E. A. FRAZEE.

STRAW BRAID REEL.

APPLICATION FILED NOV. 19, 1914.

**1,238,281.**

Patented Aug. 28, 1917.

2 SHEETS—SHEET 1.

Fig. 1.

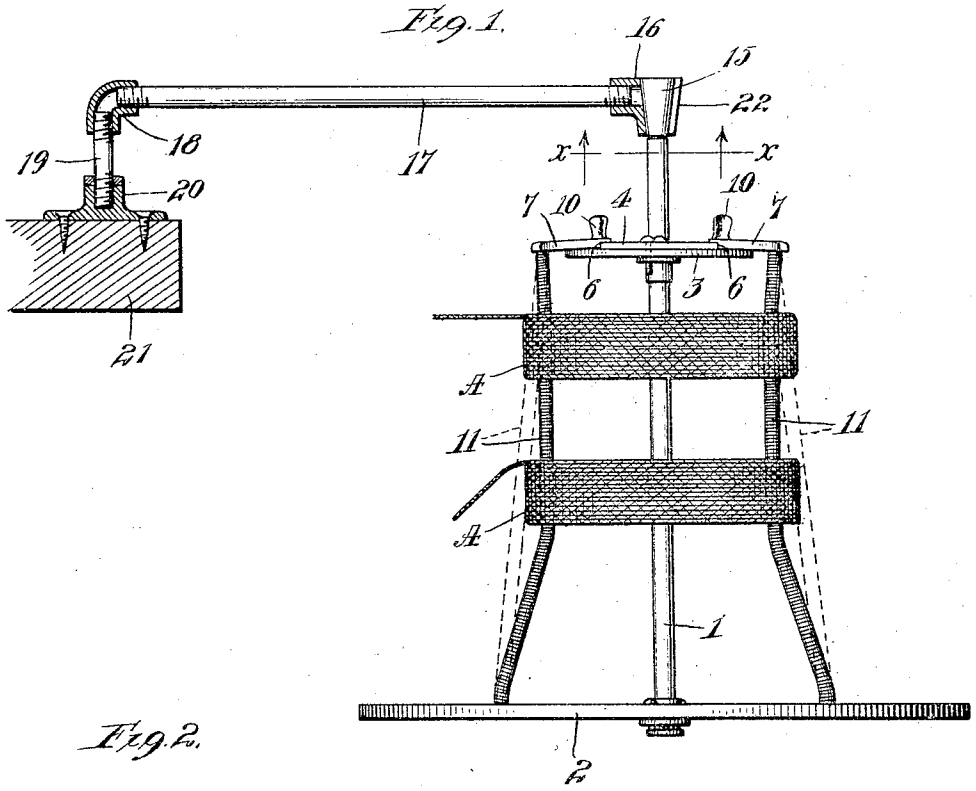
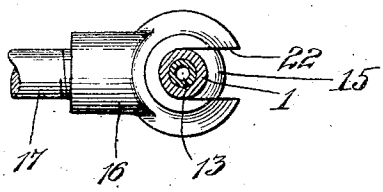



Fig. 2.



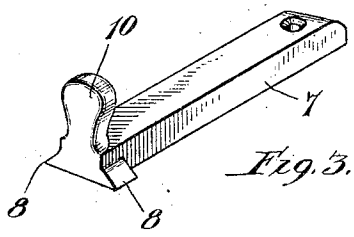




Fig. 3.

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Inventor,
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by Joshua R. H. Potts
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E. A. FRAZEE.

STRAW BRAID REEL.

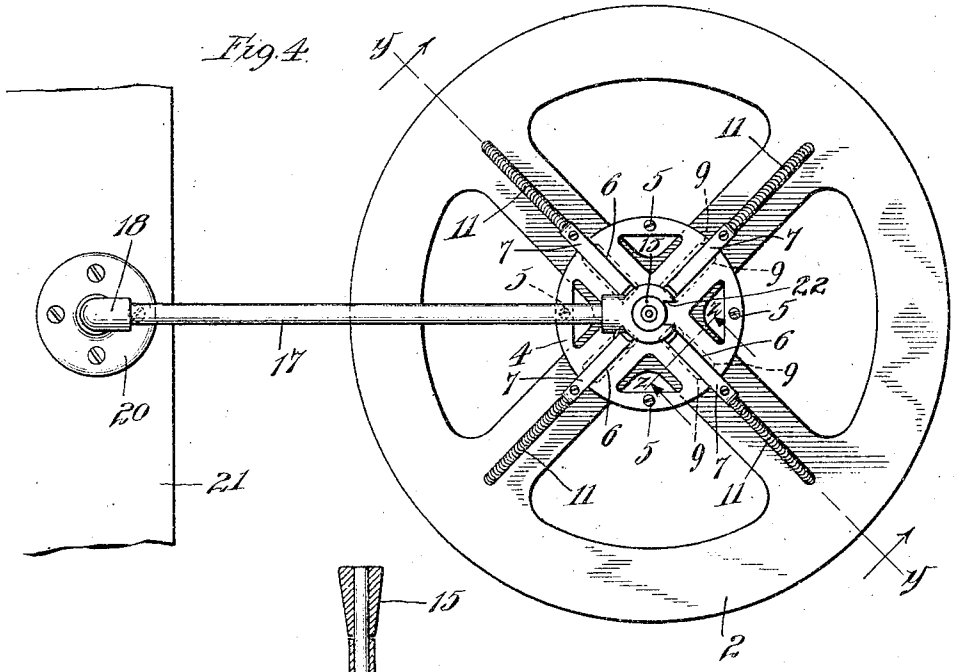
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2 SHEETS—SHEET 2.

