

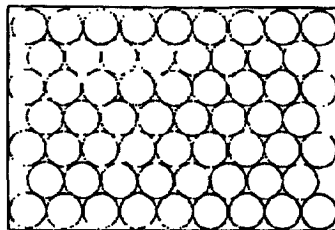
Murray
In Shop Office System

WRS
APR 13 1907

W. BLISS C^o of New-York. - European Office : 4, Rue Huntziger - CLICHY (near Paris).

THE "WILZIN PATENT METHOD"
OF
PUNCHING LIDS & BOXES

out of the full sheet in zig-zag fashion.



**GREAT SAVING
OF TIN PLATE & LABOR**

NO MORE DANGER

for the hands of the operators.

GREAT ACCURACY OF DIVISION

insuring coincidence of punching & printing.

EASY HANDLING

*as the sheet is clamped in, and moved with, a
carrier running on antifriction rolls.*

— P —

E. W. BLISS & Co of New-York. - European Office : 4, Rue Huntziger - CLICHY (near Paris).



"BLISS" N° 20^s

Zigzag-Feed Top & Bottom Press.

WILKIN'S PATENT

(Cableword : HEBREGE ET)

This machine works with a single combination die and is provided with a carrier arranged to feed the **entire sheet** into the press in such a way that about 30 to 40 press strokes per minute may be utilized without any appreciable effort on the part of the operator who after clamping the sheet by one motion of a handle pushes the carrier sideways on the division bars provided, whereby the dies are punched out of the sheet *as per figure 1 page 2*, that is to say, in **zigzag**, one cut close against the other, so as to obtain the **greatest possible economy of tin plate**. The sheet is fed with **mathematical accuracy**, reducing the waste to a minimum, utilizing the plate to its fullest extent, and making it easy to insure an **absolute coincidence of cuts and printing** in the case of lithographed sheets. One set of division bars may be arranged so as to answer for three different divisions and additional bars may be cheaply added. The scrap is cut off automatically at each stroke by a special device fastened on the punch. The regular inclined presses with **ordinary throat depth** may be transformed into zigzag-punching machines by supplying them with the division table, carrier and some other parts.

— 2 P —

CONTINUATION OF DESCRIPTION.

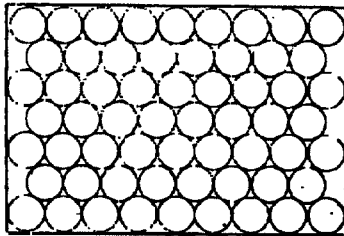


Fig. 1

The machine will readily handle large sized sheets, such as it would be difficult or impossible to use, if the sheet had to be held by the hand of the operator, thus effecting a considerable saving as compared with the usual smaller sheets. It is easy to form an idea of the economy obtained, by calculating the number of lids obtained out of 20×28 " (or larger) sheets for instance, after the method illustrated in Figure 1 and comparing this with the number of lids obtainable from the usual smaller sheets

punched according to the methods shown by Figures 2 & 3. (Special size large sheets, either more or less than 20×28 ", so as to cut up to best advantage, may of course be

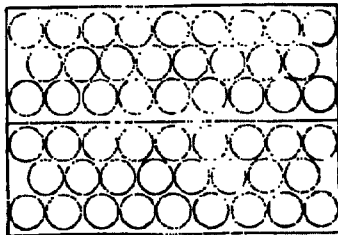


Fig. 2

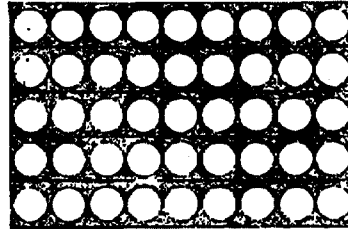


Fig. 3

readily obtained at the same proportionate price as the usual plates). The saving of tin plate effected by our machine amounts to 8-30%.

In addition to this saving which in itself soon pays for the cost of the machine, the following advantages are to be considered :

In the case of presses having a comparatively long stroke and in stamping shallow articles, it is in most cases possible to run the press continuously so as to utilize from 80-100 strokes per minute.

With short stroke presses on the other hand and in stamping comparatively deep edges, it becomes necessary in most cases to use the clutch at every stroke in which case only about 20-30 strokes can be utilized per minute.

A. - As compared with presses where strips are fed by hand :

1. - No preparatory shearing of the sheets, or slitting into strips thus not only avoiding the waste of tinplate, illustrated by Figures 2 & 3, but doing away also with the extra handling of the sheets on account of shearing, the work of grinding and keeping the blades in order etc.

2. - Absolutely no danger for the fingers of the operator who, in the case of our machine, never has to get near the die while working.

