May 2, 1967 C. H. ROGERS 3,316,668

ADJUSTABLE GARDEN CHART

Filed Nov. 9, 1964 2 Sheets-Sheet 1

Fig. 1.

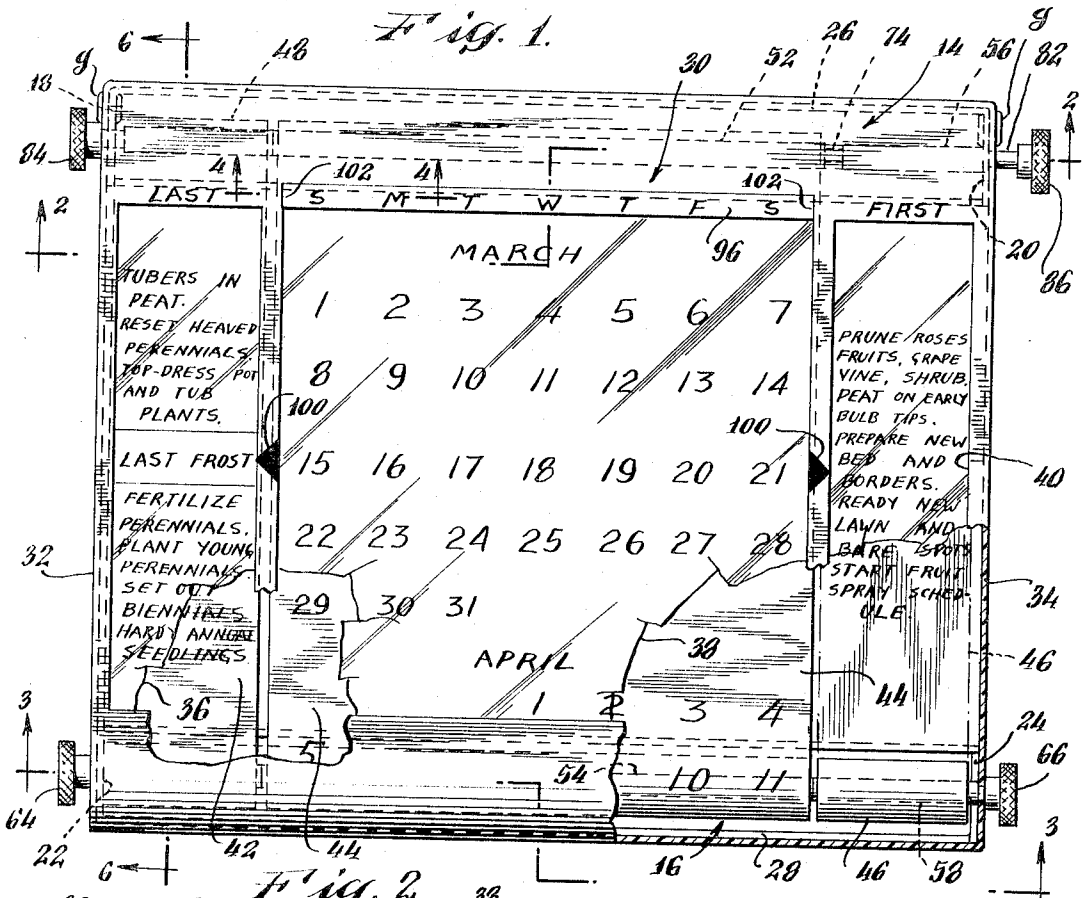



Fig. 2.

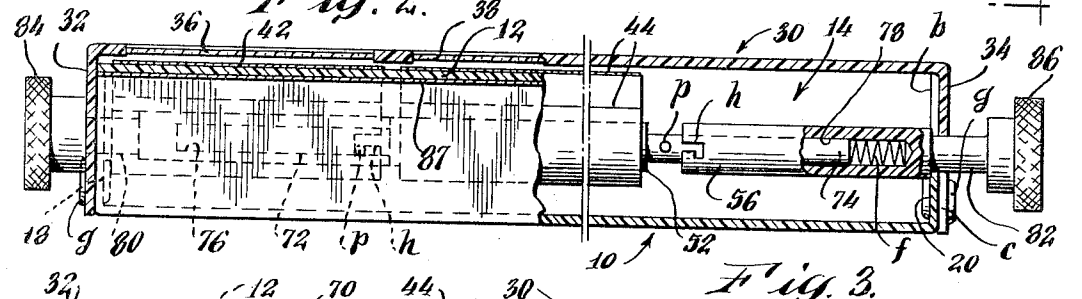


Fig. 3.

