Feb. 24, 1953 L. M. KAHN 2,629,591

TIMING SWITCH MECHANISM FOR LAUNDRY FOLDING APPARATUS

Filed Aug. 21, 1951 2 SHEETS--SHEET 1

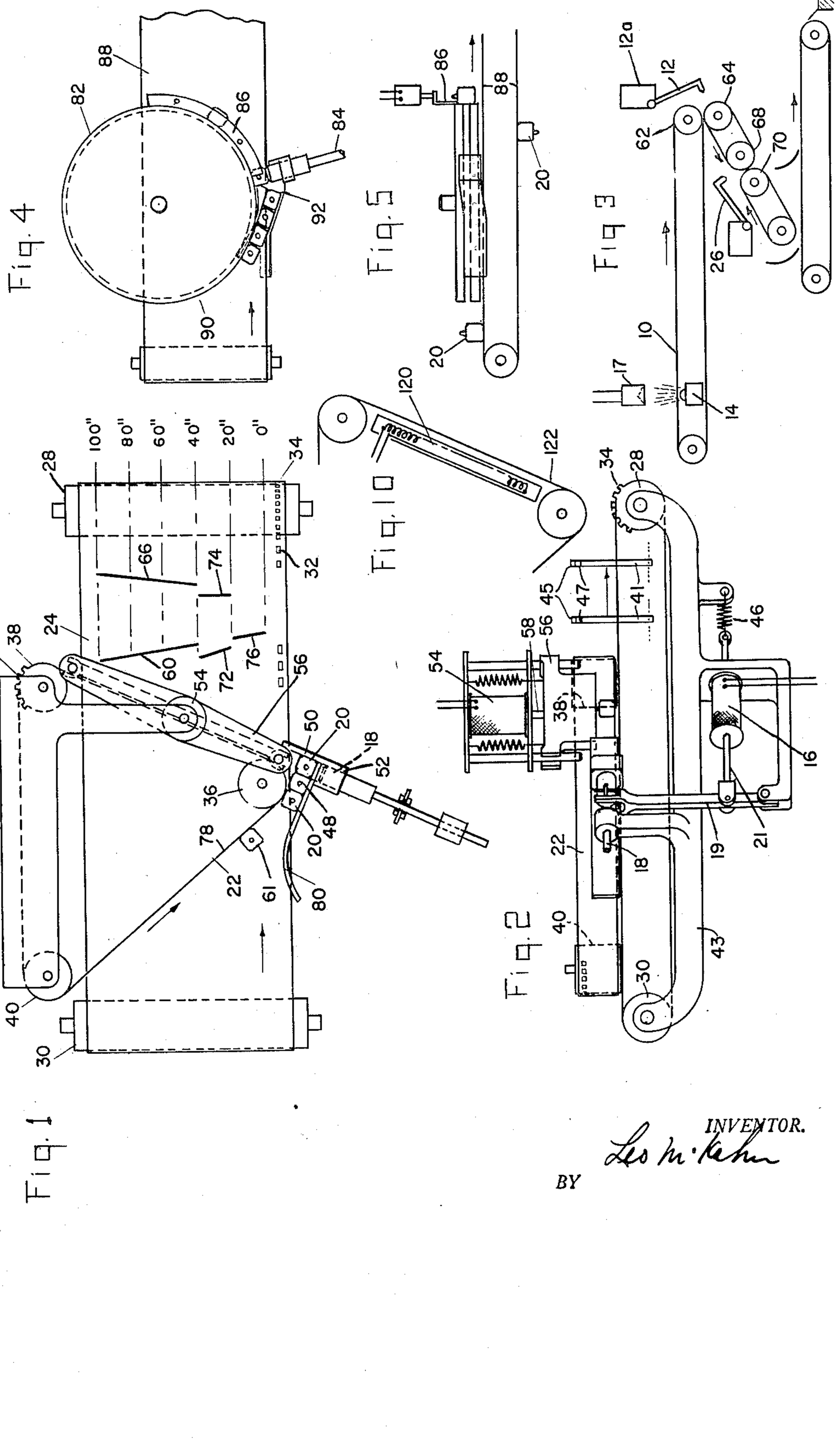

Fig. 1

Fig. 4

Fig. 5

Fig. 10

Fig. 3

Fig. 2

INVENTOR.
Leo M. Kahn
BY

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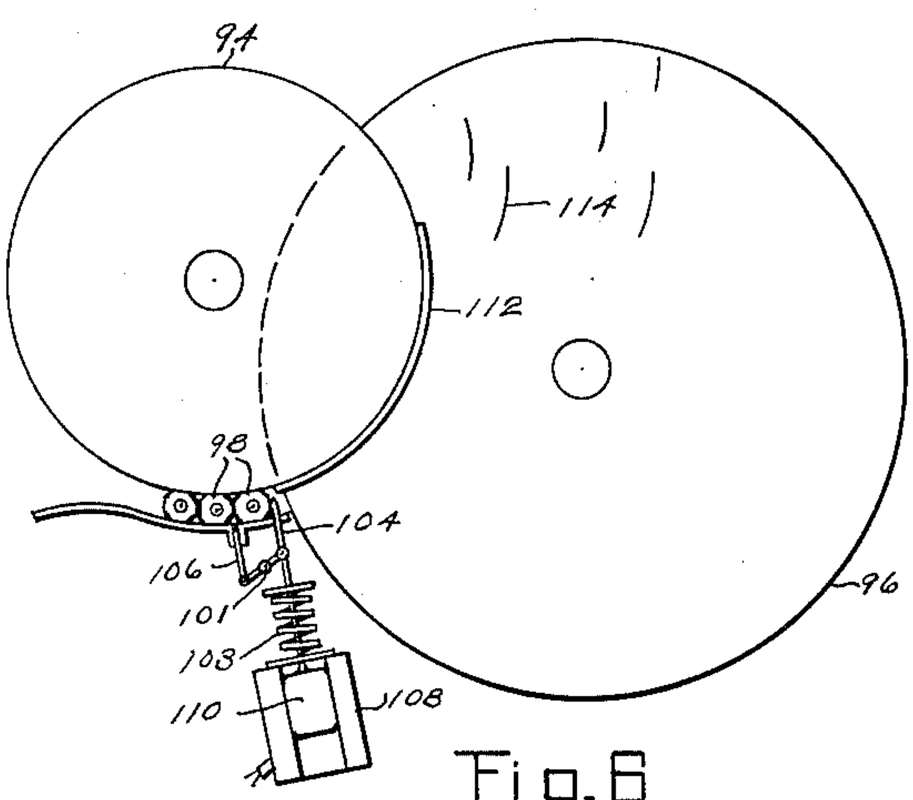