Fig. 4.



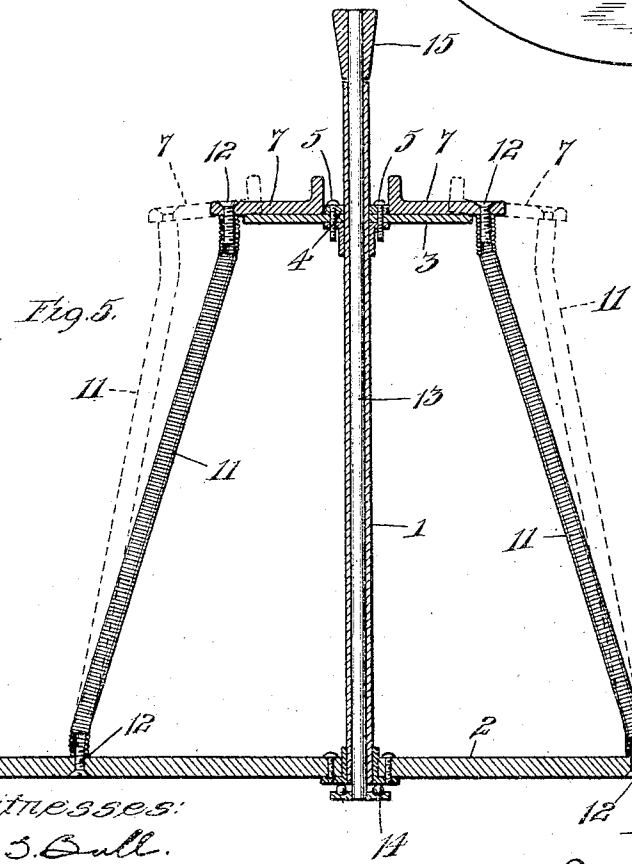




Fig. 5.

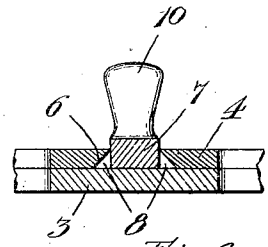



Fig. 6.

Witnesses:
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# UNITED STATES PATENT OFFICE.

ELMER A. FRAZEE, OF CHICAGO, ILLINOIS.

## STRAW-BRAID REEL.

1,238,281. Specification of Letters Patent. Patented Aug. 28, 1917.

Application filed November 19, 1914. Serial No. 872,992.

*To all whom it may concern:*

Be it known that I, ELMER A. FRAZEE, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Straw-Braid Reels, of which the following is a specification.

My invention relates to improvements in reels such as are used in connection with skeins of straw braid.

The object of my invention is the production of a reel of the character mentioned which will be of improved construction and efficient in operation.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Figure 1 is a partially sectional side elevation of a reel embodying my invention,

Fig. 2 is an enlarged section taken on line $x$—$x$ of Fig. 1,

Fig. 3 is an enlarged perspective view of one of the radially adjustable fingers included in the device,

Fig. 4 is a top plan view of the device,

Fig. 5 is a slightly enlarged section taken on line $y$—$y$ of Fig. 4, and

Fig. 6 is an enlarged detail section taken on line $z$—$z$ of Fig. 4.

The preferred form of construction as illustrated in the drawings comprises a reel consisting of a central tubular hub 1 to one end of which is fixed an end member or disk 2. At the other end of said hub is fixed an end member or disk 3 and at the upper side of said disk is provided a plate 4 secured in position by screws 5. The plate 4 is formed with radially extending dove-tail slots 6, the under sides of said slots being closed by the plate 3. Slidably mounted in the slots 6 are fingers 7 provided at their inner ends with laterally projecting ears 8 which engage with the inclined sides of slots 6, as clearly shown in Fig. 6. The outer ends of slots 6 are provided with stop shoulders 9 for engagement with the ears 8 in order to limit outward sliding thereof and thus serve to lock the same against detachment from said slots. The inner ends of fingers 7 are provided with upwardly extending finger pieces 10 through the medium of which said fingers may be radially adjusted.