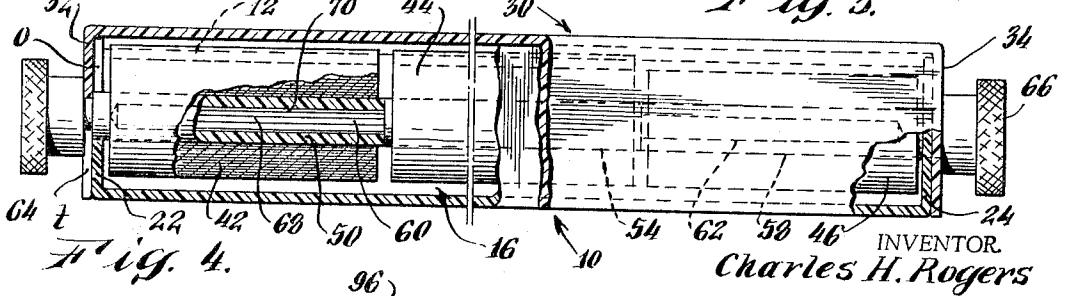
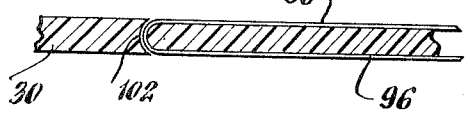


Fig. 4.



INVENTOR.
Charles H. Rogers
BY
John W. Hoag
ATTORNEY.

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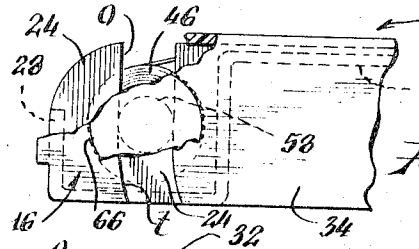


Fig. 5.



Fig. 6.



Fig. 7.

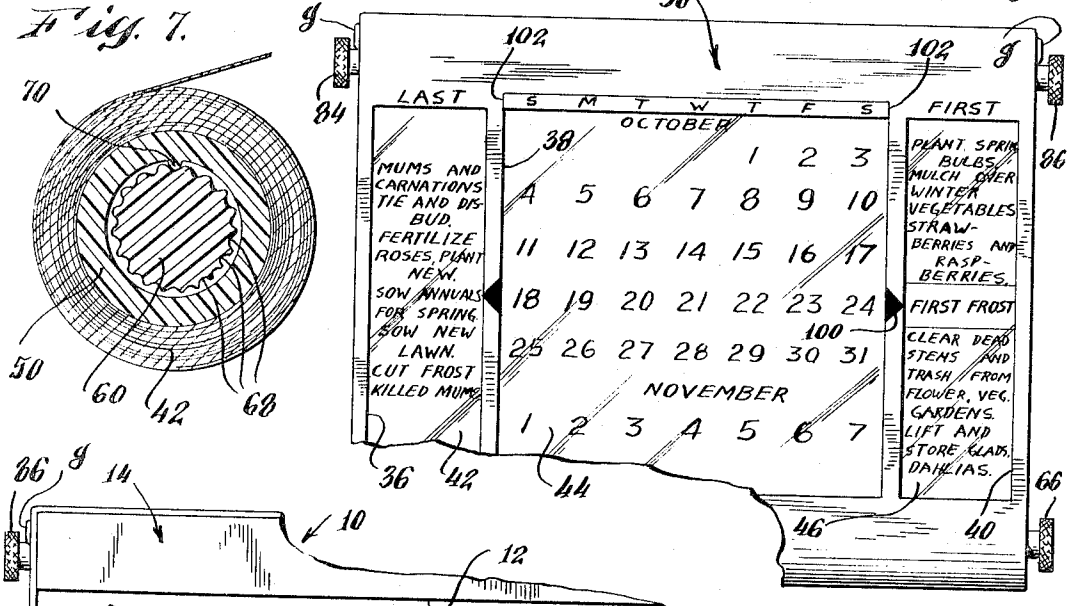



Fig. 8.

