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Patented June 10, 1902.

T. F. WALES.
PACKAGE FOR GRAIN PRODUCTS.

(Application filed Mar. 26, 1902.)

(No Model.)

Fig. 1.

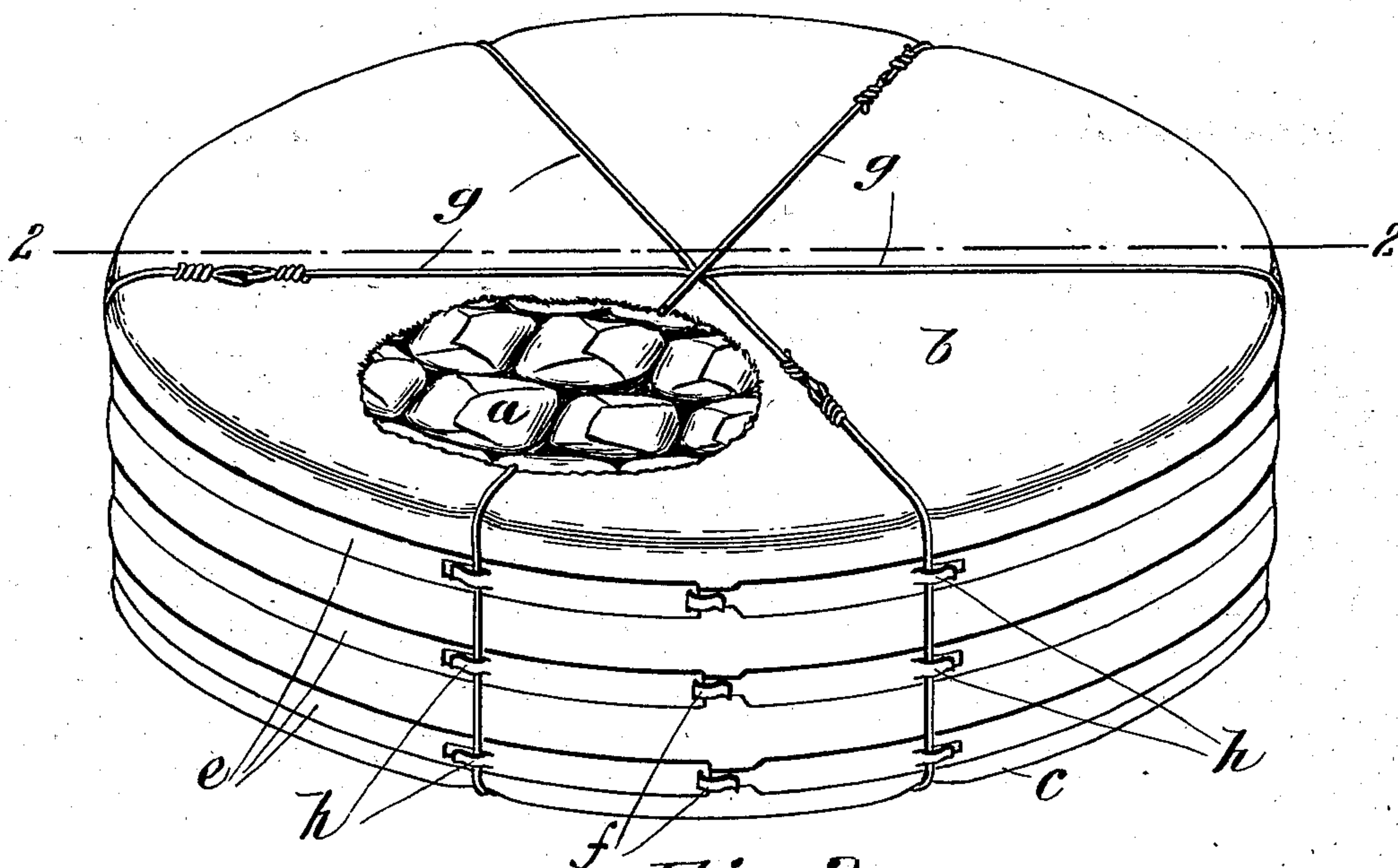


Fig. 2.

