March 12, 1929. L. F. HINTZ 1,705,059

METHOD OF AND MEANS FOR LOADING PACKAGES IN BOUND UNITS

Filed Nov. 11, 1925 2 Sheets-Sheet 1

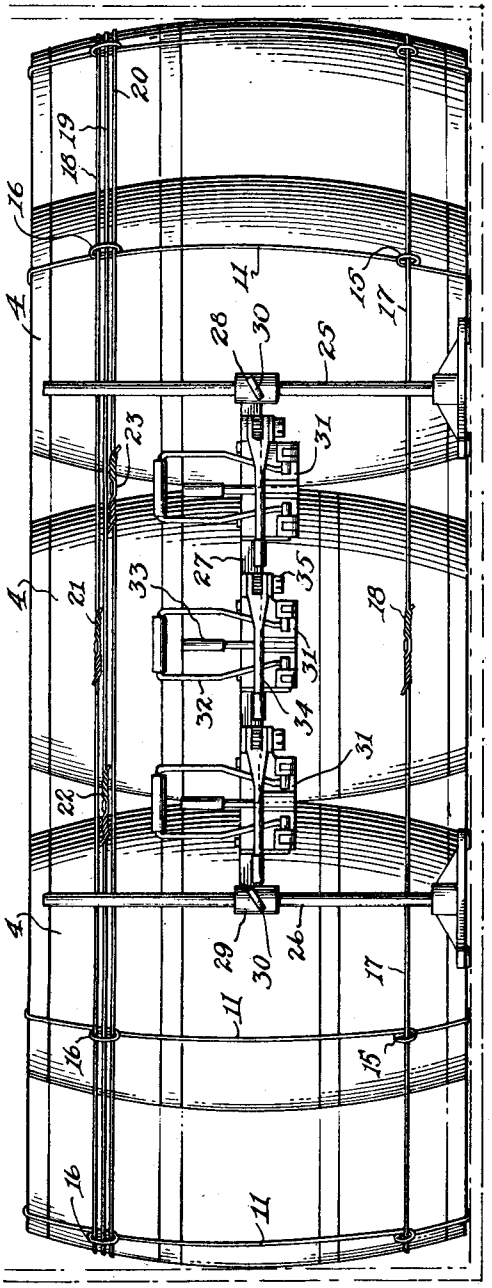


Fig. 1.

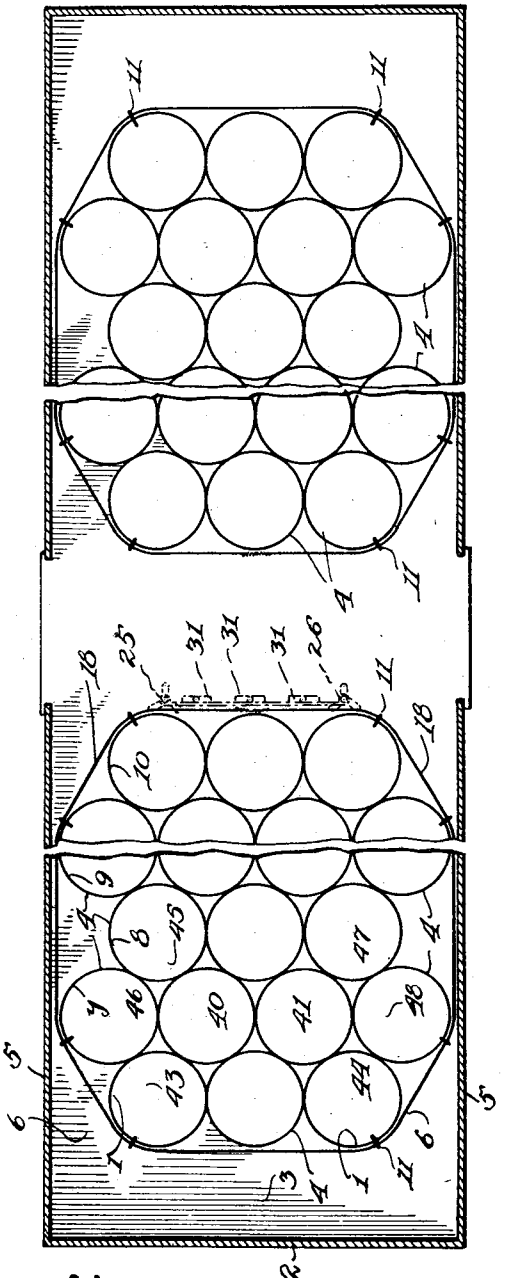


Fig. 2.