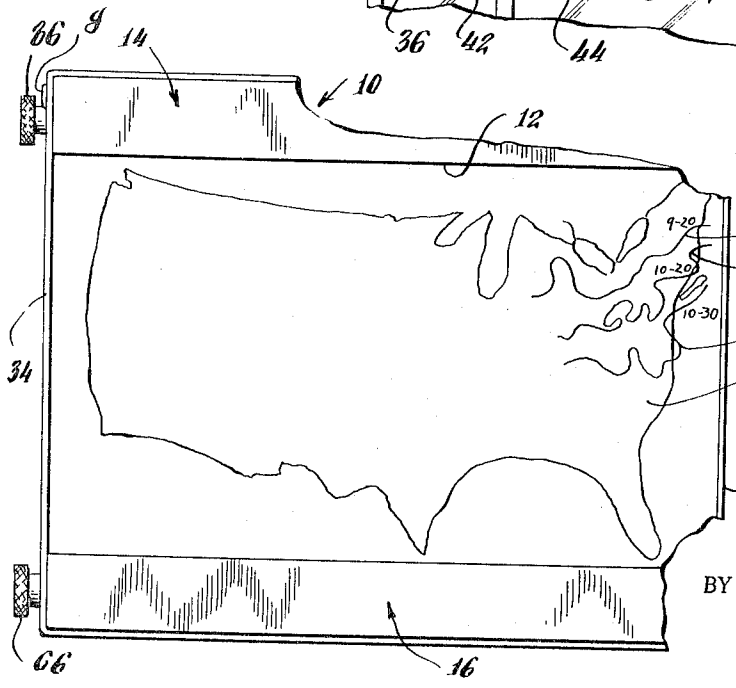



Fig. 9.

INVENTOR.
Charles H. Rogers
BY
John W. Haag
ATTORNEY.

United States Patent Office

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# ADJUSTABLE GARDEN CHART

Charles H. Rogers, 12 Hideaway Lane,
Norwalk, Conn. 06851

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10 Claims. (Cl. 40—117)

This invention relates to a device for correlating information recorded on a plurality of indicia bearing strips.

The object of the invention is to provide such a device which will be simple, durable and easy to adjust.

The invention is best understood if the following description is read in connection with the drawings, in which:

FIGURE 1 is a plan view with the cover partly broken away and with the notice LAST FROST on strip 42 aligned with the points of reference 100.

FIGURE 2 is a transverse sectional view taken on the line 2—2 of FIGURE 1.

FIGURE 3 is a transverse sectional view taken on the line 3—3 of FIGURE 1.

FIGURE 4 is a detail view partly in cross section of an endless band mounted on the cover and movable to adjust the calendar from year to year.

FIGURE 5 is a side view partly broken away of the front end of the device with the cover in closed position.

FIGURE 6 is a side sectional view taken on the line 6—6 of FIGURE 1.

FIGURE 7 is an enlarged detail view of a portion of FIGURE 6 showing the inter-relation of the outside reels with the corrugated journals of the middle reel in the front reel housing 16.

FIGURE 8 is a view similar to FIGURE 1 with the notification FIRST FROST on strip 46 aligned with the points of reference 100, and

FIGURE 9 shows the device inverted to display a frost map pasted on the under surface of the offset portion 12 of the base.

For the purpose of exemplification the invention is disclosed herein embodied as an adjustable garden chart. It will be understood however that the structure disclosed may be used for correlating various kinds of information, such, for example, as the position of the constellations which may be correlated with various times of the year to show which are visible and in what particular part of the sky.

Broadly the invention comprises two or more indicia bearing strips each extending between a pair of reels spaced apart and referred to herein as second or front and first or rear reels respectively, with the front reels and the rear reels respectively mounted in axial alignment, the front end of the device being the end nearer the user. Means are provided by which at least one set of aligned reels may be engaged or disengaged for rotation together or separately.

