(No Model.)

F. J. DVORK.

TENSION DEVICE FOR GRAIN BINDERS.

No. 596,580. Patented Jan. 4, 1898.

Fig. 1.

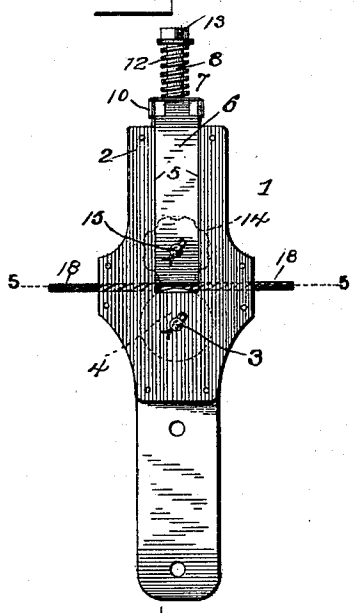


Fig. 2.

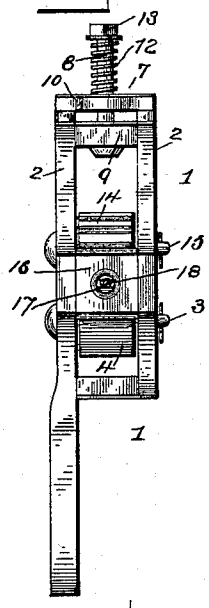


Fig. 3.

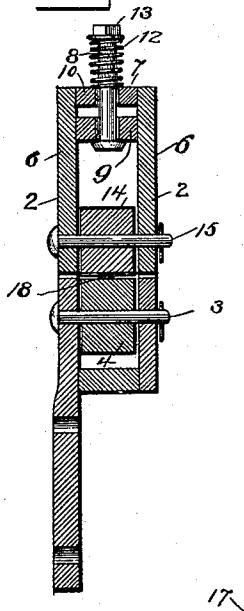


Fig. 4.

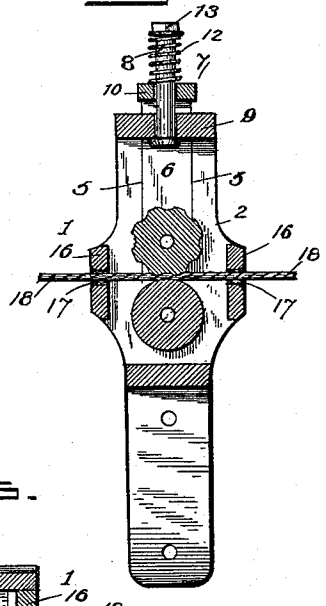
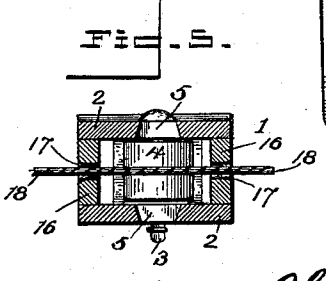


Fig. 5.



Witnesses:
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UNITED STATES PATENT OFFICE.

FRANK J. DVORK, OF FESTINA, IOWA.

TENSION DEVICE FOR GRAIN-BINDERS.

SPECIFICATION forming part of Letters Patent No. 596,580, dated January 4, 1898.

Application filed July 15, 1897. Serial No. 644,680. (No model.)

To all whom it may concern:

Be it known that I, FRANK J. DVORK, a citizen of the United States, residing at Festina, in the county of Winneshiek and State of Iowa, have invented certain new and useful Improvements in Tension Devices for Grain-Binders; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an automatic tension device for grain-binders; and the object is to provide a device of this class that will insure a uniform tension on all of the bundles and thereby secure the same in a regular and systematic manner.

To this end the invention consists in the construction, combination, and arrangement of the same, as will be hereinafter more fully described, and particularly pointed out in the claim.

In the accompanying drawings the same reference-characters indicate the same parts of the invention.

Figure 1 is a front elevation of my improved tension device for grain-binders. Fig. 2 is a side elevation. Fig. 3 is a longitudinal section. Fig. 4 is a transverse section, and Fig. 5 is a horizontal section of the same on the line 5 5 of Fig. 1.

This invention relates particularly to that class of tension devices employed on twine-binders.

1 represents a bracket, in the parallel arms 2 2 of which is journaled a shaft 3, on which is mounted a cylindrical roller 4. These arms are provided with dovetail guide-slots 5 5, which receive the correspondingly-formed parallel legs 6 6 of the yoke 7, adjustably secured therein by the bolt 8, connecting the cross-bar 9 of the bracket 1 and the corresponding cross-bar 10 of the yoke 7. A spiral spring 12 encompasses the projecting end of said bolt, and it extends between the cross-bar 10 and the nut 13, so that its tension is exerted to force the yoke downwardly into the bracket. A fluted roller 14 is journaled on a bolt 15, mounted in the inner ends of the legs 6 6 and parallel with the cylindrical roller 4.

16 16 represent guide-bars connecting the parallel arms 2 2 of the bracket 1, and they are provided with alined guide-orifices 17 17, arranged in the same plane with the meeting surfaces of the rollers 4 and 14, between which the binder-twine 18 passes, and the friction so imparted to the twine insures the perfect tension on the bundle and facilitates the proper formation of the knob.

By using a fluted roller in connection with the cylindrical roller the overcoming of the twine due to the uneven movement of the needle is avoided and a uniformity of feed secured which would otherwise be unattainable.

Although I have specifically described the construction and relative arrangement of the several elements of my invention, I do not desire to be confined to the same, as such changes or modifications may be made as clearly fall within the scope of my invention without departing from the spirit thereof.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

A tension device for grain-binders, comprising the cross-bar 9 and the bracket 1 formed with the vertical parallel arms 2, 2 having the dovetail guide-slots 5, 5 the yoke 7 formed with the cross-bar 10 and the dovetail parallel legs 6, 6, engaging said slots, the bolt 8 passing through the cross-bar 9 of the bracket and the cross-bar 10 of the yoke, the spring 12 encompassing the projecting end of said bolt between the yoke and the nut 13, the fluted roller 14 journaled in the lower ends of the legs 6, 6, the cylindrical roller 4 journaled between the arms 2, 2 in the same vertical plane, with the roller 4, and the vertical parallel guide-bars 16, 16 connecting the parallel arms 2, 2 of the bracket 1 and provided with the alined guide-orifices 17, 17, arranged in the same horizontal plane with the meeting surfaces of the rollers 4 and 14, substantially as shown and described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

FRANK J. DVORK.

Witnesses:

JOHN MULLENS,

JOSEPH SWETLA.