Fig. 6

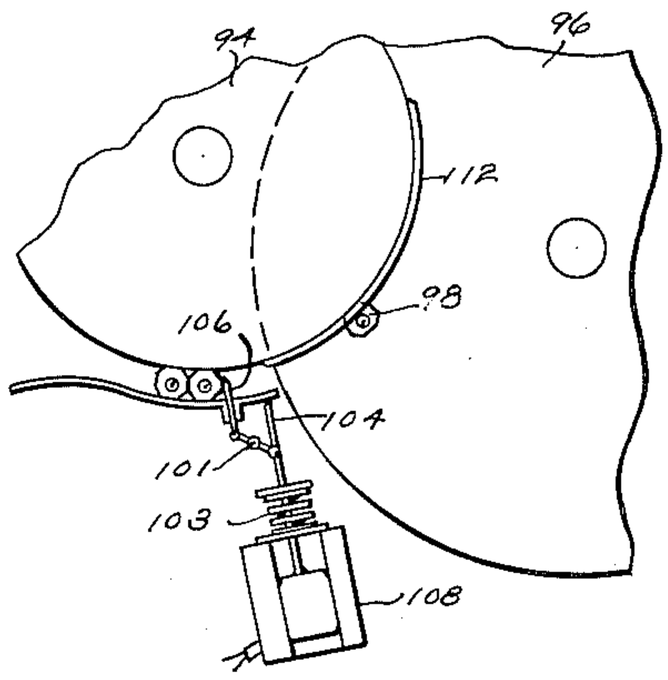

Fig. 7

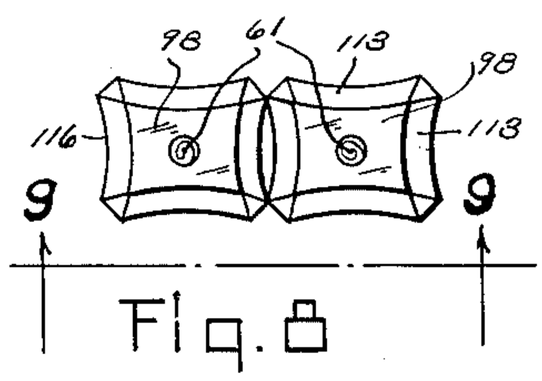

Fig. 8

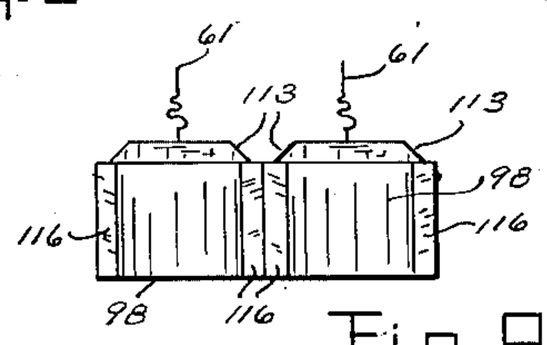

Fig. 9

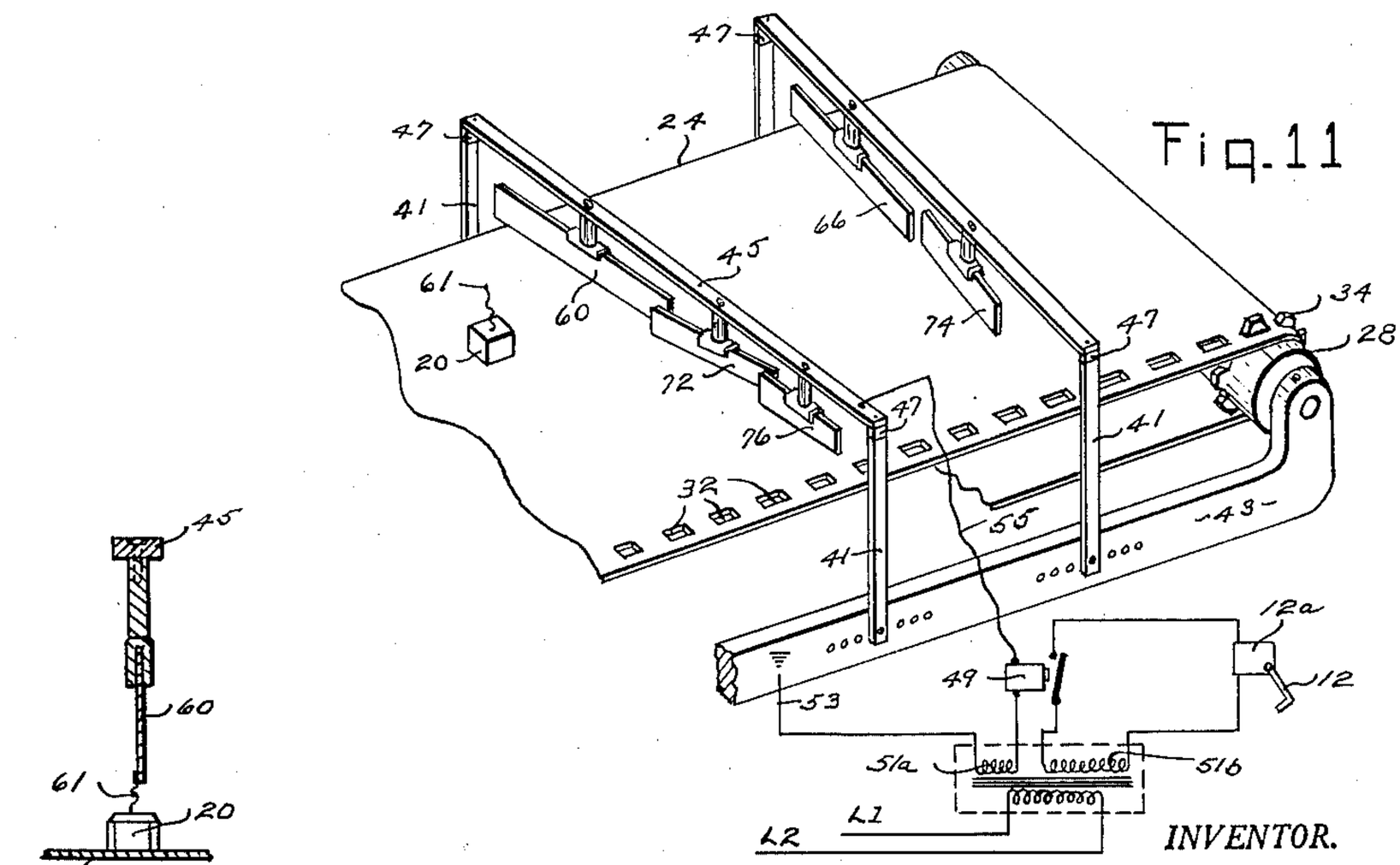

Fig. 11

Fig. 12

INVENTOR.
LEO M. KAHN
BY
Hyde, Meyer, Baldwin & Doran
ATTORNEYS

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TIMING SWITCH MECHANISM FOR LAUNDRY FOLDING APPARATUS

Leo M. Kahn, Brooklyn, N. Y., assignor to The American Laundry Machinery Company, Cincinnati, Ohio, a corporation of Ohio

Application August 21, 1951, Serial No. 242,911

9 Claims. (Cl. 270—81)

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The present invention relates to a folding machine of the type that is used in laundries to fold articles such as sheets, towels and the like and more particularly to the timing mechanism utilized with the folding machines.

This application is a substitute of my U. S. patent application for "Laundry Apparatus," Serial No. 611,309, filed August 18, 1945.

An example of such a timing mechanism is found in Patent No. 2,280,957 granted to me April 28, 1942. As illustrated in this patent, timing mechanisms heretofore utilized rely, for their operation to close the electric circuit through which the folding mechanism is operated, upon movable contacts, such as preferably magnetized buttons. At the period of time when measurement of the article for its folding is commenced, a movable contact is moved onto a rotating element by a timing element, such as a lifting rod, to find the center of the article in order that at the proper time the circuit for the operation of the folding mechanism will be closed. At the conclusion of travel of the contact these contacts are returned to their original position for repetitive action thereon by the timing element.

Inasmuch as various articles follow one another comparatively quickly in the folding machine, with such heretofore utilized timing mechanism, the timing rod did not always move back into normal position to pick up a movable contact button and dispose it onto the rotating or second timing element to cause the succeeding article to be properly folded when it closely followed the preceding article. This resulted from the fact that insufficient time would elapse before the timing rod was again moved by the leading edge of the closely following succeeding article so that the next contact button was not picked up to measure the succeeding article.

