No. 745,832. PATENTED DEC. 1, 1903.

P. HANSON.

TWINE CAN FOR HARVESTING MACHINES.

APPLICATION FILED OCT. 16, 1901.

NO MODEL.

Fig. 1.

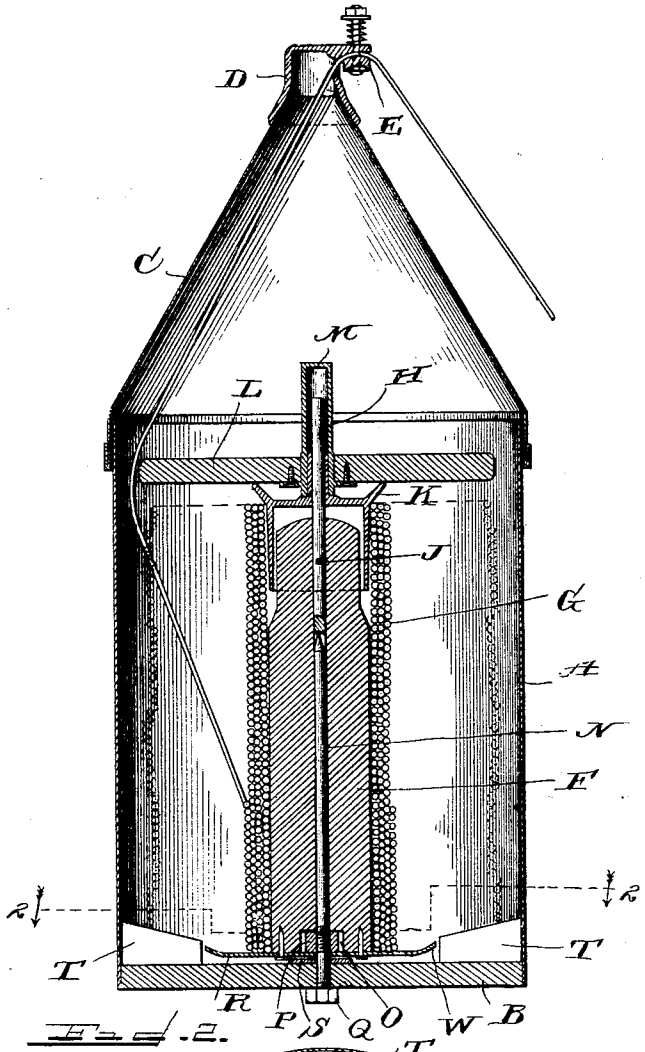
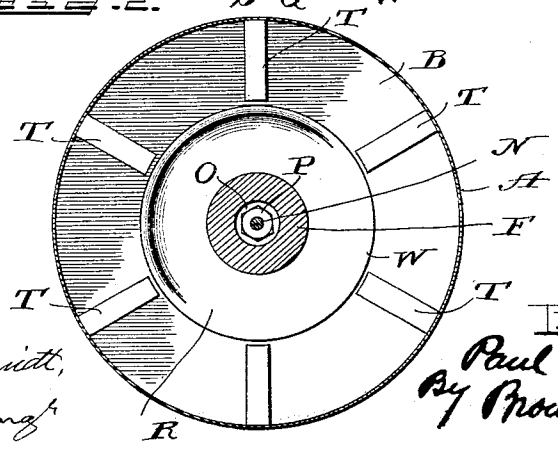


Fig. 2.



Witnesses.
G. A. Pauberschmidt,
J. H. Glendenning.

Inventor.
Paul Hanson
By Brown & Darby
Attys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 745,832. Patented December 1, 1903.

UNITED STATES PATENT OFFICE.

PAUL HANSON, OF ST. PAUL, MINNESOTA.

TWINE-CAN FOR HARVESTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 745,832, dated December 1, 1903.

Application filed October 16, 1901. Serial No. 78,840. (No model.)

To all whom it may concern:

Be it known that I, PAUL HANSON, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented a new and useful Improvement in Twine-Cans for Harvesting-Machines, of which the following is a specification.

This invention relates to twine-cans for harvesting-machines, and is particularly designed as an improvement on the construction set forth and claimed in the pending application of Sidney Horsley, filed September 12, 1901, Serial No. 75,133.

The object of the invention is to provide a twine can or holder for harvesting-machines which is simple and efficient, wherein collapsing of the cop or ball of twine as the twine is reeled therefrom is prevented, and wherein the twine may be readily and easily reeled from the cop or ball of twine as the ball or cop is reduced in size.

Other objects of the invention will appear more fully hereinafter.

The invention consists, substantially, in the construction, combination, location, and arrangement of parts, all as will be more fully hereinafter set forth, as shown in the accompanying drawings, and finally pointed out in the appended claims.

