

No. 667,365.

Patented Feb. 5, 1901.

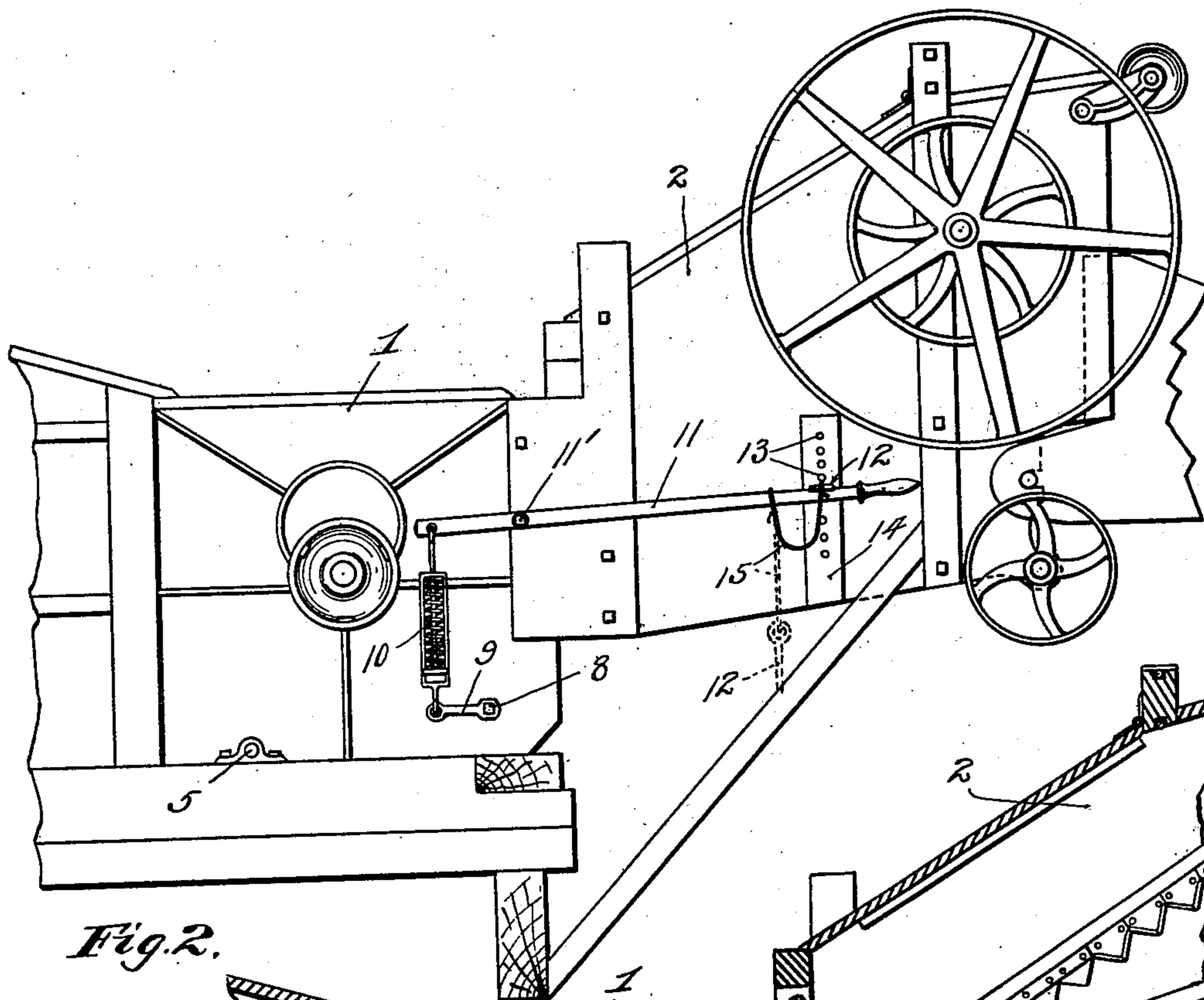
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CYLINDER CONCAVE.