B. — Advantages as compared with gang presses working with several tools simultaneously :

1. — **Ease of adjustment**, as there is only one set of dies instead of 3 or 6.
2. — **Less expense for dies**, as there is only one instead of many.
3. — **Fewer stoppages of the machine**, as there is only one set of dies to be kept in order instead of many.
4. — **Very accurate and economical feed of sheet.**

C. — Advantages as compared with Zigzag-Presses of the type, in which the sheet has to be held and guided by the hand of the operator :

1. — The sheet being rightly clamped (by the motion of a handle) to a carrier which is mathematically guided both as regards the lines of advance and stopping points, is not liable to be presented to the action of the tool at inaccurate intervals, such as must be naturally and frequently be the case where a large sheet is held by the fingers of a workman who has to keep it against gauges along one of its edges and push it against stop pins fixed to the die on its other side.
2. — The speed, at which the sheet may be fed, without much skill and attention, is at least double 60-70 per minute of that which would be admissible with a sheet held and guided by hand.
3. — There is no chance of errors in division and no possibility of repeating and multiplying same as in the case of devices in which the position of the sheet for the next cut is determined by butting against the edge of the hole punched previously. The division obtained by our method is absolute and independent of any gauges on the die. Coincidence of cut with printing in case of lithographed work is easily assured.
4. — The scrap is automatically cut up by the die itself.
5. — The division table and parts may be applied to presses with ordinary throat depth.

If you will state diameter of blanks out, size of sheet now used, number of lids actually obtained from each sheet, we will be pleased to figure out for you the exact saving effected by the use of our machine.

Cleveland, Ohio, June 24th, 1905.

Mr. W. R. Sieplein,
London, England.

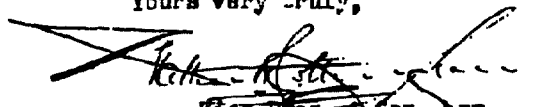
Dear Sir:

I enclose herewith copy of Mr. Ballard's monthly report of the tin can department, and also his report on a new punching machine which Mr. Bogardus brought to our attention. We are going to put one of these machines into use here at once, and I want you to have the information so you can use it later on when you begin making tin cans.

Mr. Ballard continues to handle his work with much interest and ability.

With kind regards.

Yours very truly,


Vice Pres. & Gen. Mgr.

Diet. C. R.

MONTHLY REPORT OF TIN CAN DEPARTMENT

MAY 1965.

In making out the monthly report for the Tin Can Dept. for May, I wish to say that there is not very much to report except that our output for the month has been higher than ever before. This shows on the output charts which show the records for the past two years. They also show a small number of men in the Tin Can Dept., there being only 66 as against 73 for the same month last year, thus being very nearly 20% less men while the output is more than 10% greater.

I wish to say that I am figuring on several plans for making small savings, one of which has been gotten ready to put into operation as a saving of \$1200.00 per year which can be made by using our 2-13/16" punchings for making cement boxes. These have previously been sold for 2-1/2¢ per pound.

Another very large saving of about \$3000.00 per year will be made by a saving of tin plate by using a new machine for punching the disks zig zag and closer together than as heretofore been possible. The use of this machine was suggested by Mr. Bogardus and arrangements for its purchase and installation have already been made.

(Signed) F. W. Ballard,

Mechanical Engineer.

C O P Y

Cleveland 6 / 10 / 05

Mr. J. T. B. Bogardus,
General Assistant.

Dear Sir:

I wish to report the result of my investigation on the saving to be made in our tin plate punchings by the use of the new machine which the E. W. Bliss Co. propose to furnish, as follows:

First, I find that a good many of our disks are obtained from savings or what would otherwise be scrap. Also some of them are obtained from the center pieces of rings for different size cans. All of these are no available for use in the new type of machine. I also have found quite a number in which no saving could be made and some for which we would have to get odd sizes of tin plate in order to make any saving and I find in some of the instances that the saving would be small and would hardly offset the increased cost of tin plate. The sizes in which I find the greatest saving to be made are as follows: -

First, the #2 cap of which we make 2,800,000 in a year, but 400,000 of these are obtained as center punchings from top rings, leaving 2,400,000 which could be punched by the diagonal method from 20 x 28" sheet. These caps are 2-15/16" in diameter and punched from 107# I. C. plate which costs 4.36 per box, making a total cost of this plate in a year of 2630.00. The saving by the new method would be 36% which would amount to 945.00 in a year.

The next punching available for saving is the #4 cap of which 610,000 were made last year from 107# plate at 4.36 per box. Using 20 x 28" sheets in the new method the saving would amount to 25% of the total cost of 1260.00, giving a saving of 300.00 on this cap.

