

Oct. 6, 1970

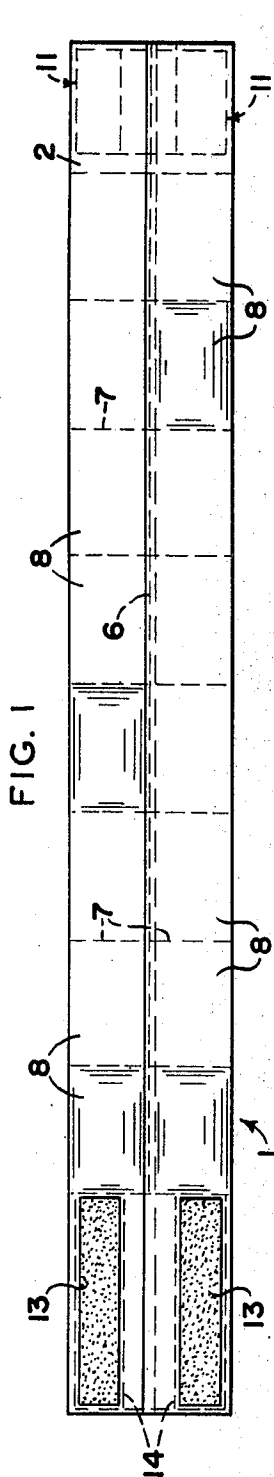
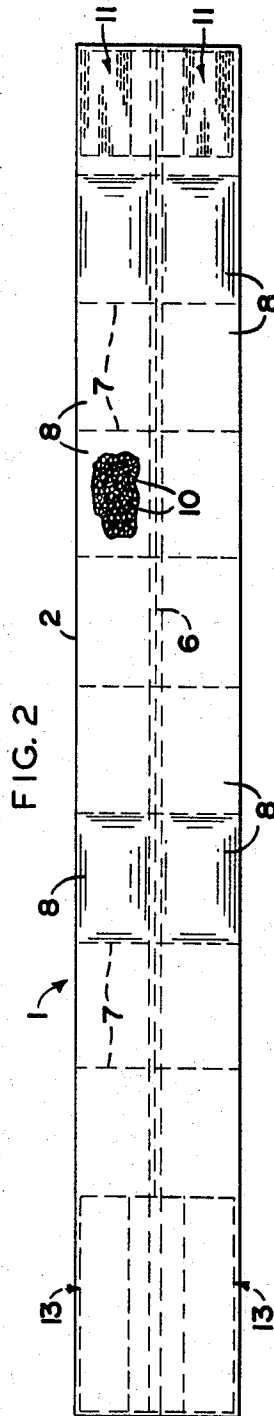
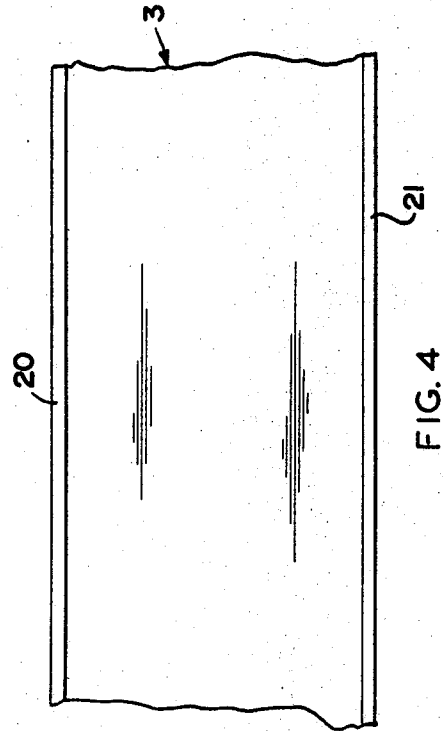
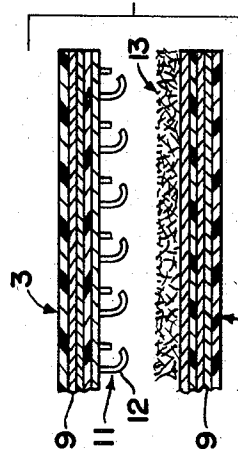
G. I. SMITH