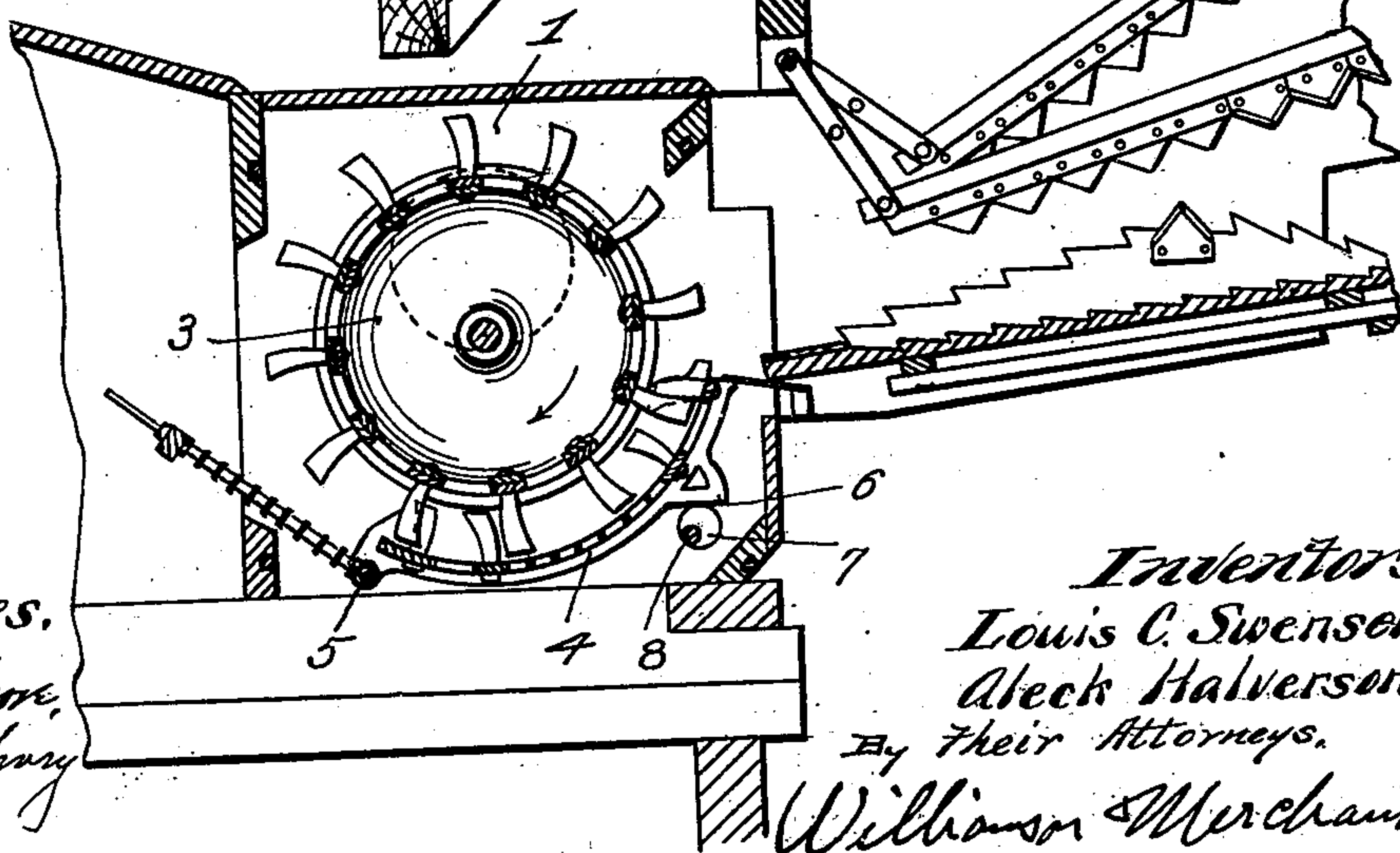
(Application filed Sept. 29, 1900.)

(No Model.)

*Fig. 1.*



*Fig. 2.*



*Witnesses.*

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# UNITED STATES PATENT OFFICE.

