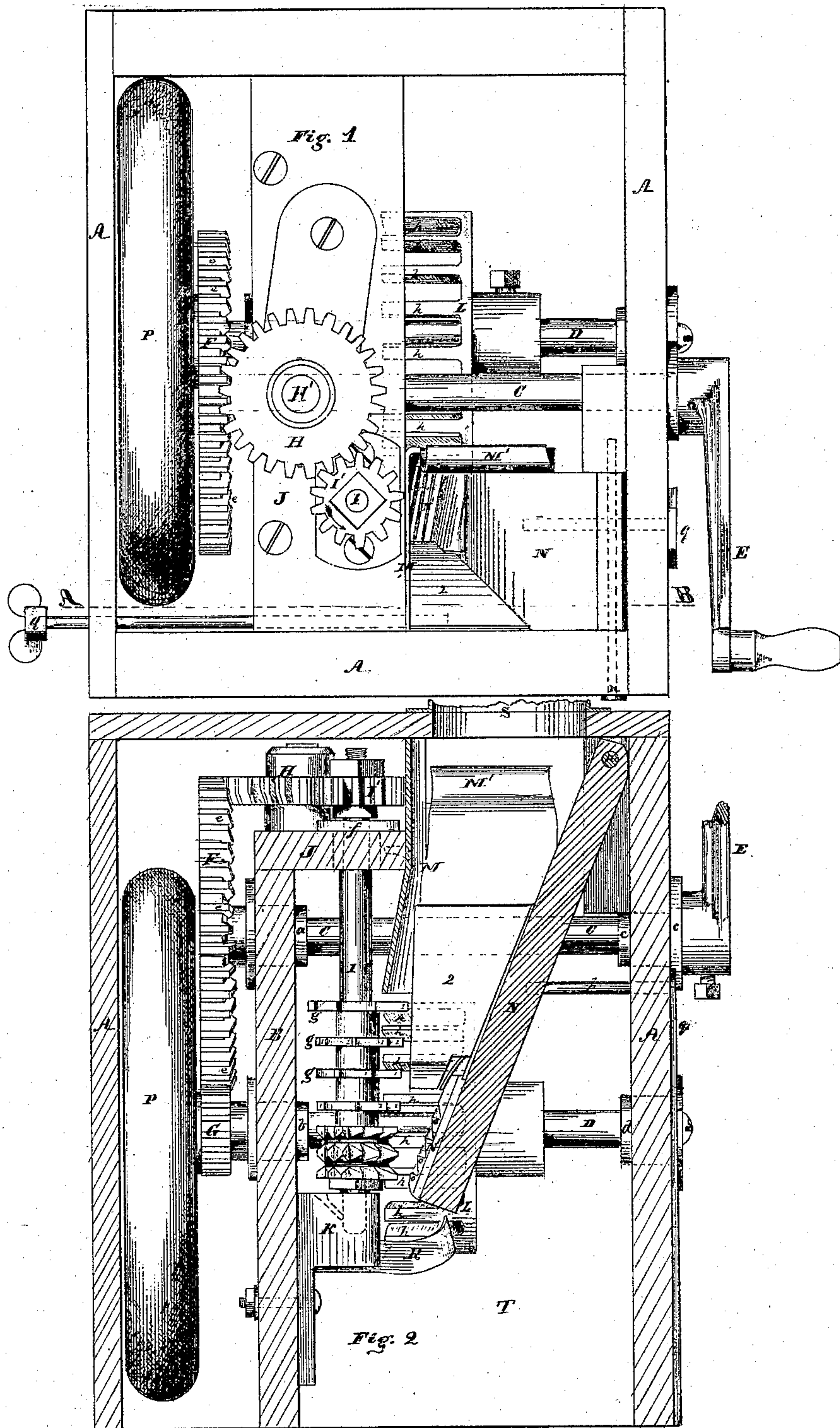


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Corn Sheller.

No. 98,944.

