

Sept. 23, 1969

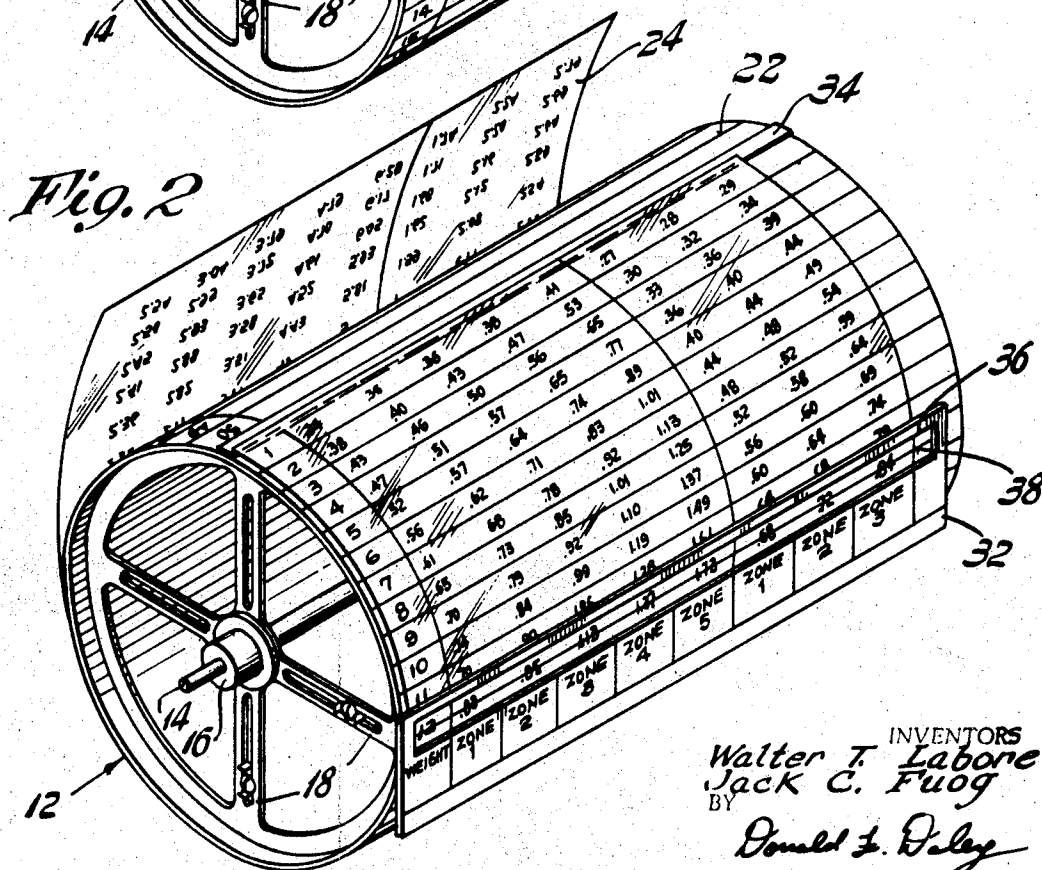
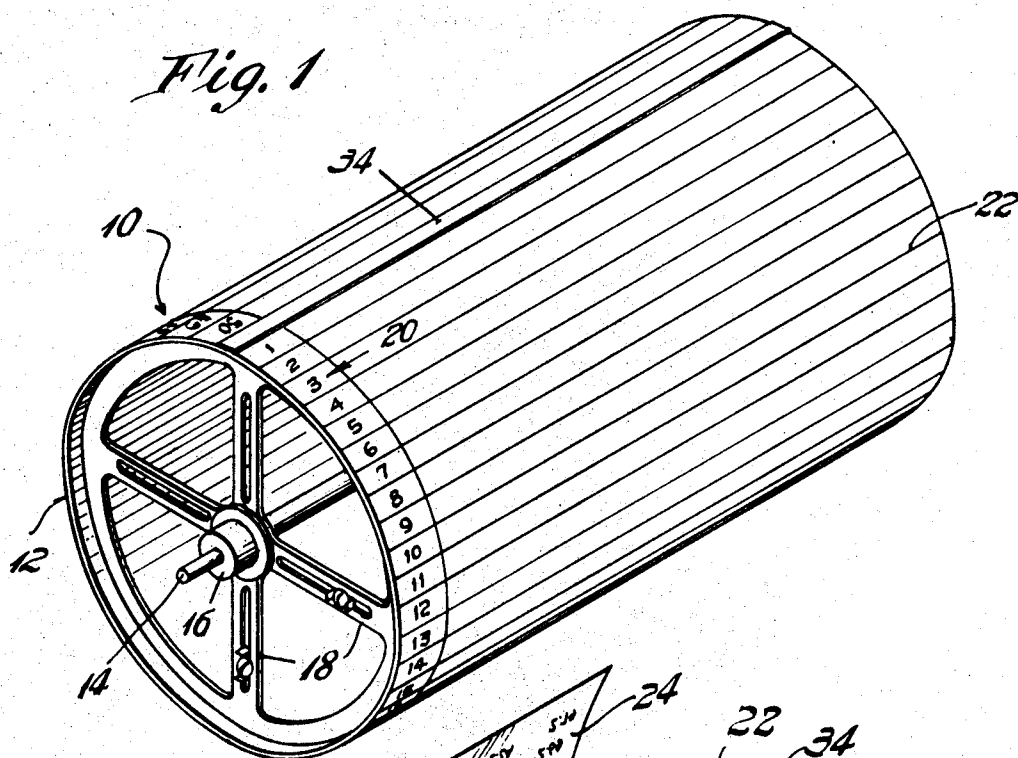
W. T. LABORE ET AL