INVENTOR
L. F. Hintz
BY
F. A. Witherspoon
ATTORNEY

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METHOD OF AND MEANS FOR LOADING PACKAGES IN BOUND UNITS

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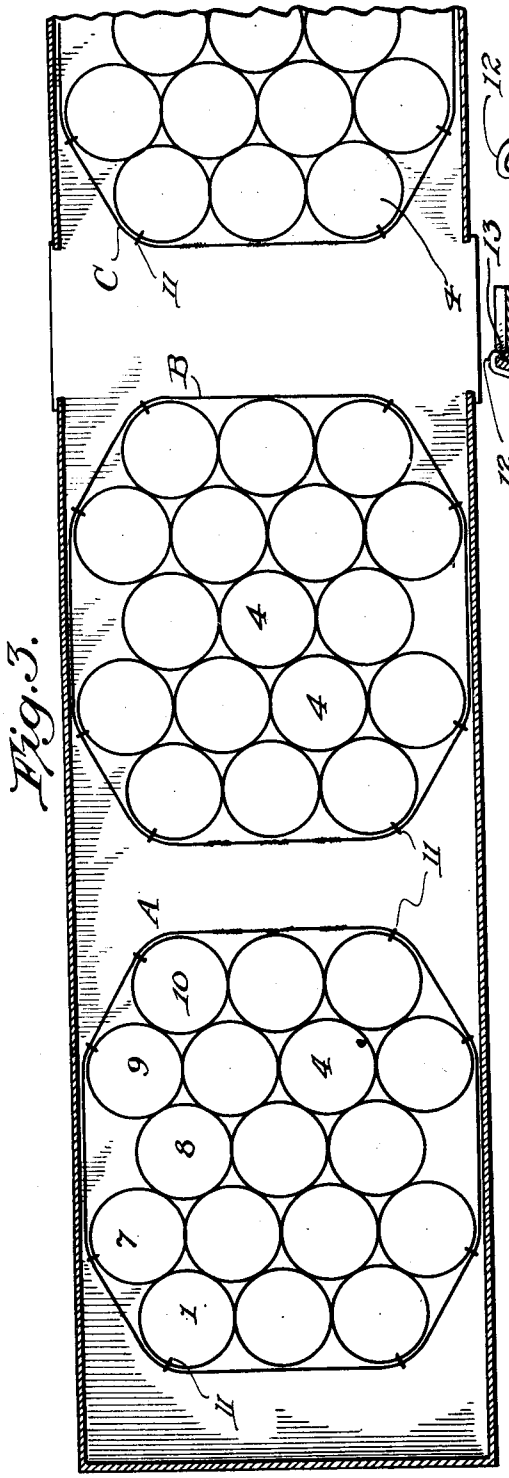


Fig. 3.

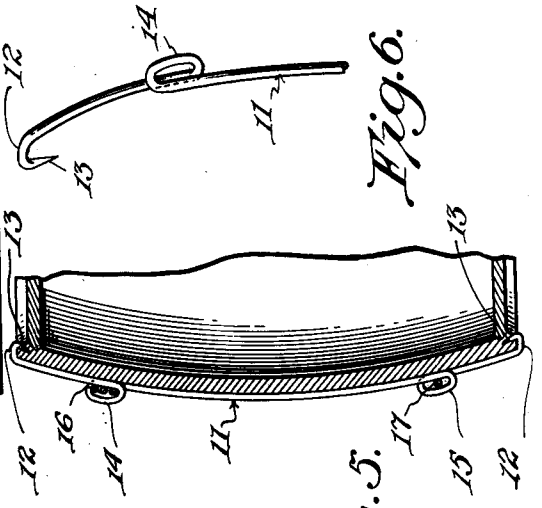


Fig. 6.

Fig. 5.