As shown herein the device comprises a base and a cover with three indicia bearing strips each mounted on and extending between a pair of rolls rotatably supported by the base so that the strip may be moved forwardly or rearwardly depending upon the direction of rotation of the reels. The strips may be endless but preferably the ends of each strip are secured to its supporting reels, as for example by adhesive tape. A strip and its two reels are sometimes referred to herein as a scroll and a device with three scrolls is shown and described.

The reel mounting means or base 10 has a raised flat central portion or inverted well 12, and end portions 14 and 16 defining reel housings comprising side walls 18, 20 and 22, and 22, 24 respectively, and end walls 26 and 28 respectively.

A cover 30 is provided which extends over the base and



is pivoted to the sidewalls 18 and 20 of the rear reel housing 14 adjacent the rear wall 26, by the grommets *g* which extend through the sides of the cover as well as through the said side walls of reel housing 14, as shown in FIGURES 3 and 5.

The cover is slightly crowned, curving down at its ends to extend over the end walls 26 and 28 of the reel housings 14 and 16, and providing clearance over the raised center portion 12 of the base sufficient for indicia bearing strips to move freely over the center portion 12 of the base when the cover extends down on the outside of the side walls 18, 20 and 22, 24 of the base. The part of the cover which overlies the elevated central portion 12 of base defines transparent portions or windows 36, 38 and 40 through which can be seen portions of the strips 42, 44 and 46, extending over the said elevated central portion 12 of the base between their supporting reels.

For convenience one reel of each pair, the ones located in the rear housing of the base, is referred to later herein, as a "first reel," and the other reel of each pair, the ones located in the front housing, is referred to as "second reel."

Strip 42 is mounted on reels 48 and 50; strip 44 is mounted on reels 52 and 54; and strip 46 is mounted on reels 56 and 58.

Reels 48, 52 and 56 are mounted in axial alignment in the rear reel housing 14 and are referred to in the claims as "first reels." Reels 50, 54, and 58 are mounted in axial alignment in the front reel housing 16 and are referred to in the claims as "second reels."

Reel 54 which is the center one of the three reels in the front reel housing 16 has elongated journals 60, 62 which extend through the bearing ports *b* in the side walls 22 and 24 respectively. The cover side walls 32 and 34 are slotted upwardly from their lower edges with slots *c* which register with the portions of journals 60, 62 projecting outwardly beyond the side walls 22 and 24, thus permitting the cover to be raised and lowered without interference with the journals. On the outer ends of the journals 60, 62 knobs 64 and 66 respectively are provided.

The reels 50 and 58 on either side of reel 54 are hollow tubular members or sleeves, floatingly mounted on the journals 60 and 62 which extend through them. The peripheries of the journals are corrugated with longitudinal grooves 68 and the tubular reels 50 and 58 are provided on their inner surface with a longitudinal ridge 70, the grooves and the ridges being shaped as illustrated in FIGURE 6 so that the three reels rotate front to rear, i.e. clockwise, freely and independently, but rotated counter-clockwise the ridges 70 on the inner surfaces of reels 50 and 58 will frictionally engage the grooves on the surface of the journals 60 and 62 respectively and all three reels will turn together.

The three reels in the rear reel housing 14 differ from the reels in the front reel housing 16 in that the middle reel 52 is supported by the inner ends of outer reels 48 and 56, and the three reels may be positively interlocked for rotation together.

The middle reel 52 has journals 72 and 74 which, when the rear reels are assembled in housing 14, are inserted into bores 76 and 78 extending from the inner ends of the outer reels 48 and 56. Coil springs *f* are provided within the bores, between the ends of the journals and the inner ends of the bores respectively. At the mouth of the bores the inner surfaces of the reels are further indented with bayonet type slots *h*, and pins *p* are provided on the journals 72, 74 of the middle reel 52, adapted to enter the slots *h* respectively, and interlock the three reels when the end reels are pushed axially inward and rotated slightly to cause the pins to become engaged in the offset portions of the slots *h* respectively.

The outside reels **48** and **56** have at their outer ends journals **80** and **82** respectively, which extend through slots *o* in the side walls **18** and **20** respectively of the rear reel housing, and knobs **82** and **86** are provided at the outer ends of journals **80**, **82** respectively. The side walls **32** and **34** of the cover are slotted upwardly from their lower edges with slots *t* which register with the portions of the journals **80**, **82** projecting beyond the side walls **18** and **20** of the rear reel housing **14**, and so the projecting journals do not obstruct the cover **30** when it is moved between open and closed position.