Referring to the accompanying drawings and to the various views and reference-signs appearing thereon, Figure 1 is a view in vertical central section through a twine-can embodying the principles of my invention, a ball or cop of twine of full size being indicated in dotted lines. Fig. 2 is a transverse sectional view on the line 2 2 of Fig. 1 looking in the direction of the arrows.

The same part is designated by the same reference-sign wherever it occurs throughout both views.

Reference-sign A designates the twine-can, which may be of sheet metal or other suitable material and provided with a bottom board or plate B.

C designates the top or cover for the can, which is arranged to fit snugly but removably upon the upper end thereof. At its upper end the top C is provided with a cap D, having an opening therethrough and a lip overhanging such opening, and through which opening the twine leads, a tension device E being carried by said overhanging lip, by which a desirable degree of tension may be imposed upon the twine.

F designates a core or standard arranged to be received longitudinally through the central opening in the cop or ball G. In the upper end of the core or standard F and centrally thereof is driven longitudinally a pin H, which pin is fixed—as, for instance, by a transverse stud J—to the core or standard F. The upper end of the core or standard F is somewhat reduced to receive an inverted casting K, which is telescoped into the central opening in the cop or ball of twine and over the upper reduced end of the core or standard F, said cup-shaped casting being loosely sleeved upon the pin H.

L designates a disk provided with a central hub extension M, arranged to be slipped over the upper end of pin H, said disk resting upon and being supported by the cup-shaped casting K, the latter being supported upon the edge of the central longitudinal opening through the ball or cop and forming a spreader. In this manner the casting K serves as a spreader to prevent the ball or cop of twine from collapsing as it is used up and becomes exhausted.

The parts so far described may be substantially the same in construction and arrangement as fully set forth, described, and claimed in the application above referred to except that the pin or stud H in the present case is fixed to the upper end of the core or standard F.

The core or standard F is provided with a central longitudinal opening therethrough, and loosely extending into said opening is a supporting pin or stud N, having a pointed upper end upon which is received the lower end of the pin H. The lower or bottom end of the core or standard is countersunk, as at O, in which countersunk portion is arranged a nut P, threaded upon the lower end of pin N. The pin N extends through the bottom board or plate B of the twine-can and receives on the under side of said bottom board or plate a nut Q. Suitably secured to the bottom end of the core or standard F is a disk R.

The arrangement above described is such

that the core or standard F and the parts supported thereby and thereon are supported upon the fixed pin N, the longitudinal opening centrally through the core or standard F being of sufficient diameter to enable said core or standard to revolve freely upon the said fixed stud or pin N, and by relatively adjusting the nuts P and Q the bearing of the core or standard F against the inner or top surface of the bottom board or plate B—that is to say, the proportion of the weight of the core or standard and its associated parts imposed upon the upper surface of the bottom board or plate B—may be nicely regulated and adjusted, thereby regulating the degree of friction opposing the free rotation of the core or standard F and the disk R connected thereto.

Of course it will be understood that in the specific construction shown the adjustment of nut P is effected before the disk R is applied to the end of core F, and after the disk is applied to the end of the core the rod N is held thereby with its upper end projecting into the longitudinal central opening of the core. The lower end of the rod N is then passed through the bottom of the can and the parts clamped by the clamping-nut Q.

If desired, a friction or wearing plate S may be placed upon the upper surface of the bottom board or plate B, as clearly shown, to afford when necessary or desired a frictional-contact bearing for the disk R thereagainst.

T designates radially-arranged inclined or bevel-shaped blocks suitably placed within the twine-can and upon the bottom board or plate B thereof with their reduced ends presented toward the geometric center thereof. These bearing inclined or bevel-shaped blocks are cut off at their inner ends to afford sufficient space for the disk R to freely revolve within the space bounded by the inner ends of said blocks, as clearly shown, and the outer peripheral edge of the disk R is preferably dished or upturned, as indicated at W, to conform generally to the incline or bevel of the blocks T; but said peripheral edge of the disk is somewhat depressed below the top surface of the inner ends of the wedge-blocks T, as clearly shown.