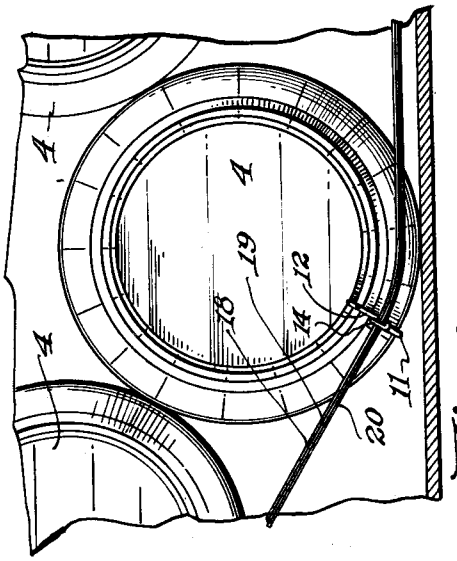


Fig. 4.

INVENTOR
L. F. Hintz
BY
T. A. Witherspoon
ATTORNEY

Patented Mar. 12, 1929. 1,705,059

UNITED STATES PATENT OFFICE.

LEROY F. HINTZ, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE GERRARD COMPANY, INC., OF WILMINGTON, DELAWARE, A CORPORATION OF DELAWARE.

METHOD OF AND MEANS FOR LOADING PACKAGES IN BOUND UNITS.

Application filed November 11, 1925. Serial No. 68,421.

This invention relates to a method and means for assembling and securing packages, bales, boxes, bundles and the like of merchandise, cargoes, etcetera, for shipment.

The object of the invention is to provide a method of and means for assembling and securing individual packages, bales, boxes, bundles and the like of any and all sorts, of merchandise, cargoes, etcetera, for freight or other shipment on freight or other cars, boats, ships or carriers generally, in such manner as to reduce and eliminate damage, injury or loss due to relative movement, impact or impingement of the individual box, package, bundle or the like, upon or against adjacent ones, or upon or against the walls of the carrier, under the influence of shocks, jars, jolts or other movements of the carrier while in transit.

Other objects of the invention will appear more fully hereinafter.

The invention consists substantially in the steps or combination of steps, constituting the method, and in the parts and combinations of parts and arrangement thereof constituting the means, all as will be more fully hereinafter set forth, as illustrated in the accompanying drawings, and finally pointed out in the appended claims.

Referring to the accompanying drawings; wherein like numerals designate like parts in all the views;

Fig. 1 is a view in side elevation of a plurality of individual packages bound or secured together into a mass assembly to form a shipping unit, in accordance with my invention.

Fig. 2 is a broken sectional plan view of a carrier provided with a number of shipping or loading units each consisting of a mass assembly of individual packages or the like that have been assembled and bound together in accordance with my invention.

Fig. 3 is a view similar to Fig. 2 showing a greater number of mass assemblies of individual merchandise packages assembled and bound together in accordance with my invention.

Fig. 4 is an enlarged broken detail view in horizontal section illustrating the manner of applying the binding means to one end portion of the individual shipping cases or bales or the like.

Fig. 5 is an enlarged sectional view illustrating the manner of applying a binder means to one of a plurality of individual shipping packages or bales to be assembled and bound together with others in accordance with the invention, and

Fig. 6 is a detached broken detail view in elevation of a portion of one form of binder, holder or spacing member capable of use in carrying out my invention.

In my prior application, Serial No. 56,741, filed September 16, 1925, I have shown, described and claimed broadly a method and means for assembling merchandise packages and binding the same together for shipment purposes. The present invention is an improvement upon the structure and arrangement disclosed and claimed in said application.

It is well known that merchandise packages, boxes, bales, barrels and the like, loaded onto cars, boats, ships, trucks, etcetera, for transportation, and particularly such merchandise packages which are loaded on freight or other cars for transportation to distant points, are subjected to various movements and strains on account of movements, shocks, jolts and jars to which the carrier while in transit is subjected. For example, when a train of freight cars or when a car loaded with merchandise is being switched from one track to another, or is being handled in the making up of trains, such cars are subjected to severe bumps or jolts which frequently are sufficient to overcome inertia of the individual packages, boxes, etcetera, of merchandise with which such carrier is loaded. It thus happens that said individual packages are urged with considerable force towards and against each other and also toward and against the end or side walls of the carrier, with the result that the individual packages constituting the load are liable to be injured or crushed between or against adjacent members of the load or such individual packages, particularly the extreme end packages of the load, that is, those located adjacent the ends of the carrier are caused to be impinged or to be crowded or crushed against the end or side walls, as the case may be, of the carrier from the effects of the accumulated impacts from the other packages constituting the load,