The present invention overcomes this by the provision of a timing apparatus in which a movable magnetic contact is at all times in position to be moved onto the timing element irrespective of how close the leading edge of a succeeding article is positioned to the trailing edge of the preceding article. In the present invention, two timing elements are utilized onto one of which timing elements, a magnetic contact is fed by an independently operated means whereby measurement of the article to be folded is commenced and upon measurement of the article by the first timing element, the magnetic contact is transferred therefrom onto the second timing element by a knockoff or stripper member so that the magnetic contact and the second timing element then function to operate a folding means at the proper time. As a result, a folding machine utilizing the present invention will always properly fold each article irrespective of the speed and how close to each other the articles are fed into the folding machine thereby eliminating any necessity for carefully feeding the articles into the folding machine.

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The present invention further contemplates the provision of a timing apparatus that is provided with two moving contact button carrying elements to thereby provide a timing apparatus that will always fold an article with the proper number of folds irrespective of the size of the article and the distance that separates the articles as they are fed into the folding machine and which timing apparatus may be arranged to control the folding blades so that each article may be folded in halves, thirds, quarters or not folded at all.

The present invention still further contemplates the provision of a folding machine that is combined with an ironer and in which the folding blades are actuated by means of a photoelectric cell that is affected by the passage of the article to be folded along a colored strip provided in the path of movement of the article while it is still in the ironer between the return apron and the lower delivery ribbons to thereby considerably reduce the space required to be occupied by the folding machine.

These, other and further objects, uses and advantages of the present invention will be clear from the following description and the drawings appended thereto, which are merely schematic for an understanding of my invention and in which drawings

Fig. 1 is a plan view of a timing apparatus according to my invention;

Fig. 2 is a side elevation thereof;

Fig. 3 is a side elevation of a folding apparatus associated with a timing apparatus according to the present invention;

Fig. 4 is a plan view of a modification of my timing apparatus;

Fig. 5 is a side elevation thereof;

Fig. 6 is a schematic plan view of a further modification of my timing element;

Fig. 7 is a detail plan view of the stop mechanism in retracted position;

Fig. 8 is a plan view of the contact buttons used with the last modification;

Fig. 9 is a section on the line 9—9 of Fig. 8;

Fig. 10 is a side view of a still further modification of my timer;

Fig. 11 is a fragmentary perspective view of the arrangement of the stationary contact members schematically shown in Fig. 1, and Fig. 12 is a sectional view taken vertically through one such contact member.

Referring now to the drawings and particularly to Figs. 1, 2 and 3, an article to be folded is carried on the conventional belts or tapes 10 toward the first set of folding blades 12. As the leading edge of the article passes the conventional photo-electric cell light 14, current is generated to operate the solenoid 16. A conventional photo-electric cell 17 is positioned as shown in Fig. 3 so as to receive a beam of light from light source 14 when the article does not obstruct the path of light 14. As the trailing edge of the article uncovers the light 14, which acts as an article measuring means, the solenoid 16 is operated. Corresponding movement of the solenoid plunger 21, by means of the linkage 19 operates the element 18 to push one of the plurality of preferably magnetized contact buttons 20 onto the traveling ferrous metal belt or band 22 to thereby commence measurement of the article to be folded so that, as will be further described, the folding blades 12 will be operated when one half or one third of the article reaches them. It will of course be understood that the apparatus is arranged so that the blades are operated by a conventional relay from the relatively low voltage provided at the button contact.

It will be understood that the traveling belt or band 22 moves at a speed that is one half of that at which the belts or tapes 10 travel through the folding apparatus so that the center of the article will be found thereby. The relationship of such timer speed, fractionally or otherwise proportional to the travel of an article to be operated upon, as by folding, is well known to the art, being disclosed for example in U. S. Patent No. 2,034,040, granted March 17, 1936 to Oscar W. Johnson.

It should be noted that the plurality of buttons 20, before they are individually moved by the element or plunger 18 onto the first timing element, the belt or band 22 are stationary in the mechanism. The row of buttons is held in position against the element 18, so that one button is always held in position on the end of the element 18 to be pushed by it onto the belt, each button holding the following button against movement. Thus a contact button is always held in position to spontaneously move onto the end of the element 18 immediately that the solenoid plunger 21 is operated by the solenoid 16. This overcomes the disadvantage resulting from the necessity of returning the timing rods of prior timing apparatuses to original position to pick up a contact button before the timing rod is again moved.

The metal apron or belt 24 is of magnetic material such as ferrous metal and is moved around and between the rollers 28 and 30 so that the buttons 20 are received by it to be moved into a position to engage and actuate a circuit closing means for operating the corresponding folding blades 12 and 26. The metal apron or belt 24, as has been stated, is moved at a speed proportional to the speed at which the article carrying belts or tapes 10 are moving through the apparatus. Thus it will now be recognized that the magnetic contact buttons 20 are moved onto a timing belt 22 by a plunger 18, whose movement and position is completely independent of any timing or measuring function, as distinguished from the prior art. The first folding line of the article is then accurately measured by an independent timing

means, in the presently described embodiment, the belt or band 22, from which it is knocked onto a second timing or measuring means, here the metal apron or belt 24 to actuate the proper folding blades when the article is positioned thereat.

