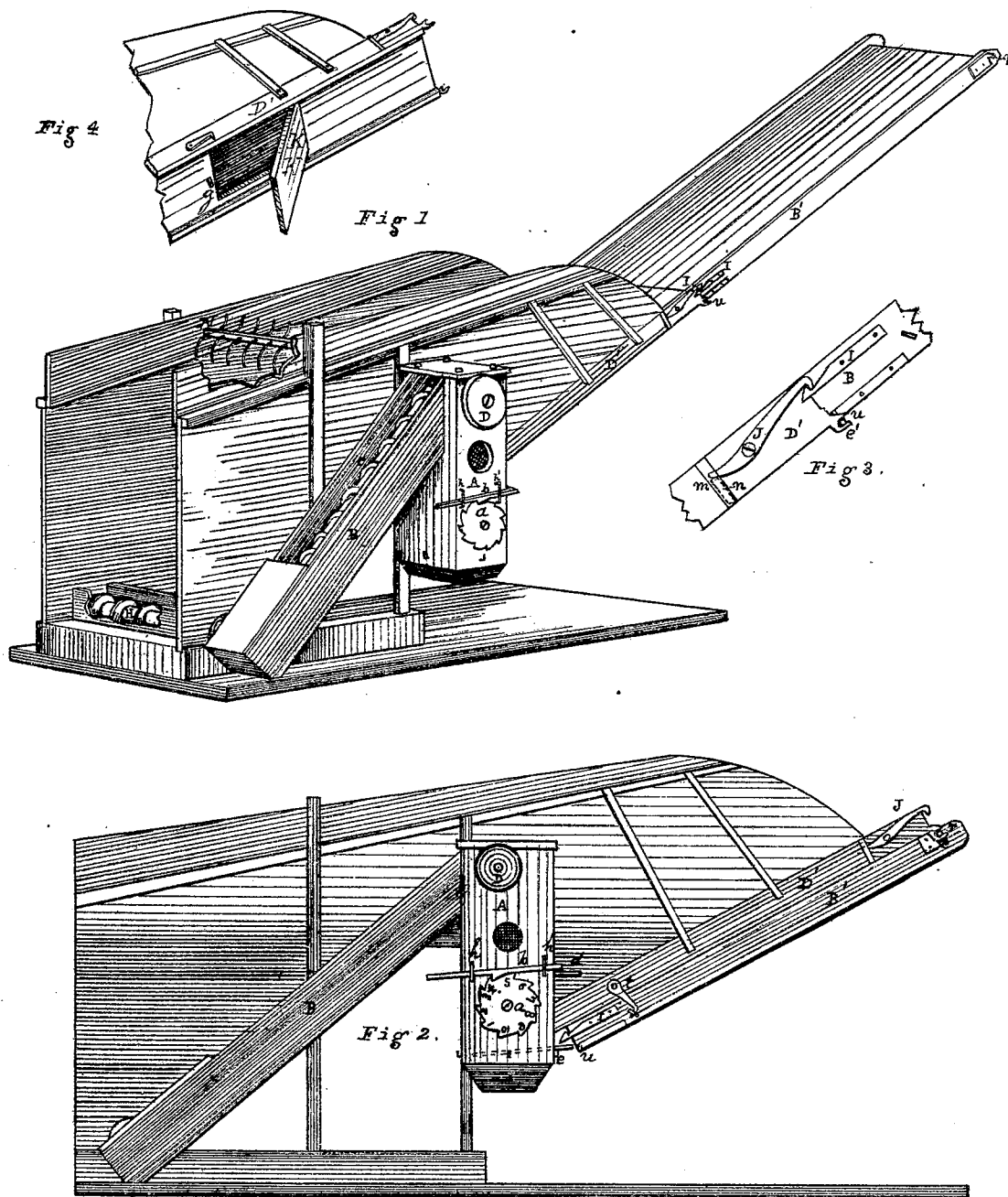


F. W. ROBINSON.

Improvement in Thrashing-Machines.

No. 126,492.

Patented May 7, 1872.



WITNESSES.

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FRANCIS W. ROBINSON, OF RICHMOND, INDIANA.

IMPROVEMENT IN THRASHING-MACHINES.

Specification forming part of Letters Patent No. 126,492, dated May 7, 1872.

I, FRANCIS W. ROBINSON, of the city of Richmond, State of Indiana, have invented new and useful Improvements in Thrashing-Machines, of which the following is a specification:

My invention relates, first, to the mechanism whereby the grain is measured, and the measuring registered as it is drawn from the receptacle into the sacks; second, to the mechanism for conveying the cleaned grain, as it falls from the riddles, up into the receptacle; third, to the manner of connecting the upper section of the folding stacker to the lower section thereof, whereby objections resulting from permanently hinging said sections together are obviated, as hereinafter mentioned; fourth, to a hinged section for separating the chaff from the straw; and, fifth, to a picker for loosening the straw, and thereby more thoroughly separating the grain therefrom.

In the drawing, Figure 1 is a perspective view of the rear portion of a thrashing-machine. Fig. 2 is a side elevation of the same. Fig. 3 represents the adjacent ends of the two sections of the stacker; and Fig. 4 is a section of the rear of the machine in a tilted position.

The same letters in the different figures refer to corresponding parts.