which are imparted or transmitted to the end or exterior packages, as the shocks and jolts occur. The result is that on arrival of the cargo or shipment at its destination, and as a result of the shocks, jars, jolts and the like received during transit, it frequently happens that the cargo is very substantially and materially injured resulting in great loss. Indeed, experience has shown that very great losses in the shipment of merchandise are experienced from these causes. In fact, the shipping records of the railroads reveal the remarkable fact that it is seldom, particularly in the case of long hauls, that the transported cargo arrives at its destination in unimpaired condition. This difficulty, therefore, presents a very serious problem of transportation to which little successful effort apparently has heretofore been directed in the attempt to remedy the same. For the most part, the efforts which have been made have been along lines such as the use of timbering and lagging for the purpose of rigidly clamping or securing the packages in place on the carrier against any movement. Such methods not only are expensive, consuming time in their application, and are laborious to employ but they also add weight to the loaded carrier and they more or less mar and injure the interior surface or walls of the carrier. Moreover, such methods do not contemplate any form of movement of the cargo, and hence by reason of the load or cargo being rigidly secured, such cargo is subjected to greater strains than it would otherwise be subjected to if permitted mass movement within reasonable limits. The lagging or timbering method which heretofore has been the method most commonly employed, has proven to be particularly objectionable for the reasons above set forth and also for the reason that such method has been shown by experience to result in very great injury to the floor and walls and sometimes roof of the carrier, as for instance, in the case of freight cars, resulting from the removal of the heavy spikes by means of which the lagging or bolstering timbers are nailed and secured in place.

The present invention is particularly designed to overcome and avoid the objections above noted and to provide a method of and means for assembling and securing merchandise packages for shipment in such a manner as to permit a more or less elastic movement of such packages in mass but preventing undue relative movement of the individual elements of the mass assembly.

In carrying out my invention, the cargo to be transported in the form of individual elements or packages are assembled in a group or mass assembly and are bound or secured together in such mass assembly so as to prevent or reduce the tendency of relative movement of individual elements in the mass assembly but which will permit slight movement of the assembly as a whole unit, such assembly being of a weight which normally tends to maintain or retain the mass assembly in place, notwithstanding such mass assembly is wholly detached from the end walls or sides of the carrier. In other words, in accordance with my present invention, I propose to bind together a plurality of individual elements or members of boxes, packages, bales or the like of merchandise into a mass assembly without any means other than the weight of the mass assembly or any of its individual elements to the floor, side or end walls of the carrier.

In Fig. 2 I have shown one arrangement of a group of merchandise elements assembled and bound together in accordance with my invention. In the arrangement shown as an illustrative arrangement of my invention, a number of merchandise elements are arranged in a row indicated at 1, and extending transversely across the carrier, such, for instance, as a freight car. This row of merchandise elements is spaced slightly apart from the end 2 and also from the opposite side walls 5 of the carrier, reference numeral 3 indicating the intervening space between the end wall 2 and the row 1 of merchandise elements and 6 indicating the space intervening between the ends of the row of merchandise elements and the side walls 5 of the carrier. The extent of this displacement of the row of merchandise elements is dependent more or less upon the character of the individual merchandise packages 4 and may range from one or two up to as much as eighteen inches or more. The next succeeding transverse row of merchandise packages, as shown in the illustrative grouping of Fig. 2 contains preferably one or more individual merchandise packages therein than are contained in the first row and individual packages of the second row are also disposed as to engage between adjacent members or elements of the first row, or to fit snugly therebetween, as shown. The third row of individual merchandise packages contains in this illustrative arrangement the same number of individual packages as does the first row. The succeeding rows 9, 10, etcetera, in this particular illustrative arrangement contain one more or one less packages respectively throughout the entire group.

To the group of units or individual elements of the merchandise packages or the like thus assembled suitable binders are applied to bind said elements or members together in an assembly mass to form one unitary group, and in a manner to be hereafter described.

It will be understood that any desired number of group assemblies may be provided for each carrier. Thus, for example,

each end of a freight cargo may be provided with an assembled group, each consisting of a plurality of individual packages bound together as indicated in Fig. 2, and two or more of such assembled groups may be disposed in each end of the carrier or car, as indicated in Fig. 3.