3,532,339

FLEXIBLE WEIGHTED BELT

Filed Aug. 26, 1968

2 Sheets-Sheet 1



INVENTOR
GILBERT I. SMITH
BY
Oldham & Oldham
ATTORNEYS

Oct. 6, 1970

G. I. SMITH
FLEXIBLE WEIGHTED BELT

3,532,339

Filed Aug. 26, 1968

2 Sheets-Sheet 2

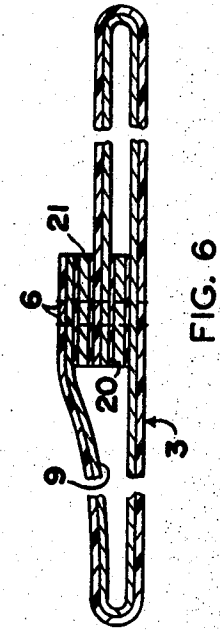


FIG. 5

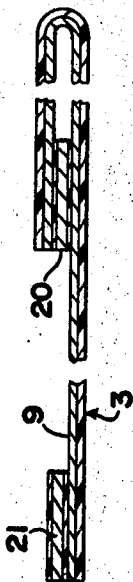
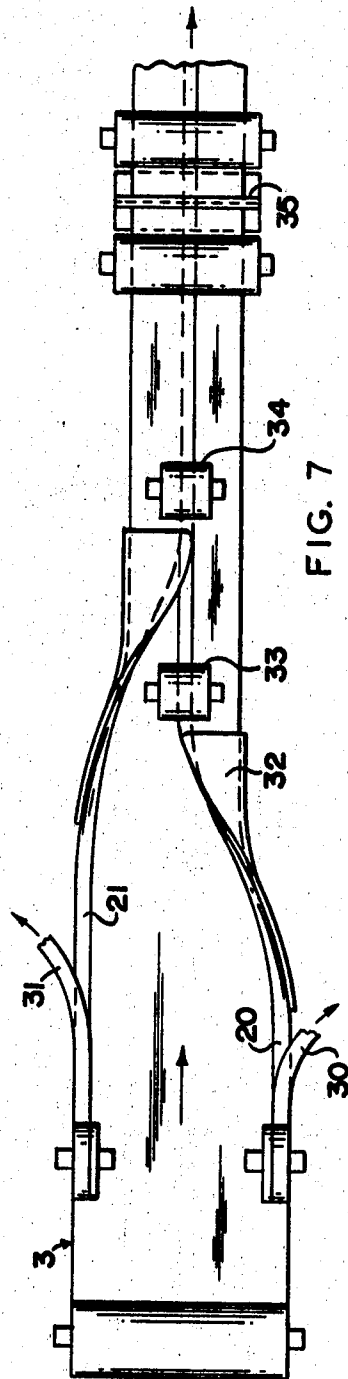


FIG. 7

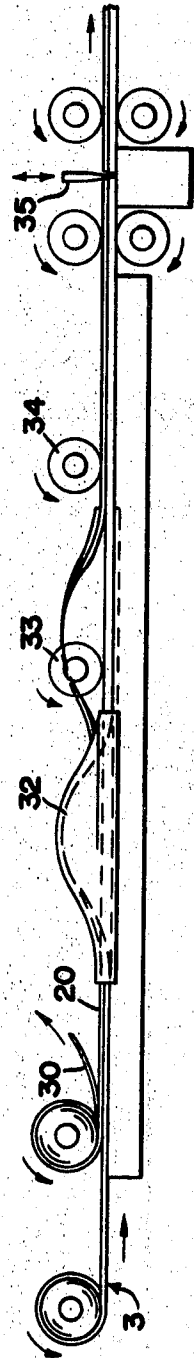


FIG. 8

INVENTOR.
GILBERT I. SMITH
BY
Oldham & Oldham
ATTORNEYS

1

2

3,532,339

FLEXIBLE WEIGHTED BELT

Gilbert I. Smith, St. Petersburg, Fla., assignor to Faberge Incorporated, New York, N.Y., a corporation of Minnesota

Filed Aug. 26, 1968, Ser. No. 755,114

Int. Cl. A63b 23/04

U.S. Cl. 272—57

2 Claims

ABSTRACT OF THE DISCLOSURE

An article of manufacture comprising a flexible elongate enclosure, a plurality of small weight means received within said enclosure without impairing the flexibility thereof and received in a plurality of compartments formed therein, interengageable flexible means of different lengths secured to opposite end portions of said enclosure to form an adjustable closed loop therefrom whereby the article of manufacture can be temporarily secured to a person.