3,468,388

SCALE CHART

Filed May 22, 1968

2 Sheets-Sheet 1



INVENTORS
Walter T. Labore
Jack C. Fuog
BY
Donald L. Daley
ATTORNEY

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2 Sheets-Sheet 2

Fig. 3 28

34	35	36	38	41	27	28	29
38	40	43	47	53	30	32	34
43	46	50	56	65	33	36	39
47	51	57	65	77	36	40	44
52	57	64	74	89	39	44	49
56	62	71	83	1.01	42	48	54
61	68	78	92	1.13	45	52	59
65	73	85	1.01	1.25	48	56	64
70	79	92	1.10	1.37	51	60	69
74	84	99	1.19	1.49	54	64	74
79	90	1.06	1.28	1.61	57	68	79
83	95	1.13	1.37	1.73	60	72	84
88	1.01	1.20	1.46	1.85	63	76	89
92	1.06	1.27	1.55	1.97	66	80	94
97	1.12	1.34	1.64	2.09	69	84	99
1.01	1.17	1.41	1.73	2.21	72	88	1.04
1.06	1.23	1.48	1.82	2.33	75	92	1.09
1.10	1.28	1.55	1.91	2.45	78	96	1.14
1.15	1.34	1.62	2.00	2.57	81	1.00	1.19
1.19	1.39	1.69	2.09	2.69	84	1.04	1.24
1.24	1.45	1.76	2.18	2.81	87	1.08	1.29
1.28	1.50	1.83	2.27	2.93	90	1.12	1.34
1.33	1.56	1.90	2.36	3.05	93	1.16	1.39
1.37	1.61	1.97	2.45	3.17	96	1.20	1.44
1.42	1.67	2.04	2.54	3.29	99	1.24	1.49
1.46	1.72	2.11	2.63	3.41	1.02	1.28	1.54
1.51	1.78	2.18	2.72	3.53	1.05	1.32	1.59
1.55	1.83	2.25	2.81	3.65	1.08	1.36	1.64
1.60	1.89	2.32	2.90	3.77	1.11	1.40	1.69
1.64	1.94	2.39	2.99	3.89	1.14	1.44	1.74
1.69	2.00	2.46	3.08	4.01	1.17	1.48	1.79
1.73	2.05	2.53	3.17	4.13	1.20	1.52	1.84
1.78	2.11	2.60	3.26	4.25	1.23	1.56	1.89
1.82	2.16	2.67	3.35	4.37	1.26	1.60	1.94
1.87	2.22	2.74	3.44	4.49	1.29	1.64	1.99
1.91	2.27	2.81	3.53	4.61	1.32	1.68	2.04
1.96	2.33	2.88	3.62	4.73	1.35	1.72	2.09
2.00	2.38	2.95	3.71	4.85	1.38	1.76	2.14
2.05	2.44	3.02	3.80	4.97	1.41	1.80	2.19
2.09	2.49	3.09	3.89	5.09	1.44	1.84	2.24
2.14	2.55	3.16	3.98	5.21	1.47	1.88	2.29
2.18	2.60	3.23	4.07	5.33	1.50	1.92	2.34
2.23	2.66	3.30	4.16	5.45	1.53	1.96	2.39
2.27	2.71	3.37	4.25	5.57	1.56	1.00	2.44
2.32	2.77	3.44	4.34	5.69	1.59	1.04	2.49
2.36	2.82	3.51	4.43	5.81	1.62	1.08	2.54
2.41	2.88	3.58	4.52	5.93	1.65	1.12	2.59
2.45	2.93	3.65	4.61	6.05	1.68	1.16	2.64
2.50	2.99	3.72	4.70	6.17	1.71	1.20	2.69
2.54	3.04	3.79	4.79	6.29	1.74	2.24	2.74