It will be understood that when reels **48**, **50** and **56** are not interlocked reels **48** and **56** may be turned separately by means of knobs **80** and **82**, and that by pushing either outer reel **48** or **56** inwardly against the force of its spring *f* and rotating the reel to engage its slot *h* with the pin *p* on the opposed journal of middle reel **52** reels **48** and **56** may be separately interlocked with reel **52** to turn strip **42** or strip **46** with the middle strip **44**, or all three reels may be interlocked so all three strips may be advanced together, by turning knob **86** clockwise or by turning knob **84** counter-clockwise. When one or more of reels **48**, **52** and **56** are turned to advance the strips from front to rear the corresponding front reels will turn freely to unwind the strips wound thereon respectively.

From the foregoing it will be understood that a plurality of scrolls, three scrolls in the embodiment of the invention illustrated herein, are provided which may be operated separately or together, separately to relate information carried by the indicia bearing portion of one scroll to the indicia bearing portion of another scroll, and together to relate information carried by both, or all of them, to some condition or circumstance such for example as the season of the year.

In the embodiment of the invention illustrated herein the indicia on the strips comprises information for gardeners and tells in sequence what to do and when to act to grow and care for certain annuals, perennials, shrubs, etc. The middle indicia bearing strip **44** is a calendar, with the weeks shown transversely of the strip, and as it is advanced from its front reel **54** to its rear reel **52**, over the raised flat center portion **10** of the base, the months of the year from January through December are successively exposed to view through the middle window **38**. The outer strips **42** and **46** have thereon information as to what gardeners should do at certain times of the year, the information on strip **42** being related to the last frost and telling what to do before and after it. The information on strip **46** is related to the first frost, and tells what to do in preparation for it, and things to do after it. The time of the first and last frosts are important dates for gardeners in most regions, but since these times vary greatly in different regions, and in different sections of each region, depending on altitude, location with respect to a large body of water, prevailing winds and ocean currents, etc., the approximate dates of both the first and the last frost varies widely. In order to properly use the chart disclosed herein the user will have to inform himself as to the approximate dates for first and last killing frosts in his neighborhood. Frost maps of the kind illustrated in FIGURE 8 are readily available, being published by Governments, and Agricultural Authorities. Frost maps have lines on them indicating when first or last frosts may be expected on stated dates. For example, the line identified in FIGURE 8 by the numeral **90** indicates that all places on that line will probably have the first killing frost on September 20th, while all places on line **92** will probably have the first killing frost on October 25. In the illustrated embodiment of the invention FIGURE 8 shows a last frost map of the United States of America, and for convenience a chart user should have both a first and a last frost map. Such maps may be made a part of the subject device and



fastened on the under surface of the raised portion **12** of the base where they may be consulted simply by inverting the device.

The outer strip **42** has on it a notation LAST FROST, and information as to what to do before and after the last frost, which marks the beginning of a new gardening year. Similarly the outer strip **46** has on it a notation FIRST FROST, and information as to what to do in preparation for the first frost, which marks the end of a gardening year, and what to do after the first frost to protect plants, shrubs, etc. over the winter. In order to meaningfully relate the information on strips **42** and **46** with the calendar strip **44** points of reference **100**, **100** are provided, which are shown herein in FIGURE 1 on the narrow portions of the cover **30** between windows **36** and **38**, and windows **38** and **40** respectively. Upon acquiring a chart of the kind disclosed herein the user first determines the probable dates for last and first frost in his neighborhood and then adjusts the position of the strips so that thereafter he can advance them all together and the outside strips will show through their windows **36** and **40** information which will be pertinent to the month shown in middle window **38**, and to the particular week which is aligned with the points of reference **100**.

He does this for strip **42** by aligning the notation LAST FROST on strip **42** with the points of reference **100**, and also aligning with the points of reference **100** the week of the month on strip **44** in which the last frost is likely to occur in the user's neighborhood.