Patented Jan. 18, 1870.



Witnesses.

*Thos. G. Dyer*  
*A. C. Selce*

Inventor.

*Samuel Field*

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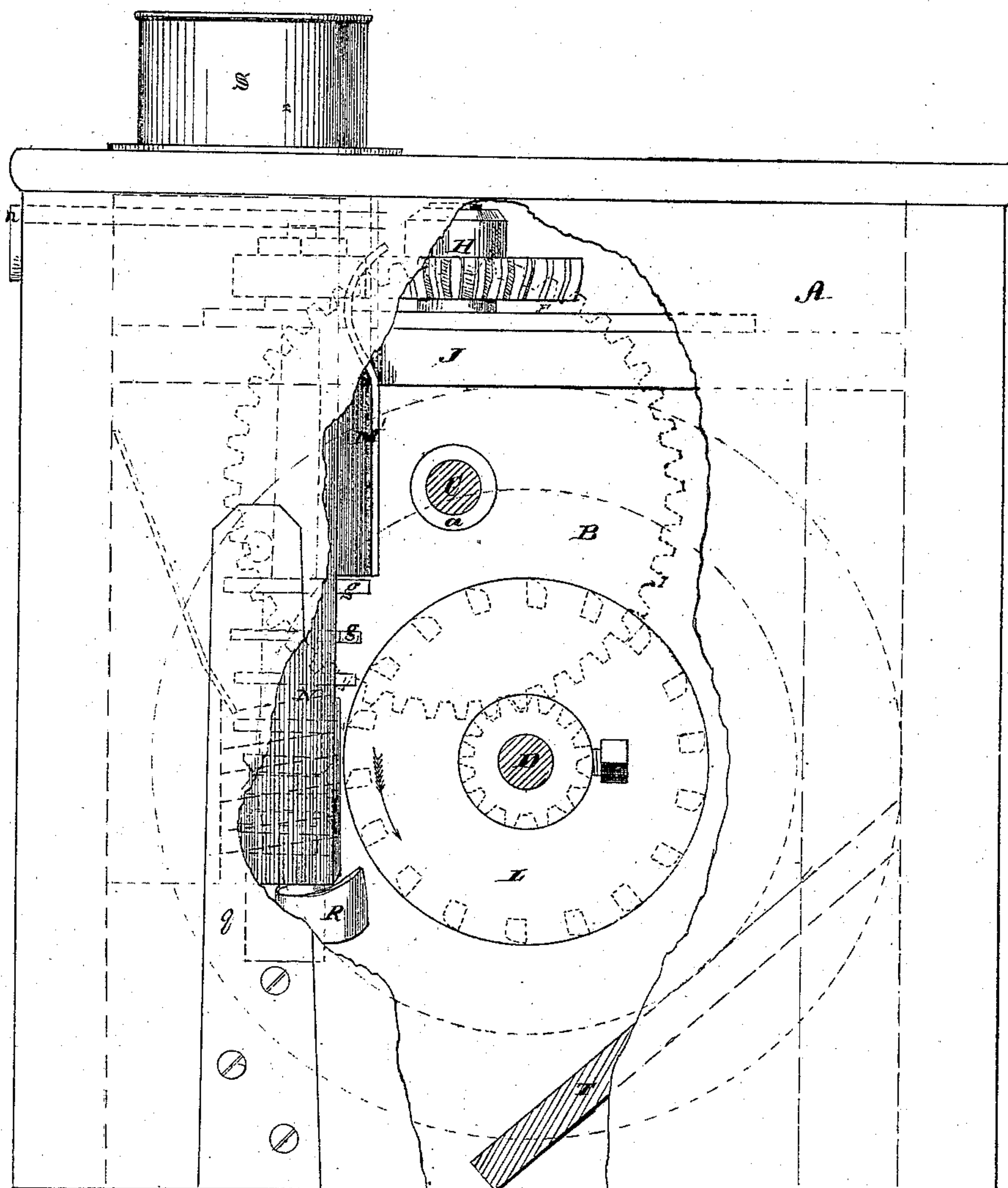


Fig. 3

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# United States Patent Office.