In order to bind together the individual packages or elements constituting a group or mass assembly, one or more binders are applied around each entire group or mass assembly. For illustrative purpose I have shown in Fig. 1 a single binder 17 applied around the assembled group of elements at a point near the base or bottoms thereof, and a plurality of binders 18, 19 and 20, applied around the same group at or adjacent the upper end portions of the individual elements of the group. My invention, however, is not to be limited or restricted with respect to the number of the binders employed nor with respect to the relative locations thereof with regard to the height of the individual packages.

The binder may be of any suitable type or character. In the illustrative form shown, binders in the form of strong round wires are employed. My invention, however, is not to be limited or restricted in this respect.

The binders may be maintained in spaced-apart relation with respect to each other in various ways. I have shown a simple spacing or separating member 11 suitable for the purpose, and as illustrative of the principles involved. This spacing member is best shown in Figs. 5 and 6 and may consist of a wire body provided with looped portions 14, 15, formed therein at points spaced apart from each other to conform to the spacial relation of the binders, said binders adapted to be engaged through said looped portions when said spacing members are applied vertically to the packages or binders or such of them as may be necessary or desired to effect the spacing apart of the binders. In the case of shipping elements consisting of barrels, for instance, these spacing members are preferably bent in the direction of their length to conform to the exterior vertical curvature of the barrels, and are provided with turned over hooked portions at their extremities as indicated at 12, having the sharp terminal points 13 adapted to take into the upper and lower ends of the barrel. In other words, after the packages or individual elements composing a group of shipping packages have been assembled for transportation in a carrier to form a mass assembly, the spacing members 11 are applied to certain ones of the outermost elements or packages and the lower binder 17 is then threaded through the various loops 15 of the separating members. This binder is then drawn tight around the group assembled shipping elements so as to hold such elements in closely contacting abutment against each other, whereupon the ends of said binder are secured together to maintain the portion of said binder which encompasses the assembled group under tension. A suitable knot for this purpose into which the ends of the binder are twisted is one form of means for securing the binder in surrounding relation to the group of elements as illustrated at 16 in Fig. 1.

In like manner, the upper binder or binders, one or more of them, as desired, and as illustrated at 18, 19 and 20, are threaded through the loop 16 of the spacing member. Each of such binders, if more than one is employed, is then drawn tight around the assembled mass or group and its ends are likewise secured together so as to maintain such binder applied around the group in sufficient tension to retain the individual elements in the space with respect to each other in the mass assembly, said ends of the binder being then secured together as, for example, by means of the knots 21, 22 and 23 (Fig. 1).

Machines suitable for effecting the tensioning and securing of the end portions of the binders form no part of the present invention, and are well known on the market, and therefore will not be specifically described. However, it is convenient to provide a stand or holder for such machines to better enable them to perform the functions required in this character of work, where tying machines are employed. Such a holder is indicated at Fig. 1 and consists of a number of standards, 25, 26 separated by a supporting bar 27 which is provided with eyes 28, 29 adapted to slide up and down on the standards 25, 26, and to be locked at any particular height or adjustment, as by thumb screws 30. The securing machines of the particular form shown at 31 (Fig. 1) are secured to the bar 27 in any suitable manner, and are preferably provided with levers 32, 33 and 34. These machines receive and hold one end of a binder, such as 17, for instance, and the binder is then passed by severing cutter and through a twisting pinion (not shown), then through the loops 15 of the spacing members 11 and around the assembled group of packages 4 and back through the twister pinion and past the cutters to a tension device such as 35. The lever 34 is then operated to draw the binder tight around the assembled group and to impose any desired tension upon that portion of the binder which encompasses the assembled group. The desired tension having been thus obtained, the lever 33 is operated to twist together the two end portions of the binder. The operation of the lever 32 serves to sever the ends of the binder 6, leaving the knot 18 with its ends cut off close to the terminal portions of the knot.