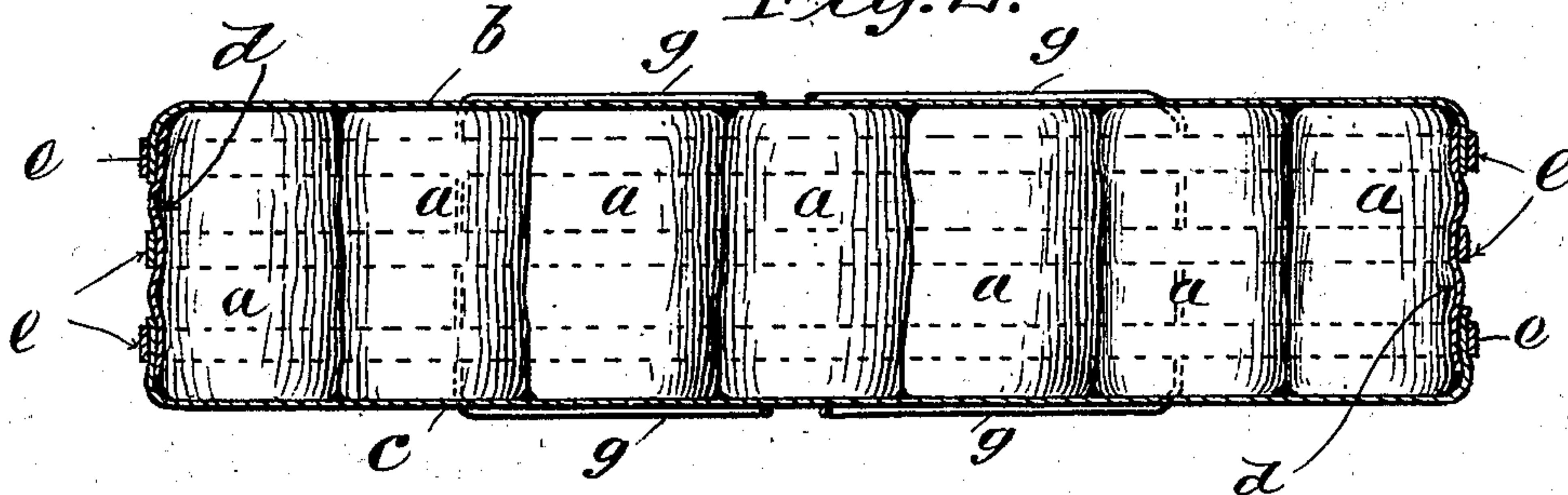
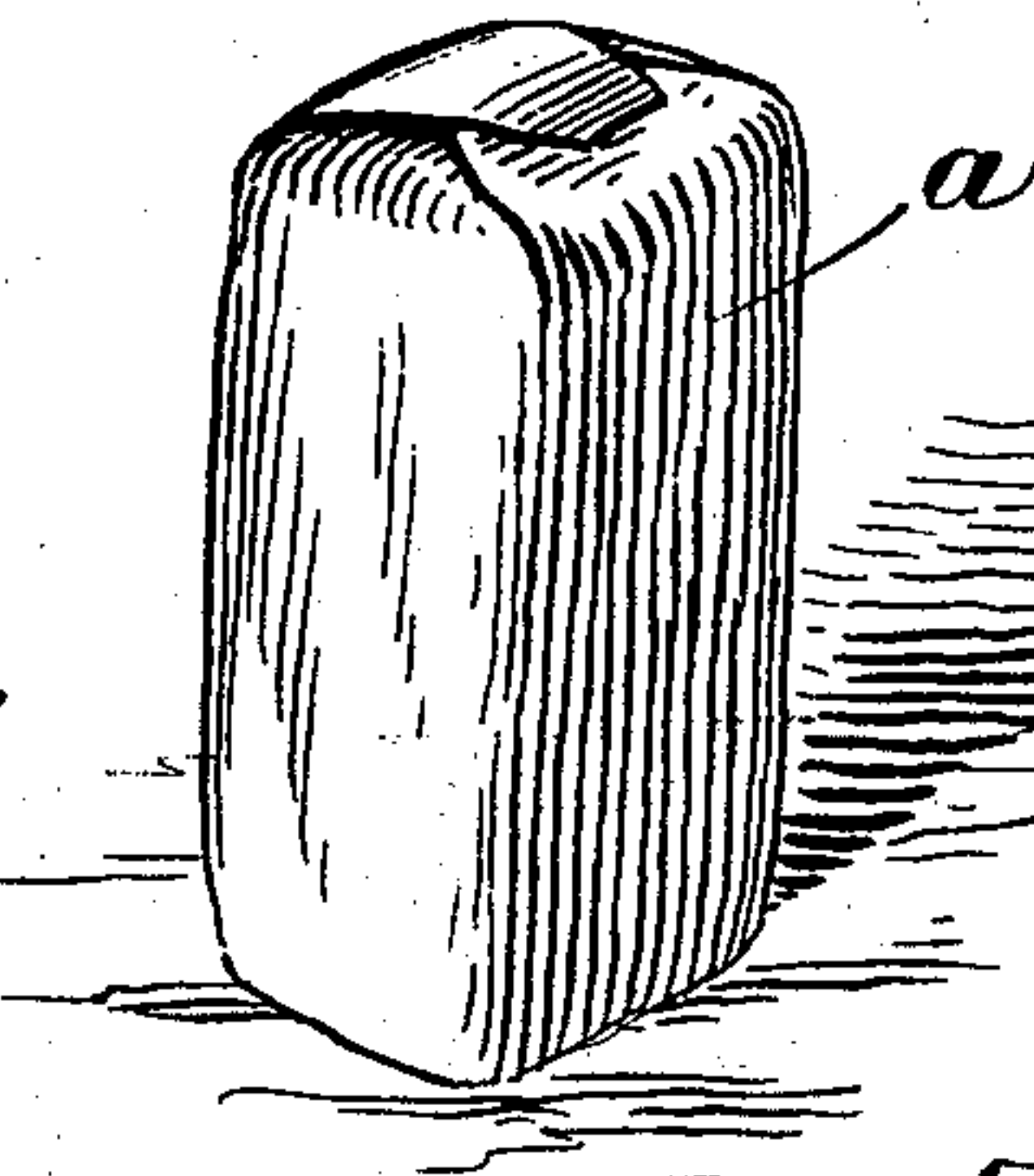