The present invention relates to a flexible, weighted belt or exercise article, and particularly to an article of manufacture comprising a flexible enclosure or carrier article having a plurality of weights therein, which enclosure can be removably and readily secured to a person, such as around one's waist, for therapeutic or exercise purposes.

Heretofore there have been various types of articles provided for exercise purposes where extra weights can be carried by the hand, or can be tied to a person's shoe. However, it has been difficult to form satisfactory weight means for ready attachment to a person in a convenient, easily adjustable manner to obtain exercise action automatically when the person moves, such as to be positioned around a person's waist to aid in weight reduction.

The general object of the present invention is to provide a novel and improved flexible, weighted, exercise article of manufacture, such as a belt, that is characterized by the ease of manufacturing by use of effective double-coated adhesive tapes positioned on the connecting edges of a strip used in forming the elongate weight belt.

Another object of the invention is to provide a flexible, weight carrying article that can be removably but fixedly attached to a person at his waist, and with the weight carrying article shaping itself to the person to whom it is affixed and being adjustable in size and having a releasable but secure attachment to a person.

Another object of the invention is to provide a relatively uncomplicated, inexpensive but sturdy article of manufacture that is adapted to apply weight temporarily and in an easily carried manner to a living being, and to make the article by an improved method.

The foregoing and other objects and advantages of the invention will be made more apparent as the specification proceeds.

Attention is now particularly directed to the accompanying drawings wherein:

FIG. 1 is a front elevation of an article of the invention showing it in its opened, inoperative form;

FIG. 2 is a rear elevation of the article of FIG. 1;

FIG. 3 is a vertical section taken through the fastening means when engaged;

FIG. 4 is a plan view of the fabric strip used in making the new article after the double-coated tape is positioned on the article;

FIG. 5 is a cross section of the fabric strip as one edge is taped into position;

FIG. 6 is a cross section of the fabric strip after force has been applied to the tape and edges;

FIG. 7 is a diagrammatic plan view of apparatus to perform the method of the invention; and

FIG. 8 is a side elevation of the apparatus of FIG. 7.

When referring to corresponding members shown in the drawings and referred to in the specification, corresponding numerals are used to facilitate comparison therebetween.

Generally speaking, the invention relates to an article of manufacture that comprises a flexible, elongate sectional enclosure, a plurality of small weight members received within the sections of the enclosure, and flexible with the enclosure, and relatively flat interengaging means operatively secured to or carried by opposite end portions of the enclosure whereby such opposed end portions can be adjustably engaged with each other to form a closed loop whereby the article of manufacture can be temporarily secured to a person's waist for applying desired weights thereto for temporary periods. The enclosure initially is made as an elongate body with two parallel longitudinally extending pockets at least partially formed in a fabric strip by use of pressure sensitive adhesive tapes.

Reference now is particularly directed to the details of the structure shown in the drawings, and an article of manufacture or belt is shown in FIG. 1 and indicated as a whole by the numeral 1. This article of manufacture is adapted to be secured around a person's waist. This article of manufacture includes a flexible, elongate enclosure 2 that normally is made, for example, from any suitable fabric, sheet means, or plastic material, and thus the enclosure can be made from two layers of one elongate folded sheet 3 of material, as indicated in FIG. 6 and the edge portions of sheet 3 have double-coated adhesive tapes 20 and 21 positioned thereon. The double-coated adhesive tapes 20 and 21 are of conventional commercial construction and can be a pressure sensitive type, a heat seal type, or any combination thereof. This adhesive means hence allows manufacture by a simple process for forming or shaping the exercising belt. No longer does the belt unit need to be turned inside out after the first stitching as in prior belts, because this double-coated tape prepares the belt for serving and for its attractive finished appearance. Furthermore, these double-coated tapes aid in keeping the weight material in the correct position so it can't slide to and from any position on the belt. In this embodiment of the invention, a center seam 6 is also sewed or formed at the overlapped edges so as to provide a sturdy and durable enclosure. The preliminary means for such an enclosure were the double-coated tapes through which seam 6 is formed allowing the greatest strength for the unit, and cross seams 7 are later provided to divide the enclosure for a major portion of its length into substantially rectangular pockets, sections, or compartments 8.

In the production of the article of the invention, it is desirable in many instances to use a sheet of suitable plastic material in forming the enclosure 2. Thus some simulated leather type of a plastic substance can be used for forming the enclosure 2, and such leather-like material normally has a finished side and an unfinished side with a layer of fabric 9 usually being integrally attached to such unfinished side.