The next punching on which a saving could be made is the #7 cap 4-1/4" in diameter, of which 1,000,000 were made last year from 107# plate at 4.36 per box. The saving on this by the new method amounts to 16-2/3% of the total cost which was 3250.00, making a saving for this cap of 538.00.

A small saving can be made from the tops and bottoms of the #14 can. Last year there were 180,000 bottoms for this can 2-3/8" in diameter made from #36 gauge Taggers tin, 180 sheets per box at 5.82. The old method of cutting gave us the equivalent of 80 bottoms from a 20 x 28" sheet. The new way gives 95 bottoms from the same sheet making a gain of 18-3/4%. The total cost of these sheets was 145.00, making a saving of 27.00. There were also 180,000 tops for this size can made from 107# plate at 4.36 per box of 112 sheets which cost 87.20, a saving of 18-3/4% amounting to 16.00, making a total saving on #14 cans of 43.00 in the year.

A small saving can also be made on the tops and bottoms of the #28 can. There were 130,000 bottoms of these cans punched from Taggers tin and the saving by the new way would be 10%. The cost of the Taggers tin was 88.00 of which the saving at 10% would be 8.80. The 130,000 tops for this can were punched from 107# plate at 4.36 per box, the cost for which was 107.00. A saving at 10% would be 10.70, making a total saving on #28 cans of 19.50.

J.T.R.D.-2-

There are three small cans - #20 - 21 and 50 which use the same size tops and bottoms $3\frac{1}{2}$ " in diameter. There were 900,000 bottoms used for these three sizes last year and were cut from #36 gauge Taggers tin at 5.82 per box of 180 sheets. The old way we obtained an equivalent of 80 disks from a sheet of 28×20 ". By the new way we could get 90 cuttings from a sheet $19\frac{1}{2} \times 29$ ", giving us a gain of practically 11%. The cost of the tin for these bottoms was 727.50. A saving at 11% therefore would be 80.00. The 900,000 tops for these three sizes were cut from 107# tin plate at 4.36 per box, cost of which was 862.00. A saving at 11% would be 97.50, making a total saving of 177.00 on these two sizes.

There were 420,000 - #106 cans made last year, the bottoms of which were $3\frac{3}{16}$ " in diameter and were cut from #36 gauge Taggers at 5.82 per box. By the old method we obtained 55 cuttings from a 20×28 " sheet. By the new method we could obtain 42 from a 30×29 " sheet. The gain would thus be 20% but the extra tin would amount to about 5%, leaving a net gain of 15%. The cost of this tin was 366.00. The gain at 15% amounts to 54.90. The tops for these cans were cut from 107# plate at 4.36 per box, the tin costing 404.00. The saving at 15% amounting to 60.60, the total saving on 106 cans would therefore be 118.60.

Last year we made something over 1,000,000 - 109 cans, the tops and bottoms of which are $4\frac{7}{16}$ " in diameter and were made from 100# plate at 4.21 per box. By the old method we obtained an equivalent of 24 punchings from a sheet 20×28 ". By the new method we could obtain 28 punchings from the same size sheet thus making a saving of $16\frac{2}{3}\%$. The total cost of this plate was 6380.00, the saving on which at $16\frac{2}{3}\%$ would amount to 1064.00.

The savings which I have described above are collected in the following table:

#2 cap	2-15/32" diam.	\$ 945.00
4 "	3-5/16 "	300.00
7 "	4-1/4 "	538.00
14 can	2-3/8 "	45.00
28 "	3-1/8 "	19.50
20 - 21 - 50 "	3-1/2 "	177.00
106 "	3-13/16 "	118.00
109 "	4-7/16 "	1064.00
Total		\$3204.50

I wish to say that in the case of the 106 can and also of the #20 - 21 and 50 cans, that we would have to pay 10% more per box for these two sizes because we would not be able to use the regular size. In the case of the 106 can we would have to use a sheet 21×28 while for the other three sizes we would have to use a sheet $19\frac{1}{2} \times 29$. For the former we would only use about 170 boxes in a year. For the second we would use 325 boxes in a year and it is necessary to order 300 boxes of any odd size at one time in order to get them at the regular rate per base box. We could then of course, by ordering enough for the three small sizes to last a year, get the regular rate but we could not get the regular rate on 106 cans without ordering enough stock to last two or three years.

I wish to say also that I have worked over all sizes of punchings and have reported on only those on which a saving could be made. It may be possible that the saving on #14 and 28 cans would be so small that it would not pay us to have the adjustments put on the machine. However, that would

J.T.B.R. -3-

depend upon what it costs us to have these adjustments made.

Yours very truly,

(Signed) F. W. Ballard,

Mechanical Engineer.

FWB-LP

