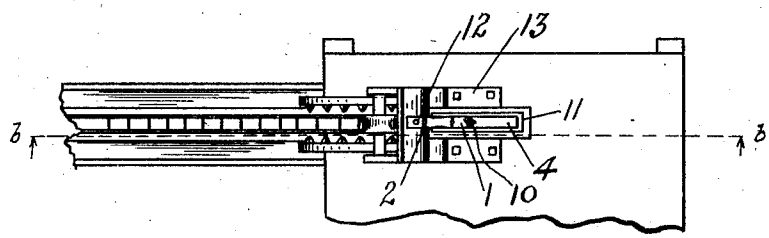
J. VELDER.

SPRING MECHANISM FOR CORN SHELLERS.

APPLICATION FILED FEB. 10, 1912.

1,026,134. **Patented May 14, 1912.**

Fig - 1 -



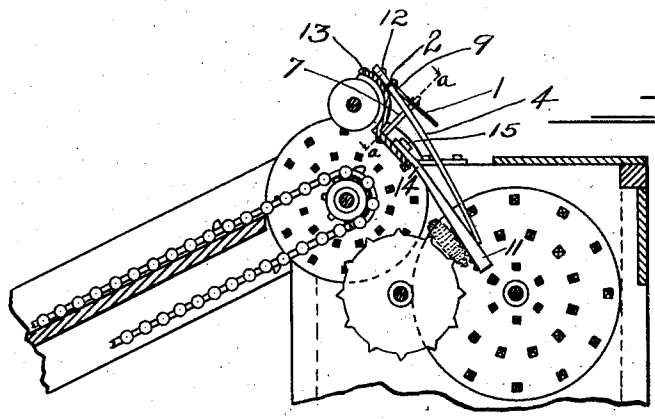


Fig - 2 -

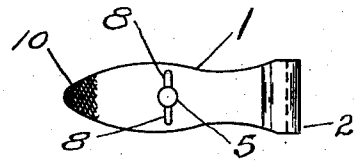


Fig - 3 -

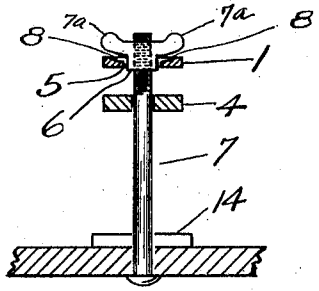


Fig - 5 -

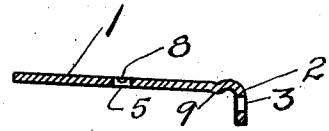


Fig - 4 -

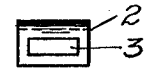


Fig - 6 -

Witnesses

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UNITED STATES PATENT OFFICE.

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SPRING MECHANISM FOR CORN-SHELLERS.

1,026,134. Specification of Letters Patent. Patented May 14, 1912.

Application filed February 10, 1912. Serial No. 676,808.

To all whom it may concern:

Be it known that I, JOHN VELDER, of Petersburg, in the county of Boone, in the State of Nebraska, have invented certain new and useful Improvements in Spring Mechanism for Corn-Shellers, and have described the same in the folowing specification, illustrated by the accompanying drawings.

My invention relates to that class of spring mechanisms which gives name and distinguishing character to spring corn shellers, commonly so called. In corn shellers of this type, the usual bow spring, having one of its ends fastened to a stationary portion of the machine, and being provided with a controlling nut and screw bolt, is not equally flexible throughout its entire length; since the portion thereof back of the nut is held practically rigid, while the rest of the spring is free to bend and vibrate according to the varying size of the successive ears of corn passing the rag iron.

It is the object of my invention to give to the free end of the bow spring an increased amplitude of vibration; to utilize for this purpose the flexibility and resiliency of the bow spring from end to end of that spring; to prevent as far as possible the unequal action of different parts thereof above indicated; to assist and relieve the bow spring by an auxiliary spring; to prevent the bow spring from breaking across the bolt hole by an approximately uniform distribution of strain to the different parts of that spring; to enable the sheller to operate on corn ears of widely different sizes without changing the adjustment of the bow spring as controlled by the screw bolt and nut; to lock the adjusting nut in its various positions on the screw bolt by the same means whereby the bow spring is relieved; to cause the sheller to run with increased ease and smoothness; and in general to produce a superior spring mechanism of the specified class. To this end I incorporate in my improved spring mechanism an auxiliary spring mounted on the back of the bow spring and operatively engaged by the bow-spring bolt and nut.