SAMUEL FIELD, OF OAKHAM, MASSACHUSETTS.

Letters Patent No. 98,944, dated January 18, 1870.

## IMPROVEMENT IN CORN-SHELLERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, SAMUEL FIELD, of Oakham, county of Worcester, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Corn-Shellers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a top or plan view of the sheller, with the top of the case removed.

Figure 2 represents a section on line A B, fig. 1, the top of the case being on, but the feeding-tube being shown broken off; and

Figure 3 represents a section of a part of the machine, as will be hereafter explained.

To enable those skilled in the art to which my invention belongs, to make and use the same, I will proceed to describe it more in detail.

The nature of my invention consists—

First, in the relative arrangement and combination of the shafts and gearing which drive the feeding and shelling-device;

Second, in a peculiarly-constructed shelling-wheel;

Third, in a peculiarly-constructed feeding-device;

Fourth, in a peculiarly-constructed feeding-spout;

Fifth, in the combination with the peculiarly-constructed feeding-device and shelling-wheel, of a peculiar-constructed ear-holder, as will be hereafter explained;

Sixth, in the combination with the feed-device and shelling-wheel, of a cob-guard and holder, as hereafter explained;

Seventh, in the relative arrangement of the upright feeding-shaft and the shelling-wheel, as hereafter explained; and

Eighth, in the combination and relative arrangement of the shafting, driving-gearing, feeding and shelling-devices, as hereafter explained.

In the drawings—

A is the case of the machine, one side of which serves the purpose of a frame for supporting the horizontal shafting, as fully indicated in the drawings.

B is a partition; which extends from side to side of the case, for the double purpose of supporting the pipe-bearings *a b*, and of preventing the shelled corn from flying into the gearing.

The shafts C and D are supported and turn in the pipe-bearings *a, b, c*, and *d*.

The shaft C extends through the case A, and is provided, upon the outside of said case, with an operating-crank, E, the other end of said shaft having secured thereto a gear, F, having cogs or teeth, *e*, which are so made as to engage and operate the spur-gear G, on the end of the horizontal shaft D, as well

as the gear H, which is supported and turns upon the stud H', fastened to a plate-piece secured to the top of the cross-piece J.

The gear H meshes into and turns the gear I, on the upper end of the feeding-shaft I, as fully indicated in the drawings.

The feed-shaft I is supported at the top by a pipe bearing, *f*, fitted in the cross-piece J, secured to the top of the partition B.

The bottom of the shaft I is supported and turns in a step-piece, K, secured to the partition B, a series of ring-pieces, *g*, having teeth, *l*, being secured to the lower part of the shaft, for the purpose of turning the ear, while the corn is being shelled by the shelling-wheel L, secured on shaft D.

The shelling-wheel is made with a series of laterally-projecting shelling-arms, *h*, which project in toward the feed-shaft I, said shelling-arms *h* being bevelled off upon one corner, as indicated in dotted lines, fig. 3.

M is a metallic feeding-spout, the part M' of which is curved at the top, as shown in full and dotted lines in figs. 1 and 3.

Between the side of the case, and the part M' of the metallic spout-piece, is arranged the ear-holder N, hinged at the top by the pivot-bolt *n*, and having secured to its lower end a toothed metal piece, N', the teeth *o* of which run diagonally across the piece N, the ends of the teeth next to the shelling-wheel being highest, as indicated in the drawings, the lower part of the teeth *o* being bevelled off, as shown in fig. 2, and the upper edges square. The upper edges of the teeth *o* serve to catch under the corn, and hold the ear from passing down too rapidly, while the bevelled inclined surfaces of the teeth operate with a gentle force, to aid in forcing the ear down as fast as the corn is shelled therefrom.