WEIGHT	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 1	ZONE 2	ZONE 3
SERVICE NO								
DATE								
PART NO								

BY

INVENTORS
Walter T. Labore
Jack C. Fuog
Donald J. Dabey
ATTORNEY

1

2

3,468,388

SCALE CHART

Walter T. Labore, Stamford, and Jack C. Fuog, Fairfield, Conn., assignors to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware

Filed May 22, 1968, Ser. No. 731,171

Int. Cl. G01g 19/04, 23/22; G09f 11/02

U.S. Cl. 177—37

3 Claims

ABSTRACT OF THE DISCLOSURE

A weighing scale having a rotating drum which indicates weight and other information relating to the article being weighed, the weigh indicia being permanently printed on the drum surface along with permanent guide lines, and the other, variable, information being on a transparent overlay removably secured about the drum and aligned with permanent information on the drum.

This invention relates in general to weighing scales or indicating devices which utilize drum type display mechanisms and which from time to time require changes in the indicia being displayed.

In particular, the invention relates to a rotatable drum and a transparent chart or indicator member for use in a weighing scale when the information on the chart is subject to periodic modification or updating. The invention is illustrated herein as a drum used in connection with a weighing scale which indicates postal or other rates relative to the weight of a package. The scale may be either a parcel post scale which indicates postal charges for various postal zones as a function of the weight of a package to be mailed or a scale used by parcel delivery service wherein the chart of the scale indicates the rates to be charged for each of a number of zones depending on the weight of the package. From time to time the changes in the postal rates and regulations or the rates for delivery of packages or any other information contained on the chart require corresponding changes in the chart indicia. Heretofore, it has been necessary, in drum-type scales, to remove the drum from the scale, then remove the sheet metal outer surface of the drum and replace the drum with a new sheet metal cover which is mechanically fastened to the drum. The drum is then balanced to compensate for changes in weight distribution. Such a drum including the means of securing the sheet metal coating about the surface of the drum is disclosed in Patent No. 2,761,414 issued September 4, 1956, to W. W. Herrick. As can be seen in the Herrick patent, the drum must be removed from the scale and several rivets or pins must be removed from the surface to permit the removal of the chart. The type of chart disclosed in the Herrick patent has been in use for many years and has served its purpose very well; however, the expense of the new chart and the time and trouble involved in removing the chart and replacing it with a new one has shown that some means of replacing a simple inexpensive properly aligned chart without removing the drum from the machine and which would have no effect on the accuracy of the scale was desirable.