The user similarly adjusts strips **44** and **46** by aligning the notation FIRST FROST on strip **46** with the points of reference **100**, and moving strip **44** until the week of the month in which the first frost is likely to occur in his neighborhood is also aligned with the points of reference **100**.

Having made these adjustments for his location the chart is now ready for use all year long and as the days go by all three strips are moved forward together.

By way of example information on the outside strips **42** and **46** may read as follows:

| Strip 42 | Calendar Strip | Strip 64 |
|---|---|---|
| Start cold frame, hot bed, seed flat. | Feb. 21–27 | Prune roses, fruits, grape vine, flowering shrub (mulch). |
| Reset heaved perennial. | Feb. 28–Mar. 6 | Peat on early bulb tips. Prepare new bed and borders. |
| Top-dress pot and tub plants. | Mar. 7–13 | Ready new lawn and bare spots. |
| LAST FROST | | Start fruit spray schedule. |
| Fertilize perennials. | Mar. 14–20 | Seed lawn and spots. |
| Set out biennials, hardy annual seedlings. | Mar. 21–27 | Remove winter protection gradually. |
| Mums, carnations, tie and disbud. | Oct. 3–9 | Xmas cherry, pepper, annuals for indoor, lift and pot. |
| Fertilize roses, plant new. | | Plant spring bulbs. |
| Sow annuals for spring | Oct. 10–16 | Mulch overwinter vegetables, straw- and raspberry. |
| Sow new lawn. | | |
| | | FIRST FROST |
| | Oct. 17–23 | Clear dead stems and trash from flower and veg. gardens. |
| | Oct. 24–30 | Lift and store dahlia, canna, tub. begonia, glads, etc. |
| Cut frost-killed mums. Hill soil at rose base. | Oct. 31–Nov. 6 | Winter protect tender plants, shrubs. Plant dormant trees, shrubs, tulips. |

The information on strips **42** and **46** will of course vary according to the section of the country in which the chart

is to be used and different strips may be supplied for different localities.

From the foregoing description it will be understood that the middle or calendar strip 44 is advanced when all three reels 38, 52 and 56 are interlocked, or when reel 52 is interlocked with either reel 48 or 56. The calendar month in which the user's locality is likely to have its last frost may be placed under window 44 by interlocking reels 48 and 52 and moving the strips 44 and 46 forward together until the desired month appears in window 38 with the desired week aligned with the points of reference 100, 100. Reels 48 and 52 are then unlocked. The notation LAST FROST on strip 42 may be then aligned with the points of reference 100, 100 by turning reel 48 counterclockwise to advance strip 42 alone. Strips 42 and 44 are now adjusted to ane another and they may be advanced together by interlocking reels 48 and 52 and turning knob 84.

Strip 46 may now be aligned with strips 40 and 42. These two strips are now advanced together until the calendar month in which the user's locality is likely to have its first frost appears in window 44 with the desired week aligned with the points of reference 100, 100. Finally, the reel 56 alone is turned to advance strip 46 until the notation FIRST FROST thereon is aligned with the points of reference, after which reel 56 is interlocked with middle reel 52, and, with all three rear reels 48, 52 and 56 now interlocked the now interrelated three strips are rewound simultaneously on their front reels 50, 54 and 58, by turning knob 64 clockwise, or turning knob 66 counterclockwise until the first week in January is aligned with the points of reference 100, 100. Thereafter, for the remainder of the year, with the rear reels interlocked, the three strips 42, 44 and 46 are advanced together by turning either or both knobs 84 and 86.

If a mistake is made and one of the strips is wound forwardly too far relative to the other two strips it may be rewound separately on its front reel by holding the other front reels stationary in any suitable way, the simplest and preferred way being manual. While there is friction between the journals 60, 62 and the reels 50 and 58, tending to make all three rear reels rewind together, this frictional engagement can readily be overcome by holding the reels for the strips other than the strip to be rewound, in which case the grooves or ridge of the moving reel will slip over the opposing ridge or grooves of the stationary reel or reels.