Fig. 3.



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UNITED STATES PATENT OFFICE.

THEODORE F. WALES, OF BRIDGEPORT, CONNECTICUT.

PACKAGE FOR GRAIN PRODUCTS.

SPECIFICATION forming part of Letters Patent No. 701,970, dated June 10, 1902.

Application filed March 26, 1902. Serial No. 100,005. (No model.)

To all whom it may concern:

Be it known that I, THEODORE FRANCIS WALES, a citizen of the United States of America, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented new and useful Improvements in Packages for Grain Products, of which the following is a specification.

This invention relates to an improved mode of packaging grain products and like materials for shipment.

It is the common practice at present to put up grain products for shipment from the mill to the dealer either in small packages, which are shipped in cases, or in bulk in barrels or other containers. The latter mode necessitates repacking by the dealer according to the requirements of the consumer, and the first-named mode entails in most cases a charge for transportation, which renders the business unprofitable, owing to the large bulk of the goods as compared with the weight thereof and the comparatively low price of the products, which are sold on a narrow margin of profit. The convenience to the dealer of receiving goods packed in small parcels ready for delivery is so manifest that the mills are to a constantly growing extent required to ship their goods in this manner, and they are therefore confronted with the problem of devising a mode of packing for shipment which will reduce the present cost of shipping these small parcels in cases and permit of the compression thereof into as small a bulk as possible and at the same time provide a package which may be handled easily in loading and unloading from the cars without damaging the contents thereof, and in so constructing the packages that the contents may be easily accessible.