It is therefore an object of this invention to provide a means for changing charts on scales or the like without having to remove the chart bearing member from the scale.

It is also an object of this invention to accurately align a chart bearing special indicia on the drum or indicating area of a weighing scale or the like.

It is also an object of this invention to provide an inexpensive indicator chart which can be easily installed in a weighing scale.

These and other objects of this invention are obtained by means of a transparent overlay which is mounted on the drum or indicator area of a weighing scale or the like and which contains information supplementary to permanently affixed information on the drum or indicator area and arranged to correspond to the permanently affixed information when accurately aligned and secured to the drum surface.

A preferred embodiment of the invention is illustrated in the accompanying drawings, wherein:

FIGURE 1 is a perspective view of a registering drum suitable for use in a weighing scale or the like.

FIGURE 2 is a perspective view of a registering drum shown in FIGURE 1 with a transparent overlay partially positioned on the drum surface and an index member positioned at a display station in front of the overlay.

FIGURE 3 is a front view of a transparent overlay member prior to installation on a drum as shown in FIGURE 2.

Weighing scales of the type which utilize a rotating drum carrying indicia on the surface to indicate the weight and other pertinent information are common and well known in the art.

A scale of this type is shown in detail in Patent No. 2,751,414 issued June 19, 1956. In scales of this type the rotating drum is located inside the housing of the scale and is visually observed through an index or opening in the cover of the scale. The article to be weighed is placed on a platform which through a series of linkages, rotates the indicia bearing drum relative to the index to thereby display the weight of the article and other information aligned with the weight on the drum surface.

Drums of the type used in postal scales are permanent structures intended to be removed only for repair purposes. However, from time to time circumstances require that the chart indicia on the drum be changed. For example, in the case of a parcel post scale, when the rates are changed by law the substitution of a new chart for the old one becomes necessary to maintain the usefulness of the scale for its intended purpose. Heretofore, any changes in the information of the drum surface required the removal of the drum from the scale and the removal of the outer surface or sheath of the drum, and the replacement of a new outer surface bearing new indicia. The drum is subsequently replaced in the scale. This type of operation is not a normal operator installation, but usually requires a specially trained serviceman having special equipment. Thus if, for example, a parcel delivery service changed its rates for delivering packages, which rates are usually based on the weight of the package and the location of the point to which the package is to be delivered, it becomes necessary to change all rate indicating scales located at customer installations. This would require a serviceman to visit each installation and make the necessary change to each scale.

The present invention reduces the need for a serviceman and allows an operator to update the indicia on the scale without removing the drum and without upsetting the balance of the drum.

As seen in FIGURE 1 a drum generally indicated as 10, is of the general construction of the type used in weighing scales, and is shown with a permanently affixed outer shell or sheath 12. The drum is normally supported in the scale by means of a shaft 14 in the bearing 16. Spider-type circular end plates 18 are mounted on a shaft 14 and support the outer shell 12. The outer shell 12 is permanently affixed to the end plates 18 and contain permanent indicia 20 on the surface indicating weight designations. Obviously the weight designations are permanent and are not subject to change because of a change in regulations or rates. The outer shell 12 also has a series

of guide lines 22 extending across the face of the drum defining incremental areas corresponding to each weight designation. These lines 22 are used to align and indicate the secondary information, such as rates, with the weight designations 20.