In order to drive the endless magnetic apron or belts 24, they may be provided along their edges with the openings 32, which are engaged by sprocket teeth 34 to operate the apron or belt.

The endless belt or band 22 is likewise driven by the rollers 36, 38 and 40, each of which is similarly provided along its edges with sprocket teeth 42 which engage the openings 44 to operatively drive the belt or band 22.

As the plunger 18 is moved from its normal position against the tension of the spring 46 to push a button 20 onto the measuring or timing band or belt 22, the button 48 that is positioned immediately behind the button 20 and against it is held by the plunger 18.

The contact buttons and the plunger are suitably beveled so that only the leading button is pushed by the plunger which is thereby enabled to move past the following button. Upon retracting the plunger 18 to its normal position in the manner that I shall describe herein below, the row or plurality of contact buttons moves into proper position with the button 48 held in position on the end of the plunger 18 so that it is in position to be moved onto the belt or apron 22.

So long as the article to be folded is over the photo-electric cell light 14 to cover it, the plunger 18 is held forward and prevents the succeeding button 48 from moving against the stop 50 extending from the housing 52 in which the plunger 18 is operatively reciprocated. The leading button 20 positioned against the stop 50 on the end of the plunger 18 is pushed by the plunger 18 along the stop or support 50 onto the moving band or belt 22 to commence measurement of the article.

Since the plunger 18 performs no measuring or timing function whatever, it need travel but a short distance and may be relatively tightly held so that it will immediately return to a position of rest when fully retracted. Thus it is always in position to move the following contact button irrespective of how closely articles to be folded are fed into the apparatus.

When the trailing edge of the article passes from over the light 14, the second solenoid 54 is also de-energized so that the plunger 58 thereof, which is connected to a stripper blade 56, causes the button 20 to be knocked off from the belt or band 22 onto the metal apron or belt 24, which latter carries it toward the contact strip 60 in its path. As shown in Fig. 2, the stripper blade 56 is positioned above the path of travel of the contact button so that actuation of the plunger 58 causes the stripper blade 56 to descend, striking the button and stripping it downwardly from belt 22 on to belt 24. Each button is provided with a resilient extending contact or pigtail 61 which forms with it a low voltage closed circuit between contact strip 60 and belt 24 to operate the conventional solenoid operating the folding blades 12.

Fig. 11 shows in perspective the relative positions and arrangement of the contact strips with respect to belt 24. Standards 41 carried by the frame 43 support a cross rod 45 from which the contact strips 60, 72, etc. are suspended. The clearance between the contact strips and belt 24 is sufficient to permit passage thereunder of a contact button 20, but the strips are low enough

to be touched by the flexible pigtail contact on the button. The cross rod 45 is electrically insulated from the upright standards by insulators 47. When the pigtail contact of button 20 touches strip 60 a circuit is established from relay 49 through low power source 51*a*, energized from L_1—L_2, conductor 53, and through the frame 43 to apron 24, thence through button 20 and its pigtail contact to strip 60 and cross rail 45, and back through conductor 55 to relay coil 49. Energization of relay 49 causes its armature 57 to close a circuit from high power source 51*b* to solenoid 12*a* which operates folding blade 12.

It will be seen that at any instant the position of the button 20 laterally of the belt 24 will depend upon the length of the article, passage of which caused the button to be moved on to the belt. Also the button's position longitudinally of the belt at the point of contact of its pigtail 61 with contact strip 60, for example is arranged by adjustment of the contact strip so that the instant of contact coincides with the passage of the fold line of the article beneath folding blade 12.

As an example, the operation is as follows:

Assume an article of the largest size, say 100 inches. When the article to be folded has completely passed the light 14, a button will have been moved from the band or belt 22 onto the magnetic apron or belt 24 to be carried thereby toward the contact strip 60. This contact strip is arranged in such position that it will be struck by the resilient pigtail contact 61 of the button 20 just as the center of the article passes the first folding blade 12.

It should be understood that, in order to reduce the size of the timing apparatus, the belt or band 24 is operated at a speed that is in predetermined ratio to the speed at which the belt or tapes 10 are operated. It will of course be also understood that the circuit including the contact 61 and the strips is of low voltage, say 6 volts, to close the circuit to relay 49 for operating the folding blades.

The folding blades are then operated to force the article between the rollers 62 and 64 and thus fold it in half. The article is then carried toward the second set of folding blades which then will be operated when the resilient contact 61 engages the second contact strip 66 to close the operating circuit of the second series of blades 26 and force the article between the rollers 68 and 70. The second contact strip 66 is arranged to operate the folding blades 26 when three-quarters of the article have passed the blades to thus fold the article in quarters. Another relay and suitable hook-up electrically connects contact strip 66 with relay 26. It is similar to that shown for relay 12*a* for blade 12, and consequently is not shown.