ALECK HALVERSON AND LOUIS C. SWENSEN, OF LYLE, MINNESOTA.

## CYLINDER-CONCAVE.

SPECIFICATION forming part of Letters Patent No. 667,365, dated February 5, 1901.

Application filed September 29, 1900. Serial No. 31,483. (No model.)

*To all whom it may concern:*

Be it known that we, ALECK HALVERSON and LOUIS C. SWENSEN, citizens of the United States, residing at Lyle, in the county of Mower and State of Minnesota, have invented certain new and useful Improvements in Cylinder-Concaves; and we do hereby 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.

Our invention has for its object to provide a yielding concave of improved construction and arrangement for use in connection with the threshing-cylinder of a threshing-machine; and to this end it consists of the novel devices and combinations of devices hereinafter described, and defined in the claim.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout both views.

Figure 1 is a side elevation, and Fig. 2 a vertical longitudinal section, showing a portion of a threshing-machine and a portion of a band-cutter and feeder, the said threshing-machine having a yielding concave constructed and arranged in accordance with our invention.

The numeral 1 indicates the case of a threshing-machine, and the numeral 2 a portion of a band-cutter and feeder, both of which are of ordinary or any suitable construction. The band-cutter and feeder is shown simply to illustrate the relation of the yielding concave to the other parts of the threshing-machine, and hence the parts thereof are not specifically noted.

Of the parts of the threshing-machine proper it is only necessary to note the threshing-cylinder 3 and its cooperating toothed concave 4. The concave 4 is pivoted at 5, and at its forward swinging end it is provided with projecting bearing-brackets 6, which rest upon eccentrics or similar projections 7 of a transversely-extended rock-shaft 8. This much is ordinary construction, and in connection with the rock-shaft 8 means has hitherto been employed for positively and unyieldingly securing the shaft in different positions, so as to vary the adjustment of

the concave with respect to the threshing-cylinder.

Our invention consists in placing a yielding or spring connection in the devices for setting the shaft 8 and the concave 4. To this end the shaft 8 is provided on the outer side of the case 1 (in which case the said shaft 8 is journaled) with an arm 9, the free end of which is connected by a yielding spring buckle or strap to one end of the hand-lever 11, which is pivoted to the case 1 at 11'. The free end of the lever 11 is, as shown, arranged to be adjustably set in various positions, so as to vary the normally-set position of the concave, by means of a pin or key 12, which coöperates with a series of perforations 13, shown as formed in a strap 14, secured on the case of the band-cutter and feeder 2. The key 12 is shown as attached to the lever 11 by a short flexible connection 15, which serves no other purpose than to prevent the key from being misplaced.

In virtue of the yielding connection, which in the illustration given is the spring buckle or strap 10, the concave is permitted to yield at its forward portion and move away from the threshing-cylinder whenever a wet or tough bundle is fed into the machine with other dry grain, thereby preventing breakage of the cylinder-teeth or the concave-teeth. As the tough grain is gradually worked through the passage between the cylinder and concave the concave will be again restored to its normally-set position by the automatic action of the spring connection. Further, in view of the said yielding concave, the threshing-machine will thresh out and clean the grain better, for the reason that there is no slugging of the cylinders, with the result that the working parts of the machine are kept up to the proper speed required to do good work. Furthermore, the yielding connection is capable of very easy and quick application to threshing-machines now in use at a very trifling cost.

What we claim, and desire to secure by Letters Patent of the United States, is as follows:

In a threshing-machine, the combination with the threshing-cylinder 3, of the coöperating concave 4 pivoted at 5 and provided

with the bracket extension 6, the rock-shaft 8 with eccentrics 7, supporting said bracket 6, the arm 9 on said rock-shaft, the pivoted lever 11 securable in different adjustments 5 by the pin or key 12 and perforations 13, and the spring buckle or strap 10 connecting said arm 9 to said lever 11, said parts operating substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

ALECK HALVERSON.  
LOUIS C. SWENSEN.

Witnesses:

E. L. STANLEY,  
EDWARD ARNESON.