The outer ends of fingers 7 are connected by means of helical tension springs 11 with the end member 2, the connection between said parts being effected by means of screws 12. The laterally projecting ears 8 of the fingers 7 fit loosely in the slots 6 so that the downward pull exerted upon the outer ends of said fingers by the springs 11 will slightly tilt said outer ends of said fingers downwardly, and thereby serve to securely press the ears 8 into engagement with the sides and bottom of each of said slots in order to frictionally hold said fingers in any position of radial adjustment.

The hub 1 of the reel is rotatably mounted upon a shaft 13, ball bearings 14 being provided at the lower end of said shaft to alleviate friction. At the upper end of said shaft is provided a conical head or enlargement 15 which is adapted to loosely engage with a conical socket of corresponding form provided in a socket member 16 which is mounted upon the outer end of an arm 17. The rearward end of the arm 17 is connected by an elbow 18 with a vertically disposed pipe section 19 which is loosely threaded in a base member 20 which is fixed to the upper side of table top 21, or any other supporting element in connection with which the reel is employed. The arrangement is such, as will be seen, that free swinging of the arm 17 in a horizontal plane is permitted in order to move the reel to any position desired. One side of the socket member 16 is provided with an opening 22 of a width less than that of the enlargement 15 but wider than the hub 1. With this arrangement it will be seen that disengagement of the reel from the supporting arm may be effected upon elevating the reel until the upper end of hub 1 registers with the opening 22, in which event, said hub may be passed through said opening to disconnect the reel.

As seen, the springs 11 are so arranged that the upper ends thereof approach each other. In the employment of the reel, the skeins A of straw braid are slipped over the upper end of the reel with the fingers 7 positioned at their inner terminals of movement in order to position the upper ends of said springs 11 as closely together as possible. When the straw braid skeins have been pressed downwardly into engagement with

the springs 11, the fingers 7 are slid outwardly to the positions shown in Fig. 1, in order to bring the upper end portions of springs 11 into parallel relation. With this arrangement, the possibility of the skeins slipping from engagement with the members 11, such as would be the case were said members 11 formed rigid or nonflexible, is precluded. The skeins, with this arrangement, are held fast, first because of the parallel disposition of the upper end portions of said springs, and second, because of the outward tension of said springs thereon which causes said springs to firmly engage with the skeins. Also, with this arrangement a number of skeins of straw braid may be arranged thereon without fear of the skeins becoming entangled with one another, it being clear that through the use of springs 11, the resiliency of the latter will cause said springs to engage with the skeins placed upon the reel, and which are spaced along said springs and, serve to securely hold the skeins in position against any longitudinal shifting upon said springs. Heretofore straw braid reels have been used having bars corresponding with the springs 11, these bars however not being flexible. With reels of this construction, when a number of skeins of straw braid are placed thereon, the skeins rest one above the other and thus become entangled in the unwinding operation.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

1. A reel of the class described comprising spaced end members; and a plurality of longitudinally extending laterally adjustable helical tension springs connecting said end members, with which the material wound on the reel is adapted to engage, substantially as described.

2. A reel of the class described comprising a central shaft; spaced end members secured to said shaft; fingers mounted for radial adjustment upon one of said end members; and elongated flexible members connecting said fingers with the other of said end members, substantially as described.

3. A reel of the class described comprising a central shaft; spaced end members secured to said shaft, one of said end members having radially disposed slots; fingers slidably mounted in said slots; and elongated flexible members connecting said fingers with the other of said end members, substantially as described.

4. A reel of the class described comprising a central shaft; spaced end members secured to said shaft, one of said end members having radially disposed slots; fingers slidably mounted in said slots and held in positions of adjustment in said slots by friction; and elongated flexible members connecting said fingers with the other of said end members, substantially as described.

5. A reel of the class described comprising a central shaft; spaced end members fixed to said shaft, one of said end members having radially disposed slots provided in one side thereof; fingers having their inner ends slidably interlocked with said slots; and elongated flexible members connecting the outer ends of said fingers with the other of said end members, substantially as described.

6. A reel of the class described comprising a central shaft; spaced end members fixed to said shaft, one of said end members having radially disposed slots provided in one side thereof; fingers having their inner ends slidably interlocked with said slots; and helical tension springs connecting the outer ends of said fingers with the other of said end members, the tension of said springs exerted on said fingers effecting frictional engagement of the latter with said slots to yieldingly hold said fingers in positions of radial adjustment, substantially as described.

7. A reel of the class described comprising a central shaft; spaced end members fixed to said shaft, one of said end members having radially disposed dove-tail slots provided in one side thereof; fingers slidably mounted in said slots having laterally projecting ears at their inner ends engaging with the sides of said slots; and helical tension springs connecting the outer ends of said fingers with the other of said end members, substantially as described.

8. A reel of the class described comprising end members supported on a central shaft; and a plurality of longitudinally extending helical tension springs connecting said end members, with which the material wound on the reel is adapted to engage, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ELMER A. FRAZEE.

Witnesses:
RAYMOND GIGNAC,
ARTHUR A. OLSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."