It will be understood that the strips 60 and 66 are so arranged at an angle to the direction of movement of the contact buttons 20 so that articles under 100 inches in length and up to just above 40 inches in length will be folded in quarters. This angular position permits the strips 60 and 66 to be engaged by the buttons at such time as half and three-quarters of the larger article reaches respectively the blades 12 and 26. Articles just under 40 inches in length and over 20 inches in length will be folded in thirds by the contact strips 72 and 74, which are placed one-sixth back for the one-third fold, and one-sixth ahead thereof for the two-thirds fold. For smaller articles which are to be folded but once at half of the article, a single contact strip 76 is provided and connected to the first folding blades 12 so that they alone will be operated. It will be understood that when it is desired not to fold articles at all, the strip 76 may be de-energized so that the blades 12 will not be operated when the resilient contact 61 engages the strip 76 or if the article is so small that it is less than the minimum size, no contact strip will be in the path of movement of the button.

As the button 20 is returned by the belt 24, it passes on the underside of the apparatus to be again brought into engagement with the moving belt or band 22 at 78 and carried therealong until it is brought into the row of stationary buttons resting on rail 80 extending from the housing 52. As the plunger 18 pushes the leading button of the row or series onto the belt or band 22, each button is successively moved forward for repetitious action as heretofore described.

It will be recognized that the buttons, being relatively small, a succeeding button will be brought into position immediately upon the retraction of the plunger 18, which as pointed out, moves only a comparatively small distance and which is stationary when retracted, so that the next succeeding article will be properly measured irrespective of how close it is positioned to the preceding article.

The arrangement just described permits buttons that are small in size and light in weight to be used, reduces wear on the buttons and prevents uncontrolled movement thereof (since they are relatively stationary) when they are returned into normal position to again be acted upon by the plunger.

In Figs. 4 and 5, I have illustrated a modification of my timing apparatus in which the band or belt 22 is replaced by a rotating drum, disk or wheel 82. This rotating drum, disk or wheel 82 is operated at half the speed at which the belt or tapes 10 is operated so that when a button 20 is pushed onto it by the plunger 84 (which is operated by the photo-electric cell 14) measurement of the article will commence. In this modification, the plunger 84 does no measuring or timing and so need move but a relatively small distance and is so held that it will assume a stationary position upon its retraction to normal position.

The drum, disk or wheel 82 is provided with a knock-off rail 86, which forces the button onto the metal apron or belt 88 when one-third or one-half of the article has been measured by the drum, disk or wheel 82, when the trailing edge of the article is moved past the photo-electric cell assembly 14. The magnetic buttons are suitably beveled at their upper top edges in order that the knife edge of the knockoff will separate the magnetic buttons from the drum, disk or wheel 94 so that they will fall onto the metal apron or belt 88. Further operation of this modified measuring apparatus is the same as that of the apparatus first described above.

The magnetic contact buttons are returned by the metal belt 88 to engage the edge 90 of the rotating drum, disk or wheel 82 to move into position as the last button of the row of buttons held against the plunger 84 between the guide 92 and the rotating drum, disk or wheel.

In Figs. 6 to 9 I have illustrated a still further modification of my measuring or timing apparatus in which two rotating drums, disks or wheels 94 and 96 are used to measure the article and cause the operation of the folding blades when the line along which the article to be folded reaches them. The rotating drum, disk or wheel 94 corresponds to the belt or band 22 and is ro-

tated at a speed proportional to that at which the article moving belt or tapes 10 travels.

Measurement of the article is made by the movement of a magnetic button 98 held on the rotating drum, disk or wheel 94 and moving with it. A plurality of these buttons are held in a row thereof in position to be singly released at the proper time by the stop mechanism 100 when the leading edge of an article to be folded passes over the photo-electrical cell light 14 or any other means by which the passage of the front and rear edges may be registered.

The stop mechanism 100 comprises the pivoted arm 102, pivoted at 101 and having at one end the dog 104 and at the other end the dog 106. In normal position, the arm 102 is held about its pivot by the spring 103 so that the dog 104 is positioned in advance of the leading contact button so that it cannot be carried by the disk, drum or wheel 94 but is held against movement thereon toward the drum, disk or wheel 96. This dog 104 thus holds the entire row of contact buttons in stationary position to be individually carried by the drum, disk or wheel 94 at the proper time to commence measurement of the article.

When the leading edge of the article passes the photo-electric cell light 14, current is generated to operate the solenoid 108 and move its plunger 110 against the tension of the spring 103. Since the dogs 104 and 106 are interconnected, the dog 106 will be concurrently interposed between the leading contact button of the row and the button immediately following it when the dog 104 is withdrawn from normal position in front of the leading contact button.

Thus, when the leading button is released, it will be carried by the drum, disk or wheel 94 but movement of all the following buttons is prevented by the stopping action of the dog 106. When the trailing edge of the article passes the light 14, the stop mechanism is immediately returned to normal position with the dog 106 withdrawn from in front of the row of magnetic buttons and the dog 104 returned to its normal position to again restrain movement of the buttons. By this structure there is provided a measuring mechanism that acts very quickly and permits immediate measurement of the article. When the trailing edge of the article passes the light 14, the magnetic button 98 is knocked off the drum, disk or wheel 94 onto the drum 96 by the knock-off 112 (similar in structure to knock-off 56), which is accomplished when one-half of the article has been moved toward the blades.