At the end of a year it is not necessary to obtain and insert a new calendar strip. Instead it is only necessary to move endless band 94 forward one letter. Band 94 extends through the two slots 102, 102 which are directly above, and longitudinally aligned with the lateral edges of window 38. On band 94, spaced to head the seven longitudinal columns of numbers comprising each month on strip 44, are the letters S M T W T F S, repeated around the band, and standing of course for the seven days in a week. By turning band 94 the distance between two of these letters, bringing the letter "M" for example over a column of numbers next adjoining the column above which the M was disposed for the previous year, in place of W for example, the chart is made ready for the next year.

There has thus been provided a device in which the above mentioned object is attained in a simple, practical and dependable manner.

What I claim is:

1. A device for correlating information contained on three indicia bearing strips which comprises, three pairs of reels on which the strips are respectively supported, each pair of reels comprising a first reel and a second reel, means for mounting the three first reels in axial alignment, for rotation separately, means for interlocking either or both end reels of said three first reels for rotation with the middle one of said three first reels, and means for rotatably mounting the three second reels in axial alignment, in spaced relation longitudinally of the strips from the three first reels.



2. The device claimed in claim 1 in which said second reels are rotatable separately in one direction, and means are provided for interlocking all three of the second reels for rotation together when any one of them is rotated in the opposite direction.

3. The device claimed in claim 1 in which the middle reel of the three first reels is provided with axially extending spindles, and the end reels of said three first reels are tubular and adapted to respectively receive the spindles of the middle reel and to be floatingly mounted on said spindles, the spindles and the opposed inner ends of the tubular end reels having means adapted to coact for interlocking all three reels for rotation together.

4. The device claimed in claim 2 in which the middle of the three second reels is provided with axially extending spindles and the end reels are tubular and adapted to be slid endwise onto the spindles respectively, the spindles and the interiors of said end reels being provided with opposed contact surfaces such that the end reels will freely rotate in one direction on said spindles and relative thereto but will become interengaged with said spindles, causing all three second reels to rotate together, when any one of said second reels is rotated in the opposite direction.

5. The device claimed in claim 1 including a support comprising a base defining two reel housings spaced apart by an intermediate portion the said three first reels being mounted in axial alignment in one of said housings and the said three second reels being mounted in the other of said housings, and the said three indicia bearing strips extending over the said intermediate portion and each strip moving across it in travelling between the pair of reels on which it is mounted.

6. The device claimed in claim 1 including a support comprising a base defining two reels housings spaced apart by an intermediate portion the said three first reels being mounted in axial alignment in one of said housings and the said three second reels being mounted in the other of said housings, and the said three indicia bearing strips extending over the said intermediate portion and each strip moving across it in travelling between the pair of reels on which it is mounted, and a cover adapted to fit over the base and defining one or more windows disposed to be located over the said intermediate portion of the base when the cover is in place over the base.

7. The device claimed in claim 1 including a support comprising a base defining two reel housings spaced apart by an intermediate portion, the said three first reels being mounted in axial alignment in one of said housings and the said three second reels being mounted in the other of said housings, and the said three indicia bearing strips extending over the said intermediate portion and each strip moving across it in travelling between the pair of reels on which it is mounted, and a cover adapted to fit over the base and defining one or more windows disposed to be located over the said intermediate portion of the base when the cover is in place over the base, and a point of reference on the portion of the cover adjacent said windows with which selected indicia on the strips respectively may be aligned to adjust the relative position of the strips and thereby correlate information carried by the strips respectively.

8. The device claimed in claim 5 including an endless indicia bearing band and means for mounting it at right angles to said indicia bearing strips, for rotation transversely of said strips.

9. The device claimed in claim 6 in which the end reels of a set of axially aligned reels have at their outer ends journals carrying knobs by which the reels may be rotated and the side walls of the housing in which said reels are mounted have ports through which the respective journals extend.

10. The device claimed in claim 6 in which the end reels of a set of axially aligned reels have at their outer ends journals carrying knobs by which the reels may be rotated and the side walls of the housing in which said reels are mounted have ports through which the respective journals extend, the side walls of the cover being slotted upwardly from their lower edges providing slots which register with portions of the journals projecting beyond the side walls of the said housing, whereby the projecting journals do not obstruct movement of the cover between the open and closed portions.



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EUGENE R. CAPOZIO, *Primary Examiner.*

W. J. CONTRERAS, *Assistant Examiner.*