A represents the receptacle for the cleaned grain, in which the latter is measured. B is the conveyer-spout, in which the grain is carried up into receptacle A. A belt and buckets are usually employed for carrying the grain up into the receptacle, but inasmuch as the buckets are liable to become choked or fail to properly discharge the grain, I have substituted, as an improvement thereon, a screw-conveyer, C. The latter is operated by means of a bevel-gear on its upper end and on a shaft located in the top of receptacle A, upon which shaft pulley D is placed, motion being communicated to the latter by means of a belt driven in the usual manner. H represents the screw-conveyer, by means of which the cleaned grain, as it falls from the riddles, is discharged into spout B. The measuring devices consist of the slides *d* and *e*.

Heretofore, when a register has been used, the two slides or valves have been connected together by a lever, so that when one was opened the other was closed at the same time; or a plug has been used, as the lower valve,

which occupies considerable of the space on the inside of the receptacle—these methods being objectionable, as hereinafter mentioned.

I have found it desirable to so construct these measuring and registering devices that the slides or valves may be operated independently of each other, while, at the same time, accurate registering is insured.

The objection to the methods mentioned as in use for measuring is that, in starting or stopping the machine, more or less chaff and straw are carried into the receptacle, which cannot readily be discharged therefrom. With my arrangement, in which the slides or valves operate independently, both may be drawn out, thus allowing the straw and chaff to pass directly through the receptacle.

As a means of operating the registering-wheel or plate, I use a bar, *b*, moving in staples *h* and *h'*. The bar *b* has a projection on its under side, which engages with the teeth of register *a*, and thereby operates the latter. The end of bar *b* is bent, so as to be inserted into the end of the upper slide *d*, and is thus moved back and forth as said slide is opened and closed. Thus each operation of closing the slide moves the register one tooth.

The operation of measuring by means of the two slides is so well known and apparent that no further description of the same is necessary.

Folding hinged stackers, in which the two sections of the stacker are permanently hinged together, are in common use, but are objectionable in view of the fact that the accumulation of straw beneath the stacker usually prevents folding when it is desirable to remove the machine to some other field of operation without first drawing the machine away from the location in which the thrashing was done.

The method I have adopted for connecting the two sections of the stacker consists in using a detachable hinge, by means of which the upper section may be disconnected from the lower, and brought back beneath the latter, where it is secured in position for transportation. D' represents the lower section of the stacker, and B' the upper section. On the lower corners of the upper end of section D' are secured slotted ears *e'*, which are projecting portions of plates secured to the sides of said section. At each end of the upper sec-

tion B' are plates, provided with pivots, so arranged that said pivots may rest in the slotted ears.

To extend the stacker for use, pivots *u*, which are on the lower corners of section B', are placed in the slotted ears, and the outer end of said section is raised until brought into line with the lower section, in which position it is held by means of spring-catches J and I, the latter automatically engaging with each other as they are brought together. When it is desirable to place the stacker in position for transportation the catches are disengaged and the upper end of section B' is lowered until it comes in contact with the straw-stack. The said section B is then detached at the hinge, and is slid or folded underneath section D', the pivots *r* at the outer end of section B' being brought into the slotted ears while the lower end of said section is secured by hooks *t*, thus holding section B' against the under side of section D', as shown. The catches J, in order that they may be sufficiently flexible, are pivoted centrally to the sides of the section, the lower ends engaging with rubber springs *n* in the metal pockets *m*. K, Fig. 4, represents a hinged section in the lower section D' of the stacker. Section K is hinged at the upper side, and is held closed by means of a button, *g*. The purpose of said section K is that, when desirable, it may be opened, thus allowing the chaff to fall through beneath the stacker, while the straw is carried on to the stack.

N, Fig. 1, represents a straw-picker, consisting of a journaled shaft and curved teeth or arms. This device is located opposite or near the upper end of the first endless belt or grain-carrier, from which it receives the straw, picking and loosening it, and thereby more thoroughly separating it from the grain. The picker is made to turn, by means of suitable mech-

anism, toward the rear, so that the outside of the curve of the teeth receives the straw, thus throwing the latter upward and onward to the rear, and preventing it from winding around the shaft. The picker may be located at other points in the machine, if desirable and the construction of the machine will allow it. For instance, it may be placed just in the rear of the concave, and throw the straw onto the first carrier when the latter is sufficiently below said concave to give room therefor. The teeth of the picker N, being curved or inclined backward from radial lines, serve to prevent the straw from winding about the picker-shaft, as would be the case if the teeth were straight and in radial lines—a bar across the points of the teeth being necessitated in the latter case—which prevents the teeth from entering the straw, thereby destroying the efficiency of said picker. The straw being carried over the picker, accomplishes the desired object better, and obviates the objection found in pickers operating on top of the straw, in which case some of the straw is liable to be forced through the carrier when used over the open carrier.

Having thus fully described my said invention, what I claim, and desire to secure by Letters Patent, is—

1. The folding straw-stacker, consisting of the sections D' B', when provided with the detachable hinges *e' u* and spring-catches J', or the equivalent of the latter, substantially as described, and for the purpose set forth.

2. In combination with the grain-receptacle A, the slide-valve *d*, bar *b*, and register *a*, constructed and arranged substantially as and for the purpose set forth.

F. W. ROBINSON.

Witnesses:

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