The contact buttons are beveled along their upper top edges 113 in order to enable the knife edge of the knock-off 112 to separate the magnetic button from the disk, drum or wheel 94 carried by it so that it may be operatively transferred onto the other rotating disk, drum or wheel 96.

The folding blades 12 and 26 are then operated in the conventional manner by the drum, disk or wheel 96 and contact strips 114, which are of the type described in my Patent No. 2,280,957 and in Mayer Patent No. 1,581,753. These, therefore, need not be further described herein.

After the article is folded, the buttons are returned by the drum, disk or wheel 96 to be again picked up by the drum, disk or wheel 94 and returned thereby to their normal position in the row thereof in front of the stop mechanism.

In order to more readily carry the buttons 98 on the peripheral edge of the drum 94, I inwardly curve the four sides of each button at 116 with a radius that is equal to that of the timing wheel or drum, disk or wheel 94 so that the buttons will lie snugly against the edge thereof.

In order to provide a structure which will permit the dogs 104 and 106 to be easily and quickly operatively arranged between the buttons to separate them, I arrange on each side edge thereof the bevel 118 to provide button separating space into which space the dogs may be moved to hold the leading or following button.

Referring now to Fig. 10, I have there illustrated a construction which utilizes an electro-magnet 120, which is energized when the leading edge of the article passes the photo-electric cell 14 to magnetically hold the buttons on the belt 122. With such construction, a canvas or other non-magnetic material belt may be used. When the trailing edge of the article passes from the photo-electric cell 14 light beam, the electro-magnet is de-energized to allow the magnetic button to be dropped onto the metal apron or belt 24 and as described cause operation of the folding blades. Such construction permits the contact buttons to be gripped by the article center measuring belt 122 and carried forward without the use of a plunger for pushing a button onto the belt or band.

Although I have not illustrated it in Fig. 10, it will be understood, that with such construction a release stop is to be used to hold the leading button in position to be gripped while the following buttons are held back.

While I have described certain embodiments of my invention, I do not intend to be limited thereto as modifications thereof may be made thereto by those skilled in the art.

What I claim is:

1. A timing mechanism for a laundry folding machine having an article carrier traveling at a selected speed and having folding blade means for folding such article, said mechanism comprising a first endless contact carrier continuously traveling at a speed that is in ratio to the speed at which the article carrier travels, a second endless carrier arranged adjacent to the first contact carrier, said second carrier continuously traveling at a speed that is also in ratio to the speed at which the article carrier travels, but the respective speeds of said first and second carriers being different, said first and said second carriers being disposed to rotate in respective intersecting planes, a contact member held closely adjacent to but stationary with respect to said first contact carrier, a stop mechanism normally restraining movement of the contact member by the first contact carrier, article controlled means adjacent to the path of travel of the article on said article carrier, and sensitive to and actuated by movement of the leading edge of the article therepast for operating said stop mechanism to permit movement of the contact member on the first contact carrier, means adapted to transfer said contact member from the first contact carrier onto the second contact carrier upon movement of the trailing edge of the article past said article controlled means, and blade actuation control means disposed adjacent to the path of travel of the contact member along said second contact carrier and sensitive to passage of the contact member therepast, for causing actuation of said folding blade means when said contact member operatively registers with said blade actuation control means.

2. A timing mechanism as defined in claim 6

wherein said first contact carrier and said contact member are made from ferrous metal and constitute the attracted and attracting members of a magnetic couple, whereby said contact member is carried by said contact carrier by magnetic adhesion.

3. A timing mechanism for a laundry folding machine having an article carrier traveling at a selected speed and having folding blade means for folding such article, said timing mechanism comprising a first endless contact carrier continuously traveling at a speed that is in ratio to the speed at which the article carrier travels, a second endless contact carrier disposed adjacent the first contact carrier, said second contact carrier also continuously traveling at a speed that is in ratio to the speed at which the article carrier travels, said first and said second carriers being disposed to rotate in respective intersecting planes, a row of contact members held closely adjacent to but stationary with respect to the first said contact carrier, a stop mechanism normally restraining movement of the leading contact member of said row by the first contact carrier, article controlled means adjacent to the path of travel of the article on said article carrier, and sensitive to and actuated by movement of the leading edge of the article therepast for operating said stop mechanism to permit movement of the leading contact member on the first contact carrier, means adapted to transfer said leading contact member from the first contact carrier onto the second contact carrier upon movement of the trailing edge of the article past said article controlled means, and folding blade actuation control means disposed adjacent to the path of travel of the contact member along said second contact carrier, and sensitive to passage of the contact member therepast, for causing actuation of said folding blade means when said contact member operatively registers with said blade actuation control means.