As above indicated, one or any desired number of binders may be applied to the assembled group and at any desired point in the vertical length of the assembled packages. In practice, and usually, the assembled group elements rest upon the floor of the carrier and are thus held more or less by friction from shifting movement while the upper ends or portions of the packages are free to move; that is said upper ends are not subjected to the restraining influence of friction and hence, by reason of impacts imposed by shocks, jars and jolts of the carrier, the upper portions of the packages are apt to receive greater strains than do the lower portions thereof. It is for this reason that ordinarily it is preferable to employ more binders at or adjacent the upper portions of the packages than at the lower portions thereof. Of course, the number of wires at either the top or bottom or adjacent thereto of the individual packages will depend largely upon the size and character of the package itself and upon the strength of the binder employed. Ordinarily one good sized side binder such as would be applied by a No. 8 or a No. 9 gauge wire will usually be sufficient, and two or three such binders of like size or of a somewhat smaller size will be sufficient for the upper portions of the merchandise elements in the case, for instance, of barrels. It is to be understood, of course, that the dimensions and numbers of binders and their special relation with respect to each other will largely depend in each case upon the character of the merchandise as well as upon the size and character of the packages.

After all of the individual units or members 4 that are to make up a mass assembly have been thus assembled and bound together in the manner described, the objections above noted are very largely overcome and avoided, of injury and damage to the merchandise in shipment, and the cost of the time and labor required in methods heretofore employed are eliminated quite largely and the safe shipment of the merchandise accomplished, without injury thereto or without injury to the carrier within which the shipment is made. That is to say I have found by very extensive actual and practical use of the method and arrangement above described, that by binding together a plurality of packages assembled into a mass and by providing a plurality of such mass assemblies in a carrier, it has been observed by actual use and operation that when the carrier receives a severe shock or jolt, the assembled groups move, if at all, very slowly. Such groups are of course unattached, and the only restraining influence on the movement of the group is the weight thereof acting in frictional contact with the floor or side walls of the carrier. In other words, while the group is free to move, it is ordinarily restrained from excessive movement by its own mass weight and by binding the packages composing each group together into a mass assembly, relative movement of the individual elements is prevented to a large extent as compared to the movements of unbound packages with respect to each other. The tendency of the individual elements of a group to move independently of the other or adjacent elements, in the group arrangement thereof as illustrated in Fig. 2, tends to wedge each individual element of the group into the space between the two adjacent elements thereof immediately in advance of it, thereby tending to extend the length of the respective rows of assembled units. To make this clear, we may consider, for example, the individual packages 40, 41, in Fig. 2. Should the inertia of these individual members of the assembled group be overcome, by a shock or jar, tending to move them towards the left, for instance, as viewed in Fig. 2, the package 40 will tend to spread apart the packages 43, 4, as shown in said view, and the package 41 would tend to wedge in between the elements 4 and 44 of the row. Likewise package 45 of the third row would tend to wedge in between packages 46 and 40 of the next row in advance thereof, and individual package 47 would likewise tend to wedge in between packages 41 and 48. These various small actions of the individual packages within the group will, of course, be resisted by the binders applied and tensioned around the entire group. Thus there is provided a somewhat elastic binding together of the members composing the group into a mass assembly which assembly is free to move, if necessary, with reference to the carrier under the influence of exceptionally heavy shocks or jars, thereby relieving the individual packages of merchandise to free them of the danger of injury from impact the one upon another or against the side or end walls of the carrier, the spaces between the assembled and bound group and the end and side walls of the carrier being ordinarily sufficient to permit of any shifting movement of the assembly.

When there is a plurality of group assemblies disposed in the same car, as indicated at A, B and C, in Fig. 3 the same action takes place with respect to the various groups and with respect to the individual elements composing each group, with the result that the more carrier is jolted, the more settled and uniformly fixed will the individual elements of each group become within its own group. Accordingly, the danger of crushing or injuring individual packages of the various groups becomes less and less.

It will be seen from the foregoing that I provide a certain degree of elasticity in the

assembling and grouping and securing together of the elements, and with respect to the movements of the various groups of elements, which elasticity I have found of great benefit and advantage; and actual use and practice of the method and arrangement described has shown that merchandise packages can be shipped through long distances under very trying circumstances without any damage to the goods at all, while packages not so assembled and bound into a mass assembly would be very considerably damaged.

