality of printing units on said carriage, means for setting each unit in printing position for printing an item on said sheet when said carriage is moved over said sheet and cylinder, a gear mounted to turn with said cylinder, and parts on said carriage for engaging said gear and advancing the cylinder each time an item is printed on the sheet, so that the next item may be printed by another unit on said sheet immediately adjacent the preceding item; said

gear being provided with a notch, and a latch for engaging said notch to hold the cylinder in the proper position for holding the list sheet in its initial printing position, but allowing the cylinder to be advanced as aforesaid.

6. In a machine of the character disclosed, an impression cylinder, means for clamping a list sheet on said cylinder, a printing carriage, a plurality of printing units on said carriage, each unit comprising a type bar for printing the name of an article, a type wheel for printing the number of the article, means for mounting said type bar to be lowered when moved rearwardly and elevated when moved forwardly, said bar being provided with a notch, an actuating lever having its lower end extended into said notch, a spring connected to said lever and normally holding the lever in its initial position with the lower end of the lever engaging said notch and holding the type bar in its forward elevated and non-printing position, a ratchet secured to said type wheel, a pawl connected to said lever, means engaged by said pawl for holding the pawl out of engagement with said ratchet when said lever is held by its spring in its initial position, the lever being arranged so that when swung forwardly its lower end will engage said notch and move said type bar rearwardly and downwardly into printing position and the pawl will be swung down into engagement with said ratchet and the ratchet advanced one tooth and the type wheel advanced one unit for printing, a detent for engaging said lever, when swung forwardly to set said type bar and type wheel in printing position as aforesaid, whereby the movement of the lever is limited so that it will not actuate the type bar but may be swung forwardly sufficient to cause said pawl to advance said ratchet one tooth and said type wheel one unit, said carriage being arranged to pass over said cylinder to cause the set type bars and type wheels of the units to print on the list sheet on said cylinder, means for restoring said type wheels to zero position, and means connected to said restoring means to release said detent from said lever to allow the lever spring to swing said lever to elevate said type bar from printing position and to elevate said pawls from said ratchets when the units have printed the list.

7. In a machine of the character disclosed, an impression cylinder, means for clamping a list sheet on said cylinder, a printing carriage, a plurality of printing units on said carriage, each unit comprising a type bar for printing the name of an article, a type wheel for printing the number of the article, means for mounting said type bar to be lowered when moved rearwardly and elevated when moved forwardly, said bar being provided with a notch, an actuating lever having its

lower end extended into said notch, a spring connected to said lever and normally holding the lever in its initial position with the lower end of the lever engaging said notch and holding the type bar in its forward elevated and non-printing position, a ratchet secured to said type wheel, a pawl connected to said lever, means engaged by said pawl for holding the pawl out of engagement with said ratchet when said lever is held by its spring in its initial position, the lever being arranged so that when swung forwardly its lower end will engage said notch and move said type bar rearwardly and downwardly into printing position and the pawl will be swung down into engagement with said ratchet and the ratchet advanced one tooth and the type wheel advanced one unit for printing, a detent for engaging said lever, when swung forwardly to set said type bar and type wheel in printing position as aforesaid, whereby the movement of the lever is limited so that it will not actuate the type bar but may be swung forwardly sufficient to cause said pawl to advance said ratchet one tooth and said type wheel one unit, said carriage being arranged to pass over said cylinder to cause the set type bars and type wheels of the units to print on the list sheet on said cylinder, a lug on the type wheel of each of said units, a return actuator mounted to be rotated to engage the lugs on all of said type wheels to return the same to zero position, a shaft, a bell crank frame on said shaft associated with said detents, and a link connecting said return actuator and one arm of said bell cranks, so that said bell crank frame will release the detents from said levers, when said return actuator is actuated, to enable the lever springs to swing the levers to elevate the type bars from printing position and said pawls from said ratchets.

8. In a machine of the character disclosed, an impression cylinder, means for clamping a list sheet on said cylinder, a printing carriage, a plurality of printing units on said carriage, each unit comprising a type bar for printing the name of an article, a type wheel for printing the number of the article, means for mounting said type bar to be lowered when moved rearwardly and elevated when moved forwardly, said bar being provided with a notch, an actuating lever having its lower end extended into said notch, a spring connected to said lever and normally holding the lever in its initial position with the lower end of the lever engaging said notch and holding the type bar in its forward elevated and non-printing position, a ratchet secured to said type wheel, a pawl connected to said lever, means engaged by said pawl for holding the pawl out of engagement with said ratchet when said lever is held by its spring in its initial

position, the lever being arranged so that when swung forwardly its lower end will engage said notch and move said type bar rearwardly and downwardly into printing position and the pawl will be swung down into engagement with said ratchet and the ratchet advanced one tooth and the type wheel advanced one unit for printing, a detent for engaging said lever, when swung forwardly to set said type bar and type wheel in printing position as aforesaid, whereby the movement of the lever is limited so that it will not actuate the type bar but may be swung forwardly sufficient to cause said pawl to advance said ratchet one tooth and said type wheel one unit, said carriage being arranged to pass over said cylinder to cause the set type bars and type wheels of the units to print on the list sheet on said cylinder, a lug on the type wheel of each of said units, a return actuator mounted to be rotated to engage the lugs on all of said type wheels to return the same to zero position, a shaft, a bell crank frame on said shaft associated with said detents respectively, and a link connecting said return actuator and one arm of said bell crank frame, so that said bell crank frame will release the detents from said levers, when said return actuator is actuated, to enable the lever springs to swing the levers to elevate the type bars from printing position and said pawls from said ratchets, and a pull rod connected to each of said detents for independently releasing any detent from a lever.

9. In a machine as disclosed, an impression cylinder, means for holding a list sheet on said cylinder in printing position, a printing carriage, a plurality of printing units mounted in said carriage, each of said units including a type bar mounted to be lowered into printing position when moved rearwardly and out of printing position when moved forwardly, said type bar having a notch therein, a lever fulcrumed with its lower end in said notch, so that when the lever is moved one way the type bar will be lowered into printing position and when moved the other way the bar will be raised out of printing position, a detent for engaging said lever for limiting its movement so that the lever will not move the type bar when in printing position, a number printing element, means connected to said lever for advancing said number printing element, means for releasing the detents from the levers of all of the units, and a spring connected to the lever of each unit for returning the lever to its initial position and for causing said lever to raise the type bar from printing position, said carriage being mounted to be moved so that said type bar and number printing element will print on the list sheet on said cylinder.

10. In a machine as disclosed, an impression cylinder, means for holding a list sheet on said cylinder in printing position, a printing carriage, a plurality of printing units mounted in said carriage, each of said units including a type bar mounted to be lowered into printing position when moved rearwardly and out of printing position when moved forwardly, said type bar having a notch therein, a lever fulcrumed with its lower end in said notch, so that when the lever is moved one way the type bar will be lowered into printing position and when moved the other way the bar will be raised out of printing position, a detent for engaging said lever for limiting its movement so that the lever will not move the type bar when in printing position, a number printing element, means connected to said lever for advancing said number printing element, means for releasing the detents from the levers of all of the units, and a spring connected to the lever of each unit for returning the lever to its initial position and for causing said lever to raise the type bar from printing position, said carriage being mounted to be moved so that said type bar and number printing element will print on the list sheet on said cylinder, and a pull rod connected to each detent for independently releasing the same from the lever which it engages.

In testimony whereof, I have signed my name.

WILLIAM C. BULL.