4. A timing mechanism for a laundry folding machine having an article carrier traveling at a selected speed and having folding blade means for folding such article, said timing mechanism comprising a first endless contact carrier continuously traveling at a speed that is in selected ratio to the speed of the article carrier, a second endless contact carrier adjacent the first contact carrier, said second endless contact carrier also continuously traveling at a speed in ratio to the speed at which the article carrier travels, said first and said second carriers being disposed to rotate in respective intersecting planes, a plurality of contact members arranged in a row closely adjacent to said first contact carrier, means normally positioned in front of the row of contact members to restrain movement thereof by said first contact carrier, article controlled means adjacent to the path of travel of an article on said article carrier, and sensitive to and actuated by movement of the leading edge of the article therepast for withdrawing the restraining means from in front of the row of contact members and concurrently interposing said restraining means between the leading contact member and the next following contact member to be operatively carried by the first contact carrier and restrain the carrying of the remaining contact members of the row by the first contact carrier, means adapted to transfer the said leading contact member from the first said carrier onto the second said carrier upon movement of the trailing edge of the article past said article controlled means, said restraining means being concurrently returned to normal position, and folding blade actuation control means disposed adjacent to the path of travel of a contact member along said second contact carrier, and sensitive to passage of the contact member therepast, for causing actuation of said folding blade means when said contact member operatively registers with said blade actuation control means.

5. A timing mechanism as defined in claim 8 wherein said contact carriers on the one hand and said contact members on the other hand are each made from ferrous metal and constitute the attracted and attracting members of a magnetic couple whereby said contact members are retained on said contact carriers by magnetic adhesion.

6. A timing mechanism as defined in claim 8 wherein said contact carriers on the one hand and said contact members on the other hand constitute the attracted and attracting members of a magnetic couple, whereby said contact members are retained on said contact carriers by magnetic adhesion.

7. A timing mechanism as defined in claim 6 wherein said contact member is made from ferrous metal, and wherein magnet means is disposed adjacent the opposite face of said first contact carrier from the face on which the contact member travels, whereby said contact member is held on said first contact carrier by magnetic attraction effective through said contact member.

8. A timing mechanism for a laundry folding machine having an article carrier traveling at a selected speed and having folding blade means adapted to fold such article a plurality of times in successive operations, said mechanism comprising a first endless contact carrier continuously traveling at a speed that is in ratio to the speed at which the article carrier travels, a second endless contact carrier arranged adjacent to the first contact carrier, said second endless contact carrier continuously traveling at a speed that is also in ratio to the speed at which the article carrier travels, said first and said second carriers being disposed to rotate in respective intersecting planes, a contact member held closely adjacent to but stationary with respect to said first contact carrier, a stop mechanism normally restraining movement of the contact member by the first contact carrier, article controlled means adjacent to the path of travel of the article on said article carrier, and sensitive to and actuated by movement of the leading edge of the article therepast for operating said stop mechanism to permit movement of the contact member on the first contact carrier, means adapted to transfer said contact member from the first contact carrier onto the second contact carrier upon movement of the trailing edge of the article past said article controlled means, a first fold initiating means disposed adjacent to the path of travel of the contact member along said second contact carrier, said fold initiating means being sensitive to passage of said contact member therepast and being adapted to cause actuation of said folding blade means at such passage, and a second fold initiating means disposed adjacent the path of travel of said contact member along said second contact carrier, and spaced from said first fold initiating means along said path of travel of said contact member, and being adapted to cause said folding blade to exe-

cute a second folding operation on the article upon passage of said contact member past said second fold initiating means.

9. A timing mechanism for a laundry folding machine having an article carrier traveling at a selected speed and having a pair of folding members for effecting successive folds in the article, said mechanism comprising a first endless belt, means for continuously rotating said first belt around vertical operational axes in such manner that the belt is disposed vertically, the plane of rotation being horizontal, a second endless belt disposed immediately below said first belt, means for continuously rotating said second belt around horizontal operational axes in such manner that the belt is disposed with its upper flight running horizontally, said first belt being formed from strip metal of ferrous type, each said belt being rotated at a speed bearing an arithmetical proportional relationship to the speed of the article carrier, a contact member of magnetic character disposed closely adjacent to said first belt, stop means for normally preventing said contact member from traveling with said first belt, release means for permitting said contact member to adhere to and travel with said first belt during a timing operation, article controlled means adjacent to the path of travel of the article on said article carrier, said article controlled means be-

ing sensitive to passage therepast of the leading edge of the article for operating said release means to permit said contact member to travel on said first belt as aforesaid, stripper means disposed adjacent said first belt, and adapted to move said contact member downwardly from said first belt onto the upper flight of said second belt, said stripper means being responsive to passage of the trailing edge of said article past said article controlled means so that travel of the contact member on said first belt occurs during passage of the whole article past said article controlled means, first fold initiation means disposed adjacent to the upper flight of said second belt, second fold initiation means likewise disposed adjacent the upper flight of said second belt, each said fold initiation means being sensitive to and responsive to passage of said contact member therepast, and means for causing each said fold initiating means to become effective on a respective folding member when said contact member passes the respective fold initiating means, whereby the respective folding member executes a folding operation on the article each time the contact member passes such fold initiating means.

LEO M. KAHN.

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