The best manner in which I have contemplated applying the principles of the invention, is shown in the drawings; yet the invention itself is not restricted to any specific arrangement or construction of parts, excepting as such limitations are either expressed or necessarily implied in the subjoined claims.

Figure 1 of the drawings is a plan of parts of a spring corn sheller including an illustrative form of spring mechanism constructed in accordance with these principles. Fig. 2 is a vertical section on the section line *b*—*b* of Fig. 1. Fig. 3 is a plan of the auxiliary spring. Fig. 4 is a central longitudinal section on Fig. 3. Fig. 5 is an enlarged cross section on the section line *a*—*a* of Fig. 2. Fig. 6 is a back end elevation of the auxiliary spring.

The auxiliary spring, denoted by the numeral 1, is a metallic strap suggestively resembling in contour the sole of a shoe, and having its heel 2 deflected to an angle of about ninety degrees; the heel is perforated by a rectangular hole 3 for the accommodation of the bow spring 4, inserted therein in the position shown. This spring has in the middle a bolt hole 5, large enough to accommodate the body of the nut 6 on the bow-spring bolt 7. The same spring has in its back side a pair of grooves 8 radiating transversely from the bolt hole 5, and adapted to engage the occupying wings 7^a of the nut 6. Just forward of the heel 2 this spring is bent so as to form on its under side the transverse ridge, or fulcrum 9, which engages the back of the bow spring in the position shown. In assembling the parts in that position, the bow spring of common form is easily inserted in the hole 3 through the heel 2. Consequently the auxiliary spring, constituting the nucleus of my invention, is readily applied to existing spring corn shellers without modification. For convenient manipulation this spring is made rough at the toe 10. Being so constructed this spring is normally retained in the shown position on the back of the bow spring by its described engagements with that spring and with the nut 6. It constitutes a spring lever whose short arm and whose fulcrum engage the bow spring near the stationary end of the latter, and whose long arm engages the nut 6. To release the last described engagement for purposes of adjustment the roughened toe 10 of the auxiliary spring is depressed by hand. On the top of the machine is fastened a stationary casting 13 to which the rag iron 11, including its spring shank, or strap, 14, is fastened by

bolt 15, and to which the bow spring is secured by bolt 12, in operative relation with the rag iron.

In operation this spring mechanism is adjusted to the work at the desired tension in the usual manner by turning the nut 6 on the bow-spring bolt; and in every position of adjustment on that bolt this nut is locked by its wings 7^a, entered for that purpose into the grooves 8 on the back of the auxiliary spring. Being so adjusted, the bow spring and the auxiliary spring coöperate in the position shown, as a single strap spring, bent at the fulcrum 9, and being as long as the distance from that fulcrum to the nut 6 plus the distance from the same point to the free end of the bow spring; but in extreme cases the nut 6 is turned down into contact with the bow spring, which then works independently, and without such coöperation, substantially in the same way as do those bow springs that are not provided with auxiliary springs.

Such being the construction and operation of my invention, I claim—

1. In a spring corn sheller, a bow spring, a bow-spring bolt working in a hole through the bow spring, an adjusting nut on the bow-spring bolt, and an auxiliary spring mounted on the back of the bow spring and engaging the adjusting nut.

2. Spring mechanism for a corn sheller, comprising a bow spring and an auxiliary spring, fastened together at one end, a bow-spring bolt occupying registering bolt holes through both these springs, and an adjusting nut working on the bow-spring bolt and engaging the auxiliary spring.

3. Spring mechanism for a corn sheller, comprising a bow spring adapted to be held fast at one end, an auxiliary spring having one end fastened on the back of the fastened end of the bow spring, a bolt occupying registering bolt holes in both said springs, and a nut adjustable on the bolt.

4. Spring mechanism for a corn sheller, comprising a bow spring having a bolt hole, a strap spring fastened at one end to one end of the bow spring and having a bolt hole and laterally extending grooves, a bolt working in the bolt holes, and a nut working on the bolt and having wings adapted to engage the strap spring by the grooves.

5. Spring mechanism for a corn sheller, comprising a bow spring, an auxiliary spring having a sliding engagement with the bow spring, a bolt working in registering bolt holes through both said springs, and a nut working on the bolt and adapted to engage said springs.

In testimony whereof I hereunto set my name in the presence of two witnesses.

JOHN VELDER.

Witnesses:
THOS. EVANS,
JOE PETSCHE.