Usually the double-coated tape being used has a removable backing sheet on one or both adhesive faces depending on how the tape is prepared and stored. Thus, if present, one backing sheet or strip would be removed and the tape 20, for example, would be pressed against one margin of the strip to be secured thereto by the exposed adhesive layer, and be positioned with its one edge above the edge of the strip 3. The other tape 21

would be similarly applied. Next the remaining removable cover or backing strips **30** and **31** are removed and the side edges are individually folded in, to usually overlap the longitudinal center line of the strip **3** and be secured in place by pressure applied to the upper face of the strip **3** above the tape. In other words, in order to provide an attractive appearing enclosure from the material as described, it normally is desirable to place the double-coated adhesive tape along the longitudinal edges of the unfinished side, so when the belt unit is formed with the finished side on the outer portion of the unit, one taped edge comes into contact with the center of the unfinished or fabric face or side and the other taped edge overlaps the first taped edge in such a way as to come into contact with the finished side of the material, as shown in FIG. 6. As the tape and corresponding edges are positioned for the desired design of the unit, the unit is made ready for sewing by applying pressure, heat, or any combination thereof in conventional fashion on the upper and lower surfaces of the portion of the belt where the taped edges overlap. Preferably the next step in forming the finished article of the invention from the enclosure partially formed by the steps previously outlined is to sew seam **6** that extends longitudinally on the enclosure **2** intermediate the marginal portions thereof, which seam **6** may extend the complete length of the enclosure so formed and directly through and along the taped edges provided in the earlier step.

In order to provide the desired weight means for use with the article of manufacture **1** in this embodiment of the invention, a plurality of small metal members, such as beads or shot **10** are positioned in each of the compartments formed in the enclosure **2**. Even though a relatively large quantity of such metal beads or shot **10** are received in each of the compartments, it will not interfere with the flexibility of the elongate enclosure **2**. Then the shot **10** is substantially uniformly distributed along the enclosure **2** and the cross seams **7** are sewn to form the pockets or compartments **2**. Such enclosure is still quite flexible and can be wrapped around a person's waist.

It is a feature of the invention that relatively thin, flat, flexible attachment means are associated with the opposed ends of this flexible enclosure **2** whereby an adjustable closed loop can be formed therefrom. Hook or burr and fibrous means, or similar removable engagement members as described hereinafter, such as Velcro materials, may be used to provide a convenient means for forming the article of manufacture into a closed loop that would be securely engaged with a person's wrist. Such attachment means normally are attached to flattened ends of the enclosure **2** and when overlapped and engaged with each other, still are thinner than the weight carrying compartments.

The material forming the attachment means provides what can be called relatively rigid, short hook or burr means **11** on one surface of a strip or section of fabric which is suitably secured to, for example, the outer surface of the enclosure **2**, as two relatively long strips, usually spaced transversely from each other. The hook or burr means **11** primarily comprise a plurality of relatively rigid short overhanging, or split hook members **12**, as best shown in FIG. 3, and which hook or burr means **11** are adapted to engage tightly with a relatively soft fibrous section, layer or member **13** secured to the opposed, or inner face or surface of the enclosure **2**. The fibrous layer **13** also is provided in two long strips, preferably about twice as long as the strips **11** of burr means usually has at least some loops therein to improve engaging action with the hook members **12**. The fibrous layer, or section **13** will engage tightly with a length of the burr means **11** and attach the enclosure **2** snugly to a person's waist for secure but readily removable engagement therewith. These flat, flexible and relatively thin attach-

ment means are shown to be of rectangular shape, obviously may be of any suitable size or shape. Both the hook or burr means **11** and the fibrous layer **13** may have a fabric backing and the attachment means are secured as by sewn seams **14** to the flattened ends of the enclosure **2** where the two layers thereof are abutted. The article of manufacture may be of any desired size and suitable amounts of weights are carried therein. However, it is particularly important that the fibrous layer **13** be from between about one and one-half to about two and one-half times as long as the strip or strips of burr means **11**. This provides for adjustment in the size of loop formed from the enclosure **2** and one size will adjust readily to fit persons of quite different waist diameters. And, probably two or three different length enclosures **2** could be provided, and sufficient adjustments would be available to fit any person.