The object of my invention is to produce a package for grain products possessing the above-enumerated characteristics.

In the drawings forming part of this application, Figure 1 is a perspective view of a package constructed in accordance with my invention, a part of the covering on one side thereof being broken away. Fig. 2 is a vertical cross-section of Fig. 1. Fig. 3 is a perspective view of one of the small parcels which constitute the completed package.

In carrying out my invention the material to be packaged is first inclosed in paper or cloth bags, forming the small parcels *a*, and I arrange these small parcels in a substantially circular form in concentric rows, they being disposed, as shown, side by side. These parcels are arranged as described on a piece of burlap or analogous material, which forms the covering for the two flat sides of the package, this covering being applied in two pieces and indicated by *b* and *c* in the drawings. The border of the package is covered, preferably, with some material like roofing-paper, placed therearound and indicated by *d*. The parcels *a* having been arranged in the circular form described, they are subjected to centripetal pressure, whereby they may be compressed into the smallest practicable compass, and the bands *e e* are then applied thereto circumferentially and their ends secured together in any desired manner—as, for example, by means of the hooks *f*, formed on one end of the bands, passing through the slits made in the other end. These bands serve to hold the parcels in their compressed form and serve also to bind the end and side coverings of the package securely, the edges of the end coverings being caught under the bands.

For the purpose of binding the end coverings *b* and *c* more securely to the ends of the package the wires *g* are passed diametrically around the latter, being drawn as tightly as possible, their ends being twisted together to secure these wires in place. While three wires are shown in the drawings, two crossing the package at right angles may be used, or more, if desired.

I prefer to engage the wires *g* with the bands *e*, and this may be done by punching out a lip *h*, as shown, passing the wire thereunder, and then hammering the lip down on the wire, or the wires may be otherwise secured to the bands.

This package, with the parcels arranged therein as described, has many advantages. It is far cheaper to ship a given quantity of grain products packed in this manner than by the method of boxing now in common use or as separate parcels. The packages may be rolled into and out of the car, and the par-

cels, usually consisting of sealed paper bags, are not liable to injury, whereby a loss of part of the contents is entailed, and the package occupies much less space than the same quantity would occupy if boxed. A further advantage is found in the fact that to open the package in disposing of its contents at retail the wires *g* may be cut and the covering of one end cut away, when the center package may be easily withdrawn, owing to the fact that the constricting pressure of the bands *e e*, applied to the concentric rows of parcels *a*, constitutes of the outer rows a series of circular arches, which prevents the parcels in the center of the package from being subjected to as great a pressure as would otherwise be possible. The center parcel being withdrawn, the others may be removed as required, and as the circumference of the package is reached, there being no support for the center, the outer rows are more easily loosened also. A package may thus be opened and the materials constituting it thrown away without necessitating the provision of storage-space required for empty cases.

While the within-described package has been herein described as adapted to grain products, it is obvious that it is equally applicable to other finely-comminuted materials.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent of the United States, is—

1. A cylindrical package of the class described comprising, in combination with the concentrically-disposed rows of parcels of equal length arranged side by side, flexible coverings fitting entirely over the opposite flat sides of the package, a flexible covering encircling the periphery of the package, and common binding means for binding the coverings and holding the packaged parcels under centripetal pressure.

2. A cylindrical package of the class described, comprising, in combination with concentrically-disposed rows of parcels of equal length arranged side by side, flexible coverings fitting entirely over the opposite flat sides of the package, a flexible covering encircling the periphery of the package, binders also encircling the periphery of the package and comprising common means for binding the coverings and holding the packaged parcels under centripetal pressure, and auxiliary binders extending diametrically about the package and engaging with the binders encircling the periphery thereof.

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