A transparent overlay of the type shown in FIGURE 3 is made of a transparent plastic material and has the information indicia printed thereon. The overlay is indicated generally as 24 and the information or indicia on the overlay is indicated as 26. Various classes of information can be separated by vertical lines 28 to separate such things as first class and second class mail or any other desirable breakdown of the information. At the bottom of the overlay there is a severable section which, in the embodiment shown, indicates various zone numbers. This portion or identification strip is cut from the overlay prior to installation of the overlay onto the scale and the severed strip 30 is placed on the indicator 32 shown in FIGURE 2. The strip is placed in alignment with the information on the overlay to identify the various vertical columns of information. By printing the identifying column titles on the same overlay and severing the strip just prior to installing of the overlay on the scale, proper alignment between the information on the overlay and the identification strip is assured.

The installation of the overlay onto the surface of the drum is shown in FIGURE 2. The drum may be removed from the scale, or it may remain in the scale and merely the outer cover of the scale removed as preferred. A strip of two-sided adhesive tape indicated as 34 in the drawings is placed on the surface of the drum extending longitudinally across the drum at a point just ahead of the first indicia. Since the tape has adhesive on both sides it will adhere to the surface of the drum and still present an adhesive surface for holding the overlay. The top or leading edge of the overlay is then placed on the adhesive tape covering approximately half the adhesive surface. The overlay is properly aligned with the weight indicia 20 and the lines 22 on the surface of drum 12. The overlay is tacked on the tape 32 by pressing in several spots across the length of the tape to hold the overlay in position. The drum is then rotated so that the overlay is wrapped around the surface of the drum as shown in FIGURE 2. Since the overlay has only been tacked to the adhesive in several spots it can be adjusted to assure proper alignment of all the columns of information with the lines 22 on the surface of the drum. At this point if the indicia is properly aligned the overlay can be uniformly pressed against the adhesive to be retained thereby. The trailing edge can then be pressed against the remaining portion of the adhesive and held secure thereto.

The strip severed off the bottom of the overlay which indicates the postal zones is then secured to the indicator 32 by means of the same type of adhesive tape. An opening 36 in the indicator and a wire 38 then designates the weight and the various information for each postal zone for the various articles weighed. If at any time it is desired to change the information on the scale, or the indicator strip, the overlay may be removed merely by stripping it from the adhesive strip 34 and removing the severed strip from the indicator 32 and replacing with a new overlay.

What is claimed is:

1. An indicator drum for use in weighing scales which utilize a rotatable drum member having visible infor-

mation on the drum surface to indicate weight and other information when an article is weighed, including

a cylindrical support member having a substantially rigid peripheral surface with printed indicia on said peripheral surface,

a two-sided adhesive tape extending across the surface of the support member and adhering thereto,

and a sheet of transparent material covering the peripheral surface of said support member and having information thereon which relates to the printed indicia on the support member, the opposite ends of said sheet of transparent material being secured to said support member by the adhesive tape.

2. An indicator drum for use in weighing scales which utilize a rotatable drum member having visible information on the drum surface indicate weight and other information when an article is weighed, including

a pair of circular end plates with cylindrical shaped outer shell secured to the end plates,

the outer shell having information indicia and guide lines printed on the surface,

a transparent overlay adapted to cover the outer shell and having information indicia on the surface,

the location of the information on the overlay being such that the information on the shell is not obscured when the overlay is positioned over the shell,

and means to removably secure the overlay to the shell in alignment with the indicia and guide lines on the shell.

3. A transparent overlay for use in weighing scales of the type which utilize a rotatable drum member with numerical indicia on the surface to display the weight of an article at a display window by rotating the drum in response to the article being weighed, the overlay being constructed of clear plastic having information thereon which is to be displayed with each numerical indicia on the drum and being of size sufficient to cover the outer surface of the drum, the overlay also having a severable portion with information relating to the numerical indicia on the drum and the information on the overlay and which is adapted to be separated from the overlay to be used adjacent the display window to indicate the information on the drum and overlay.

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RICHARD B. WILKINSON, Primary Examiner

GEORGE H. MILLER, Assistant Examiner

U.S. Cl. X.R.

40—68; 116—129