It will be realized that any desired types of material can be used in making the enclosures for receiving weights therein, and these enclosures, when made from plastic sheets, could have at least some of its seams made by heating sealing or cementing action. The enclosures may have any desired number of compartments therein. The weight means used in these enclosures in the articles of the invention may be made from any suitable substance, but lead or steel beads or shot are satisfactory materials from which they can be made, or the weights may comprise pieces or strips of flexible lead or other soft ductile metal dependent upon the amount of weight desired in the article and the purposes for which it is to be used.

Sufficient pellets or metal weights can be positioned substantially uniformly in the compartments **8** that the belt may weigh from between 6 to 10 pounds. Initially in making the belt after the seam **6** is formed, lead shot or the like is placed in each of the longitudinally extending pockets. The belt is next kept in a horizontal position and the shot is retained substantially uniformly longitudinally of the belt while sewing the cross seams **7** and the shot is manually or otherwise moved away from the sewing zones prior to forming the seams **7** so that the shot will be retained in the various compartments then being formed. Enough shot is present to cause the pockets to bulge out as indicated in the drawings.

As indicated in FIGS. 7 and 8 of the drawings, a supply or suitable length of the sheet **3** is supplied from a storage roll of such material and the material is pulled or moved therefrom and is carried along a fixed path with suitable support means being provided therefor. Then the strips of double faced tape **20** and **21** are applied from supply storage rolls thereof to marginal portions of the fabric sheet **3** as it is moved longitudinally through the apparatus. Next, the removable cover or backing strips **30** and **31** are pulled from the positioned double faced adhesive tapes **20** and **21** which folds such edge of the sheet laterally inwardly and downwardly over a center portion of the sheet **3** and such folded edge portion of the sheet then can be at least temporarily affixed in position by moving under a pressure roll **33** that forces the tape **20** down into engagement with the exposed center area of the fabric sheet **9**. As such one folded edge is secured in position, the remaining edge will engage a similar guide member that folds the remaining edge laterally inwardly and over a center area of the fabric sheet **9** forming the upper surface of the sheet **3** and then it is at least temporarily secured in place by a pressure roll **34**. Such roll **34** forms the sheet **3** into the desired longitudinally extending member which has two parallel side pockets or compartments formed in the sheet. Next the sheet is cut into suitable lengths for forming the enclosure **2** by any conventional means such as a knife or cutter bar **35** that is positioned in any conventional manner and actuated by power or manual means to cut the sheet **3** into desired lengths. Thereafter, the enclosure forming member is then processed by sewing the longitudinally extending seam **6** therein filling the

5

pockets with shot, and forming the cross seams 7 as previously indicated in the application.

In the drawings, the thickness of the tapes 20 and 21 are exaggerated in FIGS. 5 and 6 as these conventional pressure sensitive tapes are quite thin such as about .005 to about .010 or .015 inch.

The tapes 20 and 21 may extend laterally outwardly of the enclosures further than indicated in FIG. 6, if desired.

While one complete embodiment of the invention has been disclosed herein, it will be appreciated that modification of this particular embodiment may be resorted to without departing from the scope of the invention as defined in the appended claims.

What is claimed is:

1. A flexible weighted belt or exercise article of manufacture comprising

a flexible elongate compartment forming sheet having its lateral edges folded inwardly and overlapping on a center portion of the sheet,

longitudinally and transversely extending means forming a plurality of separate compartments in said sheet, said means including an adhesive tape positioned intermediate and secured to the overlapped edge portions of said sheet, and an adhesive tape positioned intermediate and secured to a center portion of the sheet and the inwardly folding edge thereabove, said means also including transversely

6

extending sewn seams and a longitudinally extending sewn seam which engages said tapes, weight means received within each compartment in said member,

a flexible closure means secured to one end portion of said folded sheet on one face thereof, and

a second flexible closure means engageable with said first closure means secured to the other face of said enclosure at the other end thereof whereby the folded sheet can be formed into a closed loop by engagement of said two closure means.

2. A belt or exercise article as in claim 1 where two double faced pressure sensitive adhesive tapes are present and they have at least portions thereof in vertical alignment.

References Cited

UNITED STATES PATENTS

1,729,209	9/1929	Curtice	272—57
3,189,028	6/1065	Dormire	128
3,334,898	8/1967	McCrary	272—57
3,369,258	2/1968	Smith	272—57
3,374,636	3/1968	Mason	272—57
3,377,083	4/1968	Warren	272—57
3,383,708	5/1968	Pappas	128

RICHARD C. PINKHAM, Primary Examiner
R. W. DIAZ, Jr., Assistant Examiner