To the back of the ear-holding piece N is fastened a rod, *p*, which passes through a hole in the side of the case A, and rests against the top of spring *q*, that is fastened to the outside of the case, as shown in fig. 3.

An inclined metal guide-piece, 2, is fastened to the inner side of the piece N, the lower end of which extends down to the metal piece N', as shown in figs. 1 and 2.

A thumb-bolt, Q, extends through the side of the case, and through the partition B, for the purpose of setting the ear-holding piece N at any desired distance from the teeth *l*, on the ring-pieces *g*.

A curved cob-guard, R, is secured to the step K.

The top of the feed-shaft I is set so as to incline toward the feed-wheel, and also toward the ear-holding piece N.

A balance-wheel, P, is secured upon the end of shaft D, so as to run close to the gears G and F.



Fig. 3 shows a side view of the machine, with the case broken away, the ends of the shafts C and D in section, and the shelling-wheel and gearing in dotted lines.

By having the upper end of the part M' curved out, and then curved in and down, as shown in fig. 3, the ears of corn enter readily, and are given a slight inclination toward the metallic guide-piece 2, which, in turn, turns them back and down against the arms h of the shelling-wheel, and the teeth of the rings g.

The spring q presses the ear-holder N in, sufficiently to keep the ear up close to the teeth 1, which turn it against the shelling-wheel and teeth 1 o, as before explained.

By having the shaft I inclined as stated, the ear is retained in contact with the teeth 1 o, and shelling-arms h, in a more perfect and certain manner than would be the case if the shaft stood perpendicular.

The operation is as follows:

Motion being imparted to the feed-shaft I and shelling-wheel L, by means of the crank E, the ears of corn are dropped or fed in through the feed-tube S, which may be made of any desired form, and of sufficient size to receive the corn endwise.

As the ears of corn are dropped or fed in, they are guided down against the feed-teeth 1, which strike against the kernels of corn, and impart a rapid rotary motion to the ear, while the shelling-teeth h shell or separate the corn from the cob, as fast as the ear is turned and fed down, by the combined action of the teeth 1, h, and o.

The spring q yields sufficiently to allow the lower end of the ear-holding piece N to swing back sufficiently far for the passage of the cob, which is retained in the proper position and guided down by means of the curved cob-holder R.

The shelled corn and cobs fall down through the open bottom of the case; and the machine, for convenience of operation, may be placed upon a stand or bench having a hole in the top, so that the shelled corn and cobs will fall down through, into a receptacle placed under the bench.

To prevent the shelled corn from flying back under the shelling-wheel, a guide-piece, T, may be arranged below the shelling-wheel, as indicated in fig. 3.

From the foregoing description, it will be seen, that my improved corn-sheller is very simple in construction, compact, and not liable to get out of order.

Having described my improved corn-sheller,

What I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. The construction and relative arrangement of the shafts C, D, and I, and the gears G, F, H, and I', substantially as shown and described.

2. The peculiarly-constructed shelling-wheel L h, as and for the purposes described.

3. The peculiarly-constructed feeding-device, consisting of the parallel toothed ring-pieces g, toothed piece N, and shelling-wheel L, with arms h, substantially as and for the purposes set forth.

4. The peculiarly-constructed feeding-spout M M', as shown and described.

5. The combination and relative arrangement, with the parallel toothed ring-pieces g, and shelling-wheel L, of the toothed piece N' and ear-holder N, said parts being constructed substantially as and for the purposes set forth.

6. The combination, with the toothed feeding-rings g, shelling-wheel L, and ear-holder N, of the curved piece R, for guiding and holding the cob, substantially as shown and described.

7. The relative arrangement of the upright feeding-shaft I with the teeth h of the shelling-wheel, as and for the purposes described.

8. The combination and relative arrangement of the shafts C, D, and I, and gears G, F, H, and I', with the toothed parallel ring-pieces g, feeding-wheel L, ear-holding piece N, and curved cob-guide and holder R.

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