It will be seen that this method of loading packages in carriers in the form of mass assemblies each consisting of a plurality of merchandise packages bound together into a group which is free from securement or attachment as a group is substantially the opposite of the method of loading packages as heretofore employed. That is to say, in the usual prior methods of loading the purpose has been to fix or secure the individual packages as rigidly or as firmly in the carrier and initially to the carrier as possible, and in order to render the same as immovable as possible, it has been customary to use a considerable weight of boards and timbers or of other devices of different sizes and shapes to rigidly affix the freight or packages so that all friction due to any movement between the individual packages and the carrier will be reduced to a minimum. Not only are such boards and timbers relatively expensive, as is well known to those skilled in the art, but they are of considerable weight, thereby adding materially to the cost of transportation of the merchandise. Moreover, as above indicated, they impose considerable injury upon the carrier itself, besides involving considerable labor in installing them and removing them from the car at the end of the journey. In the present method of loading, however, while the individual packages of merchandise are prevented from freely moving relatively to each other in the group into which they are assembled and bound, yet the group itself when assembled and bound together is capable of moving as a whole, being restrained solely by its own group weight. This is just the opposite of prior procedure. Further, any slight individual movements of the individual elements of a group tends to expand the group itself and force the individual elements composing the group toward the sides of the carrier against the resilient resistance of the binders, so that any shocks imparted thereto will be absorbed within the assembled group itself, and assimilated by the various individual packages or elements of the group, thereby protecting the individual elements from injury.

As above indicated, my invention is not to be limited or restricted with respect to the character of the merchandise nor of the size or character of the packages into which such merchandise is carried; nor is my invention to be limited or restricted with reference to the particular method shown of assembling the units or individual elements into a mass assembly or group, as the advantages of my invention are equally well attainable in other forms of assembly than that shown. It will also be observed that my invention is applicable to merchandise packages in general. It is specially applicable to rolls of print or other papers, to rolls of roofing material, rectangular or cylindrical containers of various kinds, as well as to a host of other objects or forms of packaged merchandise or of merchandise of various kinds which may not be packaged.

It is obvious that those skilled in the art may vary the details of the procedure as well as the arrangement of the parts of the unit without departing from the spirit and scope of the invention, and therefore it is not desired to be limited to the foregoing disclosure, except as may be required by the claims.

Having now set forth the objects and nature of my invention, and the method of use thereof, and arrangements for carrying the same into effect, what I claim as new and useful, of my own invention and desire to secure by Letters Patent is:

1. The method of preventing damage during transit to shipping packages due to shocks imparted to said packages and the resulting compressive actions exerted by one movable package on another, which consists in binding a plurality of individual packages together into wedging relation with respect to each other to form a freely movable shipping unit wherein a portion of any shock transmitted thereto will be absorbed in a tendency to move apart from each other the individual packages of the bound unit.

2. The method of preventing damage during transit to shipping packages due to shocks imparted to said packages and the resulting compressive actions exerted by one movable package on another, which consists in binding a plurality of individual packages together into wedging relation to form a movable shipping unit of sufficient aggregate mass weight to remain stationary under lighter shocks and wherein a portion of any shock received thereby will be absorbed in a tendency to move the individual packages of said bound unit apart.

3. The method of preventing damage during transit on cars to shipping packages due to shocks imparted to said cars and the resulting compressive actions exerted by one movable package on another which consists in binding a plurality of said pack-

ages together in a wedging relation to form a movable shipping unit on the car, and disposing said unit so it can move during transit, whereby lighter shocks will fail to move said unit and heavier shocks will be partially absorbed in a tendency to separate the bound packages.

4. The method of preventing damage during shipment to individual packages which consists in binding a plurality of said packages together on the car to form a movable shipping unit of a weight sufficient to remain stationary under lighter shocks but to move under heavier shocks, and disposing said unit at such a distance from the end of the car as will permit it to move relatively to the car end when said heavier shocks are received.

5. The method of preventing damage during shipment to individual packages which consists in binding a plurality of said packages together on the car in successive rows extending transversely of the car to form a movable shipping unit resting on the bottom of the car and of a weight sufficient to remain stationary under lighter shocks but to move under heavier shocks, and disposing said unit at such a distance from the end of the car as will permit it to move relatively to the car end when said heavier shocks are received.

6. The method of preventing damage during shipment to individual packages of a curved exterior shape which consists in binding a plurality of said packages together on the car into wedging relation to each other to form a movable shipping unit resting on the bottom of the car and of a weight sufficient to remain stationary under lighter shocks but to move under heavier shocks, and disposing said unit at such a distance from the end of the car as will permit it to move relatively to the car end when said heavier shocks are received.