The operation of the construction so far described is as follows: The top of the twine-can is removed from the body A thereof, and the spreader-casting K and disk L are also removed. The pin N is inserted into the longitudinal opening through the core or standard F, and the nut P is adjusted to the proper position thereon to secure the desired frictional bearings of the core or standard F when the parts are finally assembled. The disk R is then secured to the bottom of the core, thereby retaining nut P and pin N. The parts thus assembled are then introduced into the can with the lower end of pin N projecting through a central opening in the bottom of the can, and the clamping-nut Q is finally clamped up on the under side of the can. If desired, the core or standard F may be inserted through the longitudinal central opening in the cop or ball before said ball or cop is placed in the twine-can. The principal weight of the ball or cop when first introduced into the can is imposed upon the inclined or wedge blocks T, as indicated in dotted lines in Fig. 1, and when the cop or ball of twine is placed in position in the can the fixed stud or pin N supports the weight of said core or standard upon the pointed end thereof, upon which rests the pin or stud H, which is secured, as at J, to the upper end of said core or standard, and the relative adjustment, as above explained, of the nut P secures the desired frictional contact of disk R against the bottom board or plate B on the washer or disk S interposed therebetween. The spreader-casting K and disk L are then applied to the upper projecting end of stud or pin H. The end of the twine or cord is then led around the outer periphery of disk L, through the opening in the cap D, and through the tension device E and the top C, and the latter is applied to the top of the can A. The device is now ready for operation. As the twine is reeled or drawn from the ball or cop for use the latter becomes reduced in size, the spreader K preventing collapse of the upper end of the ball or cop as the size thereof is reduced, and finally when the ball or cop is sufficiently reduced in size the weight thereof is imposed entirely upon the disk R, and as said disk, together with the core or standard F, revolves upon the fixed stud or pin N it will be observed that the reduced ball or cop is relieved of any undue tension due to the drawing or reeling off of the twine therefrom, and a too free unreeling of the twine from the ball or cop is prevented by suitably adjusting the nuts P and Q. In this manner the entire ball or cop of twine may be unreeled without danger of the same collapsing and becoming tangled up.

Having now set forth the object and nature of my invention and a construction embodying the principles thereof, what I claim as new and useful and of my own invention, and desire to secure by Letters Patent, is—

1. In a twine-can for grain-binders, a receptacle, a fixed pin or stud vertically mounted centrally therein, a core or standard revolubly supported upon said pin or stud and adapted to receive the ball of twine, and means for preventing the collapse of the upper end of the ball of twine as the same reduces in size, as and for the purpose set forth.

2. In a twine-can for grain-binders, a receptacle, a fixed stud or pin mounted centrally therein, a core or standard loosely supported upon said stud or pin, a supporting-disk secured to said core or standard, the ball or cop of twine adapted to be received upon said core or standard, fixed supports upon which the ball or cop of twine rests, said disk being of smaller diameter than the cop or ball and arranged within the area of

said supports, whereby as the ball or cop is reduced in size the weight thereof is imposed upon said disk, as and for the purpose set forth.

3. In a twine-can for grain-binders, a receptacle having a bottom, radially-arranged bevel or inclined blocks carried by said bottom, a fixed stud or pin mounted in said bottom and projecting into said receptacle, a core or standard revolubly mounted upon said pin and adapted to receive the ball or cop of twine, a supporting-disk secured to said standard or core and operating within the space bounded by said bevel or wedge blocks, whereby the weight of the ball or cop when said ball or cop is sufficiently reduced in size is imposed upon said disk, as and for the purpose set forth.

4. In a twine-can for grain-binders, a receptacle, a core or standard arranged therein and provided with a longitudinal central opening, a stud or pin secured in the upper end of said opening, a fixed stud or pin mounted in said receptacle and extending into the longitudinal central opening through said core or standard and forming a bearing-support for said first-mentioned pin or stud, whereby the core or standard is revolubly supported upon said fixed stud or pin, said core or standard adapted to receive thereon the ball or cop of twine, as and for the purpose set forth.

5. In a twine-can for grain-binders, a receptacle, a core or standard arranged therein and provided with a longitudinal central opening, a supporting stud or pin mounted in said receptacle and extending loosely into the central opening in said core or standard, a pin fixed to said core or standard and resting upon the end of said supporting stud or pin, a spreading device mounted on the upper end of said core or standard, and a disk carried by the lower end of said core or standard, all combined and arranged as and for the purpose set forth.

6. In a twine-can for grain-binders, a receptacle, a supporting stud or pin adjustably mounted therein, a core or standard provided with a longitudinal central opening into which said supporting stud or pin loosely projects, a pin fixed to said core or standard and bearing upon the end of said supporting stud or pin, a disk connected to the lower end of said core or standard, wedge-shaped blocks arranged within said receptacle and surrounding said disk, said disk forming a continuation of the inclined or beveled surface of said blocks, all combined and arranged as and for the purpose set forth.

7. In a twine-can for grain-binders, a receptacle provided with a bottom board, a supporting pin or stud passing through said bottom board and provided with adjusting-nuts respectively arranged on the opposite sides of said bottom board, a core or standard adapted to be loosely received upon said supporting pin or stud for revolution thereon, said pin or stud forming a support for said core or standard, whereby by adjusting said nuts a portion of the weight of said core or standard may be transferred to said bottom board or plate, as and for the purpose set forth.

In witness whereof I have hereunto set my hand, this 8th day of October, 1901, in the presence of the subscribing witnesses.

PAUL HANSON.

Witnesses:
B. B. CZAPSKI,
W. A. PFEIL.