7. The herein described shipping unit consisting of a plurality of independent vertically disposed packages bound together and adapted to rest on and move over the bottom of a car, the said unit being of such weight as to remain stationary under lighter shocks but to move relatively to the car end when heavier shocks are received.

8. The herein described shipping unit consisting of a plurality of independent curved packages bound together in a wedging relation and adapted to rest on and move over the bottom of a car, the said unit being of such a weight as to remain stationary under lighter shocks but to move relatively to the car when heavier shocks are received.

9. The herein described shipping unit consisting of a plurality of independent packages bound together at their tops and bottoms to form a single unit and adapted to rest endwise in vertical position on and move over the bottom of a car, the said unit being of such a weight as to remain stationary under lighter shocks but to move relatively to the car when heavier shocks are received.

10. The herein described shipping unit consisting of a plurality of shipping packages bound together at their tops and bottoms by wires provided with holding means to form a single movable unit; said unit adapted to be disposed on the floor of a car adjacent to one end of the latter and being of such a weight that only abnormally heavy shocks will move the same relatively to the car.

11. The herein described shipping unit consisting of a plurality of shipping packages curved in cross section and bound together at their tops and bottoms into wedging relation by wires provided with holding means to form a single movable unit; said unit adapted to be disposed on the floor of a car adjacent to one end of the latter and being of such weight that only abnormally heavy shocks will move the same relatively to the car end.

12. The combination of a plurality of individual units of merchandise, cargo or the like disposed in vertical position and in wedging relation, for shipment in cars, vehicles and other carriers, a binder applied around said units to hold the same in a unitary mass assembly capable of movement as a mass assembly with reference to the carrier, said binder adapted to be tensioned around said mass assembly to hold the individual packages in elastic contact with each other and against undue relative separation.

13. The method which consists in assembling a plurality of vertically disposed units of merchandise, cargo or the like for shipment or transportation, into a mass or group assembly, and then binding such mass or group assembly under elastic tension to hold the individual units thereof in yielding contact with each other but permitting the movement of the mass assembly as a unit.

14. The method of securing merchandise, cargo or the like, to prevent damage or injury during carrier transit, which consists in binding together under elastic tension a plurality of individual units of the merchandise or cargo to form an unattached unitary mass assembly capable of free movement as a mass and of sufficient mass weight to enable its inertia to resist undue movement thereof under the influence of shocks and jars imparted to the carrier, and wherein the individual units are disposed in wedging relation to each other and are thereby restrained from undue separating movement relatively to and apart from each other in the mass assembly.

15. The combination of a plurality of individual units of merchandise, cargo or the like vertically disposed in wedging relation

to each other, and binding means applied thereto under tension to hold the same restrained against individual relative movement in an unattached movable unitary mass assembly of sufficient weight to resist further movement of the mass as a whole.

16. In a transit carrier the combination of a plurality of individual merchandise packages individually disconnected from each other and adapted to be assembled into a vertically disposed unitary group assembly, a plurality of binders applied horizontally and held under tension in encompassing relation around the vertically disposed unitary assembly or group to hold the same in an unattached mass unit assembly, and the free individual packages against relative movement within the assembly and a plurality of separators to hold the said binders in separated relation with respect to each other.

17. In a transit carrier, the combination of a plurality of free individual merchandise packages adapted to be assembled into a vertically disposed unitary mass, assembly or group within the carrier; a plurality of horizontally disposed binders encompassing the unitary group assembly as a whole at vertically separated or spaced apart points, and a plurality of vertically disposed separators ha ing means to receive and hold said binders in spaced apart relation to each other.

18. In a cargo shipment, the combination of a plurality of individual relatively free merchandise packages adapted to be assembled together into a unitary mass assembly, a plurality of horizontally disposed binders applied under tension in encompassing relation around the assembled unitary mass as a whole at vertically spaced apart points with respect to the same, to maintain the individual merchandise packages in an unattached movable mass assembly, and means to retain said binders in spaced apart relation.

19. The method of preventing damage during transit to individually free shipping packages, due to the compressive actions exerted by one free movable package on another, which consists in vertically disposing and horizontally binding a plurality of said packages together in a mass assembly unit sufficiently large to resist by its inertia, any ordinary movements during transit, and in which the individual packages are bound too tightly together to admit of substantial movement relatively to each other and independently of said unit.

In testimony whereof I affix my signature.

LEROY F. HINTZ.